ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Μόνιμη Αντιπροσωπεία της Ελλάδος
στο ΝΑΤΟ

Αρμόδιος:	Ασμχος (ΜΕ) Δημήτριος Κανταρτζόγλου	Βρυξέλλες, 16 Φεβρουαρίου 2022
Τηλ.:	+32 2 707 6734	**Α.Π.:** 1434
e-mail:	d.kantartzoglou@grdel-nato.be	

ΠΡΟΣ: **ΥΠΟΥΡΓΕΙΟ ΕΘΝΙΚΗΣ ΑΜΥΝΑΣ**
- ΓΔΑΕΕ/ΔΑΕΤΕ   *(μ.η.)*

ΚΟΙΝ.:   **ΥΠΟΥΡΓΕΙΟ ΕΞΩΤΕΡΙΚΩΝ**   **ΓΕΕΘΑ**
- κ. Δ' Γενικό Διευθυντή   - Γ2 Διεύθυνση
- Δ2 Διεύθυνση

ΥΠΟΥΡΓΕΙΟ ΑΝΑΠΤΥΞΗΣ
- Γενική Γραμματεία Εμπορίου   *(μ.η.)*
- Γενική Γραμματεία Βιομηχανίας/
  Διεύθυνση Διεθνών Βιομηχανικών
  Σχέσεων   *(μ.η.)*

ΤΕΧΝΙΚΟ ΕΠΙΜΕΛΗΤΗΡΙΟ ΕΛΛΑΔΟΣ
- Διεύθυνση Επαγγελματικής
  Δραστηριότητας   *(μ.η.)*

ΘΕΜΑ: 4η Τροποποίηση Πρόσκλησης Υποβολής Προσφορών, IFB-CO-115461-NCOPBMD, σε Διαγωνιστική Διαδικασία: "Ballistic Missile Defence Increments 1&2 Functions for NATO Common Operational Picture (NCOP BMD)"

Διαβιβάζονται, συνημμένως, 4η τροποποίηση Πρόσκλησης Υποβολής Προσφορών (invitation For Bid/IFB) εν θέματι διεθνούς διαγωνιστικής διαδικασίας (International Competitive Bidding/ICB), εκ μέρους NCIA, ως φιλοξενούντος έθνους.
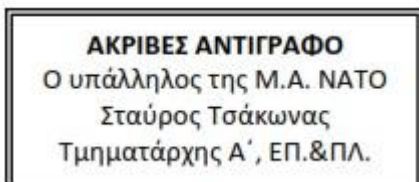
Καταληκτική ημερομηνία υποβολής προσφορών στην NCIA ορίζεται η 14η Απριλίου τ.έ., 12:00 τ.ώ.

Ενδιαφερόμενες εταιρίες δύνανται αναζητήσουν πληροφορίες μέσω καθοριζομένου σημείου επαφής (Point of Contact/POC, βλ. παρ. 5 τροποποιήσεως).

Παρακαλούμε για τις ενέργειές σας.

Λ Α Μ Π Ρ Ι Δ Η Σ

Συν. σελ.: 323

ΑΚΡΙΒΕΣ ΑΝΤΙΓΡΑΦΟ
Ο υπάλληλος της Μ.Α. ΝΑΤΟ
Σταύρος Τσάκωνας
Τμηματάρχης Α΄, ΕΠ.&ΠΛ.

Acquisition Directorate
Boulevard Leopold III
B-1110 Brussels, Belgium

NCIA/ACQ/2022/06602
08 March 2022

To: Bidders List and Distribution List

Subject: Amendment 4: Responses to Clarification Requests

IFB-CO-115461-NCOPBMD: Ballistic Missile Defence (BMD) Increments 1&2 Functions For NATO Common Operational Picture (NCOP)

References: **A.** AC/4-D/2261(1996 Edition), Procedures for International Competitive Bidding
B. AC/4-D(2008)0002-REV2, International Competitive Bidding Using Best Value Evaluation Methodology, dated 15 July 2015
C. NCI Agency NOI NCIA/ACQ/2021/06810, dated 06 August 2021
D. Issuance of IFB-CO-115461-NCOPBMD, dated 08 November 2021
E. Issuance of IFB-CO-115461-NCOPBMD: Amendment 1, dated 01 December 2021
F. Issuance of IFB-CO-115461-NCOPBMD: Amendment 2, dated 13 January 2022
G. Issuance of IFB-CO-115461-NCOPBMD: Amendment 3, dated 27 January 2022

Dear Prospective Bidders,

1. The purpose of this Amendment 4 is to provide all Prospective Bidders with the NCI Agency's responses to Clarification Requests (CR) received from the date in Reference G until the close of business on 11 February 2022. The Purchaser-provided responses to the CR are issued as Annex A to this letter.

2. As a result of paragraph 1 above, the following IFB document has been revised, and by virtue of this Amendment, this document below replaces and supersedes any previous versions issued in the context of IFB-CO-115461-NCOPBMD. All other IFB documents remain unchanged in this Amendment.

    a. 1_NU_IFB-CO-115461-NCOPBMD_Book I-Bidding Instructions
    b. 2_NU_IFB-CO-115461-NCOPBMD_Book I-Bidding Sheets
    c. 3_NU_IFB-CO-115461-NCOPBMD_Book II-Prospective Contract (with Part II)
    d. 5_NU_IFB-CO-115461-NCOPBMD_Book II -Part IV-Statement of Work
    e. 5a_NR_IFB-CO-115461-NCOPBMD_Book II -Part IV-SOW-Annex A_System Requirement Specifications

3. Please note that as paragraph 2.e above is NATO RΞSTRICTED, the Agency shall send this document to all Nominated Prospective Bidders' Point of Contact (as mentioned in the Declaration of Eligibility) via DHL. Nominated Prospective Bidders should promptly notify the Agency by email if after 10 business days from the date of this letter if the document has not been received.

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4. The Agency is granting a final extension to the Bid Closing Date from Monday, 14 March 2022, 12:00 Hours (Central European Time (CET)) to **Thursday, 14 April 2022, 12:00 Hours (CET)**.

5. The NCI Agency point of contact for all information concerning this IFB is Mr. Ole Hubner, Senior Contracting Officer, who may be reached at CO115461NCOPBMD@ncia.nato.int.

For the Director of Acquisition

Ijeoma Ike-Meertens
Senior Contracting Officer

Attachments:
A. Annex A: Responses to Clarification Requests received for IFB-CO-115461-NCOPBMD, Amendment 4.

Annex A
Responses to Clarification Requests received for IFB-CO-115461-NCOPBMD, Amendment 4

Index No.	RFP Source Document	RFP Paragraph Reference	Bidder's Question	NCI Agency's Response	RFP Package Amended	CR Released in AMD #
	IFB-CO-115461-NCOPBMD					
	ADMINISTRATIVE or CONTRACTUAL CLARIFICATION REQUESTS (CR)					
CR#28	AMD2 Bidding Instructions	3.6.4.1.5.5.1. 3.6.4.1.5.6.1. 3.7.1.3.	Bidding Instructions 3.6.4.1.5.5.1. & 3.6.4.1.5.6.1. require that a traceability matrix be included as annexes to the Offer CMP and ISSP. Could you please confirm that the maximum page limit of 20 specified in 3.7.1.3. for these two documents is to read excluding the traceability matrix?	Yes, the Annexes referenced in these two paragraphs are not included in the page limit.	No	Amendment 4
CR#29	AMD2 Bidding Instructions	3.7.1.3.	Bidding Instruction 3.7.1.3. imposes a maximum page limit of 20 on most of the Engineering Proposal and Management Proposal documents. Could you please confirm that this limit apply to the document body i.e. that the standard pages such as the front page, version history page, table of content page are not considered in this limit?	Yes, maximum page limit applies to the body of the document.	No	Amendment 4
CR#30	AMD2 CSP	3.1.1.6	Could you please itemize the documents making up the "Project Management and Engineering documentation" indicated in CSP Article 3.1.1.6 that will be included in the Contract and indicate their content?	See Paragraph 7.2 of the Statement of Work (SOW) for the list. The list will reside in the SOW.	No	Amendment 4
CR#31	AMD2 CSP	3.1.1.2	Page 2 of the Prospective Contract indicates " PART I - CONTRACT SCHEDULES OF SUPPLIES AND SERVICES (SECTION I) AND PAYMENT SCHEDULE (SECTION II)". As a consequence, could you please confirm that CSP Article 3.1.1.2 shall so reflect and read: "3.1.1.2 Part I (Contract Schedule of Supplies	The Payment Schedule resides within the Schedule of Supplies and Services and are not considered separate documents. Page 2 of the Prospective Contract is adjusted to clarify this.	Yes	Amendment 4

			and Services (SECTION I) and Payment Schedule (SECTION II))" in lieu of "Part I (Contract Schedule of Supplies and Services (SSS));"			
CR#32	AMD2 CSP	3.1.1.7	As indicated in page 2 of the Prospective Contract, the Contractor Price Quotation will be included in Part I. As a consequence, could you please confirm that Article 3.1.1.7 shall read: "3.1.1.7 The Contractor's Technical Proposal in response to IFB-CO-115461-NCOPBMD dated [to be inserted at Contract Award] and any clarifications thereto, incorporated herein by reference." in lieu of "3.1.1.7 The Contractor's proposal (Technical Proposal and Price Quotation) in response to IFB-CO-115461-NCOPBMD dated [to be inserted at Contract Award] and any clarifications thereto, incorporated herein by reference."	No. The language in paragraph 3.1.1.7 remains unchanged.	No	Amendment 4
CR#33	AMD3 Contract Special Provisions Articles	7.1., 7.1.1. & 7.1.2.	Could you please confirm that article 7.1 of the Contract Special Provisions shall read: "7.1 This Contract will begin on the Effective Date specified in the Signature Page and, unless terminated at an earlier date in accordance with other terms and conditions of the Contract or extended by virtue of a formal Contract amendment, will terminate after 12 years, broken down as follows: 7.1.1. 8 years from Effective Date of Contract until FSA+1 year. Embedded within these 8 years is 5 years of "WP 2: In- Service Support" beginning from Provisional System Acceptance (PSA-1) and ending at FSA+1 year, and;	Confirmed. The total number of years is corrected from 13 to 12.	Yes	Amendment 4

			7.1.2. 4 years of Operation and Maintenance (O&M) support."			
CR#34	AMD3 Contract Special Provisions	Article 26.5	Could you please confirm that article 26.5 of the Contract Special Provisions shall read: "This licence on Contractor Background IPR included in the Foreground IPR shall also allow the Purchaser and its member nations to use and authorise others to use the software for further adaptation, integration, modifications and future procurements."	No. The paragraph remains as is. The use of Contractor Background IPR is explained from paragraphs 26.6-26.9.	No	Amendment 4
CR#35	AMD3 Contract Special Provisions	Article 26.4	Could you please confirm that article 26.4 of the Contract Special Provisions shall read: "The Purchaser retains the right to redeploy the Contractor Background IPR Software included in the Foreground IPR provided under the Contract within NATO for NATO purposes, and/or among NATO Nations for NATO purposes."	See Response to CR#34	No	Amendment 4
CR#36	AMD3 Contract General Provisions	Article 40.7.4	Could you please indicate if NCIA could consider introducing in the Contract Special Provisions the following clause to supersede Clause 40.7.4 of the Contract General Provisions? "a sum, as profit on Clause 40.7.1 above, determined by the Purchaser to be fair and reasonable but not to be less than 5% (5 percent); provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract, had it been completed, no profit shall be included or allowed and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss."	No. The Clause remains as is.	No	Amendment 4

CR#37	AMD3 Contract General Provisions	Article 40.6	Could you please indicate if NCIA could consider introducing in the Contract Special Provisions the following clause to supersede Clause 40.6 of the Contract General Provisions? "Subject to the provisions of Clause 40.5, the Contractor and the Purchaser may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of Work pursuant to this Clause, which amount or amounts may include a reasonable allowance for profit on work done, allowance not to be less than 5% (5 per cent); provided that such agreed amount or amounts exclusive of settlement costs shall not exceed total Contract price as reduced by the amount of payments otherwise made and as further reduced by the Contract price of the Work not terminated. The Contract shall be amended accordingly and the Contractor shall be paid the amount agreed."	No. The Clause remains as is.	No	Amendment 4
CR#38	AMD3 Contract Special Provisions	N/A	The prospective contract CSP provide for the mention of Key Personnel names in Annex A of the Contract. These CSP do not include any clauses regarding the processing of personal data, in application of the General Data Protection Regulation (GDPR). Could you please clarify?	NATO is not subject to the GDPR. Personal Data will be processed in accordance with respective applicable NATO regulations, taking into account the Ottawa Agreement dated 20 September 1951 on the Status of the North Atlantic Treaty Organisation, National Representatives and International Staff.	No	Amendment 4
CR#39	Contract	Article 41	N/A	Please note that this Article	No	Amendment 4

	Special Provisions			has been replaced in its entirety.		
CR#40	Book I-Bidding Instructions	2.5	We would kindly request for one and half (1,5) months extension of the bid closing date. i.e. April 29th 2022 instead of March 14th, 2022.	The Bid Closing Date is extended from 14 March 2022 to 14 April 2022. The Agency considers this the final extension to the Bid Closing Date. The new Bid Closing Date is reflected in paragraph 2.3.1 of Book I-Bidding Instructions.	Yes	Amendment 4
CR#41	Book I-Bidding Instructions; Contract Special Provisions	2.6.1 (Book I); 18.4.2 (CSP)	N/A	The Purchaser point of contact for all information concerning the Information for Bid (IFB) has been changed.	Yes	Amendment 4

IFB-CO-115461-NCOPBMD						
PRICE CLARIFICATION REQUESTS (CR)						
Index No.	RFP Source Document	RFP Paragraph Reference	Bidder's Question	NCI Agency's Response	RFP Package Amended	CR Released in AMD #
CR#24	AMD2 Bidding Sheets	Tab2 SOW 5.12	Could you please indicate in which CLIN of the Bidding Sheets Tab2 the ISSP related activities specified in SOW section 5.12 shall be costed?	These activities should be costed under CLIN 6 & 7.	No	Amendment 4
CR#25	AMD2 Bidding Sheets	Tab2 SOW 5.4	Could you please indicate in which CLIN of the Bidding Sheets Tab2 the Logistic Support Analysis (LSA) and RAM (Reliability, Availability, Maintainability) activities specified in SOW section 5.4 shall be costed?	These activities should be costed under CLIN 4.1.5.	No	Amendment 4
CR#26	AMD2 Bidding Sheets	Tab2 CLIN 6.1 & 4.2.2 SOW 5.3.5. SOW	Could you please confirm that the delivery of ISS services with service levels specified in SOW 5.3.5 and 5.10.2.2.1 shall be costed in CLIN 6.1, and not	Activities related to SOW 5.3.5 should be costed under CLIN 6.1 and activities related to SOW	No	Amendment 4

		5.10.2.2.2.	in CLIN 4.2.2?	5.10.2.2.1 should be costed under CLIN 4.2.2.		
CR#27	AMD2 Bidding Sheets	CLIN 6.2.1 to 6.2.3	The SOW Reference of CLIN 6.2.1 to 6.2.3 is set to 5.9.12.1 that does not exist in the SOW. Could you please confirm that the SOW Reference should read 5.3.5.?	Yes, CLIN 6.2.1 to 6.2.3 REFs to be updated 5.9.12.1 -> 5.3.5, 5.9.5	Yes	Amendment 4
CR#28	AMD2 Bidding Sheets	CLIN 6.3.1 to 6.3.3 SOW 5.3.5 SOW 5.11	The SOW Reference of CLIN 6.3.1 to 6.3.3 is set to 5.11.2.1 that specifies the O&M services to be delivered by the Contractor is after warranty (see SOW 5.11 Operation and Maintenance (O&M) services after warranty). Could you please confirm that the SOW Reference should read 5.3.5.?	Yes, CLIN 6.3.1 to 6.3.3 REFs to be updated 5.9.12.1 -> 5.3.5, 5.9.5	Yes	Amendment 4
CR#29	AMD2 Bidding Sheets	CLIN 7.1.1 to 7.1.4, 7.2.1 SOW 5.10 SOW 5.11	The SOW Reference of CLIN 7.1.1 to 7.1.4 is set to 5.10.2.1 whereas SOW 5.10 Warranty specifies services to be delivered by the Contractor as part of the warranty. Could you please confirm that the SOW Reference should read 5.11.2.? The SOW Reference of CLIN 7.2.1 is set to 5.9.12.1 whereas SOW 5.9 In-Service Support (ISS) during Implementation specifies services to be delivered by the Contractor before FSA. Could you please confirm that the SOW Reference should read 5.11.2.2.?	Yes, CLIN 7.1.1 to 7.1.4 REFs to be updated 5.10.2.1 -> 5.11.2 and CLIN 7.2.1 REF to be updated 5.9.12.1 -> 5.11.2.2	Yes	Amendment 4
CR#30	AMD2 Bidding Sheets	CLIN 4.2.1 & 6.1.5	Could you please clarify the difference between and possible overlapping of: - CLIN 4.2.1 Service Desk during Warranty (SOW Reference 5.10) - CLIN 6.1.5 Service Desk / L4 Support - BL5 Y1 (SOW Reference 5.10.2.1) which execution period goes from FSA to FSA + 1Y.	Service desk during warranty is overlapping scope with 6.5, therefore CLIN 4.2.1 is removed.	Yes	Amendment 4

| CR#31 | AMD3 Bidding Sheets Tab2 CLIN 3,2 SOW 5.7.1.6. and 3.13.2.3.2. SOW 5.8.1.1. | AMD3 Bidding Sheets Tab2 CLIN 3,2 SOW 5.7.1.6. and 3.13.2.3.2. SOW 5.8.1.1. | SOW 5.7.1.6. and 3.13.2.3.2. require that training material be delivered for test crew training. Could you please indicate in which subCLIN of CLIN 3,2 the corresponding activities shall be costed? SOW 5.8.1.1. requires that the Contractor create and provide "Instructor Led Training (ILT)/ On-the-job Training (OJT) for the general user during UAT (PVS event)." Could you please indicate in which subCLIN of CLIN 3,2 the General user's training material development activities shall be costed? | The activities related to the test crew training material should be costed under CLIN 3.3.1 (no separate CLIN as the materials are not a deliverable as such and just need to support the test crew training delivery). The activities related to the General user training material should be costed under CLIN 3.3.3 (no separate CLIN as the materials are not a deliverable as such and just need to support the General user training delivery). User training materials (CBT and e-learning PFEs) will be used by the Contractor | No | Amendment 4 |

| IFB-CO-115461-NCOPBMD | | | | | | |
| TECHNICAL CLARIFICATION REQUESTS (CR) | | | | | | |
Index No.	RFP Source Document	RFP Paragraph Reference	Bidder's Question	NCI Agency's Response	RFP Package Amended	CR Released in AMD #
CR# 21	AMD2 SRS NCOP-BMD-SRS-1202 SRS NCOP-BMD-SRS-1201	AMD2 SRS NCOP-BMD-SRS-1202 SRS NCOP-BMD-SRS-1201	In the SRS, STANAG 5516 Ed 8 (NCOP-BMD-SRS-1202) and 5518 Ed 4 (NCOP-BMD-SRS-1201) are applicable documents. In the (SRS Reference A) BMD IDD, on Figure 7 NCOP System Interface, page 5-14 (right pink circle, T21 until T27), NCOP is required to be	The circle labelled as "T21 until T27" describes the baseline capability of NCOP where Link 16 messages are received via an external gateway (NIRIS). Therefore Edition of STANAG 5518 is not specified in this	No	Amendment 4

	SRS REF.A - BMD IDD Figure 7	SRS REF.A - BMD IDD Figure 7	compliant with: NCOP JREAP-C for Nations STANAG 5516 Ed 5+ Protocol Stack "Type: JREAP-C for Nations STANAG 5516 Ed 5+" "JREAP-C STANAG 5516 Ed 5+" Regarding the Protocol Stack, shall we read: Protocol Stack "Type: JREAP-C for Nations STANAG 5516 Ed 5+" "JREAP-C STANAG 5518 Ed 4"	circle since JREAP-C capability is provided by an external gateway.		

CR# 22	AMD2 SRS NCOP-BMD-SRS-1202 SRS NCOP-BMD-SRS-1201 SRS REF.A - BMD IDD Figure 7 SRS REF.A - BMD IDD Figure 6-7	AMD2 SRS NCOP-BMD-SRS-1202 SRS NCOP-BMD-SRS-1201 SRS REF.A - BMD IDD Figure 7 SRS REF.A - BMD IDD Figure 6-7	In the SRS, STANAG 5516 Ed 8 (NCOP-BMD-SRS-1202) and 5518 Ed 4 (NCOP-BMD-SRS-1201) are applicable documents. In the (SRS Reference A) BMD IDD, on Figure 7 NCOP System Interface, page 5-14 (left pink circle, T27 onward), NCOP is required to be compliant with: "NCOP JREAP-C NATO Internal STANAG 5516 Ed 8+ Protocol Stack "Type: JREAP-C NATO Internal STANAG 5516 Ed 8+" "JREAP-C STANAG 5516 Ed 8+" Regarding the Protocol Stack, shall we read: Protocol Stack "Type: STANAG 5516 Ed 8+" "JREAP-C STANAG 5518 Ed 4" to align with the one defined for the "Enabling System for the JREAP Network" on Figure 6-7 Real-Time Information Exchange via STANAG 5516 in T29, page 6-32 (left pink circle) that indicates: NATO Internal JREAP Network STANAG 5516 Ed 8+ Protocol Stack "Type: JREAP-C NATO Internal STANAG 5516 Ed 8+" "JREAP-C STANAG 5516 Ed 8+" "STANAG 5518 Ed 4"	Yes. Protocol Stack for Real-Time Information exchange requires two STANAGs namely: -For Link 16: STANAG 5516 Ed8+ (that provides Tactical Data Exchange Link 16) -For JREAP-C: STANAG 5518 Ed4 (that provides the Interoperability Standard for JREAP)	No	Amendment 4
CR# 23	AMD2 SRS NCOP-BMD-SRS-78 NCOP-BMD-SRS-79 NCOP-BMD-SRS-80	AMD2 SRS NCOP-BMD-SRS-78 NCOP-BMD-SRS-79 NCOP-BMD-SRS-80	As specified in SRS NCOP-BMD-SRS-78, NCOP-BMD-SRS-79, and NCOP-BMD-SRS-80 requirements, NCOP shall calculate the Actual Intercept Point based on SDE-Link 16 Surveillance, Engagement Status and Tactical Information 2. Can you please confirm that the calculation	The algorithm will be provided by the Contractor and will be subject to review and coordination with the Purchaser. Please note that starting from Tranche 2027 onward NCOP	No	Amendment 4

			algorithm will be furnished by the Purchaser, and indicate under which format (detailed specification, library)?	shall be able to consume SDEs "Trajectory extrapolation" and "Interceptor Trajectory Extrapolation" from ACCS.		
CR# 24	AMD2 SRS NCOP-BMD-SRS-82 NCOP-BMD-SRS-84	AMD2 SRS NCOP-BMD-SRS-82 NCOP-BMD-SRS-84	As specified in SRS NCOP-BMD-SRS-82 and NCOP-BMD-SRS-84, NCOP shall calculate the Predicted Intercept Point based on SDE-Link 16 Surveillance and Tactical Information 2. Can you please confirm that the calculation algorithm will be furnished by the Purchaser, and indicate under which format (detailed specification, library)?	See response to CR#23	No	Amendment 4
CR# 25	AMD2 BMD IDD Figure 6-7	AMD2 BMD IDD Figure 6-7	In BMD IDD Figure 6-7 Real-Time Information Exchange via STANAG 5516 in T29, NCOP is specified to be a JRE Unit. Can you confirm that each site that will host NCOP servers will be a JRE Unit, and further elaborate?	Correct. An SRS-requirement (NCOP-BMD-SRS-1243) has been added to clarify this. NCOP shall implement the JRE Unit role, in accordance with REFERENCE X, defining Joint Range Extensions Applications Protocol (JREAP)	Yes	Amendment 4
CR# 26	AMD2 SRSNCOP-BMD-SRS-289, NCOP-BMD-SRS-290, NCOP-BMD-SRS-291, NCOP-BMD-SRS-372, NCOP-BMD-SRS-373, NCOP-BMD-SRS-374, NCOP-	AMD2 SRSNCOP-BMD-SRS-289, NCOP-BMD-SRS-290, NCOP-BMD-SRS-291, NCOP-BMD-SRS-372, NCOP-BMD-SRS-373, NCOP-BMD-SRS-374, NCOP-BMD-SRS-384, NCOP-BMD-	Please provide actual values for performance parameters INTERCEPTOR.NUMBER.2, THREAT.NUMBER.5, THREAT.COICOECONI.TIME.1, SESSION.NUMBER, PROCESS.TIME, COMPROMISE.AREA.1, POPULATE.TIME.1, DISPLAY.TIME, NSA3, ENG.AVAILABILITY.PERIOD.3, ENG.AVAILABILITY.FREQ.3, PD.AVAILABILITY.PERIOD.1, PD.AVAILABILITY.FREQ.1, SA.AVAILABILITY.PERIOD.3, SA.AVAILABILITY.FREQ.3, ETEE.AVAILABILITY.PERIOD.1, ETEE.AVAILABILITY.FREQ.1, OPERATIONAL.SITUATION.DISPLAY.ERROR	If the specific values of the performance parameter is actually driving the cost of the bid, these values can be found in the following documentation (ADD and BMD NATO Staff Requirement), which is disseminated to the BMD Nations through the Steering Committee delegations.	No	Amendment 4

BMD-SRS-388, NCOP-BMD-SRS-389, NCOP-BMD-SRS-392, NCOP-BMD-SRS-400, NCOP-BMD-SRS-575, NCOP-BMD-SRS-604, NCOP-BMD-SRS-840, NCOP-BMD-SRS-842, NCOP-BMD-SRS-615, NCOP-BMD-SRS-616, NCOP-BMD-SRS-843, NCOP-BMD-SRS-844, NCOP-BMD-SRS-619, NCOP-BMD-SRS-620, NCOP-BMD-SRS-624, NCOP-BMD-SRS-845, NCOP-BMD-SRS-627, NCOP-BMD-SRS-846, NCOP-	SRS-388, NCOP-BMD-SRS-389, NCOP-BMD-SRS-392, NCOP-BMD-SRS-400, NCOP-BMD-SRS-575, NCOP-BMD-SRS-604, NCOP-BMD-SRS-840, NCOP-BMD-SRS-842, NCOP-BMD-SRS-615, NCOP-BMD-SRS-616, NCOP-BMD-SRS-843, NCOP-BMD-SRS-844, NCOP-BMD-SRS-619, NCOP-BMD-SRS-620, NCOP-BMD-SRS-624, NCOP-BMD-SRS-845, NCOP-BMD-SRS-627, NCOP-BMD-SRS-846, NCOP-BMD-	, ENG.RECOVERABILITY.TIME.3, PD.RECOVERABILITY.TIME.1, SA.RECOVERABILITY.TIME.3,ETEE.RECOVERABILITY.TIME.1 and OPERATION.SITUATION.DISPLAY.TIMEthat are missing in the SRS.			

	BMD-SRS-629 and NCOP-BMD-SRS- 632	SRS-629 and NCOP-BMD-SRS- 632				
CR# 27	AMD2 SRS	AMD2 SRS	Can you confirm that all georeferenced data (points, lines/trajectories, areas/shapes) shall be displayed and selectable on the map?	Yes, all georeferenced data (points, lines/trajectories, areas/shapes) shall be displayed and selectable on the map	No	Amendment 4
CR# 28	AMD2 SRS NCOP-BMD-SRS-900 and NCOP-BMD-SRS- 901 SRS REF.A - BMD IDD 7.1.14.2	AMD2 SRS NCOP-BMD-SRS-900 and NCOP-BMD-SRS- 901 SRS REF.A - BMD IDD 7.1.14.2	NCOP-BMD-SRS-900 and NCOP-BMD-SRS-901 refer to "indication that a track has been dropped as provided by the SDE - Link-16 Surveillance Data, in accordance with REFERENCE A.". The description of SDE Link-16 Surveillance Data in BMD IDD 7.1.14.2 does not include such an indication. Can you please clarify?	It is part of the general Link 16 Implementation and not a significant data element. This level of detail is not included in the IDD. However, this information is included in the ref doc Ballistic Missile Defence (BMD). This document is not needed for bidding purposes: Link 16 Reference NCIA/AMDC2/2020/00163_TT1 867, dated 7 August 2020	No	Amendment 4
CR# 29	AMD2 SRS NCOP-BMD-SRS-493 and NCOP-BMD-SRS- 494 SRS REF.A - BMD IDD 7.2.42.2	AMD2 SRS NCOP-BMD-SRS-493 and NCOP-BMD-SRS- 494 SRS REF.A - BMD IDD 7.2.42.2	NCOP-BMD-SRS-493 and NCOP-BMD-SRS-494 refer to "indication that a track has been dropped as provided by the SDE - Tactical Information 2, in accordance with REFERENCE A.". The description of SDE Tactical Information 2 in BMD IDD in BMD IDD 7.2.42.2 does not include such an indication. Can you please clarify?	See response to CR#28	No	Amendment 4
CR# 30	AMD2 SRS NCOP-BMD-SRS-905 and NCOP-BMD-SRS- 906	AMD2 SRS NCOP-BMD-SRS-905 and NCOP-BMD-SRS- 906	NCOP-BMD-SRS-905 and NCOP-BMD-SRS-906 refer to "the time of impact of a track as provided by the SDE - Link-16 Surveillance Data, in accordance with REFERENCE A.". The description of SDE Link-16 Surveillance Data in	See response to CR#28	No	Amendment 4

	SRS REF.A - BMD IDD 7.1.14.2	SRS REF.A - BMD IDD 7.1.14.2	BMD IDD 7.1.14.2 does not include this piece of information. Can you please clarify?		
CR# 31	AMD2 SRS NCOP-BMD-SRS-496 and NCOP-BMD-SRS- 497 SRS REF.A - BMD IDD 7.2.42.2	AMD2 SRS NCOP-BMD-SRS-496 and NCOP-BMD-SRS- 497 SRS REF.A - BMD IDD 7.2.42.2	NCOP-BMD-SRS-496 and NCOP-BMD-SRS-497 refer to "the time of impact of a track as provided by the SDE - Tactical Information 2, in accordance with REFERENCE A.". The description of SDE Tactical Information 2 in BMD IDD 7.2.42.2 does not include this piece of information. Can you please clarify?	See response to CR#28	No	Amendment 4
CR# 32	AMD2 SRS NCOP-BMD-SRS-918, NCOP-BMD-SRS-919 and NCOP-BMD-SRS- 920 SRS REF.A - BMD IDD 7.1.14.2	AMD2 SRS NCOP-BMD-SRS-918, NCOP-BMD-SRS-919 and NCOP-BMD-SRS- 920 SRS REF.A - BMD IDD 7.1.14.2	NCOP-BMD-SRS-918, NCOP-BMD-SRS-919, and NCOP-BMD-SRS-920 refer to "the time a track was declared as lost as provided by the SDE - Link-16 Surveillance Data, in accordance with REFERENCE A.". The description of SDE Link-16 Surveillance Data in BMD IDD 7.1.14.2 does not include this piece of information. Can you please clarify?	See response to CR#28	No	Amendment 4
CR# 33	AMD2 SRS NCOP-BMD-SRS-541, NCOP-BMD-SRS-542 and NCOP-BMD-SRS- 543 SRS REF.A - BMD IDD 7.2.42.2	AMD2 SRS NCOP-BMD-SRS-541, NCOP-BMD-SRS-542 and NCOP-BMD-SRS- 543 SRS REF.A - BMD IDD 7.2.42.2	NCOP-BMD-SRS-541, NCOP-BMD-SRS-542 and NCOP-BMD-SRS-543 refer to "the time a track was declared as lost as provided by the SDE - Tactical Information 2, in accordance with REFERENCE A.". The description of SDE Tactical Information 2 in BMD IDD 7.2.42.2does not include this piece of information. Can you please clarify?	See response to CR#28	No	Amendment 4

CR# 34	AMD2 SRS NCOP-BMD-SRS-912, NCOP-BMD-SRS-913 and NCOP-BMD-SRS-914 SRS REF.A - BMD IDD 7.1.14.2	AMD2 SRS NCOP-BMD-SRS-912, NCOP-BMD-SRS-913 and NCOP-BMD-SRS-914 SRS REF.A - BMD IDD 7.1.14.2	NCOP-BMD-SRS-912, NCOP-BMD-SRS-913 and NCOP-BMD-SRS-914 refer to "the source track number of this reporting defence resource as provided by the SDE - Link-16 Surveillance Data, in accordance with REFERENCE A.". The description of SDE Link-16 Surveillance Data in BMD IDD 7.1.14.2 does not include a source track number. Can you please clarify?	See response to CR#28	No	Amendment 4
CR# 35	AMD2 SRS NCOP-BMD-SRS-511, NCOP-BMD-SRS-512 and NCOP-BMD-SRS-513 SRS REF.A - BMD IDD 7.2.42.2	AMD2 SRS NCOP-BMD-SRS-511, NCOP-BMD-SRS-512 and NCOP-BMD-SRS-513 SRS REF.A - BMD IDD 7.2.42.2	NCOP-BMD-SRS-511, NCOP-BMD-SRS-512 and NCOP-BMD-SRS-513 refer to "the source track number of this reporting defence resource as provided by the SDE - Tactical Information 2, in accordance with REFERENCE A.". The description of SDE Tactical Information 2 in BMD IDD 7.2.42.2 does not include a source track number. Can you please clarify?	See response to CR#28	No	Amendment 4
CR# 36	AMD2 SRS NCOP-BMD-SRS-72 and NCOP-BMD-SRS-73SRS REF.A - BMD IDD 7.1.14.2	AMD2 SRS NCOP-BMD-SRS-72 and NCOP-BMD-SRS-73SRS REF.A - BMD IDD 7.1.14.2	NCOP-BMD-SRS-72 and NCOP-BMD-SRS-73 refer to "the actual time of intercept (ATI) as provided by the SDE - Engagement Status, in accordance with REFERENCE A". The description of SDE Link-16 Surveillance Data inBMD IDD 7.1.14.2 does not include this piece of information. Can you please clarify?	See response to CR#28	No	Amendment 4
CR# 37	AMD2 SRS NCOP-BMD-SRS-74 and NCOP-BMD-SRS-75 SRS REF.A -	AMD2 SRS NCOP-BMD-SRS-74 and NCOP-BMD-SRS-75 SRS REF.A -	NCOP-BMD-SRS-74 and NCOP-BMD-SRS-75 refer to "the actual time of intercept (ATI) as provided by the SDE - Tactical Information 2, in accordance with REFERENCE A". The description of SDE Tactical Information 2 in BMD IDD 7.2.42.2 does not include this piece of information. Can you please clarify?	See response to CR#28	No	Amendment 4

	BMD IDD 7.2.42.2	BMD IDD 7.2.42.2				
CR# 38	AMD2 SRS Object number 9.3.4.0-2	AMD2 SRS Object number 9.3.4.0-2	Can you please provide an ID for this object number?	Object number 9.3.4.0-2 ID updated : NCOP-BMD-SRS-1242	Yes	Amendment 4
CR# 39	AMD2 SRS REFERENCE A - BMD IDD Section 5	AMD2 SRS REFERENCE A - BMD IDD Section 5	STANAG 5516 Ed 8+ is understood as STANAG 5516 Ed8 plus a number of DLCP. Can you please provide the list of these DLCP and indicate if and how further DLCP will be brought into the interface specifications?	The list of the DLCPs to be implemented are provided in the REFERENCE Z: NCIA/AMDC2/2020/00163, BMD-SE-PRG-L16REF-558-3.0 stated in NCOP-BMD-SRS-1203. The document is BALLISTIC MISSILE DEFENCE (BMD) LINK-16 REFERENCE, v3.0, dated 19 March 2020. The list is provided in Table 4 – NATO BMD Architecture Recommended DLCP Implementation. Please note that; 1- Some DLCPs are already included in STANAG 5516 Ed8 (such as ML500-1249-5516-USA-M03-R2, etc.). 2- As a consequence the bid will include all DLCP in scope of the NCOP-BMD SRS	No	Amendment 4
CR# 40	AMD2 SRS REFERENCE A - BMD IDD Section 5	AMD2 SRS REFERENCE A - BMD IDD Section 5	STANAG 5516 Ed 5+ is understood as STANAG 5516 Ed5 plus a number of DLCP. Can you please provide the list of these DLCP and indicate if and how further DLCP will be brought into the interface specifications?	This understanding is not correct. STANAG 5516 ed5 describes the baseline Link 16 capability of NCOP which is provided by an external gateway. No change is envisioned to the baseline	No	Amendment 4

				capability until STANAG 5516 ed8+ is implemented.		
CR# 41	AMD2 SRS REFERENCE A - BMD IDD §6.3.1	AMD2 SRS REFERENCE A - BMD IDD §6.3.1	Figure 6-7 introduces an "Enabling System for the JREAP Network": is it a dedicated system/software artefact? Is it part of ACCS?	The diagrams in the IDD are conceptual depictions. The enabling system denoted here is an aggregation of many components that are external to NCOP as depicted in the diagram. For this particular diagram and for this particular port in question, it may be stated that the JREAP interface as detailed in the diagram is planned to be supported by ACCS.	No	Amendment 4
CR# 42	AMD2 SRS REFERENCE A - BMD IDD §7.2.42 and 7.2.41	AMD2 SRS REFERENCE A - BMD IDD §7.2.42 and 7.2.41	In §7.2.42, Tactical Information 2 is defined as a "configured set of RT tactical information sent by ACCS to populate the NATO COP situational awareness picture". §7.2.41 specifies that ACCS may "filter out the same messages". Can we assume that the result of this filtering will consist in the same types of J-messages (compliant with STANAG 5516 Ed 8+) as J-messages used to describe SDEs Processed Organic Sensor Surveillance Data, Processed SEW+ Surveillance Data, Processed FRA SAMP/T Data and Engagement Status in BL3?	Yes, we confirm that this understanding is correct. The filtering function that can be applied on ACCS side will not change the list of message types that could be received or their content. The SDE list that makes up this aggregated SDE is as described in the document Section 7.2.41.2 Content.	No	Amendment 4
CR# 43	AMD2 SRS REFERENCE A - BMD IDD Figures in §4.1.10 and	AMD2 SRS REFERENCE A - BMD IDD Figures in §4.1.10 and	From Figure 4-10 and Figure 6-7 we understand that SDEs Platform Location, Platform Status (Real-Time) and Link-16 Surveillance Data will be received from National systems using JREAP 5516 Ed5+ for nations up to BL3 and then received from ACCS using STANAG 5516 Ed 8+ as of BL4. Is this	Yes, we confirm that this understanding is correct. The implementation depicted in IDD Figure 6-7 will be effective starting from and including Tranche 27, this is consistent with BL4 for NCOP.	No	Amendment 4

	6.3.1	6.3.1	understanding correct?			
CR# 44	AMD2 SRS	AMD2 SRS	Do you confirm that all information products/overlays mentioned in the SRS must benefit of all NCOP-2 functionality, such as history, post-processing, visualisation filters, Level Of Detail, correlation, association etc.	Yes	No	Amendment 4
CR# 45	AMD2 SRS REFERENCE A - BMD IDD Section 7	AMD2 SRS REFERENCE A - BMD IDD Section 7	Can you please provide a description of the format used to convey each NRT SDE content (NVG, binary, xml, kml, json, APP-11, other)?	The same SDE could be conveyed in several different message formats. The Provider Systems specify which message format is applicable for each SDEX. NCOP responsibility in this case is supporting the required standards defined in the SRS for information exchange.	No	Amendment 4
CR# 46	AMD2 BMD IDD Figure 4-1	AMD2 BMD IDD Figure 4-1	The BMD IDD mentions "Logistics Applications" several times. We assume that the "Logistics Applications" includes the LOG-FS. Can you please provide the list of other "Logistics Applications"? (if any)	Possible list of Logistics Applications are: -LogFAS -EBA -CORSOM	No	Amendment 4
CR# 47	AMD2 SRSNCOP-BMD-SRS-294	AMD2 SRSNCOP-BMD-SRS-294	NCOP-BMD-SRS-294 requirement"For the user defined time period, NCOP shall recall and display units and tracks from history."NCOP2 Information Product history will set a retention duration of 7 days for any Information Product. Could you please confirm that this value is applicable to BMD SDE?	No, the 7-days duration is not associated with this requirement	No	Amendment 4
CR# 48	AMD2 SRS NCOP-BMD-SRS-1210 NCOP-BMD-SRS-597	AMD2 SRS NCOP-BMD-SRS-1210 NCOP-BMD-SRS-597	NCOP-BMD-SRS-1210 and NCOP-BMD-SRS-597 make World Geodetic System-98 standard applicable. This WGS-98 is unknown and not defined in NIMA TR8350.2 (reference AA). Can you please clarify?	This is a typo,. It should be World Geodetic System-84. SRS-requirements (NCOP-BMD-SRS-1210 and -597) have been updated to correct this.	Yes	Amendment 4

CR# 49	AMD2 SOW 4.5.8 Table 4-7/2 Table 4-22/3	AMD2 SOW 4.5.8 Table 4-7/2 Table 4-22/3	Whereas SOW 4.5.8 heading indicates that the conduct of a Security Risk Assessment is not required, SOW requirements 4.5.8.1, 4.5.8.1.1. & 4.5.8.1.2. require the conduct of a SRA, and Table 4-7/2 requires that a SRA (Report) be delivered for the SRR. Could you please clarify?	Confirmed that SRA is document scheduled at SRR, but as stated in SOW 4.5.8, SRA is not required for this contract. SRR Deliverables and documents (table 4-7) are updated.	Yes	Amendment 4
CR# 50	AMD2 SOW 4.8.11 Table 4-22/3	AMD2 SOW 4.8.11 Table 4-22/3	Table 4-22/4 requires that Security Implementation Verification Procedures be delivered for the TRR whereas no Security Test and Evaluation is required to be performed by the Contractor in SOW section 4.8.11. Could you please clarify?	Right, the SIVP is not required (removed).	Yes	Amendment 4
CR# 51	AMD2 SOW Figure 5	AMD2 SOW Figure 5	Could you please confirm that following Patch testing and verification performed by the Contractor (see Figure 5 Module 3) a simplified IV&V process, and not the whole process shown on Figure 5 Module 2, will be applied by NCIA to authorize the deployment of the patch?	NCIA Validation follow a formal validation process which is tailored by the Request For Change and the proposed software updates. The events may be accelerated however the validation process remains the same.	No	Amendment 4
CR# 52	AMD2 SOW 5.3.5. SOW 5.10.2.2.2.	AMD2 SOW 5.3.5. SOW 5.10.2.2.2.	There seems to be an inconsistency in the SOW regarding the required system restoration time in case of critical bug. SOW 5.3.5 specifies 2 days whereas SOW 5.10.2.2.1. specifies 3 days. Could you please clarify?	Both durations have be aligned to two days.	Yes	Amendment 4
CR# 53	AMD2 SOW 5.10.2.4.3.2 SOW 5.13. Bidding Sheets Tab2 CLIN 6,1	AMD2 SOW 5.10.2.4.3.2 SOW 5.13. Bidding Sheets Tab2 CLIN 6,1	Could you please confirm that: 1) the quarterly Warranty Report specified in SOW requirement 5.10.2.4.3. is the same as the ISS Quarterly Report specified in SOW 5.13. 2) Warranty/ISS Quarterly Reports shall be delivered from BL3 PSA-1 until FSA + 1Y 3) The delivery of Warranty/ISS Quarterly	1) Yes, Quarterly report detailed in 5.13 to be used. 2) Required Completion Date to be aligned with related Maintenance releases. 3) CLIN 6.1 & 6.3 should be used.	Yes	Amendment 4

			Reports is covered by CLIN 6,1 only			
CR# 54	AMD2 SOW 4.8.11.4.2. SOW 4.8.11.7.1.	AMD2 SOW 4.8.11.4.2. SOW 4.8.11.7.1.	There seems to be errors in SOW 4.8.11.4.2. that currently requires: - to perform System Test Review, whereas the STR is specified in 4.8.11.7.1. as being "the last milestones of the testing and verification under the Contractor lead." - "with emphasis on any CIs that have been modified since Factory Acceptance Testing." Could you please clarify?	As depicted by SOW Figure 5, SSMAT and STR are under Contractor lead.	No	Amendment 4
CR# 55	AMD2 SOW 4.7.12.1.	AMD2 SOW 4.7.12.1.	SOW 4.7.12.1. requires that the Contractor uses the NATO Software Factory (NSF) to conduct system integration testing (NSF IVV testbed). Could you please confirm that: 1) All BMD systems or their simulators (inc. ACCS, AirC2IS, Intel-FS, CBRN-FS, ETEE-FS, Log-FS, and all other NATO or National systems that have interfaces with NCOP-BMD) will be available on the NSF IVV testbed testing environment allowing the Contractor to perform interoperability testing between NCOP-BMD BL3- 4-5 and these systems , to de-risk FAT testing that will be conducted on the ITB. 2) All external systems having legacy interfaces with NCOP2 will be available on the NSF IVV testbed allowing the Contractor to perform interoperability regression testing for the existing NCOP2 interfaces, for NCOP-BMD BL3-4-5.	The Purchaser-Furnished systems identified in the Statement of Work (SOW) should be made available.	No	Amendment 4

| CR# 56 | AMD2SOW Figure 5SOW Table 4-26/ 10SOW 4.8.11.3.4.SO W 4.8.11.3.8.SO W 4.8.11.5.7.SO W 4.8.11.8.16.S OW Table 4- 44/4 | AMD2SOW Figure 5SOW Table 4-26/ 10SOW 4.8.11.3.4.SO W 4.8.11.3.8.SO W 4.8.11.5.7.SO W 4.8.11.8.16.SO W Table 4-44/4 | Could you please clarify the testing environment (testbed) and indicate the external systems that will beavailable on each testbed for each formal Test Event whether Contractor-lead (see SOW Figure 5 Module 1)or NCIA-lead (see SOW Figure 5 Module 2)?More specifically:1) FATa) Testbed: Table 4-26/10 indicates ITB.b) Which external systems will be available on the FAT testbed, for each BL?2) L-SITa) Testbed: SOW 4.8.11.3.4. specifies "Purchaser-specified Reference System or NATO testingenvironment" whereas SOW 4.8.11.3.8. specifies "Reference System". Could-you please clarify?b) Which external systems will be available on the SIT testbed, for each BL?3) L-UATa) Testbed: SOW 4.8.11.5.7. specifies "Purchaser-specified Reference System (e.g. NCIA NCOP Referencesystem)" Could-you please clarify?b) Which external systems will be available on the L-UAT testbed, for each BL?4) IT&Va) Testbed: SOW 4.8.11.8.16. specifies "Purchaser's IV&V Test Facility". Could you please clarify?b) With which external systems IV&V interoperability testing will be performed, for each BL?5) FMN Testing (only appears in Figure 5 Module2, not described in SOW 4.8.11. Tests)a) The SOW does not indicate the testbed used for FMN Testing. Could you please clarify?b) With which external systems interoperability testing will be performed as part of FMN Testing, for eachBL?6) SATa) Testbed: Table 4-44/4 indicates ITBb) With which external systems interoperability testing will be performed as part of SAT Testing, for eachBL? | The Purchaser-Furnished systems identified in the Statement of Work (SOW) should be made available. | No | Amendment 4 |

CR# 57	AMD2 SOW 5.4.4. SOW 5.5.19.	AMD2 SOW 5.4.4. SOW 5.5.19.	SOW 5.4.4. indicates that Organizational Level (SL1/2) is executed by Purchaser personnel. Could you please confirm that, in SOW 5.4.19., the Organizational Level maintenance executed on site shall be performed by Purchaser personnel?	Yes	No	Amendment 4
CR# 58	AMD2 SOW 4.8.3.16.	AMD2 SOW 4.8.3.16.	SOW 4.8.3.16. The Contractor shall support post go-live activities during the Service Operation and Operational Test and Evaluation period. This will allow for the evaluation of the capability's operational requirements such as performance and availability. It will also establish benchmarks for future enhancements, including any changes made to fulfil the requirements Could you please clarify and indicate: - What is the Service Operation and Operational Test and Evaluation period from a NCOP-BMD project schedule standpoint? - Under which CLIN such support shall be costed?	This effort should be part of the Service Desk activity (timeframe & cost)	No	Amendment 4
CR# 59	AMD2 SOW 3.20.1.1	AMD2 SOW 3.20.1.1	Could you please clarify what is required in SOW 3.20.1.1. first bullet : Project and security risk analysis?	Project and security risk/analysis is all about understanding, managing, controlling and mitigating risk to NCIA's critical assets. The related activities will be detailed under the PMP and its annexes	No	Amendment 4
CR# 60	AMD2 SRS NCOP-BMD-SRS-468 and NCOP-BMD-SRS-469	AMD2 SRS NCOP-BMD-SRS-468 and NCOP-BMD-SRS-469	SRS NCOP-BMD-SRS-468 and NCOP-BMD-SRS-469 requirements refer to "data driven application(s)". Can you define the "data driven application" concept?	"data driven application display layout" can be interpreted as: "NCOP display layout" SRS-requirement (NCOP-BMD-SRS-468 -469) have been updated accordingly.	Yes	Amendment 4

CR# 61	AMD2 SRS NCOP-BD-SRS-1197	AMD2 SRS NCOP-BD-SRS-1197	Can you provide the list of SDE that will convey APP-6(D) symbol codes for embedded objects?	This will be depending upon each information providers, but it should be assumed that all SDE's may contain APP-6(D) symbol codes or sufficient properties allowing NCOP to derive such symbol. SRS-requirement (NCOP-BMD-SRS-1244) has been added to clarify this expected behaviour. NCOP shall generate symbology in accordance with REFERENCE T for information objects not originally including their own APP-6(D) symbol code.	No	Amendment 4
CR# 62	AMD2 SRS NCOP-BD-SRS-1197	AMD2 SRS NCOP-BD-SRS-1197	Can you provide the list of SDE that do not convey APP-6(D) symbol codes for embedded objects, but for which received attributes allow NCOP to construct the APP-6(D) symbol? In that case, can we assume that business rules will be provided by the Purchaser?	We cannot provide such business rules, this must be part of the proposed design. See CR#61 for additional requirement.	No	Amendment 4
CR# 63	AMD2 SRS NCOP-BD-SRS-1197	AMD2 SRS NCOP-BD-SRS-1197	Can you provide the list of SDE that require custom symbols (e.g. png files for civilian assets) and specify how these symbols will be provided to NCOP?	The current reference for this SRS does not refer to custom symbols.SRS-Requirement (NCOP-BMD-SRS-1245) has been added to support custom symbols.NCOP shall support custom image symbols, provided remotely over HTTP/HTTPS by providers in the following format: JPG, PNG.	No	Amendment 4
CR# 64	AMD2 SRS NCOP-BD-SRS-1197	AMD2 SRS NCOP-BD-SRS-1197	Can you please confirm that the display of APP-6(D) symbols is not limited to the map and may be displayed in tabular forms?	Yes, the display of APP-6(D) symbols is not limited to the map and may be displayed in tabular forms	No	Amendment 4

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CR# 65	AMD2 SRS NCOP-BMD-SRS-480, NCOP-BMD-SRS-481, NCOP-BMD-SRS-482	AMD2 SRS NCOP-BMD-SRS-480, NCOP-BMD-SRS-481, NCOP-BMD-SRS-482	NCOP-BMD-SRS-480, NCOP-BMD-SRS-481, and NCOP-BMD-SRS-482 requirements refer to "BMD Work Flow processes". Can you clarify this notion?	Read "NCOP functions" instead of "Work Flow processes" SRS-requirement (NCOP-BMD-SRS-480, -481, and -482) have been updated accordingly	Yes	Amendment 4
CR# 66	AMD3 SOW Figure 5 SOW 4.8.11.3.4. SOW 4.8.11.4.2. SOW 4.8.11.5.7. SOW Table 4-52/3	AMD3 SOW Figure 5 SOW 4.8.11.3.4. SOW 4.8.11.4.2. SOW 4.8.11.5.7. SOW Table 4-52/3	The SOW specifies several Purchaser-specified Reference Systems as follows: 1) A "Purchaser-specified Reference System" is mentioned in several SOW requirements as being the testbed or a candidate testbed for Contractor-lead test events including: a) L-SIT. See SOW 4.8.11.3.4. The Contractor shall perform L-SIT by installing the Product Baseline on a Purchaser-specified Reference System or NATO testing environment and [...] b) SSMAT. See SOW 4.8.11.4.2. The Contractor shall perform System Support and Maintenance Acceptance Testing by installing the Product Baseline on a Purchaser-specified Reference System and [...] c) L-UAT. See SOW 4.8.11.5.7. The Contractor shall support the L-UAT on a Purchaser-specified Reference System (e.g. NCIA NCOP Reference system). 2) A Reference System also appears on SOW Figure 5 as hosting the first on-site Validation being performed as part of NCOP2/WP4 site implementation activities (See "RefSys Install" as the first activity of Module 4) 3) Table 4-52/3 specifies "Reference Systems are updated with the current Product Baseline" as one of the FSA Success Criteria Could you please itemize the Reference Systems referred to in the above SOW requirements and indicate	The Contractor will have access to the Collaborative Working Environment which allow to reach all the development resources and systems on demand. The Purchaser-Furnished systems identified in the Statement of Work (SOW) should be made available.	No	Amendment 4

			for each one: - Its representative of the target NCOP-BMD implementation environment (NATO hosting infrastructure) - The availability of interfaces with the external BMD systems with which NCOP-BMD must co-operate and communicate as specified in the NCOP-BMD SRS			
CR# 67	AMD3 SOW Table 5-5	AMD3 SOW Table 5-5	Could you please confirm that Table 5-5 title currently "Problem Log during ISS warranty" shall read "Problem Log during warranty"?	Yes, the SOW has been updated accordingly.	Yes	Amendment 4
CR# 68	AMD3 SOW 5.13.6.	AMD3 SOW 5.13.6.	Could you please clarify what is meant by "Supportability Report" in SOW requirement 5.13.6. "The ISS Quarterly Report shall include the update of the Supportability Report"?	Supportability report to be replaced by supportability plan (ILSP)	Yes	Amendment 4
CR# 69	AMD3 SRS NCOP-BMD-SRS- 391 NCOP-BMD-SRS- 393 to 399, -1154 & -404	AMD3 SRS NCOP-BMD-SRS- 391 NCOP-BMD-SRS- 393 to 399, -1154 & -404	NCOP-BMD-SRS-391 requirement states "NCOP shall load received Training Components." Could you please clarify what is meant by "Training Components" (TCs) in this requirement? Shall TCs be understood as static training data sets which content is itemized in NCOP-BMD-SRS-393 to 399, -1154 & -404? Could you please indicate: 1) The content and format of the received structured data set elements mentioned in NCOP-BMD-SRS-395 to 399, -1154 & - 404 2) The content and format of the received "fictitious state actors" (NCOP-BMD-SRS-393) and "fictitious non-state actors" (NCOP-BMD-SRS-394) data elements? 3) How these data sets will be "received" (NCOP-BMD-SRS-391)?	Training Components would be exercise specific maps, security classifications, commands, etc This is all received as non-structured document which NCOP will be configured on.	No	Amendment 4

CR# 70	AMD3 SOW 5.3.1.2.5. & 5.3.1.2.6. SRS NCOP-BMD- SRS-1237	AMD3 SOW 5.3.1.2.5. & 5.3.1.2.6. SRS NCOP-BMD- SRS-1237	SRS NCOP-BMD-SRS-1237 specifies that SW updates "shall be Software Organizational Maintenance (Level 2) SL2 or lower." which is not consistent with SOW statement 5.3.1.2.5. that limits SL2 SW-related activities to "simple SW customizations, SW reloading/installation, execution of scripts, management of users/profiles usually performed by system administrators." nor with SOW statement 5.3.1.2.6. that includes SW updates in SL3 activities. Could you please clarify?	The coherence is confirmed because SW updates are included in the second level of Maintenance; indeed, as stated in the 5.3.1.2.5 of SOW, it includes activities like "SW reloading/installation" The third level of maintenance instead includes, as stated in the 5.3.1.2.6 of SOW, "software patches or new releases including the bug recording and reporting, advanced troubleshooting and configuration changes with the changing environment [...] and any other procedures can require specialised tools and/or Personnel such as software architects, programmers, advanced system administrators and specialists"	No	Amendment 4
CR# 71	AMD3SOW 5.4.4 & 5.5.5 SRS NCOP-BMD- SRS-1234 to 1236& 1238	AMD3SOW 5.4.4 & 5.5.5 SRS NCOP-BMD- SRS-1234 to 1236& 1238	SOW 5.4.4 & 5.5.5 + NCOP-BMD-SRS-1234 to 1236 & 1238 are typical maintainability requirements for a system made of hardware components.To meet these requirements, it is required to conduct a Failure Mode Effect and Criticality Analysis (FMECA) down to the hardware LRU and software module level. For such systems, the failure correction is mainly based on faulty LRU replacement by spares.Furthermore, the above requirements pertain to Organizational Maintenance (SL1/SL2) and SL3, which are performed by the Purchaser as specified by the SOW, to whom the contractor provides support as part of	This contract only covers software portion. No hardware corrective maintenance expected.1) In the Par. 5.4.4 it is requested:• Full Logistic Breakdown Structure (LBS)• Full and detailed Operation and Maintenance Task Analysis (OMTA)• Maintenance Plan.Following the S3000L criteria that are applicable not only to HW but also to SW MSI.All the requirements requested are applicable or	No	Amendment 4

			Warranty and In-Service Support services.For SL4 level, the contractor is responsible for delivering software patches for critical and non-critical failures and corrective releases for non-critical failures.As NCOP-BMD is a software only system, could you please confirm that the above mentioned requirements are not applicable to the NCOP-BMD contractor?	partially applicable also to SW MSI if not please specify why in the frame of ILSP Product support case to be evaluated.2) The Par. 5.5.5 doesn't exist in the SOW.3) • the SL1/2 are in charge to Purchaser for the Warranty and ISS services. • - For Warranty, as stated in the 5.10.2.2.3 of SOW, "The Contractor shall provide on-site support on the request of the Purchaser for all SL3 and SL4 corrective/unscheduled and preventive/scheduled maintenance and the warranty cases that cannot be resolved remotely"• For ISS Post Warranty named Operation and Maintenance (O&M), as stated in the 5.11.2.2.2.5, 5.11.2.2.2.5 "The Contractor shall perform SL3 and SL4 Corrective Maintenance which includes the following activities […]"		
CR# 72	AMD3 SOW Annex G - BMD IDD Appendix C (NSV-2a and NSV-2b Diagrams) 3.1.2.B SRS NCOP-BMD-SRS- 1171 to	AMD3 SOW Annex G - BMD IDD Appendix C (NSV-2a and NSV-2b Diagrams) 3.1.2.B SRS NCOP-BMD-SRS- 1171 to	BMD IDD Appendix C (NSV-2a and NSV-2b Diagrams) § 3.1.2.B (page 54) states that in T23/BC and T25/BL3, NIRIS should be interfaced in JREAP-C. However NIRIS interface requirements in the SRS (NCOP-BMD-SRS-1171 to 1176) specify that BL3 interface with NIRIS is the same as BC's i.e. the TSS web service interface. Can you confirm that the existing NIRIS TSS interface used by NCOP-2 (BC) remains the only NIRIS interface to be used in BL3?	Correct, the existing NIRIS TSS interface used by NCOP-2 (BC) remains the only NIRIS interface to be used in BL3	No	Amendment 4

	1176	1176			
CR# 73	AMD3 SOW Annex F - BMD IDD Appendix B (Communication Method – SDE Exchange Mapping) SOW Annex D - NCOP-2 Interface Control Document 3.3.1	AMD3 SOW Annex F - BMD IDD Appendix B (Communication Method – SDE Exchange Mapping) SOW Annex D - NCOP-2 Interface Control Document 3.3.1	BMD IDD Appendix B states that NCOP shall receive Processed SEW+ Surveillance Data, Processed Organic Sensor Surveillance Data, Link-16 Surveillance Data, Engagement Status, Platform Location and Platform Status (Real-Time) data from ACCS using the JREAP-C protocol in 2021, 2023 and 2025. We make the hypothesis that 2023 corresponds to NCOP-2 and 2025 corresponds to NCOP-BMD BL3. Besides, NCOP-2 ICD (§ 3.3.1) states that NCOP-2 receives data from ACCS by using the "NVG Streaming" protocol ONLY. Are we to understand that the existing NVG streaming protocol used by NCOP-2 to interface ACCS is to be replaced by JREAP-C as of T25/BL3?	In T25/BL3 these Data Elements are to be maintained based on the NCOP-BC capabilities.	No	Amendment 4
CR# 74	AMD3 SOW Annex F - BMD IDD Appendix B (Communication Method – SDE Exchange Mapping)	AMD3 SOW Annex F - BMD IDD Appendix B (Communication Method – SDE Exchange Mapping)	BMD IDD Appendix B (page 3) states that Tactical Information 2 is sent by ACCS to NCOP using both "Web Service for Structured NRT Information" and "JREAP-C NATO Internal STANAG 5516 Ed 8+". Can you clarify what data elements in Tactical Information 2 are sent to NCOP through "Web Service for Structured NRT Information"?	Tactical Information 2 will be sent by ACCS to NCOP using only "JREAP-C" in accordance with CR#22.	No	Amendment 4
CR# 75	AMD3 SRS SOW Annex E - NCOP-2 System Design Specification 2.2.2.3	AMD3 SRS SOW Annex E - NCOP-2 System Design Specification 2.2.2.3	Can you confirm that all NRT (Non Real Time) Information Products are in Full update mode (see NCOP-2 SDS 2.2.2.3), i.e. each receipt of an SDE fully replaces the previous version of this SDE?	No, not all NRT Information Products are in Full Update mode. Some of them might be in Partial Update mode.	No	Amendment 4

CR# 76	AMD3 SOW 4.8.3. & 4.8.11.3.2.	AMD3 SOW 4.8.3. & 4.8.11.3.2.	Could you please confirm that the Contractor will be provided with the capability to remotely access NCIA testbed(s) hosting instances or simulators of all external BMD systems with which NCOP-BMD must co-operate and communicate (as specified in the NCOP-BMD SRS) for the purpose of conducting interoperability testing with these systems during internal IVV/Qualification testing, to mitigate risks for L-SIT (that will be conducted on a Purchaser-furnished testing environment). Could you please indicate if and how this remotely accessed NCIA testbed(s) will evolve across BLs?	See response to CR#66	No	Amendment 4

END OF CLARIFICATION REQUESTS AND RESPONSES

Distribution List for IFB-CO-115461-NCOPBMD

NATO Delegation (Attn: Infrastructure Adviser):
- Albania
- Belgium
- Bulgaria
- Canada
- Croatia
- Czech Republic
- Denmark
- Estonia
- France
- Germany
- Greece
- Hungary
- Iceland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Montenegro
- The Netherlands
- North Macedonia
- Norway
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Turkey
- United Kingdom
- United States

INVITATION FOR BID

IFB-CO-115461-NCOPBMD

Ballistic Missile Defence Increments 1&2 Functions for NATO Common Operational Picture Delivery

Project Serial No.: 2013/0IS03074 & 2013/0IS03089

BOOK I

BIDDING INSTRUCTIONS

TABLE OF CONTENT

SECTION 1   INTRODUCTION

1.1.   Purpose

1.1.1.   The purpose of this Invitation for Bid (IFB) is to award a Contract for Ballistic Missile Defence Increments 1&2 functions for NATO Common Operational Picture Delivery (NCOP BMD Delivery). All of the technical details and requirements of the project are explained in Book II, Part IV, Statement of Work (SOW) and the SOW annexes.

1.2.   Scope of Work

1.2.1.   The scope of this project is to procure two Work Packages (WPs) as follows:

1.2.1.1.   WP1: Deliver NCOP-BMD Functionality: This work package comprises the activities for developing and delivering the NCOP BMD functionality and interfaces, including transition of support.

1.2.1.2.   WP2: Provide NCOP-BMD In-Service Support: This work package comprises all the activities to provide in-service support to the fielded baselines prior to Final System Acceptance (FSA).

1.2.2.   Overview of the Prospective Contract

1.2.2.1.   The Prospective Contract (Book II) requires the selected Contractor to deliver the NCOP-BMD capability as described in this IFB. The Contractor shall perform all activities required per Book II Part IV (Statement of Work (SOW)) and its Annexes and shall deliver the associated deliverables per Book II Part I (Schedule of Supplies and Services (SSS)).

1.2.3.   The Contract resulting from this IFB shall be awarded on a Firm-Fixed-Price basis.

1.2.4.   The resulting contract will use elements of the Agile methodology, with multiple increments, each consisting of several sprints, and the opportunity for frequent acceptances of functional capabilities.

1.2.5.   The Contract will be governed by Book II, Part II (Contract Special Provisions), and Part III (Contract General Provisions).

1.3.   Governing Rules, Eligibility, and Exclusion Provisions

1.3.1.   This solicitation is an International Invitation for Bid (IFB) and is issued in accordance with the procedures for International Competitive Bidding (ICB) set forth in NATO document AC/4-D/2261 (1996 Edition) and its Annex X, dated 24 July 2009.

1.3.2.   Pursuant to these procedures, bidding is restricted to companies from

participating NATO member nations (see paragraph 2.1.1.7) for which either a Declaration of Eligibility has been issued by their respective national authorities.

1.4. Best Value Evaluation Method

1.4.1. The evaluation method to be used in the selection of the successful Bidder under this solicitation will follow the Best Value Procedures set forth in AC/4-D/2261, Annex X, dated 24 July 2009, and AC/4(2008)0002-REV2-ANNEX 1, dated 15 July 2015, or deviations to the procedure, as approved by the NATO Investment Committee.

1.4.2. The bid evaluation criteria and the detailed evaluation procedures are described in SECTION 4.

1.4.3. The Bidder shall refer to the Purchaser all queries for resolution of any conflicts found in information contained in this document in accordance with the procedures set forth in paragraph 2.7 "Request for IFB Clarifications".

1.5. Security

1.5.1. This Invitation for Bid is NATO UNCLASSIFIED.

1.5.2. Contractor personnel will be required to possess a security clearance of "NATO SECRET" (NS) for the performance of the Contract.

1.5.3. The Contractor will be required to handle and store classified material to the level of "NATO RESTRICTED".

1.5.4. The Contractor shall have the appropriate facility and personnel clearances at the date of Contract Signature. Should the Contractor be unable to perform the Contract due to the fact that the facility/security clearances have not been provided by their respective national security agency, this lack of clearance cannot be the basis for a claim of adjustment or an extension of schedule, nor the lack of clearance be considered a mitigating circumstance in the case of an assessment of Liquidated Damages or a determination of Termination For Default by the Purchaser under the Prospective Contract.

1.5.5. Contractor personnel working at NATO or National sites without such a clearance confirmed by the appropriate national security authority and transmitted to the cognisant NATO or National security officer at least fourteen (14) days prior to the site visit, will be denied access to the site. Denial of such access by the Purchaser may not be used by the Contractor as the basis for a claim of adjustment or an extension of schedule nor can the denial of access be considered a mitigating circumstance in the case of an assessment of Liquidated Damages or a determination of Termination for Default by the Purchaser.

1.5.6.   Bidders are advised that Contract signature will not be delayed in order to allow the processing of NS security clearances for personnel or facilities and, should the otherwise successful Bidder not be in a position to accept the offered Contract within a reasonable period of time, due to the fact that its personnel or facilities do not possess the appropriate security clearance(s), the Purchaser may determine the Bidder's Offer to be non-compliant and offer the Contract to the next ranking Bidder. In such a case, the Bidder who would not sign the Contract shall be liable for forfeiture of the Bid Guarantee.

1.6.   Documentation

1.6.1.   All documentation – including the IFB itself, all applicable documents and any reference documents provided by the Purchaser – are solely to be used for the purpose of preparing a response to this IFB. They are to be safeguarded at the appropriate level according to their classification and reference documents are provided "as is", without any warranty as to quality or accuracy.

1.6.2.   Statement of Work Applicable Documents

1.6.2.1.   All pertinent information relevant for bidding from the Applicable Documents referenced in Section 2 of the SOW have been retrieved and made a part of the IFB. Therefore, Bidders neither require physical access to these documents in order to make their bids compliant nor shall the Purchaser make these documents available as part of this IFB.

<div align="center">END OF SECTION 1</div>

SECTION 2   GENERAL BIDDING INFORMATION

2.1.   Definitions

2.1.1.   In addition to the definitions and acronyms set in Article 1 of Part II of the Prospective Contract and the definitions and acronyms set in the Article 2 of the NCI Agency Contract General Provisions (Part III), the following terms and acronyms, as used in this IFB shall have the meanings specified below:

2.1.1.1.   **"Bid"** or **"Quotation"**: a binding offer to perform the work specified in the Prospective Contract (Book II).

2.1.1.2.   **"Bidder"**: a firm, consortium, or joint venture which submits an offer in response to this solicitation. Bidders are at liberty to constitute themselves into any form of Contractual arrangements or legal entity they desire, bearing in mind that in consortium-type arrangements, a single judicial personality shall be established to represent that legal entity. A legal entity, such as an individual, Partnership or Corporation, herein referred to as the "Principal Contractor", shall represent all members of the consortium with the NCI Agency and/or NATO. The "Principal Contractor" shall be vested with full power and authority to act on behalf of all members of the consortium within the prescribed powers stated in an irrevocable Power of Attorney issued to the "Principal Contractor" by all members associated with the consortium. Evidence of authority to act on behalf of the consortium by the "Principal Contractor" shall be enclosed and sent with the bid. Failure to furnish proof of authority may be a reason for the bid being declared non-compliant.

2.1.1.3.   **"Compliance"**: strict conformity to the requirements and standards specified in this IFB.

2.1.1.4.   **"Contractor"**: the awardee of this IFB, which shall be responsible for the fulfilment of the requirements established in the Contract.

2.1.1.5.   **"Firm of a Participating Country"**: a firm legally constituted or chartered under the laws of, and geographically located in, or falling under the jurisdiction of a Participating Country.

2.1.1.6.   **"IFB"**: Invitation for Bid

2.1.1.7.   **"Participating Country"**: any of the 30 NATO nations contributing to the project, namely, (in alphabetical order): Albania, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, The Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, The United Kingdom, and The United States.

2.1.1.8.   **"Purchaser"**: The Purchaser is defined as the NCI Agency or its legal successor.

2.2.   Eligibility and Origin of Equipment and Services

2.2.1.   As stated in paragraph 1.3.2, only firms from a Participating Country are eligible to engage in this competitive bidding process.

2.2.2.   In addition, all Contractors, subcontractors and manufacturers, at any tier, must be from Participating Countries.

2.2.3.   None of the work, including project design, labour and services shall be performed other than by firms from and within Participating Countries.

2.2.4.   No materials or items of equipment down to and including identifiable sub-assemblies shall be manufactured or assembled by a firm other than from and within a Participating Country.

2.2.5.   Unless otherwise authorised by the terms of the Prospective Contract, the Intellectual Property Rights to all design documentation and related system operating software shall reside in NATO member countries, and no license fees or royalty charges shall be paid by the Contractor to firms, individuals or governments other than within the NATO member community.

2.3.   Bid Delivery and Bid Closing

2.3.1.   The closing time for submission of bids in Response to this IFB is **Thursday, 14 April 2022, 12:00 Hours (Central European Time (CET))**.

2.3.2.   Bids shall be submitted to the following email address below:

2.3.2.1. CO115461NCOPBMD@ncia.nato.int

2.4.   Late Bids

2.4.1.   Bids which are submitted to the Purchaser after the specified time and date set forth in paragraph 2.3.1 are "Late Bids" and shall not be considered for award. Such bids will be unopened unless the Purchaser can determine that the bid in question meets the criteria for consideration as specified below.

2.4.2.   Consideration of Late Bid

2.4.2.1. The Purchaser considers that it is the responsibility of the Bidder to ensure that the bid is submitted by the specified bid closing time. However, a late bid shall only be considered for award if a Contract has not already been awarded pursuant to the IFB or if the bid was sent to the correct email address specified in paragraph 2.3.2.1 and the delay was solely the fault of the Purchaser.

2.5.   Requests for Extension of Bid Closing Date

2.5.1.   Bidders are informed that requests for extension to the closing date for the

IFB shall be submitted to the Point of Contact indicated in paragraph 2.6.1 below **only** through the delegation of the country of origin of the firm which has been invited to bid or by that country's Embassy **no later than fourteen (14) calendar days** prior to the established bid closing date. Bidders are advised to submit their request in sufficient time as to allow their respective NATO Delegation or Embassy to deliver the formal request to the Purchaser within this time limit.

2.6. Purchaser's Point of Contact

2.6.1. The Purchaser point of contact for all information concerning this IFB is:

> Mr. Ole Hubner, Senior Contracting Officer
> E-mail: CO115461NCOPBMD@ncia.nato.int

2.6.2. All correspondence related to the IFB including the bid shall be sent to the contact details in paragraph 2.6.1 above.

2.7. Request for IFB Clarifications

2.7.1. Bidders, at the earliest stage possible during the course of the bidding period, are encouraged to seek clarification of any matters of an administrative or contractual, price, or technical in nature pertaining to this IFB.

2.7.2. All questions and requests for clarification shall be submitted via email (no phone calls) to the point of contact identified in paragraph 2.6.1 using the Clarification Request Form provided at ANNEX C of this Book 1.

2.7.3. Such questions and requests for clarification shall be submitted **not later than twenty eight (28) calendar days** prior to the stated "Bid Closing Date". The Purchaser is under no obligation to answer questions submitted after this time. Requests for clarification must address the totality of the concerns of the Bidder, as the Bidder will not be permitted to revisit areas of the IFB for additional clarification except as noted in paragraph 2.7.4 below.

2.7.4. Additional requests for clarification are limited only to the information provided as answers by the Purchaser to Bidder's requests for clarification. Such additional requests shall arrive not later than fourteen (14) calendar days before the established bid closing date.

2.7.5. It is the responsibility of the Bidders to ensure that all Clarification Requests submitted bear no mark, logo or any other form or sign that may lead to reveal the Bidders' identity in the language constituting the clarification itself. This prescription is not applicable to the mode used for the transmission of the clarification (i.e. email or form by which the clarification is forwarded).

2.7.6. The Purchaser declines all responsibilities associated to any and all circumstances regardless of the nature or subject matter arising from the

Bidders' failure or inability to abide to the prescription in paragraph 2.7.5 above.

2.7.7.   Except as provided above, all questions will be answered by the Purchaser and the questions and answers (but not the identity of the questioner) will be issued in writing (via email) to all Prospective Bidders. The Bidders shall immediately inform the Purchaser in the event that submitted questions are not reflected in the answers published.

2.7.8.   Where the extent of the changes implied by the response to a clarification request is of such a magnitude that the Purchaser deems necessary to issue revised documentation, the Purchaser will do so by the means of the issuance of a formal IFB amendment in accordance with paragraph 2.9.

2.7.9.   The Purchaser may provide for a re-wording of questions and requests for clarification where it considers the original language ambiguous, unclear, subject to different interpretation or revelatory of the Bidder's identity.

2.7.10.   The Purchaser reserves the right to reject clarification requests clearly devised or submitted for the purpose of artificially obtaining an extension of the bidding time (i.e. clarifications re-submitted using different wording where such wording does not change the essence of the clarification being requested).

2.7.11.   The published responses issued by the Purchaser shall be regarded as the authoritative interpretation of the IFB. Any amendment to the language of the IFB included in the answers will be issued as an IFB Amendment and shall be incorporated by the Bidder in its offer.

2.8.   Requests for Waivers and Deviations

2.8.1.   Bidders are informed that requests for alteration to, waivers, or deviations from the terms and conditions of this IFB will not be considered after the request for clarification process. Requests for alterations to the other requirements, terms or conditions of the IFB may only be considered as part of the clarification process set forth in paragraph 2.7.

2.8.2.   Requests for alterations to the specifications, terms and conditions of the Contract which are included in a bid as submitted may be regarded by the Purchaser as a qualification or condition of the bid and may be grounds for a determination of non-compliance.

2.9.   Amendment of the Invitation for Bid

2.9.1.   The Purchaser may amend the IFB at any time prior to the Bid Closing Date. Any and all changes will be transmitted to all Bidders by an official amendment designated as such and signed by the Purchaser. This process may be part of the clarification procedures set forth in paragraph 2.7 or may be an independent action on the part of the Purchaser.

2.9.2. The Purchaser will consider the potential impact of amendments on the ability of prospective Bidders to prepare a bid within the allotted time. The Purchaser may extend the "Bid Closing Date" at its discretion and such extension will be set forth in the amendment.

2.9.3. All such IFB amendments issued by the Purchaser shall be acknowledged by the Bidder in its bid by completing the "Acknowledgement of Receipt of IFB Amendments" certificate at Annex B.2. Failure to acknowledge receipt of all amendments may be grounds to determine the bid to be administratively non-compliant.

2.10. Cancellation of Invitation for Bid

2.10.1. The Purchaser may cancel, suspend or withdraw for re-issue at a later date this IFB at any time prior to Contract award. No legal liability on the part of the Purchaser for payment of any sort shall arise and in no event will any Bidder have cause for action against the Purchaser for the recovery of costs incurred in connection with preparation and submission of a bid in response to this IFB.

2.11. Modification and Withdrawal of Bids

2.11.1. Bids, once submitted, may be modified by Bidders, but only to the extent that the modifications are in writing, conform to the requirements of the IFB, and are received by the Purchaser prior to the exact time and date established for bid closing. Such modifications shall be considered as an integral part of the submitted bid.

2.11.2. Modifications to bids which arrive after the bid closing date will be considered as "Late Modifications" and will be processed in accordance with the procedure set forth in paragraph 2.4 concerning "Late Bids". Except that unlike a "Late Bid", the Purchaser will retain the modification until a selection is made. A modification to a bid which is determined to be late will not be considered in the evaluation and selection process. If the Bidder submitting the modification is determined to be the successful Bidder on the basis of the unmodified bid, the modification may then be opened. If the modification makes the terms of the bid more favourable to the Purchaser, the modified bid may be used as the basis of Contract award. The Purchaser, however, reserves the right to award a Contract to the apparent successful Bidder on the basis of the bid submitted and disregard the late modification.

2.11.3. A Bidder may withdraw its bid at any time prior to bid opening without penalty. In order to do so, an authorised agent or employee of the Bidder must provide an original statement of the firm's decision to withdraw the bid.

2.11.4. Except as provided in paragraph 2.12.4.2 below, a Bidder may withdraw its bid after Bid Opening only by forfeiture of the Bid Guarantee.

2.12. **Bid Validity**

2.12.1. Bidders shall be bound by the term of their bids for a period of twelve (12) months starting from the bid closing date specified in paragraph 2.3.1.

2.12.2. In order to comply with this requirement, the Bidder shall complete the Certificate of Bid Validity set forth in Annex B.4. Bids offering less than this period of time, may be determined non-compliant.

2.12.3. The Purchaser will endeavour to complete the evaluation and make an award within the bid validity period. However, should that period of time prove insufficient to render an award, the Purchaser reserves the right to request an extension of the bid validity period all bids which remain under consideration for award.

2.12.4. Upon notification by the Purchaser of such a request for a time extension, the Bidders shall have the right to:

2.12.4.1. accept this extension of time in which case Bidders shall be bound by the terms of their offer for the extended period of time and the bid guarantee and Certificate of Bid Validity extended accordingly; or

2.12.4.2. refuse this extension of time and withdraw the bid, in which case the Purchaser will return to the Bidder its Bid Guarantee in the full amount without penalty.

2.12.5. Bidders shall not have the right to modify their bids due to a Purchaser request for extension of the bid validity unless expressly stated in such request.

2.13. **Bid Guarantee**

2.13.1. The Bid Guarantee shall be submitted by:

2.13.1.1. email either directly by the banking institution or the Bidder to the email address in paragraph 3.4.1.2, plus

2.13.1.2. mail the original copy to the address in paragraph 3.4.1.3.

2.13.2. The Bidder shall furnish with its bid a guarantee in an amount equal to Three Hundred Thousand Euro (€300,000).

2.13.3. The Bid Guarantee shall be substantially similar to ANNEX D as an irrevocable, unqualified and unconditional Standby Letter of Credit (SLC) issued by any of the banks (used interchangeably with "financial institution") listed in ANNEX E or issued by a different financial institution and confirmed by any of the banks listed in ANNEX E. In the latter case, signed original letters from both the issuing institution and the confirming institution must be provided. The confirming bank shall clearly state that it will guarantee the funds, the drawing against can be made by the NCI Agency. Bid Guarantees shall be made payable to the Treasurer, NCI Agency.

2.13.4. **"Standby Letter of Credit"** or **"SLC"** as used herein, means a written commitment by a financial institution listed in ANNEX E either on its own behalf or as a confirmation of the Standby Letter of Credit issued by a different bank not listed in ANNEX E to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Purchaser of a written demand therefore. Neither the financial institution nor the Contractor can revoke or condition the Standby Letter of Credit.

2.13.5. Alternatively, a Bidder may elect to post the required Guarantee by cash (no cheques).

2.13.6. If the Bid Closing Date is extended after a Bidder's financial institution has issued a Bid Guarantee, it is the obligation of the Bidder to have such Bid Guarantee (and confirmation, as applicable) extended to reflect the revised Bid Validity date occasioned by such extension.

2.13.7. Failure to furnish the required Bid Guarantee in the proper amount, and/or in the proper form and/or for the appropriate duration by the Bid Closing Date may be cause for the bid to be determined non-compliant.

2.13.8. The Purchaser will make withdrawals against the amount stipulated in the Bid Guarantee under any of the following conditions:

2.13.8.1. The Bidder has submitted a bid and, after Bid Closing Date (including extensions thereto) and prior to the selection of the successful bid, withdraws its bid, or states that it does not consider its bid valid or agree to be bound by its bid;

2.13.8.2. The Bidder has submitted a successful bid, but the Bidder declines to sign the Contract offered by the Agency, such Contract being consistent with the terms of the solicitation documents;

2.13.8.3. The Purchaser has offered the Bidder the Contract for execution but the Bidder has been unable to demonstrate compliance with the security requirements of the Contract at the date of contract signature;

2.13.8.4. The Purchaser has entered into the Contract with the Bidder but the Bidder has been unable or unwilling to provide the Performance Guarantee required under the terms of the Contract within the time frame required.

2.13.9. Bid Guarantees will be returned to Bidders as follows:

2.13.9.1. To non-compliant Bidders forty-five (45) days after notification by the Purchaser of a non-compliant bid (except where such determination is challenged by the Bidder; in which case the Bid Guarantee will be returned forty-five (45) days after a final determination of non-compliance);

2.13.9.2. To all other unsuccessful Bidders within thirty (30) days following the award of the Contract to the successful Bidder;

2.13.9.3. To the successful Bidder upon submission of the Performance Guarantee required by the Contract or, if there is no requirement for such a Performance Guarantee, upon Contract execution by both parties.

2.13.9.4. pursuant to paragraph 2.12.4.2.

2.14.   Electronic Transmission of Information and Data

2.14.1. The Purchaser will communicate answers to requests for clarification and amendments to this IFB to the prospective Bidders as soon as practicable.

2.14.2. Bidders are advised that the Purchaser will rely exclusively on email communication to manage all correspondence related to this IFB, including IFB amendments and clarifications.

2.14.3. Bidders are cautioned that electronic transmission of documentation which contains classified information is not allowed.

2.15.   Supplemental Agreements and Export Controlled Information

2.15.1. Bidders are required, in accordance with the certificate at Annex B.7 of this Book I, to disclose any prospective Supplemental Agreements that are required by national governments to be executed by NATO/NCI Agency as a condition of Contract performance.

2.15.2. Supplemental Agreements are typically associated with, but not necessarily limited to, national export control regulations, technology transfer restrictions and end user agreements.

2.15.3. Bidders are cautioned that failure to provide full disclosure of the anticipated requirements and the terms thereof, to the best of the Bidder's knowledge and experience, may result in the Purchaser withholding award of the Contract or terminating an executed Contract if it is discovered that the terms of such Supplemental Agreements contradict the terms of the Contract, to the extent that either key objectives cannot be accomplished or basic Contract principles and Purchaser rights have been abridged.

2.16.   Notice of Limitations on Use of Intellectual Property Delivered to the Purchaser

2.16.1. Bidders are instructed to review Article 26 of the Contract Special Provisions and Article 30 of the Contract General Provisions. These Articles set forth the definitions, terms and conditions regarding the rights of the Parties concerning Intellectual Property (IP) developed and/or delivered under this Contract or used as a basis of development under this Contract.

2.16.2. All Contract deliverables are governed by a distinct set of Intellectual Property Rights (IPR) and Title and Ownership provisions, detailed in Book II, Prospective Contract.

2.16.3. Bidders are required to disclose, in accordance with Annex B.10 and Annex B.11 of this Bidding Instructions, the IP proposed to be used by the Bidder that will be delivered with either Background Intellectual Property Rights (IPR) or Third Party IPR. Bidders are required to identify such IP and the basis on which the claim of Background or Third Party IP is made.

2.16.4. The identification of Bidders' Background and/or Third Party IP shall be limited to those IPs associated with products and/or documentation which is indispensable in order to deliver, install and operate, support, maintain the system and to provide training and which are not related to products and/or documentation needed for internal processes only.

2.16.5. Bidders are further required to identify any restrictions on Purchaser use of the IP that is not in accordance with the definitions and rights set forth in the provisions of the Book II's Prospective Contract concerning use or dissemination of such IP.

2.16.6. Bidders are informed that any restriction on use or dissemination of IP conflicting with the terms and conditions of Book II or with the objectives and purposes of the Purchaser as stated in the Prospective Contract shall render the bid non-compliant.

2.17. Receipt of an Unreadable Electronic Bid

2.17.1. If a bid received at the NCI Agency's facility by electronic data interchange is unreadable to the degree that conformance to the essential requirements of the solicitation cannot be ascertained, the CO shall immediately notify the Bidder that the bid will be rejected unless the Bidder provides clear and convincing evidence:

2.17.1.1. of the content of the bid as originally submitted, and;

2.17.1.2. that the unreadable condition of the bid was caused by Purchaser software or hardware error, malfunction, or other Purchaser mishandling.

2.17.2. A bid that fails to conform to the above requirements may be declared noncompliant and may not be evaluated further by the Purchaser.

2.17.3. If it is discovered, during either the Administrative, Price or Technical evaluation, that the Bidder has submitted an unreadable electronic bid, the Bidder may be determined to have submitted a non-compliant bid.

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END OF SECTION 2

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SECTION 3   BID PREPARATION INSTRUCTIONS

3.1.   General

3.1.1.   Bids shall be prepared in accordance with the instructions set forth herein. Failure to comply with these instructions may result in the bid being declared non-compliant.

3.1.2.   Bidders shall prepare a complete bid which comprehensively addresses all requirements stated herein. The bid shall demonstrate the Bidder's understanding of the IFB and its ability to provide all the deliverables and services listed in the Schedule of Supplies and Services in a timely manner.

3.1.3.   The Bidder shall not restate the IFB requirements in confirmatory terms only. The Bidder must clearly describe what is being offered and how the Bidder will meet all IFB requirements. Statements in confirmatory terms only will be sufficient grounds for determining the bid to be non-compliant.

3.1.4.   Although the Purchaser may request clarification of the bid, it is not required to do so and may make its determination on the content of the bid as written. Therefore, Bidders shall assume that inconsistencies, omissions, errors, lack of detail and other qualitative deficiencies in the submitted bid will have a negative impact on the final rating.

3.1.5.   Partial bids and bids containing conditional statements will be declared non-compliant.

3.1.6.   Bidders are advised that the Purchaser reserves the right to incorporate the successful Bidder's Offer in whole or in part by reference in the resulting Contract.

3.1.7.   If no specific format has been established for electronic versions, Bidders shall deliver this type of documentation in an electronic format which is best suited for review and maintenance by the Purchaser (e.g. Project Master Schedule in MS Project format, Project Highlight Reports in MS Word).

3.1.8.   All documentation submitted as part of the bid shall be classified at a level not higher than "NATO UNCLASSIFIED".

3.2.   Language of Bid

3.2.1.   All notices and communications regarding this IFB shall be written and conducted in English.

3.2.2.   All bids shall be submitted in English.

3.3.   Bid Package Content and Marking

3.3.1.   The complete bid shall consist of three distinct and separated volumes described in the following subparagraphs. Detailed requirements for the structure and content of each of these packages are contained in these Bidding Instructions.

3.3.1.1.   Volume 1: Bid Administration Package (paragraph 3.4)
3.3.1.2.   Volume 2: Price Quotation (paragraph 3.5)
3.3.1.3.   Volume 3: Technical Proposal Package (paragraph 3.6)

3.3.2.   "Times New Roman" fonts in size 12 shall be used for normal text, and "Arial Narrow" fonts not smaller than size 10 for tables and graphics.

3.3.3.   Emails with a bid attached to it, shall be less than 10 MB in size per email.

3.3.4.   The submitted bid shall be in accordance with the Page Limit set in paragraph 3.7.

3.3.5.   The bid shall be consolidated into as few emails as possible and sent to the correct Bid Delivery email address stated in paragraph 2.6.1.

3.3.6.   The email shall have the following subject line: *IFB-CO-115461-NCOPBMD Bid for {Insert Company Name}.*

3.3.7.   In the event the bid must be submitted in multiple emails to stay under the size limit stated in paragraph 3.3.3, the Bidder shall add "Email 1 of 2", "Email 2 of 2" as necessary to the subject line of the email.

3.3.8.   "Company Name": In the subject line of the email, and in the names of the individual files, the name of the Bidder shall be abbreviated to no more than 10 characters. For example, if a company's name is "Computer and Technology Research Company", the company name could be shorted to CTRC in the email and file names.

3.3.9.   The individual electronic files sent by email shall have the naming convention listed in the table below. In the event the documents must be split into more than one file (to ensure the size of the email stays within the limit stated in paragraph 3.2.2), the Bidder shall add "Part 1 of 2", "Part 2 of 2" as necessary to the file names.

Volume I, Bid Administration:	115461-NCOPBMD-Company Name–Vol I–Admin
	115461-NCOPBMD-Company Name–Vol I–BidGuarantee
Volume II, Price:	115461-NCOPBMD-Company Name–Vol II–Price
	115461-NCOPBMD-Company Name-Vol II-OfferSum
Volume III, Technical:	**Engineering**
	115461-NCOPBMD-Company Name-Vol III-SDP

	115461-NCOPBMD-Company Name-Vol III-RIS
	115461-NCOPBMD-Company Name-Vol III-UEP
	115461-NCOPBMD-Company Name-Vol III-SDS
	115461-NCOPBMD-Company Name-Vol III-RTM
	115461-NCOPBMD-Company Name-Vol III-PTP
	Management
	115461-NCOPBMD-Company Name-Vol III-BQ
	115461-NCOPBMD-Company Name-Vol III-PMP
	115461-NCOPBMD-Company Name-Vol III-PPBS
	115461-NCOPBMD-Company Name-Vol III-PWBS
	115461-NCOPBMD-Company Name-Vol III-PMS
	115461-NCOPBMD-Company Name-Vol III-RMP
	Supportability
	115461-NCOPBMD-Company Name-Vol III-ILSP
	115461-NCOPBMD-Company Name-Vol III-CMP
	115461-NCOPBMD-Company Name-Vol III-ISSP
	115461-NCOPBMD-Company Name-Vol III-ISS
	115461-NCOPBMD-Company Name-Vol III-TRN

3.4. Volume 1: Bid Administration Package

3.4.1. Quantity:

3.4.1.1. One (1) PDF file containing all the documents specified in paragraph 3.4.3 and;

3.4.1.2. One electronic (1) PDF file of the Bid Guarantee (paragraph 3.4.3.17) submitted to: NCIABankGuarantee@ncia.nato.int

3.4.1.2.1. In addition, an Original (Paper) copy of the Bid Guarantee shall be sent. This Original (Paper) shall be received no later than seven (7) business days after the Bid Closing Date (in paragraph 2.3.1). This Original (Paper) copy shall be sent to:

ATTN: Jean-Luc Guellec
IFB-CO-115461-NCOPBMD
NATO Industrial Infrastructure
Reception Service 1
Rue Arthur Maes
1130 Brussels, Belgium
Tel: +32 2 707 8303

3.4.1.2.2. Failure to comply with paragraphs 3.4.1.2 and 3.4.1.2.1 may be cause for the bid to be determined non-compliant.

3.4.2. No information disclosing or contributing to disclose the Bid Price shall be made part of the Bid Administration Package. Failure to abide to this prescription shall result in the bid being declared non-compliant.

3.4.3. The Bid Administration Package shall include the following Certificates, signed

in the original or electronically by an authorised representative of the Bidder:

3.4.3.1. Annex B.1 Certificate of Legal Name of Bidder

3.4.3.2. Annex B.2: Acknowledgement of Receipt of IFB Amendments

3.4.3.3. Annex B.3: Certificate of Independent Determination

3.4.3.4. Annex B.4: Certificate of Bid Validity

3.4.3.5. Annex B.5: Certificate of Exclusion of Taxes, Duties, and Charges

3.4.3.6. Annex B.6: Comprehension and Acceptance of Contract Special and General Provisions

3.4.3.7. Annex B.7: Disclosure of Requirements for NCI Agency Execution of Supplemental Agreements, with the prospective text of such Agreements, as applicable

3.4.3.8. Annex B.8: Certificate of Compliance AQAP 2110 or ISO 9001:2015 or Equivalent, with a copy of the relevant quality certification attached to it.

3.4.3.9. Annex B.9: List of Prospective Subcontractors

3.4.3.10. Annex B.10: Bidder Background IPR

3.4.3.11. Annex B.11: List of Subcontractor and Third Party IPR

3.4.3.12. Annex B.12: Certificate of Origin of Equipment, Services, and Intellectual Property

3.4.3.13. Annex B.13: List of Proposed Key Personnel

3.4.3.14. Annex B.14: Certificate of Price Ceiling.

3.4.3.15. Annex B.15: Disclosure of Involvement of Former NCI Agency Employment

3.4.3.16. Annex B.16: Code of Conduct: Post Employment Measures. Please note this annex is for information only and does not need to be signed or submitted.

3.4.3.17. ANNEX D: Bid Guarantee-Standby Letter of Credit. Bidders are reminded that the Bid Guarantee shall reflect any extensions to the Bid Validity Date due to extensions in the Bid Closing Date.

3.5.   Volume 2: Price Quotation

3.5.1.   Quantity:

3.5.1.1. One (1) completed MS Excel (native) file of the Bidding Sheet document. This MS Excel file shall be duly filled, can be manipulated (i.e. not an image), and be the full and complete Price Quotation.

3.5.1.2. One (1) PDF file of the Offer Summary sheet (i.e. Tab 1) of the Bidding Sheet.

3.5.2.   General Rules

3.5.2.1. The total price of bid shall not exceed the ceiling stated below in paragraph 3.5.2.2. Bids submitted in excess of this ceiling may be determined to be non-compliant and eliminated from further consideration.

3.5.2.2. Bidders are advised that the total price shall not exceed a ceiling of €28,289,035.70 broken down as:

3.5.2.2.1. €23,293,267.28 for up to Final System Acceptance (FSA) plus 1-year Warranty

after FSA (i.e. CLINs 1–5);

3.5.2.2.2. €2,665,214.74 for In-Service Support (ISS) (i.e. CLIN 6) plus;

3.5.2.2.3. €2,330,553.68 for the four years of Operation and Maintenance (O&M) support (i.e. CLIN 7).

3.5.2.3. Bidders shall prepare their Price Volume by completing the Bidding Sheet in accordance with the instructions specified in ANNEX A.

3.5.2.4. The structure of the Bidding Sheets shall not be changed (other than as indicated elsewhere) nor should any quantity or item description in the Bidding Sheets. The currency(ies) of each Contract Line Item and sub-item shall be shown. The prices provided shall be intended as the comprehensive total price offered for the fulfilment of all requirements as expressed in the IFB documentation to include those expressed in the SOW.

3.5.2.5. With the exception of any pre-populated Not-to-Exceed amounts, Bidders shall furnish Firm Fixed Prices for all required items in accordance with the format set forth in the Instructions for preparation of the Bidding Sheets. This includes Firm Fixed Prices for all optional CLINs.

3.5.2.6. Offered prices shall not be "conditional" in nature. Any comments supplied in the Bidding Sheets which are conditional in nature, relative to the offered prices, may result in a determination that the bid is non-compliant.

3.5.2.7. Bidders are responsible for the accuracy of their Price Quotations. Price Quotations that have apparent computational errors may have such errors resolved in the Purchaser's favour or, in the case of gross omissions, inconsistencies or errors, may be determined to be non-compliant.

3.5.2.8. Bidders shall quote in their own national currency or in EURO. Bidders may also submit bids in multiple currencies including other NATO member states' currencies under the following conditions:

3.5.2.8.1. The currency is of a "Participating Country" in the project, and

3.5.2.8.2. The Bidder can demonstrate, either through subcontract arrangements or in its proposed work methodology, that it will have equivalent expenses in that currency. All major subcontracts and their approximate anticipated value shall be listed in ANNEX B.9, List of Prospective Subcontractors, with the breakdown of the value reflected in the Bidding Sheet.

3.5.2.9. The Purchaser, by virtue of its status under the terms of Article IX and X of the Ottawa Agreement, is exempt from all direct and indirect taxes (incl. VAT) and all customs duties on merchandise imported or exported.

3.5.2.10. Bidders shall therefore exclude from their price bid all taxes, duties and customs charges from which the Purchaser is exempted by international agreement and are required to certify that they have done so through execution

of the Certificate at Annex B.5.

3.5.2.11. Unless otherwise specified in the instructions for the preparation of Bidding Sheets in Annex A, all prices quoted in the proposal shall be on the basis that all deliverable items shall be delivered "Delivery Duty Paid (DDP)" in accordance with the International Chamber of Commerce INCOTERMS ® 2010.

3.5.2.12. The Bidder's attention is directed to the fact that the Price Volume shall contain no document and/or information other than the priced copies of the Bidding Sheets. Any other document will not be considered for evaluation.

3.6. **Volume 3: Technical Proposal Package**

3.6.1. **Quantity:**

3.6.1.1. **Part 1: Engineering Proposal**, as described in paragraph 3.6.4.1.3.

3.6.1.1.1. One PDF file for Draft System Development Plan (SDP)
3.6.1.1.2. One PDF file for Draft Requirements Implementation Schedule (RIS)
3.6.1.1.3. One PDF file for Draft Usability Engineering Plan (UEP)
3.6.1.1.4. One PDF file for Draft System Design Specification (SDS)
3.6.1.1.5. One PDF file for Requirement Traceability Matrix (RTM)
3.6.1.1.6. One PDF file for Draft Project Test Plan (PTP)

3.6.1.2. **Part 2: Management Proposal**, as described in paragraph 3.6.4.1.4.

3.6.1.2.1. One PDF file for Bidder Qualifications (BQ)
3.6.1.2.2. One PDF file for Draft Project Management Plan (PMP)
3.6.1.2.3. One PDF file for Project Product Breakdown Structure (PPBS)
3.6.1.2.4. One PDF file for Project Work Breakdown Structure (PWBS)
3.6.1.2.5. One PDF file for Project Management Schedule (PMS)
3.6.1.2.6. One PDF file for Risk Management Plan (RMP)

3.6.1.3. **Part 3: Supportability Proposal**, as described in paragraph 3.6.4.1.5.

3.6.1.3.1. One PDF file for Supportability Integrated Logistic Support (ILS) Plan
3.6.1.3.2. One PDF file for Configuration Management Plan (CMP)
3.6.1.3.3. One PDF file for Draft In-Service Support Plan (ISSP)
3.6.1.3.4. One PDF file for Draft Warranty/In-Service Support (ISS) Report
3.6.1.3.5. One PDF file for Training (TRN)

3.6.2. No information disclosing or contributing to disclose the Bid Price shall be made part of the Technical Proposal Package. Failure to abide to this prescription shall result in the bid being declared non-compliant.

3.6.3. It is of utmost importance that Bidders respond to all of the technical

requirements contained in the IFB Statement of Work (including all Annexes) and all the bidding instructions, not only with an affirmation of compliance but also with an explanation of how each requirement will be met. A simple copy / paste of the requirements from the IFB into a proposal will not be constitute sufficient grounds of compliance and may lead to a determination of non-compliance.

3.6.4. TECHNICAL PROPOSAL PACKAGE CONTENT:

3.6.4.1. The Technical Proposal shall include:

3.6.4.1.1. Table of Contents: which lists not only the section headings but also the major sub-sections, and topic headings required set forth in these instructions or implicit in the organisation of the Technical Proposal. This is not included as part of the page limit count.

3.6.4.1.2. Executive summary: Bidders shall provide an overview of the salient features of their technical proposal in the form of an executive summary. An Executive Summary is not mandatory and shall not be evaluated. This summary (if included) shall not exceed 1 page.

3.6.4.1.3. ENGINEERING PROPOSAL

3.6.4.1.3.1. All areas of the engineering proposal shall comprehensively demonstrate feasibility and reasonableness of the proposed solution.

3.6.4.1.3.2. The Engineering Proposal shall include:

3.6.4.1.3.3. Table of Contents

3.6.4.1.3.3.1. Bidders shall compile a detailed Table of Contents which lists not only the section headings but also the major sub-sections, and topic headings required set forth in these instructions or implicit in the organisation of the Engineering Proposal.

3.6.4.1.3.4. Draft System Development Plan (SDP)

3.6.4.1.3.4.1. The Bidder shall submit a draft SDP and shall use paragraphs 4.4.1-4.4.2.11 of Book II, Part IV, Statement of Work (SOW) as the guideline in submitting this draft SDP.

3.6.4.1.3.4.2. The Bidder shall provide evidence that within the sprint delivery the development process and the test methodology are detailed and mature.

3.6.4.1.3.4.3. The Bidder shall describe the processes, the tools and the indicators that will be used for these activities.

3.6.4.1.3.4.4. The Bidder shall detail the mechanism it will put in place to ensure there

will not be any conflict between its development and the one from the existing (NCOP2) Contractor.

3.6.4.1.3.5. Draft Requirements Implementation Schedule (RIS)

3.6.4.1.3.5.1. The Bidder shall submit a draft RIS and shall use paragraph 4.4.3 of the SOW as the guideline in submitting this draft RIS.

3.6.4.1.3.5.2. The draft RIS shall emphasize the sprint concept methodology in a way that the requirements are grouped in a prioritised, logical and achievable way that each baseline will deliver the foreseen scope.

3.6.4.1.3.6. Draft Usability Engineering Plan (UEP)

3.6.4.1.3.6.1. The Bidder shall submit a draft UEP and shall use paragraph 4.4.4 of the SOW as the guideline in submitting this draft RIS.

3.6.4.1.3.7. Draft System Design Specification (SDS)

3.6.4.1.3.7.1. The Bidder shall submit a draft SDS and shall use paragraph 4.6.4 of the SOW as the guideline in submitting this draft SDS.

3.6.4.1.3.7.2. The draft SDS shall describe the performance characteristics of the proposed solution in terms of construction, component functions, operation, and maintenance.

3.6.4.1.3.7.3. The draft SDS shall demonstrate that the proposed solution is comprehensive, feasible and logical.

3.6.4.1.3.7.4. The draft SDS shall describe the architecture and composition of the proposed solution clearly indicating which parts already exist (re-use of existing components, provided as Purchaser Furnished Equipment) and which parts will be built under its responsibility.

3.6.4.1.3.8. Draft Requirement Traceability Matrix (RTM)

3.6.4.1.3.8.1. The Bidder shall submit a draft RTM and shall use paragraph 4.6.4.13.1 of the SOW as the guideline in submitting this draft RTM.

3.6.4.1.3.9. Draft Project Test Plan (PTP)

3.6.4.1.3.9.1. The Bidder shall submit a draft PTP and shall use paragraph 4.8.4 of the SOW as the guideline in submitting this draft PTP.

3.6.4.1.3.9.2. The Bidder shall provide evidence that the proposed solution will not degrade the existing components and that non-regression tests will cover the current scope of the system.

3.6.4.1.3.9.3. The Bidder shall describe its understanding of its role during the all the testing phases of the project, in particular with Programme Verification Strategy (PVS) activities.

3.6.4.1.4. MANAGEMENT PROPOSAL

3.6.4.1.4.1. All areas of the management proposal shall comprehensively demonstrate feasibility and reasonableness of the proposed approach.

3.6.4.1.4.2. The Management Proposal shall include:

3.6.4.1.4.3. Table of Contents

3.6.4.1.4.3.1. Bidders shall compile a detailed Table of Contents which lists not only the section headings but also the major sub-sections, and topic headings required set forth in these instructions or implicit in the organisation of the Management Proposal.

3.6.4.1.4.4. Bidder Qualifications (BQ)

3.6.4.1.4.4.1. The Bidder shall describe and demonstrate the relevant corporate experience in at least one (1) recent contract within the last five (5) years for which the Bidder has delivered the same as or substantially similar to the proposed solution, with at least one intelligence or military or law enforcement customer.

3.6.4.1.4.4.2. The Bidder shall provide a description of the necessary experiences to support the Project and System Lifecycle of the referenced project(s).

3.6.4.1.4.4.3. For each referenced previous project(s) above, the Bidder shall provide a description of the solution deployed/delivered, highlighting similarities to the proposed solution; the purchaser(s) of these system(s); the user(s) of these system(s); the Contract number(s); the start date and end date of the Contract; a point of contact for verification purposes.

3.6.4.1.4.4.4. For each of the proposed key personnel, the Bidder shall provide the Curriculum Vitae (CV) of each individual, clearly demonstrating their education and experience as required in paragraph 6 of the SOW.

3.6.4.1.4.4.5. The Bidder shall provide evidence of previous use of the detailed sequence of activities which are expected to support the AGILE methodology through the project life cycle.

3.6.4.1.4.4.6. The Bidder shall provide samples of indicators and metrics from similar AGILE project. Those shall cover at least the management, development and test activities.

3.6.4.1.4.4.7. The Bidder shall characterize its processes and shall provide the evidence

that they are described in standards, procedures, tools, and methods.

3.6.4.1.4.4.8. The Bidder shall provide a clear definition of each processes in terms of purpose, inputs, entry criteria, activities, roles, measures, verification steps, outputs, and exit criteria.

3.6.4.1.4.4.9. The Bidder shall provide evidence that the standards, process descriptions, and procedures for a project are tailored from the organization's set of standard processes to suit a particular project.

3.6.4.1.4.5. Draft Project Management Plan (PMP)

3.6.4.1.4.5.1. The Bidder shall submit a draft PMP and shall use paragraph 3.8 of the SOW as the guideline in submitting this draft PMP. The draft PMP shall include all aspects of the project such as the Contractor's project management structure and project management methodology, control processes and tools/environments, and relationship with the Purchaser necessary to provide the capability as will be required by the resulting Contract.

3.6.4.1.4.5.2. The Bidder shall detail the resources that will be allocated throughout the duration of the project, in particular with the period between the Final System Acceptance and the end of Warranty.

3.6.4.1.4.5.3. The Bidder shall describe the mechanism it will put in place to maintain the development capacity throughout the project lifecycle, especially during the periods when a support is required for external activities (e.g. PVS activities).

3.6.4.1.4.6. Draft Project Product Breakdown Structure (PPBS)

3.6.4.1.4.6.1. The Bidder shall submit a draft PPSB and shall use paragraph 3.9 of the SOW as the guideline in submitting this draft PPBS.

3.6.4.1.4.6.2. The Bidder shall submit the Product Description to include the purpose and function of the product and the level of quality required of the product.

3.6.4.1.4.6.3. The Bidder shall submit a Product Flow Diagram that clearly details the sequence of delivery of products and identifies dependencies between products (internal or external).

3.6.4.1.4.7. Draft Project Work Breakdown Structure (PWBS)

3.6.4.1.4.7.1. The Bidder shall submit a draft PWBS and shall use paragraph 3.10 of the SOW as the guideline in submitting this draft PWBS.

3.6.4.1.4.7.2. The draft PWBS shall describe the activities to a level that exposes all

project risk factors and allows accurate estimate of each work item's duration, resource requirements, inputs and outputs, and predecessors and successors.

3.6.4.1.4.7.3. The draft PWBS includes a Dictionary identifying for each work item its duration, resource requirements, inputs and outputs, predecessors and successors, assumptions, constraints, dependencies, and requirements for Purchaser support.

3.6.4.1.4.8. Draft Project Management Schedule (PMS)

3.6.4.1.4.8.1. The Bidder shall submit a draft PMS and shall use paragraph 3.11 of the SOW as the guideline in submitting this draft PMS.

3.6.4.1.4.8.2. The draft PMS shall describe the sequence, duration, and relationship among task orders, activities and work items.

3.6.4.1.4.8.3. The Bidder shall provide evidence that the proposed schedule is realistic and takes into account the constraints from BMD Programme events and the implementation contract output.

3.6.4.1.4.9. Draft Risk Management Plan (RMP)

3.6.4.1.4.9.1. The Bidder shall submit a draft RMP and shall use paragraph 3.12 of the SOW as the guideline in submitting this draft RMP. The draft RMP shall include initial risk register to include at least twenty (20) risks with all the required information filled to properly manage them.

3.6.4.1.5. SUPPORTABILITY PROPOSAL

3.6.4.1.5.1. All areas of the Supportability proposal shall comprehensively demonstrate feasibility and reasonableness of the proposed solution.

3.6.4.1.5.2. The Supportability Proposal shall include:

3.6.4.1.5.3. Table of Contents

3.6.4.1.5.3.1. Bidders shall compile a detailed Table of Contents which lists not only the section headings but also the major sub-sections, and topic headings required set forth in these instructions or implicit in the organisation of the Supportability Proposal.

3.6.4.1.5.4. Draft Integrated Logistic Support (ILS) Plan

3.6.4.1.5.4.1. The Bidder shall submit a draft ILS Plan and shall use paragraph 5.2 of the SOW as the guideline in submitting this draft ILS Plan. The draft ILS Plan shall demonstrate the Bidder's capabilities to support the future capability.

3.6.4.1.5.4.2. The draft ILS Plan shall also include a detailed Product Support Case using the Logistic Support Analysis (LSA) and Reliability, Availability, Maintainability (RAM) paragraph 5.4 of the SOW as the guideline. The draft ILS Plan shall include the details of the calculation and estimation methodology for RAM metrics (based on the System Requirements Specification (SRS)) and spare parts with clear formulas and rationale.

3.6.4.1.5.5. Draft Configuration Management Plan (CMP)

3.6.4.1.5.5.1. The Bidder shall submit a draft CMP with a Traceability Matrix (as an annex), and shall use paragraph 3.13 of the SOW as the guideline in submitting this draft CMP. The draft CMP shall demonstrate the Bidder's ability to manage all aspects of the configuration management process of the future BMD capability, in particular, within the Agile/Sprint methodology.

3.6.4.1.5.6. Draft In-Service Support Plan (ISSP)

3.6.4.1.5.6.1. The Bidder shall submit a draft In-Service Support Plan (ISSP) with a Traceability Matrix (as an annex) and shall use paragraphs 5.9 and 5.12 of the SOW as the guideline in submitting this draft plan.

3.6.4.1.5.7. Draft Warranty/ In-Service Support (ISS) Report

3.6.4.1.5.7.1. The Bidder shall submit a draft Warranty/In-Service Support (ISS) Report and shall use paragraphs 5.9 and 5.13 of the SOW as the guideline in submitting this draft report.

3.6.4.1.5.8. Draft Training Plan

3.6.4.1.5.8.1. The Bidder shall submit a draft Training Plan (TP), and shall use paragraphs 5.8 and 6.6 of the SOW as the guideline in submitting this draft Training Plan.

3.7. Bidder's Check-List

3.7.1. The tables below provide an overview of all items to be delivered by the Bidder as part of this bid. Bidders are invited to use these tables to verify the completeness of their proposal.

3.7.1.1. Volume 1: Bid Administration Package

#	Item	Maximum Page Limit	Format	Delivery Method
1	Annex B.1: Certificate of Legal Name of Bidder	No page limit	**A.** per naming convention in paragraph 3.3.9 1. one (1) PDF file containing documents #1-#16 2. one (1) PDF file of #17	Email
2	Annex B.2: Acknowledgment of Receipt of IFB Amendments			
3	Annex B.3: Certificate of Independent Determination			
4	Annex B.4: Certificate of Bid Validity			
5	Annex B.5: Certificate of Exclusion of Taxes,			

	Duties, and Charges		submitted in accordance with paragraphs 3.4.1.2 and 3.4.1.2.1.
6	Annex B.6: Comprehension and Acceptance of Contract Special and General Provisions		
7	Annex B.7: Disclosure of Requirements for NCI Agency Execution of Supplemental Agreements, with the prospective text of such Agreements, as applicable		
8	Annex B.8: Certificate of AQAP 2110 or ISO 9001:2008 Compliance or Equivalent		
9	Annex B.9: List of Prospective Subcontractors		
10	Annex B.10: Bidder Background IPR		
11	Annex B.11: List of Subcontractor and Third Party IPR		
12	Annex B.12: Certificate of Origin of Equipment, Services, and Intellectual Property		
13	Annex B.13: List of Proposed Key Personnel		
14	Annex B.14: Certificate of Price Ceiling		
15	Annex B.15: Disclosure of Involvement of Former NCI Agency Employment		
16	Annex B.16: Code of Conduct: Post Employment Measures. Please note this annex is for information only and does not need to be signed or submitted		
17	Annex D: Bid Guarantee-Standby Letter of Credit.		

3.7.1.2. Volume 2: Price Quotation

#	Item	Maximum Page Limit	Format	Delivery Method
			Per naming convention in paragraph 3.3.9:	
1	Annex A-1: Bidding Sheets (i.e. "2_IFB-CO-115461-NCOPBMD_Book I-Bidding Sheets.xlsx")	No-page Limit	One (1) completed MS Excel file which shall be duly filled, can be manipulated (i.e. not an image) and be the full and complete Price Quotation	Email
2	Offer Summary sheet (i.e. Tab 1) of the Bidding Sheets	No-page Limit	One (1) PDF file	

3.7.1.3. Volume 3: Technical Proposal Package

	Item	Maximum Page Limit	Format	Delivery Method
1	**Executive Summary**	1	One (1) PDF File of per document and per naming convention in paragraph 3.3.9.	Email
2	**Table of Contents**	No page limit		
3	**Engineering Proposal**	120		
	a. Table of Contents	No page limit		
	b. Draft System Development Plan (SDP)	20		
	c. Draft Requirements Implementation Schedule (RIS)	20		
	d. Draft Usability Engineering Plan (UEP)	20		
	e. Draft System Design Specification (SDS)	20		
	f. Draft Requirement Traceability Matrix (RTM)	20		
	g. Draft Project Test Plan (PTP)	20		

4	**Management Proposal**	120		
	a. Table of Contents	No page limit		
	b. Bidder Qualifications	20		
	c. Draft Project Management Plan (PMP)	20		
	d. Draft Project Product Breakdown Structure (PPBS)	20		
	e. Draft Project Work Breakdown Structure (PWBS)	20		
	f. Draft Project Management Schedule (PMS)	20		
	g. Draft Risk Management Plan (RMP)	20		
5	**Supportability Proposal**	100		
	a. Table of Contents	No page limit		
	b. Draft Integrated Logistic Support Plan (ILSP)	20		
	c. Draft Configuration Management Plan (CMP)	20		
	d. Draft In-Service Support Plan (ISSP)	20		
	e. Draft Warranty/ In-Service Support (ISS) Report	20		
	f. Draft Training Plan	20		

END OF SECTION 3

SECTION 4 BID EVALUATION AND CONTRACT AWARD

4.1. General

4.1.1. The evaluation of bids will be made by the Purchaser solely on the basis of the requirements in this IFB.

4.1.2. The evaluation of bids and the determination as to the compliance or technical adequacy of the supplies and services offered will be based only on that information furnished by the Bidder and contained in its bid. The Purchaser shall not be responsible for locating or securing any information which is not included in the bid or included only by reference.

4.1.3. To ensure that sufficient information is available, the Bidder shall furnish with its bid all information appropriate to provide a complete description of the work which will be performed and/or the supplies to be delivered. The information provided shall be to a level of detail necessary for the Purchaser to determine exactly what the Bidder proposes to furnish and whether the offer meets the technical, administrative and contractual requirements of this IFB.

4.1.4. During the evaluation, the Purchaser may request clarification of the bid from the Bidder and the Bidder shall provide sufficient detailed information in connection with such requests as to permit the Purchaser to make a final assessment of the bid based upon the facts. The purpose of such clarifications will be to resolve ambiguities in the bid and to permit the Bidder to state its intentions regarding certain statements contained therein. The purpose of the clarification stage is not to elicit additional information from the Bidder that was not contained in the original submission or to allow the Bidder to supplement cursory answers or omitted aspects of the bid. The Bidder is not permitted any cardinal alteration of the bid regarding technical matters and shall not make any change to its price quotation at any time.

4.1.5. The Bidder's prompt response to the Purchaser's clarification requests is important and therefore failure to provide the requested clarifications within the time-limits set forth in the specific Clarification Requests (minimum 24 hours next working day) may cause the bid to be deemed non-compliant

4.1.6. The Purchaser reserves the right, during the evaluation and selection process, to verify any statements made concerning experience and facilities, by making a physical inspection of the Bidder's facilities and capital assets and by interviewing proposed Key Personnel. Physical inspections and interviews shall also apply to assertions in the proposal made on behalf of proposed Subcontractors. The Bidder shall be responsible for providing access to its own or Subcontractors' facilities and personnel.

4.1.7. The evaluation will be conducted in accordance with NATO Infrastructure Bidding Procedures as set forth in the document, and the Best Value evaluation procedures set forth in AC/4-D(2008)0002-REV2, "Procedures and

Practices for Conducting NSIP International Competitive Bidding Using Best Value Methodology", with the exception described in paragraph 4.3.1.2. The bid evaluation methodology to be followed, including the top-level evaluation criteria and their weighting factors, were agreed by the Host Nation.

4.2.   Best Value Award Approach and Bid Evaluation Factors

4.2.1.   The Contract resulting from this IFB will be awarded to the Bidder whose conforming offer provides the Best Value to NATO, as evaluated by the Purchaser in compliance with the requirements of this IFB and according to the evaluation method specified in this section.

4.2.2.   The top level criteria are 60% Technical and 40% Price.

4.2.3.   Technical Scoring

4.2.3.1.   The 2nd level criteria for the technical evaluation are:

4.2.3.1.1.   Engineering (E): 35% weight, based on the criteria listed in order of descending importance (that is, most important listed first) in paragraph 4.5.2.

4.2.3.1.2.   Management (M): 45% weight, based on the criteria listed in order of descending importance in paragraph 4.5.3.

4.2.3.1.3.   Supportability (S): 20% weight, based on the criteria listed in order of descending importance in paragraph 4.5.4.

4.2.3.2.   The Technical Score will be calculated using the following formula:

4.2.3.2.1.   TS = (35%*Engineering Score) + (45%*Management Score) + (20%*Supportability Score)

4.2.4.   Price Scoring

4.2.4.1.   The Price Score (PS) will be calculated using the following formula:

4.2.4.1.1.   PS = 100 * (1-(Bid Price / (2*Average Bid Price)))

4.2.4.2.   The "Bid Price" and the "Average Bid Price" will be calculated based on the sum of the proposed prices as defined in paragraph 4.6.3.2.

4.2.4.3.   Only those bids evaluated as compliant in the Administrative and Technical, and price evaluations will be used in the calculation of the Price Score. Therefore, the price scores cannot be calculated until after the technical evaluations are complete.

4.2.4.4.   Bidders shall note that any bid in excess of the stated ceiling price set forth in paragraph 3.5.2.2 may not be scored as the bid may be determined to be non-

compliant.

4.2.5.   Best Value Final Scoring

4.2.5.1.   The Best Value final score (FS) will be the sum of the weighted Technical Score (TS) and weighted Price Score (PS), according to the following formula:

4.2.5.1.1.   FS = (TS*60%) + (PS*40%)

4.2.5.2.   The maximum possible Best Value Score is 100. The bid with the highest Best Value Score will be recommended to be the Apparent Successful Bidder.

4.2.6.   A weighting scheme for sub-criteria values has been developed by Purchaser staff not associated with the Technical Evaluation. This weighting scheme has been sealed and is not known to any of the Purchaser staff beyond the originator and the Chairman of the Contracts Award Board, who are not evaluators within the framework of this IFB or in any manner or form are made privy of evaluation information throughout the course of the evaluation process. The weighting scheme remains sealed until Step 4 of the evaluation process described in paragraph 4.7.

4.3.   Evaluation Procedure

4.3.1.   The evaluation will be done in a four-step process, as described below:

4.3.1.1.   Step 1: Administrative Compliance

4.3.1.1.1.   Bids received will be reviewed for compliance with the mandatory administrative requirements specified in paragraph 4.4. Bids not meeting all of the mandatory administrative requirements may be determined to be non-compliant and not considered for further evaluation.

4.3.1.2.   Step 2: Technical Evaluation

4.3.1.2.1.   The Technical volumes will be evaluated against predetermined top-level criteria and identified sub-criteria (see paragraph 4.2.3 above), and scored accordingly. This evaluation will result in "raw" or unweighted technical scores against the criteria.

4.3.1.2.2.   Bidders are advised that any bid whose Technical Proposal receives a score of less than 20% of the total unweighted raw score possible in any of the sub-criteria listed in paragraph 4.5 of this document may be determined by the Purchaser to be non-compliant and not considered for further evaluation.

4.3.1.3.   Step 3: Price Evaluation

4.3.1.3.1.   The Price volumes will be opened and evaluated in accordance with paragraph 4.6.

4.3.1.4.   Step 4: Determination of Apparent Successful Bidder

4.3.1.4.1. Upon completion of the Technical and Price evaluations, the scores of the bids considered to be technically compliant will be calculated. The Apparent Successful Bid will be determined in accordance with paragraph 4.7.

4.4.   Evaluation Step 1: Administrative Compliance

4.4.1.   Bids will be reviewed for compliance with the formal requirements for bid submission as stated in this IFB and the content of the Bid Administration Volume. The evaluation of the Bid Administration Volume will be made on its completeness, conformity and compliance to the requested information. This evaluation will not be scored in accordance with Best Value procedures but is made to determine if a bid complies with the requirements of the Bidding Instructions and Prospective Contract. Specifically, the following requirements shall be verified:

4.4.1.1. The bid was received by the Bid Closing Date and Time stated in paragraph 2.3.1;

4.4.1.2. The bid is packaged and marked properly as stated in paragraph 3.3;

4.4.1.3. The Bid Administration Volume contains the documentation listed in paragraph 3.4 and complies with the formal requirements established in paragraph 3.3;

4.4.1.4. The Bidder has not taken exception to the Terms and Conditions of the Prospective Contract or has not qualified or otherwise conditioned his offer on a modification or alteration of the Terms and Conditions or the language of the Statement of Work.

4.4.2.   **Receipt of an unreadable electronic bid**. If a bid received by email is unreadable to the degree that conformance to the essential requirements of the solicitation cannot be ascertained, the Point of Contract in paragraph 2.6.1 shall immediately notify the Bidder that the bid will be rejected unless the Bidder provides clear and convincing evidence:

4.4.2.1.1. Of the content of the bid as originally submitted; and,

4.4.2.1.2. That the unreadable condition of the bid was caused by Purchaser software or hardware error, malfunction, or other Purchaser mishandling.

4.4.3.   A bid that fails to conform to the above requirements may be declared non-compliant and may not be evaluated further by the Purchaser.

4.4.4.   Bids that are determined to be administratively compliant will proceed to Step 2, Technical Evaluation.

4.4.5. Notwithstanding paragraph 4.4.3 if it is later discovered in the evaluation of the Bid Administration Volume, Technical Volume or the Price Volume that the Bidder has taken exception to the Terms and Conditions of the Prospective Contract, or has qualified and/or otherwise conditioned his offer on a modification or alteration of the Terms and Conditions or the language of the Statement of Work, the Bidder may be determined to have submitted a non-compliant bid at the point in time of discovery.

4.5. Evaluation Step 2: Technical Evaluation

4.5.1. The Technical Proposal will be evaluated against the criteria set forth in this section. For some sub-criteria, there may be additional supporting factors at the next lower level. These lower level factors are not published in this IFB but are predetermined and included in the Technical Evaluation Weighting Scheme sealed before Bid Opening. The following paragraphs identify the aspects to be examined in the Technical Proposal evaluation and rating.

4.5.2. Part 1: Engineering

4.5.2.1. The criteria used to evaluate Part 1, Engineering are listed in descending order of importance.

4.5.2.2. Within those criteria, all of the sub-criteria are also listed in order of descending importance.

4.5.2.3. The criteria of high importance will have higher weighting factors than the criteria of lower importance.

4.5.2.4. Draft System Development Plan (SDP)

4.5.2.4.1. The Bidder submitted a draft SDP and used paragraphs 4.4.1-4.4.2.11 of Book II, Part IV, Statement of Work (SOW) as the guideline in submitting this draft SDP.

4.5.2.4.2. The Bidder provided evidence that within the sprint delivery the development process and the test methodology are detailed and mature.

4.5.2.4.3. The Bidder described the processes, the tools and the indicators that will be used for these activities.

4.5.2.4.4. The Bidder detailed the mechanism it will put in place to ensure there will not be any conflict between its development and the one from the existing (NCOP2) Contractor.

4.5.2.5. Draft Requirements Implementation Schedule (RIS)

4.5.2.5.1. The Bidder submitted a draft RIS and used paragraph 4.4.3 of the SOW as the

guideline in submitting this draft RIS.

4.5.2.5.2. The draft RIS emphasized the sprint concept methodology in a way that the requirements are grouped in a prioritised, logical and achievable way that each baseline will deliver the foreseen scope.

4.5.2.6.   Draft Usability Engineering Plan (UEP)

4.5.2.6.1. The Bidder submitted a draft UEP and used paragraph 4.4.4 of the SOW as the guideline in submitting this draft RIS.

4.5.2.7.   Draft System Design Specification (SDS)

4.5.2.7.1. The Bidder submitted a draft SDS and used paragraph 4.6.4 of the SOW as the guideline in submitting this draft SDS.

4.5.2.7.2. The draft SDS described the performance characteristics of the proposed solution in terms of construction, component functions, operation, and maintenance.

4.5.2.7.3. The draft SDS demonstrated that the proposed solution is comprehensive, feasible and logical.

4.5.2.7.4. The draft SDS described the architecture and composition of the proposed solution clearly indicating which parts already exist (re-use of existing components, provided as Purchaser Furnished Equipment) and which parts will be built under its responsibility.

4.5.2.8.   Draft Requirement Traceability Matrix (RTM)

4.5.2.8.1. The Bidder submitted a draft RTM and used paragraph 4.6.4.13.1 of the SOW as the guideline in submitting this draft RTM.

4.5.2.9.   Draft Project Test Plan (PTP)

4.5.2.9.1. The Bidder submitted a draft PTP and used paragraph 4.8.4 of the SOW as the guideline in submitting this draft PTP.

4.5.2.9.2. The Bidder provided evidence that the proposed solution will not degrade the existing components and that non-regression tests will cover the current scope of the system.

4.5.2.9.3. The Bidder described its understanding of its role during the all the testing phases of the project, in particular with Programme Verification Strategy (PVS) activities.

4.5.3. Part 2: Management

4.5.3.1. The criteria used to evaluate Part 2, Management are listed in descending order of importance.

4.5.3.2. Within those criteria, all of the sub-criteria are also listed in order of descending importance.

4.5.3.3. The criteria of high importance will have higher weighting factors than the criteria of lower importance.

4.5.3.4. Bidder Qualifications (BQ)

4.5.3.4.1. The Bidder described and demonstrated the relevant corporate experience in at least one (1) recent contract within the last five (5) years for which the Bidder had delivered the same as or substantially similar to the proposed solution, with at least one intelligence or military or law enforcement customer.

4.5.3.4.2. The Bidder provided a description of the necessary experiences to support the Project and System Lifecycle of the referenced project(s).

4.5.3.4.3. For each referenced previous project(s) above, the Bidder provided a description of the solution deployed/delivered, highlighting similarities to the proposed solution; the purchaser(s) of these system(s); the user(s) of these system(s); the Contract number(s); the start date and end date of the Contract; a point of contact for verification purposes.

4.5.3.4.4. For each of the proposed key personnel, the Bidder provided the Curriculum Vitae (CV) of each individual, clearly demonstrating their education and experience as required in paragraph 6 of the SOW.

4.5.3.4.5. The Bidder provided evidence of previous use of the detailed sequence of activities which are expected to support the AGILE methodology through the project life cycle.

4.5.3.4.6. The Bidder provided samples of indicators and metrics from similar AGILE project. Those covered at least the management, development and test activities.

4.5.3.4.7. The Bidder characterized its processes and provided the evidence that they are described in standards, procedures, tools, and methods.

4.5.3.4.8. The Bidder provided a clear definition of each processes in terms of purpose, inputs, entry criteria, activities, roles, measures, verification steps, outputs, and exit criteria.

4.5.3.4.9. The Bidder provided evidence that the standards, process descriptions, and procedures for a project are tailored from the organization's set of standard

processes to suit a particular project.

4.5.3.5.   Draft Project Management Plan (PMP)

4.5.3.5.1. The Bidder submitted a draft PMP and used paragraph 3.7 of the SOW as the guideline in submitting this draft PMP. The draft PMP included all aspects of the project such as the Contractor's project management structure and project management methodology, control processes and tools/environments, and relationship with the Purchaser necessary to provide the capability as will be required by the resulting Contract.

4.5.3.5.2. The Bidder detailed the resources that will be allocated throughout the duration of the project, in particular with the period between the Final System Acceptance and the end of Warranty.

4.5.3.5.3. The Bidder described the mechanism it will put in place to maintain the development capacity throughout the project lifecycle, especially during the periods when a support is required for external activities (e.g. PVS activities).

4.5.3.6.   Draft Project Product Breakdown Structure (PPBS)

4.5.3.6.1. The Bidder submitted a draft PPSB and used paragraph 3.9 of the SOW as the guideline in submitting this draft PPBS.

4.5.3.6.2. The Bidder submitted the Product Description to include the purpose and function of the product and the level of quality required of the product.

4.5.3.6.3. The Bidder submitted a Product Flow Diagram that clearly detailed the sequence of delivery of products and identifies dependencies between products (internal or external).

4.5.3.7.   Draft Project Work Breakdown Structure (PWBS)

4.5.3.7.1. The Bidder submitted a draft PWBS and used paragraph 3.10 of the SOW as the guideline in submitting this draft PWBS.

4.5.3.7.2. The draft PWBS described the activities to a level that exposed all project risk factors and allowed accurate estimate of each work item's duration, resource requirements, inputs and outputs, and predecessors and successors.

4.5.3.7.3. The draft PWBS included a Dictionary identifying for each work item its duration, resource requirements, inputs and outputs, predecessors and successors, assumptions, constraints, dependencies, and requirements for Purchaser support.

4.5.3.8.   Draft Project Management Schedule (PMS)

4.5.3.8.1. The Bidder submitted a draft PMS and used paragraph 3.11 of the SOW as the

guideline in submitting this draft PMS.

4.5.3.8.2. The draft PMS described the sequence, duration, and relationship among task orders, activities and work items.

4.5.3.8.3. The Bidder provided evidence that the proposed schedule is realistic and took into account the constraints from BMD Programme events and the implementation contract output.

4.5.3.9. Draft Risk Management Plan (RMP)

4.5.3.9.1. The Bidder submitted a draft RMP and used paragraph 3.12 of the SOW as the guideline in submitting this draft RMP. The draft RMP included initial risk register to include at least twenty (20) risks with all the required information filled to properly manage them.

4.5.4. Part 3: Supportability

4.5.4.1. The criteria used to evaluate Part 3, Supportability are listed in descending order of importance.

4.5.4.2. Within those criteria, all of the sub-criteria are also listed in order of descending importance.

4.5.4.3. The criteria of high importance will have higher weighting factors than the criteria of lower importance.

4.5.4.4. Draft Integrated Logistic Support (ILS) Plan

4.5.4.4.1. The Bidder submitted a draft ILS Plan and used paragraph 5.2 of the SOW as the guideline in submitting this draft ILS Plan. The draft ILS Plan demonstrated the Bidder's capabilities to support the future capability.

4.5.4.4.2. The draft ILS Plan also included a detailed Product Support Case using the Logistic Support Analysis (LSA) and Reliability, Availability, Maintainability (RAM) paragraph 5.4 of the SOW as the guideline. The draft ILS Plan included the details of the calculation and estimation methodology for RAM metrics (based on the System Requirements Specification (SRS)) and spare parts with clear formulas and rationale.

4.5.4.5. Draft Configuration Management Plan (CMP)

4.5.4.5.1. The Bidder submitted a draft CMP with a Traceability Matrix (as an annex) and used paragraph 3.13 of the SOW as the guideline in submitting this draft CMP. The draft CMP demonstrated the Bidder's ability to manage all aspects of the configuration management process of the future BMD capability, in particular, within the Agile/Sprint methodology.

4.5.4.6. Draft In-Service Support Plan (ISSP)

4.5.4.6.1. The Bidder submitted a draft In-Service Support Plan (ISSP) with a Traceability Matrix (as an annex) and used paragraphs 5.9 and 5.12 of the SOW as the guideline in submitting this draft plan.

4.5.4.7. Draft Warranty/ In-Service Support (ISS) Report

4.5.4.7.1. The Bidder submitted a draft Warranty/In-Service Support (ISS) Report and used paragraphs 5.9 and 5.13 of the SOW as the guideline in submitting this draft report.

4.5.4.8. Draft Training Plan

4.5.4.8.1. The Bidder submitted a draft Training Plan (TP), and used paragraphs 5.8 and 6.6 of the SOW as the guideline in submitting this draft Training Plan.

4.6. Evaluation Step 3: Price Evaluation

4.6.1. The Bidder's price bid will be assessed for compliance against the following standards:

4.6.1.1. The total amount of the bid (inclusive of all work packages for the basic contract and all option years) shall not exceed the ceiling in paragraph 3.5.2.2.

4.6.1.2. The price bid meets the requirements for preparation and submission of the Price Quotation set forth in the Bid Preparation Section and the Instructions for Preparation of the Bidding Sheets in ANNEX A.

4.6.1.3. Detailed pricing information has been provided and is current, adequate, accurate, traceable, and complete.

4.6.1.4. The price bid meets requirements for price realism and balance as described below in paragraph 4.6.4.

4.6.2. A bid which fails to meet the compliance standards defined in this section may be declared non-compliant and may not be evaluated further by the Purchaser.

4.6.3. Basis of Price Comparison

4.6.3.1. The Purchaser will convert all prices quoted into EURO for purposes of comparison and computation of price scores. The exchange rate to be utilised by the Purchaser will be the average of the official buying and selling rates of the European Central Bank at close of business on the last working day preceding the Bid Closing Date.

4.6.3.2. The evaluated bid price to be inserted into the formula specified at paragraph 4.2.4.1 will be derived as follows:

4.6.3.2.1. The sum of the Firm Fixed Prices proposed for CLINs 1-7 as detailed below:

CLIN Number	CLIN Name
Base Contract	
1.0	Project Management
2.0	System Engineering
3.0	NCOP Training
4.0	NCOP Post Software Delivery Support and Sustainment and Warranty
Options-Evaluated	
2.6	Testing and Validation Support
4.3	On-Site Support
5.0	BMD Programme Validation
6.0	In Service Support (up to and including warranty period)
7.0	Operations & Maintenance (O&M Post warranty)
Options-Non-Evaluated	
8.0	COTS SW

4.6.4. Price Balance and Realism

4.6.4.1. In those cases in which the prices quoted in relation with this IFB appear to be unreasonably low in relation to the performance required under the prospective Contract and/or the level of effort associated with the tasks, the Purchaser will reserve the right to request the Bidder clarifications aimed to demonstrate the rationale for such circumstances.

4.6.4.2. Indicators of an unrealistically low bid may be the following, amongst others:

4.6.4.2.1. Labour Costs that, when amortised over the expected or proposed direct labour hours, indicate average labour rates far below those prevailing in the Bidder's locality for the types of labour proposed.

4.6.4.2.2. Direct Material costs that are considered to be too low for the amounts and types of material proposed, based on prevailing market prices for such material.

4.6.4.2.3. Numerous Line Item prices for supplies and services that are provided at no cost or at nominal prices.

4.6.4.3. If the Purchaser has reason to suspect that a Bidder has artificially debased its prices in order to secure Contract award, the Purchaser will request clarification of the bid in this regard and the Bidder shall provide explanation on one of the following bases:

4.6.4.3.1. An error was made in the preparation of the price quotation. In such a case, the Bidder must document the nature of the error and show background

documentation concerning the preparation of the price quotation that makes a convincing case that a mistake was made by the Bidder. In such a case, the Bidder shall petition the Purchaser to either remain in the competition or accept the Contract at the offered price, or to withdraw from the competition.

4.6.4.3.2. The Bidder has a competitive advantage due to prior experience or industrial/technological processes that demonstrably reduce the costs of Bidder performance and therefore the price offered is realistic. Such an argument must support the technical proposal offered and convincingly and objectively describe the competitive advantage and the net savings achieved by this advantage over standard market practices and technology.

4.6.4.3.3. The Bidder recognises that the submitted price quotation is unrealistically low compared to its cost of performance and, for business reasons, the Bidder is willing to absorb such a loss. Such a statement can only be made by the head of the business unit submitting the bid and will normally be made at the level of Chief Operating Officer or Chief Executive Officer. In such a case, the Bidder shall estimate the potential loss and show that the financial resources of the Bidder are adequate to withstand such reduction in revenue.

4.6.4.4. If a Bidder fails to submit a comprehensive and compelling response on one of the bases above, the Purchaser may determine the bid submitted as non-compliant. If the Bidder responds on the basis of paragraph 4.6.4.3.1 above and requests to withdraw from the competition, the Purchaser may, depending on the nature and gravity of the mistake, allow the Bidder to withdraw.

4.6.4.5. If the Purchaser accepts the Bidder's explanation of mistake in paragraph 4.6.4.3.1 and allows the Bidder to accept the Contract at the offered price, or the Purchaser accepts the Bidder's explanation pursuant to paragraph 4.6.4.3.3 above, the Bidder shall agree that the supporting pricing data submitted with its bid will be incorporated by reference in the resultant Contract. The Bidder shall agree as a condition of Contract signature, that the pricing data will be the basis of determining fair and reasonable pricing for all subsequent negotiations for modifications of or additions to the Contract and that no revisions of proposed prices will be made.

4.6.4.6. If the Bidder presents a convincing rationale pursuant to paragraph 4.6.4.3.2 above, no additional action will be warranted. The Purchaser, however, reserves its right to reject such an argument if the rationale is not compelling or capable of objective analysis. In such a case the bid may be determined to be non-compliant.

4.6.4.7. The Agency reserves the right to request prime contractors or the subcontractors to separately identify each of the direct/indirect costs, advise why each is required, and provide supporting documentation to substantiate each charge, such as: 1) catalogue price lists and any applicable discounts, 2) copies of the Subcontractor's orders from others for the same or similar items, including explanations for cost variations, 3) Subcontractor's internal cost

estimate, or documentation of whatever means the Subcontractor used to arrive at the charge.

4.6.5. Once the offered prices as described in paragraph 4.6.3.2 have been calculated and checked, the formula set forth in paragraph 4.2.4.1 will be applied to derive the Price Score of each bid.

4.7. Evaluation Step 4: Calculation of Best Value Scores

4.7.1. Upon conclusion and approval of the Technical Evaluation and Price Evaluation results, the pre-determined weighting scheme for the Technical Evaluation will be unsealed and the scores for the Engineering, Management and Supportability factors will be calculated for each compliant bid. Then all partial scores will be fed into the formula stated in paragraph 4.2.5 in order to obtain the Best Value Score of each bid.

4.7.2. The highest scored bid will be recommended as the Apparent Successful Bid.

4.7.3. A statistical tie is deemed to exist when the final scores of the highest scoring bids are within one point (1.0) of each other. (For example, final scores of 67.30 and 68.30 are within one point of each other and would therefore be considered a statistical tie. Final scores of 67.30 and 68.31 are more than one point apart and would not be considered a tie.) The Purchaser will then resolve the statistical tie by awarding the contract to the bid with the highest weighed technical score.

4.7.4. Prior to confirmation of award, the Purchaser shall invite the Bidder with the Apparent Successful Offer to one or more rounds of pre-award discussions. These discussions shall aim at clarifying and confirming, within the boundaries of the IFB documents, any remaining topics and results in the preparation of the final contract documents.

4.7.5. Upon the successful completion of these pre-award discussions, to the Purchaser's full satisfaction, confirmation of final bid compliance will be noted.

4.7.6. The Purchaser will deliver the final set of contract documents to the Bidder for their signature. Upon the Purchaser's countersignature of those contract documents, the contract shall be considered to be in effect.

END OF SECTION 4

ANNEX A BIDDING SHEETS

ANNEX A.1. Introduction

A.1.1. Bid pricing requirements as addressed in this Annex are mandatory. Failure to abide to the bid pricing requirements included in this section may lead to the bid being declared non-compliant and not being taken into consideration for award.

A.1.2. No alteration of the Bidding Sheet - including, but not limited to quantity indications, descriptions, titles or pre-populated Not-to-Exceed amounts – are allowed with the sole exception of those explicitly indicated as allowed in this document or in the instructions embedded in the Bidding Sheet file.

A.1.3. Additional price columns may be added if multiple currencies are bid, including extra provisions for all totals.

ANNEX A.2. General Requirements

A.2.1. Bidders are required, in preparing their Price Volume to utilise the electronic files provided as part of this IFB and referenced in paragraph 3.5.1.

A.2.2. This Excel file includes detailed instructions on each tab that will facilitate Bidders' preparation of the bid pricing. These instructions are mandatory.

A.2.3. The prices and quantities entered on the document shall reflect the total items required to meet the Contractual requirements. The total price shall be indicated in the appropriate columns.

A.2.4. In preparing the Bidding Sheets, Bidders shall ensure that the prices of the Sub-items total the price of the major item of which they constitute a part.

A.2.5. All metrics (e.g., cost associated with labour) will be assumed to be standard or normalised to 7.6 hours/day, for a five-day workweek at NATO and National sites and Contractor facilities.

A.2.6. Should the Apparent Best Value Bid be in other than Euro currency, the award of the Contract will be made in the currency or currencies of the bid.

A.2.7. Bidders are advised that formulae are designed to ease evaluation of the Bidders proposal have been inserted in the electronic copies of the Bidding Sheets. Notwithstanding this, the Bidder remains responsible for ensuring that their figures are correctly calculated and should not rely on the accuracy of the formulae electronic copies of the Bidding Sheets.

A.2.8. If the Bidder identifies an error in the spreadsheet, it should notify the Purchaser through process described paragraph 2.7. The Purchaser will then make a correction and notify all the Bidders of the update.

A.2.9. Prices shall not include any provision for taxes or duties for which the Purchaser is exempt.

ANNEX B   PRESCRIBED ADMINISTRATIVE FORMS AND CERTIFICATES

ANNEX B.1.   CERTIFICATE OF LEGAL NAME OF BIDDER

This bid is prepared and submitted on behalf of the legal corporate entity specified below:

Full Name of Corporation: _____

Division (If Applicable):   _____

Sub Division (If Applicable):   _____

Official Mailing Address

E-Mail Address: _____

Point of Contact Regarding this bid:
Name: _____

Position: _____

Phone: _____

Alternative Point of Contact:
Name: _____

Position: _____

Phone: _____

E-Mail Address: _____

_____   _____
Date   Signature of Authorised Representative

          _____
          Printed Name

          _____
          Title

          _____
          Company

ANNEX B.2. ACKNOWLEDGEMENT OF RECEIPT OF IFB AMENDMENTS

I confirm that the following amendments to Invitation for Bid n° IFB-CO-115461-NCOPBMD have been received and the bid, as submitted, reflects the content of such amendments.

Amendment No.	Date of Issued	Date of receipt	Initials

_____   _____

 Date   Signature of Authorised Representative

                                   _____
                                   Printed Name

                                   _____
                                   Title

                                   _____
                                   Company

ANNEX B.3.   CERTIFICATE OF INDEPENDENT DETERMINATION

It is hereby stated that:

We have read and understand all documentation issued as part of IFB-CO-115461-NCOPBMD. Our bid submitted in response to the referred solicitation is fully compliant with the provisions of the IFB and the Prospective Contract.

Our bid has been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, with any other Bidder or with any competitor;

The contents of our bid have not been knowingly disclosed by the Bidder and will not knowingly be disclosed by the Bidder prior to award, directly or indirectly to any other Bidder or to any competitor; and

No attempt has been made, or will be made by the Bidder to induce any other person or firm to submit, or not to submit, a bid for the purpose of restricting competition.

_____   _____

 Date   Signature of Authorised Representative

                                _____

                                Printed Name

                                _____

                                Title

                                _____

                                Company

ANNEX B.4.   CERTIFICATE OF BID VALIDITY

I, the undersigned, as an authorised representative of the firm submitting this bid, do hereby certify that the pricing and all other aspects of our bid will remain valid for a period of twelve (12) months from the bid closing date of this Invitation for Bid.

_____   _____

 Date   Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

ANNEX B.5. CERTIFICATE OF EXCLUSION OF TAXES, DUTIES AND CHARGES

I hereby certify that the prices offered in the price quotation of this bid exclude all taxes, duties and customs charges from which the Purchaser has been exempted by international agreement.

_____   _____

 Date   Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

ANNEX B.6. COMPREHENSION AND ACCEPTANCE OF CONTRACT SPECIAL AND CONTRACT GENERAL PROVISIONS

The Bidder hereby certifies that it has reviewed the Contract Special Provisions and the NCI Agency Contract General Provisions set forth in the Prospective Contract, Book II of this Invitation for Bid. The Bidder hereby provides its confirmation that it fully comprehends the rights, obligations and responsibilities of the Contractor as set forth in the Articles of the Prospective Contract. The Bidder additionally certifies that the offer submitted by the Bidder is without prejudice, qualification or exception to any of the Terms and Conditions and it will accept and abide by the stated Special and General Provisions if awarded the Contract as a result of this Invitation for Bid.

_____   _____

 Date   Signature of Authorised Representative

                                _____

                                Printed Name

                                _____

                                Title

                                _____

                                Company

ANNEX B.7. DISCLOSURE OF REQUIREMENTS FOR NCI AGENCY EXECUTION OF SUPPLEMENTAL AGREEMENTS

I, the undersigned, as an authorised representative of _____, certify the following statement:

B.7.1. All supplemental agreements, defined as agreements, documents and/or permissions outside the body of the Contract but are expected to be required by my Government, and the governments of my subcontractors, to be executed by the NCI Agency as a condition of my firm's performance of the Contract, have been identified, as part of the bid.

B.7.1.1. Bidder is to:

B.7.1.1.1. insert list of supplemental agreements:

B.7.1.1.2. Or check none if none supplemental agreements:

☐ None

B.7.2. Examples of the terms and conditions of these agreements have been provided in our Offer. The anticipated restrictions to be imposed on NATO, if any, have been identified in our offer along with any potential conflicts with the terms, conditions and specifications of the Prospective Contract. These anticipated restrictions and potential conflicts are based on our knowledge of and prior experience with such agreements and their implementing regulations. We do not certify that the language or the terms of these agreements will be exactly as we have anticipated.

B.7.3. The processing time for these agreements has been calculated into our delivery and performance plans and contingency plans made in the case that there is delay in processing on the part of the issuing government(s).

B.7.4. We recognise that additional supplemental agreements, documents and permissions presented as a condition of Contract performance or Memorandum of Understanding (MOU) signature after our firm would be selected as the successful Bidder may be cause for the NCI Agency to determine the submitted bid to be non-compliant with the requirements of the IFB.

B.7.5. We accept that should the resultant supplemental agreements issued in final form by the government(s) result in an impossibility to perform the Contract in accordance with its schedule, terms or specifications, the Contract may be terminated by the Purchaser at no cost to either Party.

_____   _____

Date   Signature of Authorised Representative

                                       _____

                                               Printed Name

_____   _____

Title   Company

ANNEX B.8. CERTIFICATE OF COMPLIANCE AQAP 2110 OR ISO 9001:2015 OR EQUIVALENT

I hereby certify that _____(name of Company) possesses and applies Quality Assurance Procedures/Plans AQAP 2110 or ISO 9001:2015 or equivalent as evidenced through the attached documentation[1].

_____

Date

_____

Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

---

[1] Bidders must attach copies of any relevant quality certification.

ANNEX B.9.   LIST OF PROSPECTIVE SUBCONTRACTORS

Name and Address of Subcontract	DUNS Number[2]	Primary Location of Work	Items/Services to be Provided	Estimated Value of Subcontract

_____   _____

  Date   Signature of Authorised Representative

                                              _____

                                              Printed Name

                                              _____

                                              Title

                                              _____

                                              Company

                                              _____

                                              Bid Reference

---

[2] Data Universal Numbering System (DUNS). Bidders are requested to provide this data in order to help NCI Agency to correctly identify Subcontractors. If a Subcontractor's DUNS is not known this field may be left blank.

ANNEX B.10.   BIDDER BACKGROUND IPR

I, the undersigned, as an authorised representative of Bidder _____,
warrant, represent, and undertake that:

B.10.1. The Bidder Background IPR specified in the table below will be used for the
purpose of carrying out work pursuant to the Prospective Contract.

Item	Description / IP Ownership	Indicate if COTS[1]

B.10.2. The stated Bidder has and will continue to have, for the duration of the
Prospective Contract, all necessary rights in and to the Background IPR specified
above.

B.10.3. The Background IPR stated above complies with the terms specified in Article
26 of the Contract Special Provisions and shall be licensed to the Purchaser
according to the terms and conditions specified therein and in Article 30 of the
Contract General Provisions.

_____

Date

_____

Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

_____

Bid Reference

Indicate whether the IPR is applicable to a COTS product as defined in the Contract General Provisions.

ANNEX B.11.　　　LIST OF SUBCONTRACTOR OR THIRD PARTY IPR

I, the undersigned, as an authorised representative of Bidder _____, warrant, represent, and undertake that:

B.11.1.　The Subcontractor IPR specified in the table below will be used for the purpose of carrying out work pursuant to the Prospective Contract.

Item	Description / IP Ownership	Indicate if COTS[3]

B.11.2.　The stated Bidder has and will continue to have, for the duration of the Prospective Contract, all necessary rights in and to the IPR specified above necessary to perform the Contractor's obligations under the Contract.

B.11.3.　The Subcontractor and/or Third Party IPR stated above complies with the terms Article 30 the Contract General Provisions.

_____　　　_____

 Date　　　　　　　　　　　　Signature of Authorised Representative

　　　　　　　　　　　　　　_____

　　　　　　　　　　　　　　Printed Name

　　　　　　　　　　　　　　_____

　　　　　　　　　　　　　　Title

　　　　　　　　　　　　　　_____

　　　　　　　　　　　　　　Company

　　　　　　　　　　　　　　_____

　　　　　　　　　　　　　　Bid Reference

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[3] Indicate whether the IPR is applicable to a COTS product as defined in the General Contract Provisions.

ANNEX B.12. CERTIFICATE OF ORIGIN OF EQUIPMENT, SERVICES, AND INTELLECTUAL PROPERTY

B.12.1. The Bidder hereby certifies that, if awarded the Contract pursuant to this solicitation, it will perform the Contract subject to the following conditions:

B.12.1.1. None of the work, including project design, labour and services shall be performed other than by firms from and within participating NATO member countries;

B.12.1.2. No material or items of equipment down to and including identifiable sub-assemblies shall be manufactured or assembled by a firm other than from and within a participating NATO member country. A sub-assembly is defined as a portion of an assembly consisting of two or more parts that can be provisioned and replaced as an entity; and

B.12.1.3. The intellectual property rights to all design documentation and related system operating software shall reside in NATO member countries, and no license fees or royalty charges shall be paid by the Bidder to firms, individuals or Governments other than within the NATO member countries.

_____

 Date

_____

Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

_____

Bid Reference

ANNEX B.13. LIST OF PROPOSED KEY PERSONNEL

Position	SOW Reference(s)	Labour Category	Name	Designation Period
Project Manager	3.5.2	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
Technical Lead	3.5.3	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
Test Director	3.5.4	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
Quality Assurance Manager	3.5.5	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
ILS Manager	3.5.6	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract

*EDC : Effective Date of Contract

ANNEX B.14. CERTIFICATE OF PRICE CEILING

B.14.1. I hereby certify that the total price offered in the Price Volume of this bid does not exceed the price ceiling provided in paragraph 3.5.2.2 of the Bidding Instructions.

B.14.2. Note: All prices, or supporting pricing information, shall be included in the Price Volume only. There shall be no pricing information disclosed in the either the Bid Administration Volume or the Technical Volume.

_____
Date

_____
Signature of Authorised Representative

_____
Printed Name

_____
Title

_____
Company

ANNEX B.15. DISCLOSURE OF INVOLVEMENT OF FORMER NCI AGENCY EMPLOYMENT

The Bidder hereby certifies that, in preparing its bid, the Bidder did not have access to solicitation information prior to such information been authorized for release to Bidders (e.g., draft statement of work and requirement documentation).

The Bidder hereby acknowledges the post-employment measures applicable to former NCI Agency Personnel as per the NCI Agency Code of Conduct.

The Bidder hereby certifies that its personnel working as part of the company's team, at any tier, preparing the bid:

☐   Has not held employment with NCI Agency within the last two years.

☐   Has obtained a signed statement from the former NCI Agency personnel below, who departed the NCI Agency within the last two years, that they were not previously involved in the project under competition (as defined in the extract of the NCI Agency Code of Conduct provided in Annex B-16 of this IFB):

Employee Name	Former NCI Agency Position	Current Company Position

The Bidder also hereby certifies that it does not employ and/or receive services from former NCI Agency Personnel at grades A5 and above or ranks OF-5 and above, who departed the NCI Agency within the last 12 months. This prohibitions covers negotiations, representational communications and/or advisory activities.

_____

Date

_____

Signature of Authorised Representative

_____

Printed Name

_____

Title

_____

Company

ANNEX B.16. NCI AGENCY AD. 05.00, CODE OF CONDUCT: POST EMPLOYMENT MEASURES

1. The NCI Agency will not offer employment contracts to former NCI Agency Personnel who departed less than 2 years earlier, unless prior approval by the General Manager has been received.

2. Former NCI Agency Personnel will not be accepted as consultants or commercial counterpart for two (2) years after finalization of their employment at NCI Agency, unless the General Manager decides otherwise in the interest of the Agency and as long as NATO rules on double remuneration are observed. Such decision shall be recorded in writing. Commercial counterparts include owners or majority shareholders, key account managers, or staff member, agent or consultant of a company and/or subcontractors seeking business at any tier with the NCI Agency in relation to a procurement action in which the departing NCI Agency staff member was involved when he/she was under the employment of the NCI Agency. As per the Prince 2 Project methodology, a Project is defined as a "temporary organization that is created for the purpose of delivering one or more business products according to an agreed business case". For the purpose of this provision, involvement requires (i) drafting, review or coordination of internal procurement activities and documentation, such as statement of work and statement of requirement; and/or (ii) access to procurement information that has not yet been authorized for release for outside distribution, including draft statements of work and requirement documentations; and/or (iii) being appointed as a representative to the Project governance (e.g., Project Board) with access to procurement information as per (ii) above; and/or (iv) having provided strategic guidance to the project, with access to procurement information as per (ii) above.

3. In addition to paragraph 2 above, former NCI Agency Personnel at grades A5 and above or ranks OF-5 and above are prohibited during twelve months following the end of their employment with the NCI Agency to engaging in negotiations, representational communications and/or advisory activities with the NCI Agency on behalf of a private entity, unless this has been agreed in advance by the NCI Agency General Manager and notified to the Agency Supervisory Board (ASB).

4. NCI Agency Personnel leaving the Agency shall not contact their former colleagues in view of obtaining any information or documentation about procurement activities not yet authorized' release. NCI Agency Personnel shall immediately report such contacts to the Director of Acquisition.

5. The ASB Chairman will be the approving authority upon recommendation by the Legal Adviser when the NCI Agency Personnel concerned by the above is the NCI Agency General Manager and will notify the ASB.

6. NCI Agency Personnel leaving the Agency shall sign a statement that they are aware of the post-employment measures set out in this Directive.

7. The post-employment measures set out in this Directive shall be reflected in the NCI Agency procurement documents, such as IFBs, and contract provisions.

ANNEX C   CLARIFICATION REQUEST FORM

IFB-CO-115461-NCOPBMD

Company Name:

Submission Date:

ADMINISTRATIVE or CONTRACTUAL			
Serial#	**IFB Ref.**	**Bidder's Question**	**NCI Agency's Response**
A.1			
A.2			
A.3			

PRICE			
Serial#	**IFB Ref.**	**Bidder's Question**	**NCI Agency's Response**
P.1			
P.2			
P.3			

TECHNICAL			
Serial#	**IFB Ref.**	**Bidder's Question**	**NCI Agency's Response**
T.1			
T.2			
T.3			

ANNEX D   BID GUARANTEE - STANDBY LETTER OF CREDIT

Standby Letter of Credit Number:

Issue Date: _____

Beneficiary: NCI Agency,
Financial Management Resource Centre,
Boulevard Leopold III,
B-1110 Brussels, Belgium

Expiry Date: _____

1. We, (issuing bank) hereby establish in your favour our irrevocable standby letter of credit number {number} by order and for the account of (NAME AND ADDRESS OF BIDDER) in the original amount of € 300,000.00 (Three Hundred Thousand Euro). We are advised this Guarantee fulfils a requirement under Invitation for Bid IFB-CO-115461-NCOPBMD dated _____.

2. Funds under this standby letter of credit are available to you upon first demand and without question or delay against presentation of a certificate from the NCI Agency Contracting Officer that:

2.1.   (NAME OF BIDDER) has submitted a bid and, after Bid Closing Date (including extensions thereto) and prior to the selection of the Best Value bid, has withdrawn its bid, or stated that it does not consider its bid valid or agree to be bound by its bid, or

2.2.   (NAME OF BIDDER) has submitted a bid determined by the Agency to be the Best Value bid, but (NAME OF BIDDER) has declined to execute the Contract offered by the Agency, such Contract being consistent with the terms of the Invitation for Bid, or

2.3.   The NCI Agency has offered (NAME OF BIDDER) the Contract for execution but (NAME OF BIDDER) has been unable to demonstrate compliance with the security requirements of the Contract within a reasonable time, or

2.4.   The NCI Agency has entered into the Contract with (NAME OF BIDDER) but (NAME OF BIDDER) has been unable or unwilling to provide the Performance Guarantee required under the terms of the Contract within the time frame required.

3. This Letter of Credit is effective the date hereof and shall expire at our office located at (Bank Address) on _____. All demands for payment

must be made prior to the expiry date.

4. It is a condition of this letter of credit that the expiry date will be automatically extended without amendment for a period of sixty (60) calendar days from the current or any successive expiry date unless at least thirty (30) calendar days prior to the then current expiry date the NCI Agency Contracting Officer notifies us that the Letter of Credit is not required to be extended or is required to be extended for a shorter duration.

5. We may terminate this letter of credit at any time upon sixty (60) calendar days notice furnished to both (NAME OF BIDDER) and the NCI Agency by registered mail.

6. In the event we (the issuing bank) notify you that we elect not to extend the expiry date in accordance with paragraph 4 above, or, at any time, to terminate the letter of credit, funds under this credit will be available to you without question or delay against presentation of a certificate signed by the NCI Agency Contracting Officer which states:

6.1. "The NCI Agency has been notified by {issuing bank} of its election not to automatically extend the expiry date of letter of credit number {number} dated {date} pursuant to the automatic renewal clause (or to terminate the letter of credit). As of the date of this certificate, no suitable replacement letter of credit, or equivalent financial guarantee has been received by the NCI Agency from, or on behalf of (NAME OF BIDDER), and the NCI Agency, as beneficiary, hereby draws on the standby letter of credit number _____ in the amount of € (Amount up to the maximum available under the LOC), such funds to be transferred to the account of the Beneficiary number _____ (to be identified when certificate is presented)."

Such certificate shall be accompanied by the original of this letter of credit and a copy of the letter from the issuing bank that it elects not to automatically extend the standby letter of credit, or terminating the letter of credit.

7. The Beneficiary may not present the certificate described in paragraph 6 above until 20 (twenty) calendar days prior to a) the date of expiration of the letter of credit should {issuing bank} elect not to automatically extend the expiration date of the letter of credit, b) the date of termination of the letter of credit if {issuing bank} notifies the Beneficiary that the letter of credit is to be terminated in accordance with paragraph 6 above.

8. Multiple drawings are allowed.

9. Drafts drawn hereunder must be marked, "Drawn under {issuing bank} Letter of Credit No. {number}" and indicate the date hereof.

10. This letter of credit sets forth in full the terms of our undertaking, and this

undertaking shall not in any way be modified, amended, or amplified by reference to any document, instrument, or agreement referred to herein (except the International Standby Practices (ISP 98) hereinafter defined) or in which this letter of credit is referred to or to which this letter of credit relates, and any such reference shall not be deemed to incorporate herein by reference any document, instrument, or agreement.

11. We hereby engage with you that drafts drawn under and in compliance with the terms of this letter of credit will be duly honoured upon presentation of documents to us on or before the expiration date of this letter of credit.

12. This Letter of Credit is subject to The International Standby Practices-ISP98 (1998 Publication) International Chamber of Commerce Publication No.590.

ANNEX E   LIST OF ACCCEPTABLE BANKS TO ISSUE BID GUARANTEES

#	*Bank
1	KBC Group
2	Bank of Montreal (BMO)
3	Royal Bank of Canada
4	Scotiabank
5	Danske Bank
6	Citibank Europe
7	BNP Paribas
8	Credit Agricole Group
9	Societe Generale
10	Commerzbank AG
11	Deutsche Bank
12	Intesa
13	UniCredit S.p.A.
14	ING Group
15	Rabobank Group
16	Banco Santander
17	BBVA
18	Barclays PLC
19	HSBC Holdings
20	Standard Chartered Plc
21	Bank of America
22	Wells Fargo

These Banks are in NATO-member countries.

Bidding Sheets Instructions

INTRODUCTION & IMPORTANT NOTES	
	Bidders should note that NCIA has recently updated its bidding sheet template and are encouraged to read the instructions in full for this new version before completing the bidding sheets. All bidders are required to submit pricing details to demonstrate the Purchaser's Pricing Principles are being applied as part of their bids. All data submitted in these sheets shall be complete, verifiable and factual and include the required details. Any exclusions may render the bid as non compliant thus removing the bidder from the bidding process. Bidders are **REQUIRED** to complete the following tabs: - **"Tab 1_Offer Summary"**, - **"Tab 2_CLIN Summary"**, - **"Labour"**, - **"Material"**, - **"Travel"**, - **"ODC"**, - **"Rates"**. **Note that input cells in the "Offer Summary" and the "CLIN Summary" tabs are colour coded YELLOW.** The instructions for the detailed tabs can be found below, as well as in the green boxes within each detailed tab. G&A, Overhead, material handling and other indirect rates do not need to be separately calculated in the detail sheets but must be included in the totals for each category (Labour/Material/Travel/ODC) as appropriate. A list of the direct and indirect rates applied in the bid must also be provided in the "Rates" tab, although they do not need to be linked to any and the detailed calculations. The list of these rates will be requested in pre-contract award from the winning bidder. **Note: any information found within GREEN boxes throughout the entire document is provided as an instruction and/or example only.** Any formulas provided in these bidding sheets are intended only to assist the bidder. Any changes in formula can be made at the bidder's discretions, as long as the detailed costs are clear, traceable and accurate as required. Ultimately the bidder is responsible for **ALL** values, formulas and calculations within the bidding sheets that are submitted to the Agency. **Bids in MULTIPLE CURRENCIES should follow the following instructions:** - For the "Offer Summary" tab bidders must add "Firm Fixed Price" column to the right of the current table for each additional currency. - For the "CLIN Summary" tab, Bidders have 2 options: A) Two columns "Unit Price" and "Total Firm Fixed Price" may be added to the right of the current table for each additional currency of the bid; B) Bidders may duplicate the CLIN Summary tab for each currency bid. - For the Detailed tabs Bidders have 2 options: A) Provide all the detailed data for all currencies in the table provided, selecting the individual currencies from the dropdown lists and summing only common currencies together in CLIN Summary/Offer Summary Sheets B) Duplicate the CLIN Summary tab for each currency bid.

DETAILED TABs	DESCRIPTION
MATERIAL **LABOUR** **TRAVEL** **ODCs**	The detailed tables are to be completed by the bidder with all columns populated, and shall be expanded to include as many rows as necessary to provide the detail requested. The bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns within tables, or omit information from columns, but may add columns if necessary, although it's not anticipated this will be needed. Note CLINs with no costs associated with that item should also be selected within the table, and noted that there is no cost within that table for the CLIN. For example, if there is no labour associated with CLIN X.1, Select CLIN X.1 in the first column and then in the second column note "No Labour is associated with this CLIN". This will help to ensure that all the proper detail has been accounted for and properly allocated. Important Note: The Total sum of the "fully burdened" cost column should equal the grand total cost for each category (Labour, Material, etc.) to include profit as well as all indirect rates (G&A/Overhead/Material handling/etc.) associated with that category. These indirect rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be shown as separate calculations at the bidding stage. However, the bidder is required to include the associated indirect costs in the totals of the detailed tab in the base unit costs. Alternatively, the bidder may choose to show these as separate calculations by expanding the table columns to show the additional costs due to these indirect rates (similar to the way profit is calculated). Note again although the detailed indirect rate calculations are not required at the bidding stage, this information will be requested from the winning bidder during pre-contract award discussions.
RATES	As discussed previously in these instructions, the detailed indirect rate calculations are not required to be included in the bidding sheets, although the bidders may chose to do so. However, ALL bidders are required to state the G&A/OH/Material handling and any other indirect rates that they have applied to the bid.

For multiple currencies, duplicate the "Firm Fixed Price" column for each currency

CLIN SUMMARY		
CLIN Number	**CLIN DESCRIPTION**	**Firm Fixed Price**
	Declare Currency =>	
Grand Total Firm fixed Price - Base Contract		-
Grand Total Firm fixed Price - Base Contract + Evaluated Options		-
Grand Total Firm fixed Price - Base Contract + Evaluated Options + Non-Evaluated Options		-
CLIN 1	CLIN 1 (BASE-EVALUATED) - PROJECT MANAGEMENT	-
CLIN 2	CLIN 2 (BASE-EVALUATED) - SYSTEM ENGINEERING (excluding options)	-
CLIN 3	CLIN 3 (BASE-EVALUATED) - NCOP TRAINING	-
CLIN 4	CLIN 4 (BASE-EVALUATED) - NCOP POST SOFTWARE DELIVERY SUPPORT and SUSTAINMENT and WARRANTY (excluding options)	-
Total Firm Fixed Price Base Contract		-
CLIN 2.6	CLIN 2.6 (OPTION-EVALUATED) - Testing and validation support	-
CLIN 4.3	CLIN 4.3 (OPTION-EVALUATED) - On-site Support	-
CLIN 5	CLIN 5 (OPTION-EVALUATED) - BMD PROGRAMME VALIDATION	-
CLIN 6	CLIN 6 (OPTION-EVALUATED) - IN-SERVICE SUPPORT (up and including warranty period)	-
CLIN 7	CLIN 7 (OPTION-EVALUATED) - Operations & Maintenance (O&M Post warranty)	-
Total Firm Fixed Price Evaluated Options		-
CLIN 8	CLIN 8 (OPTION-NON-EVALUATED) - COTS SW	-
Total Firm Fixed Price Non-Evaluated Options		-

Offer Summary Instructions:

Bidders are to populate all **yellow cells**. Firm fixed prices need to be provided for every CLIN, with no omissions.

Note that any formulas existing in the cells are provided only to assist the bidder, and ultimately all calculations are the bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The Total sum firm fixed price column in this "Offer Summary" sheet should equal the grand total from the "CLIN Summary" tab. These totals are also required to be traceable to the totals from the details tabs (Labour+Material+Travel+ODCs)= Grand Total= CLIN Summary Tab.

Example for multiple currencies:

For multiple currencies, duplicate the "firm fixed price" colum for each currency

CLIN Number	CLIN DESCRIPTION	Firm Fixed Price	Firm Fixed Price	Firm Fixed Price
Currency		Euro (EUR)	US Dollar (USD)	UK Pound sterling (GBP)
CLIN 1	Insert Base Contract CLIN Description here			
CLIN 2	Insert Base Contract CLIN Description here			
CLIN 3	Insert Base Contract CLIN Description here			
CLIN 4	Insert Base Contract CLIN Description here			
CLIN 5	Insert Base Contract CLIN Description here			
CLIN 6	Insert Base Contract CLIN Description here			
CLIN 7	Insert Base Contract CLIN Description here			
CLIN 8	Insert Base Contract CLIN Description here			

IFB-CO-115461-NCOPBMD
BASE CONTRACT WITH OPTIONS
CLIN BREAKDOWN

CLIN	Description	SOW Reference	Required Completion Date	Delivery Destination	Delivery Form	Unit of measure	Quantity	Unit Price	Total Firm Fixed Price	Investment or O&M	Optional Comments (Mandatory for zero costs lines)
								Declare Currency =>			
1.0	CLIN 1 (BASE-EVALUATED) - PROJECT MANAGEMENT										
1.1	Project Planning								-		
1.1	Project Management Plan (PMP)	3.8	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.1	Risk Management Plan (RMP)	3.12.4	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.1	Configuration Management Plan (CMP)	3.13.3	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.1	Quality Plan (QP)	3.14.1.6	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.1	Project Product Work breakdown Structure (PPBS)	3.9	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.1	Project Work Breakdown Structure (PWBS)	3.10	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.1	Project Master Schedule (PMS)	3.11	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.2	Monitoring and Control								-		
1.2	Project Highlight Report (PHR)	3.16	Monthly	Project portal	Electronic	Each	1	-	-		
1.2	Project Management Review (PMR)	3.17	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.2	Risk Action Issue Decision Log (RAID Log)	3.7	For PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
1.2	Configuration Status Accounting database (CI, CR, DR)	3.13.9	Fill based on PMS and as changes occur	Project portal	Electronic	Each	1	-	-		
TOTAL PRICE CLIN 1									-		
2.0	CLIN 2 (BASE-EVALUATED) - SYSTEM ENGINEERING										
2.1	Requirements Analysis								-		
2.1	Initial User Story Documentation	4.5.9.3.5	SRR	Project portal	Electronic	Lot	1	-	-		
2.1	User Story Documentation BL3	4.5.9.3.5	TRR-3	Project portal	Electronic	Lot	1	-	-		
2.1	User Story Documentation BL4	4.5.9.3.5	TRR-4	Project portal	Electronic	Lot	1	-	-		
2.1	User Story Documentation BL5	4.5.9.3.5	TRR-5	Project portal	Electronic	Lot	1	-	-		
2.1	Requirements Traceability Matrix (RTM)	4.6.4.13	CDR-3, CDR-4, CDR-5 (updated as required)	Project portal	Electronic	Lot	1	-	-		
2.1	Verification Cross Reference Matrix (VCRM)	4.8.3.21	CDR-3, CDR-4, CDR-5 (updated as required)	Project portal	Electronic	Lot	1	-	-		
2.1	Engineering Change Proposal (ECP) doc for ARS updates	4.2.2	PSA1-1, PSA-2, FSA	Project portal	Electronic	Each	3	-	-		
2.2	Design								-		
2.2	System Design Specification (SDS) - BL3	4.6.4	CDR-3	Project portal	Electronic	Each	1	-	-		
2.2	System Design Specification (SDS) - BL4	4.6.4	CDR-4	Project portal	Electronic	Each	1	-	-		
2.2	System Design Specification (SDS) - BL5	4.6.4	CDR-5	Project portal	Electronic	Each	1	-	-		
2.2	Architecture Model - NCOP Logical Model	4.6.4.9.1	CDR-3	Project portal	Electronic	Each	1	-	-		
2.2	NCOP Interface Control Document (ICD) - BL3	3.13.8	CDR-3	Project portal	Electronic	Lot	1	-	-		
2.2	NCOP Interface Control Document (ICD) - BL4	3.13.8	CDR-4	Project portal	Electronic	Each	1	-	-		
2.2	NCOP Interface Control Document (ICD) - BL5	3.13.8	CDR-5	Project portal	Electronic	Each	1	-	-		
2.3	Development and Integration								-		
2.3	System Development Plan (SDP)	4.4	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
2.3	Test Automation Tool	4.8.6	For TRR-3	Website	Electronic	Each	1	-	-		
2.3	Build Environment	4.7.12.2	For TRR-3	Website	Electronic	Each	1	-	-		
2.3	Validation Environment provision	4.7.12.6	L-SIT-3, L-SIT-4, L-SIT-5	NCIA The Hague	Electronic	Each	3	-	-		
2.3	System Engineering Sprint Product to Collaborative Working Environment	4.3.9	SER	NCIA The Hague	Electronic	Lot	1	-	-		
2.4	Testing								-		
2.4	Project Test Plans - BL3	4.8.4	CDR-3	Project portal	Electronic	Each	1	-	-		
2.4	Project Test Plans - BL4	4.8.4	CDR-4	Project portal	Electronic	Each	1	-	-		
2.4	Project Test Plans - BL5	4.8.4	CDR-5	Project portal	Electronic	Each	1	-	-		
2.4	Test Procedures - BL3	4.8.7	TRR-3	Project portal	Electronic	Lot	1	-	-		
2.4	Test Procedures - BL4	4.8.7	TRR-4	Project portal	Electronic	Lot	1	-	-		
2.4	Test Procedures - BL5	4.8.7	TRR-5	Project portal	Electronic	Lot	1	-	-		
2.4	Testbeds installation & activation (DEV)	4.8.3.4	Until FSA	NCIA The Hague	N/A	Each	3	-	-		
2.4	Testbeds installation & activation (IVV)	4.8.3.4	Until FSA	NCIA The Hague	N/A	Each	3	-	-		
2.4	Testbeds installation & activation (ITB)	4.8.3.4	Until FSA	NCIA The Hague	N/A	Each	6	-	-		
2.5	Product								-		
2.5	Product Baseline (breakdown by CI) - BL3	3.13.2.3	SAT-3	NCIA The Hague	Electronic	Each	1	-	-		
2.5	Product Baseline (breakdown by CI) - BL4	3.13.2.3	SAT-4	NCIA The Hague	Electronic	Each	1	-	-		
2.5	Product Baseline (breakdown by CI) - BL5	3.13.2.3	SAT-5	NCIA The Hague	Electronic	Each	1	-	-		
2.5	Product Baseline (breakdown by CI) - FSA	4.9.2.1.3	FSA	NCIA The Hague	Electronic	Each	1	-	-		
2.5	HMI Prototypes (updated / release)	4.5.9.4	SAT-3, SAT-4, SAT-5	NCIA The Hague	Electronic	Each	1	-	-		
2.5	Software Version Description (SVD) (updated / release)	3.13.11	TRR-3, TRR-4 and TRR-5	Project portal	Electronic	Each	1	-	-		
2.5	Operation and User Manual BL3	5.7.4	STR-3	Project portal	Electronic	Each	1	-	-		
2.5	Operation and User Manual BL4	5.7.4	STR-4	Project portal	Electronic	Each	1	-	-		
2.5	Operation and User Manual BL5	5.7.4	STR-5	Project portal	Electronic	Each	1	-	-		
2.5	Maintenance and Administration Manual - BL3	5.7.5	STR-3	Project portal	Electronic	Each	1	-	-		
2.5	Maintenance and Administration Manual - BL4	5.7.5	STR-4	Project portal	Electronic	Each	1	-	-		
2.5	Maintenance and Administration Manual - BL5	5.7.5	STR-5	Project portal	Electronic	Each	1	-	-		
2.5	Software Build Instruction	4.7.12.5	TRR-3	Project portal	Electronic	Each	1	-	-		
2.5	NCOP Quick User Guide (updated / release)	5.7.7	STR-3, STR-4 and STR-5	Project portal	Electronic	Each	1	-	-		
2.5	NCOP Installation Configuration Guide (updated / release)	5.7.2	STR-3, STR-4 and STR-5	Project portal	Electronic	Each	1	-	-		
2.5	On-Line Help Update (updated / release)	5.7.10	STR-3, STR-4 and STR-5	Project portal	Electronic	Each	1	-	-		
2.5	Other Documentation (Transition Manuals, Release notes, Read me files, FAQs, COTS Manuals etc.)	5.7.12, 5.7.8, 5.7.9, 5.7.11	STR-3, STR-4 and STR-5	Project portal	Electronic	Lot	1	-	-		
2.6	CLIN 2.6 (OPTION-EVALUATED) - Testing and validation support								-		
2.6	Testing and validation support (level of effort on site at NCIA) 4d event (Purchaser's Option)	4.5.9, 4.8.1	FSA	NCIA The Hague	N/A	Each	10	-	-		
TOTAL PRICE CLIN 2 (excluding Options)									-		
TOTAL PRICE CLIN 2 (Evaluated Option)									-		
TOTAL PRICE CLIN 2 (including Options)									-		
3.0	CLIN 3 (BASE-EVALUATED) - NCOP TRAINING										
3.1	Training Plan Delivery								-		
3.1	Training Plan	5.8.2	PMR (updated as required)	Project portal	Electronic	Each	1	-	-		
3.2	Training course development								-		
3.2	NCOP Training Data for Training database BL3	5.8.1.4	TRR-3	Project portal	Electronic	Each	1	-	-		
3.2	NCOP Training Data for Training database BL4	5.8.1.4	TRR-4	Project portal	Electronic	Each	1	-	-		
3.2	NCOP Training Data for Training database BL5	5.8.1.4	TRR-5	Project portal	Electronic	Each	1	-	-		
3.2	System Administrator Training Course Material BL3	5.8.4	TRR-3	Project portal	Electronic	Each	1	-	-		
3.2	System Administrator Training Course Material BL4	5.8.4	TRR-4	Project portal	Electronic	Each	1	-	-		
3.2	System Administrator Training Course Material BL5	5.8.4	TRR-5	Project portal	Electronic	Each	1	-	-		
3.3	Training Delivery								-		
3.3	NCIA/PVS Test Crew Training (1 per release)	5.8.3	TRR-3, TRR-4 and TRR-5	NCIA The Hague	N/A	Each	3	-	-		
3.3	System administrator training (1 per release)	5.8.4	SQR-3, SQR-4 and SQR-5	NCIA The Hague	N/A	Each	3	-	-		
3.3	PVS - General user training (on site) x 5 events	5.8.1.1	Up to FSA	NATO site in Europe	N/A	Each	5	-	-		
TOTAL PRICE CLIN 3									-		

CLIN Summary Instruction:

Bidders are to populate all **yellow cells**. Firm fixed prices need to be provided for every CLIN, with no omissions.
If Bidder decides to keep any CLIN at zero costs the reason for it has to be explained in the corresponding Comments field.

For the CLIN Summary Tab Bidders have 2 options:
A) Columns may be added to the right of the current table; two columns "Unit Price" and "Total Firm Fixed Price" would be added for each additional currency of the bid;
B) Bidders may duplicate the CLIN Summary tab for each currency bid.

Note: Any formulas existing in the cells are provided only to assist the bidder and ultimately all calculations are the bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The total sum of the "Firm Fixed Price" column in this CLIN Summary sheet should equal the grand total from the "Offer Summary" tab. These totals are also required to be traceable to the totals from the details tabs (Labour+Material+Travel+ODC)= Grand Total= CLIN Summary Tab.

#	Description	Ref	Timing	Location	Delivery	Unit	Qty			
4.0	CLIN 4 (BASE-EVALUATED) - NCOP POST SOFTWARE DELIVERY SUPPORT and SUSTAINMENT and WARRANTY									
4.1	Post-SW delivery support								-	
4.1	Implementation Reach back Support Desk	5.9.3	From SQR-3 until FSA	N/A	Electronic	Lot	1	-	-	
4.1	Operational Support during Implementation - (BL3) 1my	5.9	From SQR-3 until SQR-4	NCIA, The Hague	Electronic	Man-days	200	-	-	
4.1	Operational Support during Implementation - (BL4) 1my	5.9	From SQR-4 until SQR-5	NCIA, The Hague	Electronic	Man-days	200	-	-	
4.1	Operational Support during Implementation - (BL5) 1my	5.9	From SQR-5 until FSA	NCIA, The Hague	Electronic	Man-days	200	-	-	
4.1	Integrated Logistic Support Plan	5.2	For PMR (updated as required)	Project portal	Electronic	Each	1	-	-	
4.1	Supply Support (Inventory, SWDL, RTTL, special tools)	5.5	For STR-3, STR-4 and STR-5	Project portal	Electronic	Lot	1	-	-	
4.2	Warranty								-	
~~4.2~~	~~Warranty (Service Desk)~~	~~5.10~~	~~FSA + 1 year~~	~~N/A~~	~~Electronic~~	~~Lot~~	~~1~~	-	-	
4.2	Warranty (Product Baseline warranty)	5.10	FSA + 1 year	NCIA, The Hague	Electronic	Lot	1	-	-	
4.3	CLIN 4.3 (OPTION-EVALUATED) - On-site Support								-	
4.3	On-site Site support (Purchaser's Option)	5.10.2.2.3	Until EOW	NATO site in Europe	N/A	Man-days	10	-	-	
TOTAL PRICE CLIN 4 (excluding Options)									-	
TOTAL PRICE CLIN 4 (Evaluated Option)									-	
TOTAL PRICE CLIN 4 (including Options)									-	
Total Firm Fixed price (excluding Options) - Base Contract									-	
Total Firm Fixed Price Evaluated Options - within Base Contract									-	
Total Firm Fixed price (including Options) - Base Contract									-	

EVALUATED OPTIONS										
5.0	CLIN 5 (OPTION-EVALUATED) - BMD PROGRAMME VALIDATION								-	
5.1	Support for PVS-events								-	
5.1	Ensemble Test (ET) x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	60	-	-	
5.1	Ensemble Test(ET)-LITE x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	30	-	-	
5.1	Operational Evaluation (UAT) x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	60	-	-	
5.1	Ensemble Operator Test (EOT) x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	30	-	-	
5.1	STAR like exercise (1w) x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	30	-	-	
5.1	STJU like exercise (2w) x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	30	-	-	
5.1	JPOW like exercise (2w) x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	30	-	-	
5.1	System of Systems Integration Test (SoSIT) x 3 events	4.8.1, 4.8.12	FSA	Contractor facilities	N/A	Man-days	15	-	-	
TOTAL PRICE CLIN 5									-	
6.0	CLIN 6 (OPTION-EVALUATED) - IN-SERVICE SUPPORT (up and including warranty period)								-	
6.1	Service Desk / L4 Support								-	
6.1	Service Desk / L4 Support - BL3 Y1	5.10.2.1	PSA-1 + 1 year	Contractor facilities	N/A	Lot	1	-	-	
6.1	Service Desk / L4 Support - BL3 Y2	5.10.2.1	PSA-1 + 2 years	Contractor facilities	N/A	Lot	1	-	-	
6.1	Service Desk / L4 Support - BL4 Y1	5.10.2.1	PSA-2 + 1 year	Contractor facilities	N/A	Lot	1	-	-	
6.1	Service Desk / L4 Support - BL4 Y2	5.10.2.1	PSA-2 + 2 years	Contractor facilities	N/A	Lot	1	-	-	
6.1	Service Desk / L4 Support - BL5 Y1	5.10.2.1	FSA + 1 year	Contractor facilities	N/A	Lot	1	-	-	
6.1	On site support L4 - BL3	5.9.4.7	PSA-1 + 2 years	NATO site in Europe	N/A	Each	3	-	-	
6.1	On site support L4 - BL4	5.9.4.7	PSA-2 + 2 years	NATO site in Europe	N/A	Each	3	-	-	
6.1	On site support L4 - BL5	5.9.4.7	FSA + 1 year	NATO site in Europe	N/A	Each	3	-	-	
6.2	Software Patches								-	
6.2	Software Patches (quarterly) - BL3 (2 years)	~~5.9.12.1~~ 5.3.5, 5.9.5	SAT-BL3 + 2 years	Electronic	Electronic	Each	6	-	-	
6.2	Software Patches (quarterly) - BL4 (2 years)	~~5.9.12.1~~ 5.3.5, 5.9.5	SAT-BL4 + 2 years	Electronic	Electronic	Each	6	-	-	
6.2	Software Patches (quarterly) - BL5 (> 1 year)	~~5.9.12.1~~ 5.3.5, 5.9.5	FSA + 1 year	Electronic	Electronic	Each	6	-	-	
6.3	Maintenance Release								-	
6.3	Maintenance release - BL3	~~5.9.12.1~~ 5.3.5, 5.9.5	SAT-BL3 + 1 year	Electronic	Electronic	Each	1	-	-	
6.3	Maintenance release - BL4	~~5.9.12.1~~ 5.3.5, 5.9.5	SAT-BL4 + 1 year	Electronic	Electronic	Each	1	-	-	
6.3	Maintenance release - BL5	~~5.9.12.1~~ 5.3.5, 5.9.5	SAT-BL5 + 1 year	Electronic	Electronic	Each	1	-	-	
TOTAL PRICE CLIN 6									-	
7.0	CLIN 7 (OPTION-EVALUATED) - Operations & Maintenance (O&M Post warranty)								-	
7.1	Service Desk / L4 Support								-	
7.1	Service Desk / L4 Support - BL5 Y2	~~5.10.2.1~~ 5.11.2	FSA + 2 Yr	Contractor facilities	N/A	Lot	1	-	-	
7.1	Service Desk / L4 Support - BL5 Y3	~~5.10.2.1~~ 5.11.2	FSA + 3 Yr	Contractor facilities	N/A	Lot	1	-	-	
7.1	Service Desk / L4 Support - BL5 Y4	~~5.10.2.1~~ 5.11.2	FSA + 4 Yr	Contractor facilities	N/A	Lot	1	-	-	
7.1	Service Desk / L4 Support - BL5 Y5	~~5.10.2.1~~ 5.11.2	FSA + 5 Yr	Contractor facilities	N/A	Lot	1	-	-	
7.2	Software Patches								-	
7.2	Software Patches (quarterly) - BL5 (4 years)	5.9.12.1	FSA + 5 Yr	Electronic	Electronic	Each	12	-	-	
7.3	Maintenance Release								-	
7.3	Maintenance release - BL5 Y2	5.11.2.2	FSA + 2 Yr	Electronic	Electronic	Each	1	-	-	
7.3	Maintenance release - BL5 Y3	5.11.2.2	FSA + 3 Yr	Electronic	Electronic	Each	1	-	-	
7.3	Maintenance release - BL5 Y4	5.11.2.2	FSA + 4 Yr	Electronic	Electronic	Each	1	-	-	
7.3	Maintenance release - BL5 Y5	5.11.2.2	FSA + 5 Yr	Electronic	Electronic	Each	1	-	-	
TOTAL PRICE CLIN 7									-	
Total Firm Fixed Price- Evaluated Options (excluding Options from Base Contract)									-	
Total Firm Fixed Price- Evaluated Options (including Options from Base Contract)									-	

NON-EVALUATED OPTIONS										
8.0	CLIN 8 (OPTION-NON-EVALUATED) - COTS SW								-	
8.1	COTS Software								-	
8.1	COTS for single configuration	-	Fill based on PMS	NATO site in Europe	Commissioned software	Each	1	-	-	
8.1	COTS for scalable configuration	-	Fill based on PMS	NATO site in Europe	Commissioned software	Each	1	-	-	
8.1	COTS for high availability configuration	-	Fill based on PMS	NATO site in Europe	Commissioned software	Each	1	-	-	
8.1	COTS for XL configuration	-	Fill based on PMS	NATO site in Europe	Commissioned software	Each	1	-	-	
TOTAL PRICE CLIN 8									-	
Total Firm Fixed Price- Non-Evaluated Options									-	

Note: Please see also the **Rates** tab where any and all rates included in this bid need to be listed.

CLIN	Labour Category	Currency	Man-Days 2022 Year 1	Man-Days 2023 Year 2	Man-Days 2024 Year 3	Man-Days 2025 Year 4	Man-Days 2026 Year 5	Man-Days 2027 Year 6	Man-Days 2028 Year 7	Man-Days 2029 Year 8	Man-Days 2030 Year 9	Man-Days 2031 Year 10	Lab-rate 2022 Year 1	Lab-rate 2023 Year 2	Lab-rate 2024 Year 3	Lab-rate 2025 Year 4	Lab-rate 2026 Year 5	Lab-rate 2027 Year 6	Lab-rate 2028 Year 7	Lab-rate 2029 Year 8	Lab-rate 2030 Year 9	Lab-rate 2031 Year 10	Extended cost	Expat Allowance (ONLY if applicable)	Profit	Fully burdened cost	Subcontracted/ Name of Subcontractor
Example: CLIN 1.1.1	Systems Engineer	Euro (EUR)	25	20	15	10	5	10	15	20	25	30	50.00	51.00	52.00	53.00	54.00	55.00	56.00	57.00	58.00	59.00	9,600.00	-	960.00	10,560.00	No
CLIN 1.1.1	Insert Labour category name here																						-	-	0.00	0.00	
	Insert Labour category name here																						-		0.00	0.00	
	Insert Labour category name here																						-		0.00	0.00	
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	Insert Labour category name here																						-		0.00	0.00	
	Insert Labour category name here																						-		0.00	0.00	
Total																									0.00	

Please add as many rows as needed in the table above.

Profit =>   0%

IMPORTANT: DELETE THIS EXAMPLE ROW (Row 3) BEFORE SUBMITTING BID

Labour table Instructions:

This detailed labour table is to be completed by Bidder with all columns populated and shall be expanded to include as many rows as necessary to provide the detail requested. Any unnecessary rows should be deleted (no blank entries). Bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns or omit information from columns, but may add columns if necessary although it's not anticipated this will be needed.

Note: Any formulas existing in the cells are provided only to help Bidder and ultimately all calculations are the Bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The total sum of the "Fully burdened cost" column should equal the grand total labour cost to include profit as well as all indirect rates (G&A/Overhead/etc.) associated with labour. These indirect cost rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be broken out separately in the calculations at the bidding stage. However, Bidder is required to include the associated indirect costs in the totals of the detailed tab either:
A) in the base unit costs;
or
B) shown separately by expanding the table columns to show the additional costs due to these indirect rates (similar to the way profit is calculated). Option B is not required at the bidding stage but this detail will be requested from the winning bidder during pre-contract award discussions.

Column instructions (top of columns):

- Populate each line of the table that contains material with the appropriate CLIN from the drop down menu. Note that all CLINs should be accounted for and if there is no material associated please include a line for that CLIN and indicate **"No material associated"** in column C.
- Identify specific material that is to be procured as a part of the proposed solution. This includes specific hardware items, software licenses, etc.
- Provide a description of each item; this can be a model number, hardware configuration description, etc.
- Identify the applicable currency. Bidder may choose to enter multiple currencies in one sheet or duplicate the sheet for multiple currencies.
- Nr of Units to be purchased Year 1 ... Year 10
- Unit Cost Year 1 ... Year 10
- Use formula only, which is the total of the previous columns: "quantity x cost" for all years.
- Profit calculation. Note the formula given in this column. If the contractor did not apply profit, any or all of these cells can be 0.
- "Fully burdened" cost calculation for each labour category, which is an example only and the means the cost of all units including all profit and indirect rates (G/A, overhead, etc.).
- If the line of effort is performed by the bidder indicate "No" in each line that is not subcontracted. If the line of effort is subcontracted indicate the company name in each line associated with its effort.
- Enter profit percentage for material in yellow cell below.

CLIN	Equipment Name	Item Description	Currency	Quantity 2022	Quantity 2023	Quantity 2024	Quantity 2025	Quantity 2026	Quantity 2027	Quantity 2028	Quantity 2029	Quantity 2030	Quantity 2031	Unit cost 2022	Unit cost 2023	Unit cost 2024	Unit cost 2025	Unit cost 2026	Unit cost 2027	Unit cost 2028	Unit cost 2029	Unit cost 2030	Unit cost 2031	Extended cost	Profit	Fully burdened cost	Subcontracted/ Name of Subcontractor
Example. CLIN 1.1.1	EXAMPLE: BrandX Server: TS1593	Example: HT800003 (model number)	Euro (EUR)	10	20	25	5	5	10	15	20	10	5	150.00	155.00	160.00	165.00	170.00	175.00	180.00	185.00	190.00	195.00	21,300.00	2,130.00	24,430.00	No
CLIN 1.1.1	Insert Purchased Equipment name	Insert Item Description/Model number																						0.00	0.00	0.00	

(rows repeat: Insert Purchased Equipment name | Insert Item Description/Model number | ... | 0.00 | 0.00 | 0.00 | — many rows)

| Total | | | | | | | | | | | | | | | | | | | | | | | | | 0.00 | | |

Profit => 0%

IMPORTANT: DELETE THIS EXAMPLE ROW (Row 3) BEFORE SUBMITTING BID

Please add as many rows as needed in the table above.

Material tab Instruction:
This detailed material tab is to be completed by Bidder with all columns populated and shall be expanded to include as many rows as necessary to provide the detail requested. Any unnecessary rows should be deleted (no blank entries). Bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column-specific instructions in the first row. Bidder may not delete columns or omit information from columns, but may add columns if necessary although it's not anticipated this will be needed.

Note: Any formulas existing in the cells are provided only to help Bidder and ultimately all calculations are the Bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The total sum of the "Fully burdened cost" column should equal the grand total Material cost to include profit as well as all indirect rates (G&A/Overhead/Material handling/etc.) associated with material. These indirect cost rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be broken out separately in the calculations at the bidding stage. However, Bidder is required to include the associated indirect costs in the totals of the detailed tab either:
A) in the base unit costs;
or
B) shown separately by expanding the table columns to show the additional costs due to these indirect rates (similar to the way profit is calculated). Option B is not required at the bidding stage but this detail will be requested from the winning bidder during pre-contract award discussions.

				Nr of trips	Nr of people	Nr of Days per trip	Cost per roundtrip	Per Diem	Extended cost	Profit	Total Cost
CLIN	Origin/Destination	Year	Currency								
Example. CLIN 1.1.1	Rome/The Hague	2022	Euro (EUR)	4	3	5	600.00	150.00	16,200.00	810.00	17,010.00
CLIN 1.1.1	Insert Origin/destination								-	0.00	0.00

Profit => 0%

IMPORTANT: DELETE THIS EXAMPLE ROW (Row 3) BEFORE SUBMITTING BID

Enter profit percentage for travel in yellow cell below:

Travel table Instructions:
This detailed Travel table is to be completed by Bidder with all columns populated and shall be expanded to include as many rows as necessary to provide the detail requested. Any unnecessary rows should be deleted (no blank entries). Bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns or omit information from columns, but may add columns if necessary although it's not anticipated this will be needed.

Note: Any formulas existing in the cells are provided only to help Bidder and ultimately all calculations are the Bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The sum of the "Total cost" column on this tab should equal the grand total Travel cost to include any profit as well as all indirect rates (G&A/Overhead/etc.) associated with travel. These indirect cost rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be broken out separately in the calculations at the bidding stage. However, Bidder is required to include the associated indirect costs in the totals of the detailed tab either:
A) in the base unit costs;
or
B) shown separately by expanding the table columns to show the additional costs due to these indirect rates as separate columns. Option B is not required at the bidding stage but this detail will be requested from the winning bidder during pre-contract award discussions.

(Remaining rows: "Insert Origin/destination", with "- 0.00 0.00" for Extended cost, Profit, Total Cost; final row shows 810.00 profit.)

Total	0.00

Please add as many rows as needed in the table above.

	Populate each line of the table that contains ODC with the appropriate CLIN from the drop down menu. Note that all CLINS should be accounted for and if there is no ODC associated please include a line for that CLIN and indicate **"No ODC associated"** in column C.	Name of the ODC item.	Description of the ODC item.	Year of expected ODC cost.	Identify the applicable currency. Bidder may choose to enter multiple currencies in one sheet or duplicate the sheet for multiple currencies.	Unit type, (MD's, lot, etc.)	Number of units.	Unit cost.	This column should only be expressed as a formula.	Profit calculation (if applicable). Note: The formula given in this column is an example only and the bidder should enter the appropriate formula. **If the contractor did not apply profit, any or all of these cells can be 0.**	Total ODC cost calculation.		Enter profit percentage for ODC in yellow cell below:
CLIN		**Item Name**	**Item Description**	**Year**	**Currency**	**Unit Type**	**Quantity**	**Unit cost**	**Extended cost**	**Profit**	**Total Cost**		**Profit =>** 0%
Example. CLIN 1.1.1		Shipping	Shipping USA to BRU	2022	Euro (EUR)	Lot	2	3,000.00	6,000.00	300.00	6,300.00		**IMPORTANT: DELETE THIS EXAMPLE ROW (Row 3) BEFORE SUBMITTING BID**
CLIN 1.1.1		Insert Other Direct Cost item							0.00	0.00	0.00		
		Insert Other Direct Cost item							0.00	0.00	0.00		
		Insert Other Direct Cost item							0.00	0.00	0.00		
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		Insert Other Direct Cost item							0.00	0.00	0.00		
		Insert Other Direct Cost item							0.00	0.00	0.00		

ODC table Instructions:

This detailed ODC table is to be completed by Bidder with all columns populated and shall be expanded to include as many rows as necessary to provide the detail requested. Any unnecessary rows should be deleted (no blank entries). Bidder is required to identify for each item the CLIN it is associated with from the drop down menu. Each column should then be populated using the column- specific instructions in the first row. Bidder may not delete columns, or omit information from columns, but may add columns if necessary although it's not anticipated this will be needed.

Note: Any formulas existing in the cells are provided only to help Bidder and ultimately all calculations are the Bidder's responsibility. As such, the contractor may alter any formulas necessary to provide an accurate, clear and traceable bid as required.

Important Note: The sum of the "Total cost" column on this tab should equal the grand total ODC cost to include any profit as well as all indirect rates (G&A/Overhead/etc.) associated with ODCs. These indirect cost rates must be included in the total firm fixed price on the appropriate detailed tab but are no longer required to be broken out separately in the calculations at the bidding stage. However, Bidder is required to include the associated indirect costs in the totals of the detailed tab either:
A) in the base unit costs;
or
B) shown separately by expanding the table columns to show the additional costs due to these indirect rates as separate columns. Option B is not required at the bidding stage but this detail will be requested from the winning bidder during pre-contract award discussions.

Insert Other Direct Cost item	0.00	0.00	0.00
Insert Other Direct Cost item	0.00	0.00	0.00
Insert Other Direct Cost item	0.00	0.00	0.00
Insert Other Direct Cost item	0.00	0.00	0.00
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Insert Other Direct Cost item	0.00	0.00	0.00
Insert Other Direct Cost item	0.00	0.00	0.00
Insert Other Direct Cost item	0.00	0.00	0.00
Insert Other Direct Cost item	0.00	0.00	0.00
Total			**0.00**

Please add as many rows as needed in the table above.

Enter the name of the Rate here (G&A, Overhead, etc.)	Enter a rate description for non-standard rate categories	Enter the rate percentage
Rate Name	**Rate description***	**Percentage**
[Insert Rate Name]		0%
[Insert Rate Name]		0%
[Insert Rate Name]		0%

EXAMPLE ONLY:

Name of Rate	**Rate description**	
Fringe		2%
Overhead		2%
G&A		2%
ABC rate (company specific)	In the case of non-standard rates include a description	x%

Instructions:

Although the rates in this tab do not need to be linked to calculations for purposes of the bid, it is required that Bidders list any and all rates included in their bid to include (but not limited to): Overhead, Labour Fringe, Material handling, General &Administrative, Profit, etc.

*Note: rate description only needed if this is a rate not included in the list below:

Overhead
Fringe
General & Administrative
Material Handling
Profit- Labour
Profit- Material

EXAMPLE ONLY:

Labour Category	Currency	Fully burdened daily rate			
		2022	**2023**	**2024**	**2025**
Project Manager	Euro (EUR)	----	----	----	----
Lead Engineer	Euro (EUR)	----	----	----	----
QA Engineer	Euro (EUR)	----	----	----	----
Senior Engineer	Euro (EUR)	----	----	----	----
Junior Engineer	Euro (EUR)	----	----	----	----
Sr Principal Analyst, Program	Euro (EUR)	----	----	----	----
Analyst, Program	Euro (EUR)	----	----	----	----
Sr Principal Engineer, Systems	Euro (EUR)	----	----	----	----
Principal Analyst, Program	Euro (EUR)	----	----	----	----
----	Euro (EUR)	----	----	----	----
----	Euro (EUR)	----	----	----	----
----	Euro (EUR)	----	----	----	----

CO-115461-NCOPBMD
Progress Payment Milestone Schedule

Serial	Activities	Acceptance Criteria SOW Reference	BL3* % of Contract	From EDC (months)	***** Amount	Milestone Due Date	BL4* % of Contract	From EDC (months)	***** Amount	Milestone Due Date	BL5* % of Contract	From EDC (months)	***** Amount	Milestone Due Date
0	Effective Date of Contract (EDC)	N/A	N/A		[To be inserted at Contract Award]	09-12-22	N/A	N/A	[To be inserted at Contract Award]	N/A	N/A	N/A	[To be inserted at Contract Award]	N/A
1	Project Management Review (PMR)	3.17	N/A	1	"	09-01-23	N/A	N/A	"	N/A	N/A	N/A	"	N/A
2	System Requirements Review (SRR)	4.5.10	N/A	3	"	09-03-23	N/A	N/A	"	N/A	N/A	N/A	"	N/A
3	Preliminary Design Review (PDR)	4.6.3.5	N/A	4	"	09-04-23	N/A	27	"	09-03-25	N/A	47	"	09-11-26
4	Critical Design Review (CDR)	4.6.3.6	N/A	8	"	09-08-23	N/A	31	"	09-07-25	N/A	51	"	09-03-27
5	Sprint End Reviews (1…n)**	4.3.14	10%	TBC	"	TBC	10%	TBC	"	TBC	10%	TBC	"	TBC
6	Test Readiness Review (TRR)	4.8.11.1	2%	18	"	09-06-24	2%	41	"	09-05-26	2%	61	"	09-01-28
7	System Test Review (STR)	4.8.11.7	4%	22	"	09-10-24	6%	45	"	09-09-26	8%	65	"	09-05-28
8	System Acceptance Test (SAT)	4.8.11.10	7%	27	"	09-03-25	9%	50	"	09-02-27	10%	70	"	09-10-28
9	Support/Sustainment Qualification Review (SQR)	5.9.2	1%	28	"	09-04-25	1%	51	"	09-03-27	1%	71	"	09-11-28
10	Provisional System Acceptance (PSA)	4.9.1	3%	35	"	09-11-25	3%	59	"	09-11-27	N/A	N/A	"	N/A
11	Final System Acceptance (FSA)	4.9.2	N/A	N/A	"	N/A	N/A	N/A	"	N/A	10%	80	"	09-08-29
12	End of Warranty	5.10 & 5.11	N/A	N/A	"	N/A	N/A	N/A	"	N/A	1%	92	"	09-08-30
13	FSA + 5 years	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0%	140	n/a	09-08-34
	***Total % of Base Contract (Excluding Options)		27%		0		31%		0		42%		0	
						100%								
						0								

From SAT-3 to FSA+5 years (in years)	9.42
From PSA1 to FSA+5 years (in years)	8.75
(quarters) from SAT-5 to FSA+1y	7.33

Notes:
1. *Applicable % of scope per baseline.
2. **Contractor (at Contract Award) will propose the sprint allocation in relationship to the Requirements Implementation Schedule (RIS). (TBC=To Be Confirmed).
3. ***% of Base Contract are on CLINs: 1, 2 (except 2.4.6), 3, 4 (except 4.1.5), 5, and 6. Optional CLINs are 2.4.6, 4.1.5, and 7 which shall be handled in accordance with Article 11 of the Contract Special Provisions.

CO-115461-NCOPBMD

Ballistic Missile Defence Increments 1&2 Functions
for NATO Common Operational Picture Delivery

Project Serial No.: 2013/0IS03074 & 2013/0IS03089

BOOK II

PROSPECTIVE CONTRACT

CO-115461-NCOPBMD

BALLISTIC MISSILE DEFENCE INCREMENTS 1&2 FUNCTIONS
FOR NATO COMMON OPERATIONAL PICTURE DELIVERY

PART I - CONTRACT SCHEDULES OF SUPPLIES AND SERVICES ~~(SECTION I) AND PAYMENT SCHEDULE (SECTION II)~~

**(see file:
2_IFB-CO-115461-NCOPBMD_Book II, Part I, Schedule of Supplies and Services.xlsx)**

CO-115461-NCOPBMD

BALLISTIC MISSILE DEFENCE INCREMENTS 1&2 FUNCTIONS
FOR NATO COMMON OPERATIONAL PICTURE DELIVERY

PART II - CONTRACT SPECIAL PROVISIONS

TABLE OF CONTENTS

ARTICLE 1. ALTERATIONS, MODIFICATIONS AND DELETIONS OF THE NCI AGENCY CONTRACT GENERAL PROVISIONS

1.1. For the purposes of this Contract, the Contract General Provisions are modified, supplemented, or replaced as follows.

1.1.1. Article 2 "Interpretation, Definitions, and Acronyms" supplements Article 2 "Definitions of Terms and Acronyms" of the Contract General Provisions.

1.1.2. Article 3 "Order of Precedence" replaces Article 1 "Order of Precedence" of the Contract General Provisions.

1.1.3. Article 6 "Contract Type" replaces Article 7 "Firm Fixed Price Contract" of the Contract General Provisions.

1.1.4. Article 8 "Participating Countries" supplements Article 9 "Participating Countries" of the Contract General Provisions.

1.1.5. Article 9 "Invoicing And Payment Terms" supplements and partly replaces Article 25 "Invoices and Payment" of the Contract General Provisions.

1.1.6. Article 10 "Pricing Of Changes, Amendments And Claims" supplements Article 19 "Pricing of Changes, Amendments and Claims" of the Contract General Provisions.

1.1.7. Article 12 "Purchaser Furnished Property and Services" supplements Article 13 "Purchaser Furnished Property" of the Contract General Provisions.

1.1.8. Article 16 "Provisional System Acceptance (PSA)" and Article 17 "Final System Acceptance (FSA)" supplements Articles 21 "Inspection and Acceptance of Work" and 22 "Inspection and Acceptance of Documentation" of the Contract General Provisions.

1.1.9. Article 21 "Liquidated Damages" replaces Articles 38 "Liquidated Damages" of the Contract General Provisions.

1.1.10. Article 22 "Ownership and Title" supplements Article 24 "Ownership and Title" of the Contract General Provisions.

1.1.11. Article 20 "Performance Guarantee" supplements Article 8 "Performance Guarantee" of the Contract General Provisions.

1.1.12. Article 26 "Intellectual Property" supplements Article 30 "Intellectual Property" of the Contract General Provisions.

1.1.13. Article 29 "Warranty (Exclusive Of Software)" supplements Article 27 "Warranty of Work (Exclusive of Software)" of the Contract General Provisions.

1.1.14. Article 30 "Software Warranty" supplements Article 31 "Software Warranty" of the Contract General Provisions.

1.1.15. Article 31 "Security" supplements Article 11 "Security" of the Contract General Provisions.

1.1.16. Article 34 "Acceptance of Design Documentation" supplements Article 22 "Inspection and Acceptance of Documentation" of the Contract General Provisions.

1.1.17. Article 37 "Place and Terms of Delivery" replaces and supplement Article 20 "Notice of Shipment and Delivery" of the Contract General Provisions.

1.1.18. Article 39 "Purchaser Right to Contract with Third Parties in case of Contractor Default" supplements Article 39 "Termination of Default" of the Contract General Provisions.

1.1.19. Article 42.1 replaces paragraph 39.9 of the Contract General Provisions.

1.1.20. Article 43 "Engineering Change Proposals (ECP)" supplements Article 16 "Changes" of the Contract General Provisions.

1.1.21. Article 44 "Performance Guarantee" replaces Articles 8.4 "Performance Guarantee" of the Contract General Provisions.

ARTICLE 2. INTERPRETATION, DEFINITIONS, AND ACRONYMS

2.1. This Article supplements Article 2 "Definitions of Terms and Acronyms" of the NATO Communications and Information Agency (NCI Agency) Contract General Provisions.

2.2. As used throughout this Contract, the following terms shall have the meanings specified below unless otherwise specified in the Contract:

2.2.1. **"Article"**: means a term or condition in the Contract Special Provisions or Contract General Provisions of the contract.

2.2.2. **"CLIN"**: Contract Line Item Number, as shown in the Schedule of Supplies and Services (SSS). For example, 1.0, 2.0, etc.

2.2.3. **"Compliance"**: strict conformity to the requirements and standards of the Prospective Contract.

2.2.4. "Contractor": the awardee which shall be responsible for the fulfilment of the requirements established in the Prospective Contract.

2.2.5. "Days": calendar days.

2.2.6. "Deliverables": the items, features or services to be delivered by the Contractor at a Milestone Date or at any other stage during the performance of this Contract as listed in Part I (Contract Schedules) and as more particularly described in the Statement of Work (SOW), the System Requirements Specification (SRS), the Technical Solution or any other relevant Contract document.

2.2.7. "EDC": Effective Date of Contract/Date of Contract Award.

2.2.8. "FSA": Final Systems Acceptance.

2.2.9. "NATO Participating Country": any of 30 NATO nations that has undertaken to share the cost of the project, namely, (in alphabetical order): Albania, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, The Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, The United Kingdom and The United States of America.

2.2.10. "Purchaser": The Purchaser is defined as the current NCI Agency or its legal successor.

2.2.11. "SSS": the Schedule of Supplies and Services.

ARTICLE 3.   ORDER OF PRECEDENCE

3.1.   This Article replaces Article 1 "Order of Precedence" of the Contract General Provisions as follows:

3.1.1.   "In the event of any inconsistency in language, terms or conditions of the various parts of this Contract, precedence will be given in the following order:

3.1.1.1   The Signature Page (for Basic Contract and any subsequent Amendments);
3.1.1.2   Part I (Contract Schedule of Supplies and Services (SSS));
3.1.1.3   Part II (Contract Special Provisions);
3.1.1.4   Part III (Contract General Provisions);
3.1.1.5   Part IV (Statement of Work (SOW)) with Annex A_System Requirement Specifications and Annex B_ Annex B: Required Architectural Views and Minimum Content;
3.1.1.6   Project Management and Engineering documentation;
3.1.1.7   The Contractor's proposal (Technical Proposal and Price Quotation) in response to IFB-CO-115461-NCOPBMD dated [*to be inserted at Contract Award*] and any clarifications thereto, incorporated herein by reference.

ARTICLE 4.   SCOPE OF WORK

4.1.   The purpose of this Contract is for the provision of Ballistic Missile Defence Increments 1&2 functions for NATO Common Operational Picture Delivery (NCOP BMD Delivery).

4.2.   The scope of this project is to procure two Work Packages (WPs) as follows:

4.2.1.   WP1: Deliver NCOP-BMD Functionality: This work package comprises the activities for developing and delivering the NCOP BMD functionality and interfaces, including transition of support.

4.2.2.   WP2: Provide NCOP-BMD In-Service Support: This work package comprises all the activities to provide in-service support to the fielded baselines prior to Final System Acceptance (FSA).

4.3.   Options: The contract has a number of options (e.g. In Service Support and Operations and Maintenance) that the Purchaser may decide to exercise.

ARTICLE 5.   COMPREHENSION OF CONTRACT AND SPECIFICATIONS

5.1.   The Contractor warrants that it has read, understood, and agreed to implement each and all terms, articles, specifications (including interfaces), conditions and requirements specified in this Contract and that its signature of the Contract is an acceptance, without reservations, of the said Contract terms within their normal and common meaning.

5.2.   The SOW and its Annex System Requirements Specification (SRS) of Part IV of this Contract set forth the performance requirements for the Contractor's proposed work as called for under this Contract. Accordingly, notwithstanding any conflict or inconsistency which hereafter may be found between achievement of the aforesaid performance requirements and adherence to the Contractor's proposed design for the work, the Contractor hereby warrants that the Deliverables will meet the performance requirements of the said SOW and SRS.

5.3.   The Contractor shall be fully responsible for the integration of all its sub-systems and components, and hereby agrees to make certain that any or all required inspection and Acceptance test procedures are accomplished and are sufficient to meet the specifications. Further, the Contractor agrees that all subsystems and components will be installed and integrated into the systems to be delivered under this Contract.

5.4.   The Contractor hereby acknowledges that it has no right to assert against the Purchaser any claims or demands with respect to the aforesaid specifications as

are in effect on the date of award of this Contract that are based:

5.4.1. on impossibility of performance, defective, inaccurate, impracticable, insufficient or invalid specifications, implied warranties of suitability of such specifications, or

5.4.2. otherwise derived from the aforesaid specifications, and hereby waives any claims or demands so based or derived as might otherwise arise.

5.5. Notwithstanding the "Changes" Article (Article 16 of the Contract General Provisions) or any other Article of the Contract, the Contractor hereby agrees that no changes to the aforesaid SOW which may be necessary to permit achievement of the performance requirements specified herein for the Contractor's proposed work shall entitle the Contractor either to any increase in the fixed price as set forth in this Contract or to any extension of the delivery times for the work beyond the period of performance in the Schedule of Supplies and Services.

ARTICLE 6.   CONTRACT TYPE

6.1. This Article replaces Article 7 "Firm Fixed Price Contract" of the Contract General Provisions.

6.2. This is a Firm Fixed Price Contract.

6.3. The prices stated herein are not subject to any adjustment on the basis of the Contractor's cost experience in performing the Contract.

6.4. The total Firm Fixed Price of this Contract is stated on the Signature page of the Contract and is based on the total price of the SSS, unless revised by the Purchaser through formal Amendment to the Contract.

6.5. If the Contract contains an Option(s). The Option(s) will not be part of the fixed price of the Contract. This Option may be exercised by the Purchaser at such time as the corresponding requirements and needs are fully developed under the Contract.

6.6. The Purchaser assumes no liability for costs incurred by the Contractor in excess of the stated Total Price.

6.7. The SSS of this Contract, organized into Contract Line Items (CLINs), lists all services and/or deliverables, and their fixed price.

6.8. Included in the prices shown in the SSS are all costs for activities not specifically listed on the SSS, but that are considered necessary by the Contractor to execute the SOW, included but not limited to:

6.8.1. All travel, per diem and accommodation costs;

6.8.2. All executive management, administrative or other support effort;

6.8.3. All facility or other overhead costs;

6.8.4. All other direct costs.

ARTICLE 7.   CONTRACT TERM

7.1. This Contract will begin on the Effective Date specified in the Signature Page and, unless terminated at an earlier date in accordance with other terms and conditions of the Contract or extended by virtue of a formal Contract amendment, will terminate after 12 years, broken down as follows:

7.1.1. 8 years from Effective Date of Contract until FSA. Embedded within these 8 years is 5 years of "WP 2: In-Service Support" beginning from Provisional System Acceptance (PSA-1) and ending at FSA+1 year, and;

7.1.2. 4 years of Operation and Maintenance (O&M) support.

7.2. Options shall be exercised through a formal Amendment to the Contract which shall be issued not later than 2 months before the end of the initial Contract term or extensions thereof.

ARTICLE 8.   PARTICIPATING COUNTRIES

8.1. This Article supplements Article 9 "Participating Countries" of the Contract General Provisions.

8.2. The Contractor may issue sub-contracts to firms and purchase from qualified vendors in any of the following 30 NATO participating nations: Albania, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Montenegro, The Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, The United Kingdom and The United States of America. None of the work, including project design, labour and services, shall be performed other than by firms from and within participating countries as per NATO policy.

8.3. The Contractor shall notify in writing to the Purchaser immediately upon being informed of any change in the nationality of its Sub-contractor(s) which would prevent the Contractor from further complying with this Article. Upon receipt of this information from the Contractor, the Purchaser may, within three months from this notification, require the Contractor to find an alternate subcontractor, complying with the requirements set out in this Article.

8.4. Unless authorised by NATO Policy, no material or items of equipment down to and including identifiable sub-assemblies delivered under this Contract shall be manufactured or assembled by a firm other than from and within a participating

country.

8.5. The Intellectual Property Rights to all designed documentation and system operating software shall reside in NATO member countries, and no license fee, or royalty charges shall be paid by the Contractor to firms, individuals or governments other than within the NATO member community.

ARTICLE 9.   INVOICING AND PAYMENT TERMS

9.1. This Article supplements and partly replaces Article 25 "Invoices and Payment" of the Contract General Provisions. Specifically, Articles 9.2 through 9.9 supplements Article 25 "Invoices and Payment" of the Contract General Provisions while Article 9.10 and 9.10 replaces Article 25.5 of the of the Contract General Provisions.

9.2. Payment for supplies and services furnished under this Contract shall be made in the currency quoted by the Contractor for the relevant portion of the Contract.

9.3. Payments will be made to the Contractor on achievement/delivery and prior written acceptance by the Purchaser of the Progress Payment Milestones defined at Tab 3 of the SSS.

9.4. Where Optional CLINs are exercised, payments shall be made in accordance with the stipulations of the relevant amendment providing for the exercise of such Options.

9.5. No payment shall be made with respect to undelivered supplies, works not performed; services not rendered and/or incorrectly submitted invoices.

9.6. The Purchaser shall not be liable for any amount resulting from the performance of services or the delivery of equipment outside the scope of this Contract.

9.7. Payment to the Contractor will be made within 30 days of receipt of properly supported and documented invoices and upon acceptance in writing by the Purchaser.

9.8. All invoices shall refer to CO-115461-NCOPBMD and Purchase Order Number.

9.9. Invoices shall be properly supported with any necessary reports, certificates, statements, receipts, written evidence of acceptance by the Purchaser and any other required documentation in accordance with the terms of the Contract.

9.10. All invoices shall be sent electronically to: accountspayable@ncia.nato.int. No paper invoices will be accepted.

ARTICLE 10. PRICING OF CHANGES, AMENDMENTS AND CLAIMS

10.1. This Article supplements Article 19 "Pricing of Changes, Amendments and Claims" of the Contract General Provisions.

10.2. The Purchaser may at any time, by written order designated or indicated to be a change order, and without notice to the sureties, if any, make changes within the scope of any Contract or Task Order, in accordance with Article 16 (Changes) of the Contract General Provisions.

10.3. Changes, modifications, follow-on Contracts of any nature, and claims shall be priced in accordance with Article 19 (Pricing of Changes, Amendments and Claims) of the Contract General Provisions, and with the "Purchaser's Pricing Principles" as set out in the Annex to the Contract General Provisions.

10.4. Contractor price quotations for Contract changes or modifications shall be provided at no cost to the Purchaser and shall have a minimum validity period of six (6) months from submission.

10.5. The pricing information contained in the cost breakdown sheets submitted with the Bidding sheets, as part of the Contractor's proposal, and especially the forward labour rates provided, will constitute the basis for any future negotiations related to possible future amendments to this Contract.

ARTICLE 11. OPTIONS

11.1. For CLINs marked as Options (or Optional), the prices are not included in the firm fixed price mentioned on the signature page of the Contract or any amendments thereto.

11.2. The Purchaser's liabilities and obligations under this Contract at the time of its signature, and unless a formal Contract Amendment is issued in accordance with the terms of this Article and Article 16 (Changes) of the Contract General Provisions, are limited in scope and amount to performance and deliverables associated to the base contract as described in the SSS and SOW.

11.3. The Contractor understands that there are no obligations under this Contract for the Purchaser to exercise any of the Options and that the Purchaser bears no liability should it decide not to exercise them (either totally or partially).

11.4. Further, the Purchaser reserves the right to order another Contractor (or the same), to perform the tasks described in the Options of the current Contract through a new Contract with other conditions.

11.5. Any optional CLINs may be exercised unilaterally by the Purchaser, and confirmed by written amendment to the Contract which will establish the payment terms.

ARTICLE 12.   PURCHASER FURNISHED PROPERTY AND SERVICES

12.1. This Clause hereby supplements Article 13 "Purchaser Furnished Property" of the Contract General Provisions.

12.2. The Purchaser shall provide the Contractor with Property and Services for the performance of the Contract as specified in Paragraph 3.3.5.6 of the SOW.

12.3. The Purchaser reserves the right to exclude from the awarded Contract the purchase of software licenses for which NATO has established centralized Contracts. The Contractor will be notified by the Purchaser in writing as to which software licenses will be removed from the Contract scope to be provided to the Contractor in the form of "Purchaser Furnished Property" in accordance with Clause 13 "Purchaser Furnished Property" of the Contract General Provisions. The Contract terms, schedule, and prices will subsequently be modified accordingly through an amendment to the Contract.

ARTICLE 13.   COMMERCIAL OF THE SHELF (COTS) SOFTWARE

13.1. The Purchaser reserves the right to exclude from the awarded Contract the purchase of software licenses for which NATO has established centralized Contracts. The Contractor will be notified by the Purchaser in writing as to which software licenses will be removed from the contract scope to be provided to the Contractor in the form of "Purchaser Furnished Property" in accordance with Article 13 (Purchaser Furnished Property) of the Contract General Provisions. The Contract terms, schedule, and prices will subsequently be modified accordingly through an amendment to the Contract.

ARTICLE 14.   SOFTWARE LICENSES

14.1. Any software licenses purchased on behalf of or provided to the Purchaser by the Contractor shall be perpetual licenses. In the event a perpetual license model is not available for a particular software product, the Contractor shall request written approval from the Purchaser in advance.

14.2. Any software licenses the Contractor purchases on behalf of the Purchaser, and/or transfers or provides to the Contractor shall provide the same usage rights as required by Article 26. The Contractor shall ensure that any software licenses that will ultimately need to be assigned to the Purchaser can be done so at no additional cost.

14.3. The Purchaser reserves the right to exclude from the awarded Contract the purchase of software licenses which the Purchaser may procure through centralized Contracts. In this case, the contract terms, schedule and prices will be modified accordingly, and the software licenses will be provided to the Contractor in the form of "Purchaser Furnished Items".

ARTICLE 15.   CONTRACT STATUS REVIEW

15.1. This Contract will be executed through a staged/agile approach with the scope of work structured into three baselines each associated with a set of project milestones, checkpoints and decision gates.

15.2. All Reviews and Decision Gates have success and fail criteria pre-defined by the Purchaser against which the Purchaser will measure Contractor's performance. Should the default criteria change or have to be adjusted during execution of the Contract, the Purchaser will make the new Success and Fail Criteria available to the Contractor for review, so that this criteria can be discussed and agreed with Contractor at the last Project Checkpoint Review, or at the latest four (4) weeks prior to the Decision Gate review by the Purchaser.

15.3. The Purchaser will assess the overall status at Project Checkpoint Reviews (PCR) as one of the following:

15.3.1. Success: All associated milestones are on schedule.

15.3.2. Provisional Success: One or more milestones are not fully achieved, but the Purchaser recognises them to be in good progress and to be completed within a mutually agreed schedule. These pending milestones will be reassessed during subsequent Project Checkpoint Reviews.

15.3.3. Fail: One or more milestones have not been achieved, and the Purchaser does not recognise them to be in good progress. The assessment of the checkpoint will be repeated on a mutually agreed date and the Purchaser reserves the right to take remedial action.

15.4. The Purchaser will take into account in his decision the following considerations which include, but are not limited to:

15.4.1. The number and types of changes made to the Contractor's technical solution, or expected to be made and their impact on project cost and schedule of the present Contract;

15.4.2. Operational, environmental, or technological changes in the requirements for NCOP BMD;

15.4.3. Level of satisfaction with the product(s) delivered by the Contractor up to the Decision Gate.

ARTICLE 16. PROVISIONAL SYSTEM ACCEPTANCE (PSA)

16.1. This Article supplements Articles 21 "Inspection and Acceptance of Work" and 22 "Inspection and Acceptance of Documentation" of the Contract General Provisions.

16.2. The concept of Provisional System Acceptance shall be based on the knowledge that complex and technically sophisticated systems may not be delivered without some deficiencies in the compliance with the totality of the contract requirements.

16.3. A deficiency shall be defined as a failure to meet a contractual requirement, which is minor and not of sufficient gravity to prevent the normal operation of the Capability under normal conditions.

16.4. The Contractor shall maintain a complete listing of all deficiencies discovered during the testing leading up to its request for PSA, including:

16.4.1. A serial number for each deficiency;
16.4.2. Description of the deficiency;
16.4.3. Date of the observation of the deficiency and expected date of its correction;
16.4.4. The authorized personnel raising and endorsing the observation;
16.4.5. Any clearance action taken such as repair and testing, notification, receipt of a written reply from the Contractor, etc.;

16.4.6. The authorized personnel endorsing the correction and the date of correction.

16.5. Perceived deficiencies, observed by the Purchaser during testing or other inspection procedures shall be included in the Contractor's listing of deficiencies.

16.5.1. The PSA Entry and Success Criteria are described in paragraphs 4.9.1.1.3 and 4.9.1.1.4 of the SOW.

16.6. A request for PSA shall be submitted to the Purchaser in writing, supported by a PSA Report, including:

16.6.1. Status of each individual equipment, sub-system, installation, integration operation, etc.;
16.6.2. Status of tests and test reports etc.;
16.6.3. Status of inventory;
16.6.4. Status of documentation;
16.6.5. Status of training package;
16.6.6. Listing of identified and documented deficiencies.

16.7. Within 1 week of the receipt of a Request for PSA, the Purchaser shall schedule a PSA meeting at Purchaser's facility.

16.8. The PSA meeting shall be chaired by the Purchaser with the objectives of:

16.8.1. Providing a review of the status of the Capability, specifically reviewing and discussing the status of all observed deficiencies;

16.8.2. Establishing a list of all observed deficiencies which have yet to be corrected by the Contractor;

16.8.3. Evaluating the list of outstanding deficiencies in relation to their combined effect on the suitability of the Capability to enter operations;

16.8.4. Providing an initial determination as to whether PSA shall be granted.

16.8.5. If PSA is not granted, the basis for such determination shall be established;

16.8.6. If PSA is granted, the final list of deficiencies to be corrected by the Contractor and a schedule for such correction shall be established;

16.8.7. The Contractor shall prepare a written record of the PSA meeting in the form of meeting minutes which shall be completed and signed by the representatives of the Contractor and Purchaser respectively.

ARTICLE 17.　FINAL SYSTEM ACCEPTANCE (FSA)

17.1. This Article supplements Articles 21 "Inspection and Acceptance of Work" and 22 "Inspection and Acceptance of Documentation" of the Contract General Provisions.

17.2. FSA shall be conducted in accordance with paragraph 4.9.2 of the SOW.

17.3. Within 1 week of the receipt of a request for FSA, the Purchaser shall schedule an FSA meeting, preferably held by teleconference or video conference.

17.4. The FSA meeting shall be chaired by the Purchaser with the objective to verify that all contract requirements (except warranty) have been met and that the Purchaser may grant the FSA thereof.

17.5. The Contractor shall prepare a written record of the FSA meeting in the form of meeting minutes that shall be completed and signed by the representatives of the Contractor and Purchaser respectively.

ARTICLE 18.　CONTRACT ADMINISTRATION

18.1. The Purchaser is the NATO Communications and Information Agency (NCI Agency). The Purchaser is the Point of Contact for all Contractual and Technical issues.

18.2. The Contractor shall accept Contract modifications only in writing from the Purchaser's Contracting Authority.

18.3. The Purchaser reserves the right to re-assign this Contract to a representative(s) for administrative purposes, in whole or in part, provided that the Purchaser shall

always be responsible for its obligations under the Contract and for actions or lack of actions of its assigned administrator. The Purchaser undertakes to advise the Contractor in writing whenever this right is to be exercised.

18.4. All notices and communications between the Contractor and the Purchaser shall be written in English and may be personally delivered, mailed, or emailed at the following address:

18.4.1. Contractor Address:

Contractor:	Name: *[To be inserted at Contract Award]*
	Attn: *[To be inserted at Contract Award]*
	Title: *[To be inserted at Contract Award]*
	Address: *[To be inserted at Contract Award]*
	Phone: *[To be inserted at Contract Award]*
	E-mail: *[To be inserted at Contract Award]*

18.4.2. Purchaser Address:

NCI Agency:	Oude Waalsdorperweg 61 2597 AK The Hague, The Netherlands
	Acquisition Directorate
	Attn: Mr. Ole Hubner (Senior Contracting Officer)
	Phone: +32 2 707 2407
	E-mail: Ole.Hubner@ncia.nato.int

18.4.3. Such address as the Purchaser may from time to time designate in writing.

18.5. All contractual documentation (e.g. change proposals, invoices, etc.) shall be delivered electronically.

ARTICLE 19. TECHNICAL DIRECTION

19.1. For the direct official control and coordination of requirements, the Purchaser designates the Project Manager specified below as the staff element that has the authority to coordinate, monitor, and control Contractor's performance under this Contract:

> NCI Agency
> Oude Waalsdorperweg 61
> 2597 AK The Hague, Netherlands
> Attn: *[To be inserted at Contract Award]*
> Phone: *[To be inserted at Contract Award]*
> E-mail: *[To be inserted at Contract Award]*

19.2. The Purchaser may designate other staff elements as technical focal points for the execution of specific tasks and who will provide the Contractor with instruction

and guidance, within the general scope of work, in performance of their duties and working schedule.

19.3. Notwithstanding the prescriptions of this Article, neither the Purchaser's Project Manager, nor any Technical Representative has the authority to change the terms and conditions of the Contract. If the Contractor has reason to believe that the Project Manager/Technical Representative is requesting work that is inconsistent with the scope of the Contract, the Contractor shall immediately inform the Purchaser's Contracting Authority for confirmation of the actions. Failure to obtain confirmation that the action of the Project Manager is under the authority of the Contract shall render any subsequent claim null and void.

19.4. Upon receipt of such notification above, the Purchaser's Contracting Authority will:

19.4.1. confirm the effort requested is within scope, or

19.4.2. confirm that the instructions received constitute a change and request a quotation for a modification of scope and/or price, or

19.4.3. rescind the instructions.

ARTICLE 20. PERFORMANCE GUARANTEE

20.1. This Article supplements Clause 8 "Performance Guarantee" of the Contract General Provisions.

20.2. The amount of the Performance Guarantee is expressed as 10% of the total value of the contract.

20.3. The Purchaser may allow reductions in the amount of the Performance Guarantee in accordance with the Purchaser's cost estimate of the work remaining to be completed under the Contract. In order to benefit from such reductions, the Contractor must provide the Purchaser with an updated copy of the Project Master Schedule for completion of the remaining work, and detailed cost breakdowns, prepared in accordance with the pricing principles and standards established in the Contract, which indicate the percentage of work completed for each Contract line item. These requests for reduction shall be submitted in writing to the NCI Agency Point of Contact established in paragraph 18.4.2.

20.4. The reductions specified in paragraph 20.3 shall be treated as a concession to the Contractor and, therefore, shall be supported by sufficient consideration. Further, the decision to accept or reject an application for reduction of Performance Guarantee shall be a unilateral decision made solely at the discretion of the Purchaser.

20.5. The validity of the Performance Guarantee shall be limited in time to the total

Period of Performance of the Contract (Base Period plus any exercised options).

ARTICLE 21.   LIQUIDATED DAMAGES

21.1.   This Article replaces Article 38 "Liquidated Damages" of the Contract General Provisions.

21.2.   If the Contractor;

21.2.1. Fails to meet the delivery schedule of the or any milestones specified in the SSS, or any extension thereof, or

21.2.2. Fails to obtain acceptance of the delivered Work as specified in the Contract, or, if no time for acceptance is specified in the contract within a reasonable time after work is delivered;

21.3.   The actual damage to the Purchaser for the delay will be difficult or impossible to determine. Therefore, in lieu of actual damages the Contractor shall pay to the Purchaser, for each day of delinquency in achieving the deadline or milestone, fixed and agreed liquidated damages of 0.1% (zero point one percent) per day of the associated payment set forth in the Schedule of Payments provided in Tab 3 of the Contract SSS.

21.4.   In addition to the liquidated damages referred to above, the Purchaser shall have the possibility of terminating this Contract in whole or in part, as provided in Article 39 (Termination for Default) of the Contract General Provisions. In the event of such termination, the Contractor shall be liable to pay the excess costs provided in Article 39.5 of the Contract General Provisions.

21.5.   The Contractor shall not be charged with liquidated damages when the delay arises out of causes beyond the control and without the fault or negligence of the Contractor as defined in Article 39.6 (Termination for Default) of the Contract General Provisions. In such event, subject to the provisions of Article 41 (Disputes) of the Contract General Provisions, the Purchaser shall extend the time for performance of the Contract when in his judgement the findings of the fact justify an extension.

21.6.   Liquidated damages shall be payable from the first day of delinquency and shall accrue at the rate specified in Article 21.3 above to 15% (fifteen percent) of the value of each payment milestone individually, not to exceed 10% (ten percent) of the total value of the Contract. These liquidated damages shall accrue automatically and without any further notice being required.

21.7.   The rights and remedies of the Purchaser under this Article are in addition to any other rights and remedies provided by law or under this Contract.

21.8. The Contractor acknowledges that any sums payable under this article are in the nature of liquidated damages and not penalties, and represent a reasonable estimate of fair compensation for the losses that may be reasonably anticipated from such failure to perform obligations.

21.9. The amount of Liquidated Damages due by the Contractor shall be recovered by the Purchaser in the following order of priority:

21.9.1. By deducting such damages from the amounts due to the Contractor against the Contractor's invoices.

21.9.2. By drawing from the performance guarantee.

21.9.3. By reclaiming such damages through appropriate legal remedies.

ARTICLE 22.   OWNERSHIP AND TITLE

22.1. This Article supplements Article 24 "Ownership and Title" of the Contract General Provisions.

22.2. Title to tangible or intangible Deliverables covered by this Contract shall remain with the Contractor until, and shall pass to the Purchaser upon Acceptance by the Purchaser or receipt of the supplies by the Purchaser at the destination specified in the Contract, whichever is the later.

22.3. Notwithstanding paragraph 22.2, the risk of loss or damage to supplies which fail to conform to the requirements of the Contract shall remain with the Contractor until cure and Acceptance, at which time paragraph 22.2 shall apply.

22.4. Notwithstanding paragraph 22.3 above the Contractor shall not be liable for the loss of or damage to supplies caused by the negligence of officers, agents or employees of the Purchaser acting within the scope of their employment.

ARTICLE 23.   COTS PRODUCTS REPLACEMENT

23.1. If any COTS products specified in the Contract are upgraded or discontinued by their original providers for commercial or technological reasons, the Contractor shall propose their substitution by the new versions that are intended as market replacement of the original products. The proposed items shall provide an equivalent or enhanced performance without a price or life-cycle support cost increase and the Contractor shall be responsible for the installation, integration and transition of data and information to the new version.

23.2. The Contractor shall provide price and performance data to support an improvement in performance and/or a reduction in price and/or life-cycle support costs. If necessary for evaluation by the Purchaser, the Contractor shall provide a demonstration of the proposed items. Should the Purchaser decide that

the proposed item(s) should be included in the Contract, an equitable price adjustment will be negotiated and the proposed item(s) shall be added to the Contract by bilateral modification under the authority of this Article.

ARTICLE 24.   INDEPENDENT CONTRACTOR

24.1.   The Personnel provided by the Contractor are at all times employees of the Contractor and not the Purchaser. In no case shall Contractor personnel act on behalf of or as an agent for NATO or any of its bodies. In no way shall the Contractor personnel claim directly or indirectly to represent NATO in an official capacity or claim themselves to be NATO employees.

24.2.   The Purchaser shall not be responsible for securing work permits, lodging, leases nor tax declarations, driving permits, etc., with national or local authorities. Consultants employed under this Contract are not eligible for any diplomatic privileges or NATO employee benefits.

ARTICLE 25.   KEY PERSONNEL

25.1.   The individuals listed in ANNEX A are considered to be key to the performance of this contract and may not be replaced by the Contractor with substitute personnel without the prior written approval of the Purchaser.

25.2.   In such cases where the services of the Key Personnel are lost to the Contractor beyond the reasonable control of the Contractor, the Contractor must nominate a substitute(s) of equivalent or higher qualification and experience within 15 working days of the date at which the Contractor has knowledge of the loss of service of such key personnel. The replacement personnel shall be in place within 7 days of Purchaser approval.

25.3.   If the Contractor is unable to nominate and/or replace the lost personnel within the timeframe mentioned in paragraph 25.2 above, the Purchaser may conclude that the loss of the Key Personnel endangers progress under the Contract to the extent that the Purchaser may resort to the Article 39 "Termination for Default" of the Contract General Provisions for redress of the situation.

25.4.   The Purchaser shall approve the dedicated personnel, as well as the replacement personnel. The Purchaser has the right to refuse any proposed substitution as not meeting the qualifications and request the Contractor to offer another qualified individual in lieu thereof.

25.5.   The Purchaser reserves the right to reject a Contractor's staff member after acceptance of a Contractor's staff member on the basis of their CV if the individual is not providing the required level of support. The Purchaser will inform the Contractor in writing in case such a decision is taken and the

Contractor shall propose and make another staff member available within three working days after the written notification.

25.6. A Contractor's staff member assigned to this Contract shall remain working on the Contract for as long as required by the terms of the Contract. However, in the event where the Contractor has no control over the individual's non-availability (e.g., resignation, sickness, incapacity, etc.), the Contractor shall notify the Purchaser of a change of key personnel within working 3 days of the date of knowledge of the prospective vacancy and offer a substitute with equivalent qualifications.

25.7. Key Personnel are not necessarily required to work full-time in that position. Therefore, it is possible for an individual to fill more than one Key Personnel role at the same time, assuming the person is qualified to perform both roles.

ARTICLE 26.   INTELLECTUAL PROPERTY

26.1. This Article supplements Article 30 "Intellectual Property" of the Contract General Provisions.

26.2. All Foreground IPR is the property of the Purchaser. Consequently, no statement shall be made restricting the rights of the Purchaser. All Foreground IPR are immediately and exclusively transferred and assigned to the Purchaser as from their coming into existence or, as the case may be, as from the conclusion of this Contract for rights already in existence at the time of execution of this Contract.

26.3. Any use by the Purchaser of Contractor Background IPR for the purpose of carrying out work pursuant to the Contract shall, subject to any obligation on the part of the Contractor to make payments to any third party in respect of IPR which is licensed from such third party, be free of any charge to Purchaser. The Contractor hereby grants to the Purchaser a non-exclusive, royalty-free and irrevocable licence throughout NATO, NATO operations (including out of area operations) and/or among NATO member nations to use and authorise others to use any Contractor Background IPR for the purpose of exploiting or otherwise using the Foreground IPR for any purpose.

26.4. The Purchaser retains the right to redeploy the Foreground Software provided under the Contract within NATO for NATO purposes, and/or among NATO Nations for NATO purposes.

26.5. This Foreground licence shall also allow the Purchaser and its member nations to use and authorise others to use the software for further adaptation, integration, modifications and future procurements.

26.6. The Contractor intends to use the Background IPR stated in ANNEX B and

ANNEX C hereto for the purpose of carrying out work pursuant to this Contract.

26.7. The Contractor warrants, undertakes, and represents that any derivative product created under this Contract from the stated Background IPR shall be considered as Foreground IPR and, therefore, shall be governed by the terms and conditions specified in Article 30.3 (Foreground IPR) of the Contract General Provisions.

26.8. In addition, regarding the Contractor's Background IPR, the Purchaser shall have the right to further re-transfer this software (source code excluded) and associated documentation necessary and/or useful for use and integration, to companies eligible for other NATO procurements, subject to an appropriate license agreement. There shall be no additional charges or fees associated with this license agreement beyond the Firm Fixed Price of this contract.

26.9. Any use of Contractor and Third Party Background IPR as stated in ANNEX B and ANNEX C, and unless specifically applicable to COTS items, is not limited to the number of users or the number of licenses required by the Contract for use of the system. With the exception of COTS items, the Purchaser reserves the right to use or authorise NATO members to use the Background IPR as stated in ANNEX B and ANNEX C for any number of users and number of licenses as required, at no additional cost to the Purchaser.

26.10. All Software, except COTS, delivered under this Contract shall not be marked with corporate logos, proprietary information or contain warnings limiting the rights to use or reproduction nor shall those markings be included in the operating and/or maintenance manuals or instructions accompanying such software.

ARTICLE 27.   CONFIDENTIALITY AND NON-DISCLOSURE

27.1. For purposes of this article, "Confidential Information" shall include all information pertaining to any part of this Contract or any program related to this Contract that is not marked "Non-Confidential".

27.2. Confidential Information does not include information that is: (a) publicly known at the time of disclosure or subsequently becomes publicly known through no fault of the Contractor; (b) discovered or created by the Contractor before disclosure by the Purchaser; (c) learned by the Contractor through legitimate means other than from the Purchaser or its representatives; or (d) is disclosed by the Contractor with the Purchaser's prior written approval.

27.3. Without prejudice to other obligations imposed by NATO Security regulations, the Contractor shall hold and maintain the Confidential Information in strictest confidence for the sole and exclusive benefit of the Purchaser. The Contractor shall carefully restrict access to Confidential Information to employees, sub-Contractors and third parties as is reasonably required and shall require those

persons to sign nondisclosure restrictions at least as protective as those in this Contract. The Contractor shall not, without prior written approval of the Purchaser, use for the Contractor's own benefit, publish, copy, or otherwise disclose to others, or permit the use by others for their benefit or to the detriment of the Purchaser, any Confidential Information. The Contractor shall return to the Purchaser any and all records, notes, and other written, printed, or tangible materials in its possession pertaining to Confidential Information immediately if the Purchaser requests it in writing.

27.4. The provisions of this article and the associated Contractor's duties shall survive the termination of this Contract and remain in effect until the Purchaser sends the Contractor written notice releasing the Contractor from the obligations imposed by this article, or for a further period of three (3) years after Contract close-out, whichever occurs first, and without prejudice to other obligations imposed by applicable NATO Security regulations.

27.5. The Contractor shall include the substance of the language of this article in any subcontract/Contract issued for the purpose of the fulfilment of the obligations Contracted under this Contract regardless of the legal nature of the entity subscribing such subcontract.

27.6. The Contractor agrees that compliance with the obligations imposed by the terms of this article is of the essence and that failure to abide to these terms shall constitute sufficient grounds for the termination of the Contract for default.

ARTICLE 28.   CONFLICT OF INTEREST

28.1. A conflict of interest means that because of other activities or relationships with other persons or entities, a Contractor is unable, or potentially unable to render impartial assistance or advice to the Purchaser, or the Contractor's objectivity in performing the Contract work is, or might be otherwise impaired, or the Contractor has an unfair competitive advantage.

28.2. Conflict of interest includes situations where the capacity of a Contractor (including the Contractor's executives, directors, consultants, subsidiaries, parent companies or subcontractors) to give impartial, technically sound advice or objective performance is or may be impaired or may otherwise result in a biased work product or performance because of any past, present or planned interest, financial or otherwise in organizations whose interest may substantially affected or be substantially affected by the Contractor's performance under the Contract.

28.3. The Contractor is responsible for maintaining and providing up-to-date conflict of interest information to the Contracting Officer. If, after award of this Contract or task order herein, the Contractor discovers a conflict of interest with respect to this Contract which could not reasonably have been known prior to award, or if

any additional conflicts or potential conflicts arise after award, the Contractor shall give written notice to the Contracting Officer as set forth below.

28.4. If, after award of this Contract herein, the Purchaser discovers a conflict of interest with respect to this Contract or task order, which has not been disclosed by the Contractor, the Purchaser may at its sole discretion request additional information to the Contractor, impose mitigation measures or terminate the Contract for default in accordance with Article 39 (Termination for Default) of the Contract General Provisions.

28.5. The Contractor's notice called for in paragraph 28.2 shall describe the actual, apparent, or potential conflict of interest, the action(s) the Contractor has taken or proposes to take to avoid or mitigate any conflict, and shall set forth any other information which the Contractor believes would be helpful to the Contracting Officer in analysing the situation. Any changes to the Contractor's Conflict of Interest Mitigation Plan, if any is incorporated in the Contract, should be also detailed.

28.6. The Contractor has the responsibility of formulating and forwarding a proposed mitigation plan to the Contracting Officer, for review and consideration. This responsibility arises when the Contractor first learns of an actual, apparent, or potential conflict of interest.

28.7. If the Purchaser in its discretion determines that the Contractor's actual, apparent, or potential conflict of interest remains, or the measures proposed are insufficient to avoid or mitigate the conflict, the Contracting Officer will direct a course of action to the Contractor designed to avoid, neutralize, or mitigate the conflict of interest.

28.8. If the parties fail to reach agreement on a course of action, or if having reached such agreement the Contractor fails to strictly adhere to such agreement during the remaining period of Contract performance, the Contracting Officer has the discretion to terminate the Contract for default or alternatively refrain from exercising any further Option or Work Package under the Contract.

28.9. The Contractor's misrepresentation of facts in connection with a conflict of interest reported or a Contractor's failure to disclose a conflict of interest as required shall be a basis for default termination of this Contract.

ARTICLE 29. WARRANTY (EXCLUSIVE OF SOFTWARE)

29.1. This Article supplements Article 27 "Warranty of Work (Exclusive of Software)" of the Contract General Provisions.

29.2. The Warranty Period for any Hardware deliverables under this Contract shall be the specific warranty periods established in the SOW for individual deliverables.

29.3. The Warranty Period shall start from the time of their formal acceptance after delivery.

29.4. Throughout the Warranty Period the Contractor shall make good any:

29.4.1. Defects in the deliverables;

29.4.2. Breach of warranties specified in Article 27 (Warranty of Work) of the Contract General Provisions; and

29.4.3. Breach of any other express or implied warranties that may be applicable;

29.4.4. Arising out of or in connection with the Contractor's failure to perform its obligations under this Contract (herein after collectively referred to as "Warranty Period Incidents") in accordance with this Article 30 and Article 27 (Warranty of Work) of the Contract General Provisions.

29.5. The Contractor shall correct all Warranty Period Incidents arising during the Warranty Period without any cost to the Purchaser.

29.6. If the Contractor fails to correct any Warranty Period Incidents within the timeframe specified in Article 27 (Warranty of Work) of the Contract General Provisions or section 5.10 of the SOW for the type of incident concerned, or if no specific timeframe has been established in the referred Article or in the SOW for the type of incident concerned, within 30 working days of notification, the Purchaser may on ten (10) working days written notice:

29.6.1. Correct the Warranty Period Incident or employ a third party to correct it; and

29.6.2. Deduct from the prices to be paid, draw from the performance guarantee, or recover as a debt due from the Contractor, all reasonable costs in so doing.

29.7. The Contractor shall deploy all such additional resources as are reasonably required to remedy any Warranty Period Incident as efficiently and quickly as possible.

29.8. If replacement parts are fitted by the Contractor as part of the warranty the parts removed shall become the Contractor's property unless required by the Purchaser at the Purchaser's discretion. Notwithstanding that, faulty hard disks removed from NATO SECRT equipment shall not be returned to the Contractor but destroyed by the NATO site personnel in accordance with applicable NATO security regulations.

29.9. Notwithstanding Article 27.6 of the Contract General Provisions, if prior agreed upon by the Purchaser, the Contractor has the possibility to repair the failed component instead of providing a new replacement.

ARTICLE 30.   SOFTWARE WARRANTY

30.1.   The Article supplements Article 31 "Software Warranty" of the Contract General Provisions.

30.2.   For each Software delivered under this Contract, the Contractor warranties stated in paragraph 31.1 of the Contract General Provisions shall extend to all defects discovered within twelve (12) months from Final System Acceptance (FSA) declared in writing by the Purchaser's Contracting Authority.

ARTICLE 31.   SECURITY

31.1.   This Article supplements Article 11 "Security" of the Contract General Provisions.

31.2.   The Contractor is responsible, in accordance with NATO and National Security regulations, for the proper handling, storage and control of any classified documents and information as may be furnished to the Contractor in relation to the performance of this contract. As such, the Contractor's premises shall be able to handle information up to NATO RESTRICTED.

31.3.   The security classification of this contract and its annexes is "NATO UNCLASSIFIED". However, the Contractor's technical personnel working on the Contract will need to access NATO SECRET data and therefore shall hold a valid NATO SECRET security clearance for the duration of the Contract. This access to NATO SECRET data shall occur only at NATO premises and never at the Contractor's own premises.

31.4.   Contractor's personnel visiting or working at Purchaser's facilities in connection with this Contract shall hold a NATO SECRET security clearance valid for the duration of the Contract. This requirement applies to all subcontracts issued by the Contractor for the effort under this prime Contract.

31.5.   It is the responsibility of the Contractor to ensure that its personnel obtain the required security clearances and transmit this information to the sites to be visited in adequate time that the site may perform the appropriate administration.

31.6.   The Contractor is advised that the personnel security process may be lengthy. The Purchaser bears no responsibility for the failure of the Contractor to secure the required clearances for its personnel within the necessary time.

31.7.   Failure of the Contractor to obtain proper security clearances to have access to any NATO sites, and any attendant delay in the project which results from this access refusal, is not the basis for excusable delay under the terms of the contract concerning default. The Contractor bears full responsibility and liability under the contract for delays arising from the failure of the Contractor to adhere to the

security requirements.

31.8. If during the performance of the Contract, Contractor's personnel need to be escorted because of non-availability of the security clearance required by the Site, the Contractor shall pay to the Purchaser a compensatory fee of 800 Euro per day of escort.

31.9. In the absence of valid security clearances for the Contractor's personnel at contract signature, the Purchaser reserves the right to terminate the Contract for "Default".

ARTICLE 32. SUPPLEMENTAL AGREEMENT(S), DOCUMENTS AND PERMISSIONS

32.1. The Contractor has submitted all relevant draft supplemental agreement(s), documents and permissions prior to Contract award, the execution of which by the Purchaser is/are required by National Law or regulation. If any supplemental agreements, documents and permissions are introduced after Contract award, and it is determined that the Contractor failed to disclose the requirement for the execution of such agreement from the Purchaser prior to Contract signature, the Purchaser may terminate this Contract for Default, in accordance with the Article 39 (Termination For Default) of the Contract General Provisions.

32.2. Supplemental agreement(s), documents and permissions, the execution of which by the Purchaser is/are required by National Law or regulation and that have been identified by the Contractor prior to the signature of this Contract, but have not yet been finalised and issued by the appropriate governmental authority, are subject to review by the Purchaser. If such supplemental agreement(s), documents and permissions are contrary to cardinal conditions of the signed Contract between the Parties, and the Purchaser and the appropriate governmental authority cannot reach a mutual satisfactory resolution of the contradictions, the Purchaser reserves the right to terminate this Contract and the Parties agree that in such case the Parties mutually release each other from claim for damages and costs of any kind, and any payments received by the Contractor from the Purchaser will be refunded to the Purchaser by the Contractor.

ARTICLE 33. CONTRACT CLOSE-OUT

33.1. Planned Closure

33.1.1. Planned Contract Close-out occurs after all products and services provided by the Contractor have been accepted by the Purchaser.

33.1.2. The Contractor shall finalise all plans (e.g. Project Management Plan (PMP), Integrated Logistics System Plan (ILSP)) and all records (e.g. Risk, Issue Register

and Lessons Log).

33.1.3. The Contractor shall apply the project closure practices defined in PRINCE2.

33.1.4. The Contractor shall plan a Contract Close-out Meeting (CCM) to review all products and services are delivered, and all activities are successfully completed.

33.1.5. Contract Close-out Meeting (CCM) and its report shall mark the End of Contract.

33.2. Premature Closure

33.2.1. Premature Close-out occurs when the Purchaser decides to close the Contract at an earlier phase than the FSA, in the case of a Termination for Default (per article 39 of the Contract General Provisions) or a Termination for Convenience (per article 40 of the Contract General Provisions). It does not mean that the work in progress is simply abandoned, but that the project salvages (at the discretion of the Purchaser) anything of value created to date and checks that any gaps left by the cancellation of the project are clearly defined.

33.2.2. Upon the decision on premature close-out, the Contractor shall:

33.2.2.1 Update the Project Plan with actuals from the final phase.
33.2.2.2 Identify the status of the Developmental Items under development.
33.2.2.3 Identify the work that has not started yet.
33.2.2.4 Identify the products already developed.
33.2.2.5 Agree the means for recovering products that have been completed or are in progress (if appropriate).
33.2.2.6 Develop an Exception Plan to include additional work to create, make safe or complete products that needs to be delivered to the Purchaser.

ARTICLE 34.   ACCEPTANCE OF DESIGN DOCUMENTATION

34.1. This Article supplements Article 22 "Inspection and Acceptance of Documentation" of the Contract General Provisions.

34.2. The acceptance by the Purchaser of the Contractor's design documentation required by this Contract signifies that the documents delivered appear logical and consistent. The acceptance does not constitute an endorsement or approval of the design by the Purchaser and does not relieve the Contractor of the obligation to meet the performance requirements of this contract in the event that the design eventually proves to be non-compliant at the testing.

ARTICLE 35. INCORPORATION OF REVISED PROJECT MANAGEMENT AND ENGINEERING DOCUMENTATION DELIVERABLES

35.1.   This Contract documentation will be subject to changes and revisions. The frequency and dynamics of these changes and revisions would make it unfeasible to ratify a new version of the documentation via a formal Contract amendment at the time it is produced and approved by the Purchaser. Consequently during the course of formal reviews the Purchaser Contracting Authority will evaluate any changed documentation and subject to the terms of the Contract validate its adequacy and, at its sole discretion provide for its approval in writing indicating which updated documentation is approved.

35.2.   Subject to the exception noted in paragraph 35.3 below, any formally Purchaser approved documentation shall be deemed as made part of the Contract and shall replace any existing previous version.

35.3.   The Purchaser is under no obligation to approve any proposed revised document except as in accordance with the terms of the present Contract. Rejection of any proposed changes shall not discharge the Contractor, in whole or in part, of its responsibility for the performance under the Contract.

ARTICLE 36. INDEMNITY

36.1.   The Contractor will indemnify and hold harmless NATO, its servants or agents, against any liability, loss or damage arising out of or in connection of the Supplies and Services under this Contract.

36.2.   The parties will indemnify each other against claims made against the other by their own personnel, and their sub-Contractors (including their personal representatives) in respect of personal injury or death of such personnel or loss or destruction of or damage to the property of such personnel.

36.3.   NATO will give the Contractor immediate notice of the making of any claim or the bringing of any action to which the provisions of this Article may be relevant and will consult with the Contractor over the handling of any such claim and conduct of any such action and will not without prior consultation and without the consent of the Contractor settle or compromise any such claim or action.

36.4.   In the event of an accident resulting in loss, damage, injury or death arising from negligence or wilful intent of an agent, officer or employee of NATO for which the risk has been assumed by the Contractor, the cause of the accidents will be investigated jointly by the Parties and the extent to which NATO will be liable to recompense the Contractor will be determined together.

ARTICLE 37. PLACE AND TERMS OF DELIVERY

37.1. This Article replaces and supplements Article 20 "Notice of Shipment and Delivery" of the Contract General Provisions. Specifically, paragraph 37.2 replaces Article 20.1 of the Contract General Provisions while paragraph 37.3 supplements Article 20 of the Contract General Provisions.

37.2. All deliverables under this Contract shall be delivered DDP ("Delivered Duty Paid") as defined by the INCOTERMS 2010 published by the International Chamber of Commerce (Publication No. 560) to the places and at such times as stipulated in the Schedule of Supplies and Services. The Contractor shall note that the Purchaser is exempt from customs duties and Value Added Tax as per Article 26 "Taxes and Duties" of the Contract General Provisions.

37.3. All supplies covered under this Contract, including Purchaser Furnished Property (PFP), once handed over to the Contractor, and items shipped, shall be transported to and from all destinations at the responsibility of the Contractor. The Purchaser shall not be liable for any storage, damage, accessorial or any other charges involved in such transporting of supplies.

ARTICLE 38. RESPONSIBILITY OF THE CONTRACTOR TO INFORM EMPLOYEES OF WORK ENVIRONMENT

38.1. The Contractor shall inform his employees under this Contract of the terms of the Contract and the conditions of the working environment.

38.2. Specifically, personnel shall be made aware of all risks associated with the performance under this Contract, the conditions of site in which the performance is to take place and living conditions while performing within the boundaries of the Contract. The selection of adequate personnel shall remain sole responsibility of the Contractor.

ARTICLE 39. PURCHASER RIGHT TO CONTRACT WITH THIRD PARTIES IN CASE OF CONTRACTOR DEFAULT

39.1. This Article supplements Article 39 "Termination for Default" of the Contract General Provisions.

39.2. In the event that the Contractor fails to deliver or make progress on the provision of any components of this project in accordance with the milestones and delivery dates stipulated in the SSS and SOW, and is notified by the Purchaser in writing that the Contractor is in a state of default in accordance with Article 39 of the Contract General Provisions (Termination for Default), the Purchaser reserves the right to enter directly into contracts with any third party, including commercial entities, and Contractor's Subcontractors for provision of the Contract Work

Package.

39.3. The provisions of this Article are in addition to and in no way limit the rights of the Purchaser contained in other applicable Articles of this Contract, including but not limited to, Article 21 (Inspection and Acceptance of Work) and Article 39 (Termination for Default) of the Contract General Provisions.

ARTICLE 40. EXPORT AGREEMENT AND LICENSE

40.1. It is the Contractor's responsibility to ensure compliance with all relevant or necessary national export provisions in executing the work under this contract. Copies of the documentation will be supplied to the Purchaser on request.

ARTICLE 41. FORCE MAJEURE

41.1. "Force Majeure" means the occurrence of an event or circumstance that prevents a Party (the "Affected Party") from performing one or more of its contractual obligations under the Contract, provided that: (i) it renders performance impossible; (ii) it is beyond the Affected Party's reasonable control and without the Affected Party's cause, fault or negligence; (iii) by its nature it could not have been reasonably foreseen at the time of conclusion of the Contract; and (iv) the effects of it could not reasonably have been avoided or overcome by the Affected Party.

41.2. Examples of Force Majeure, provided conditions (i)-(iv) of paragraph 41.1 are all fulfilled, include:

41.2.1. war (whether declared or not), hostilities, invasion, act of foreign enemies, extensive military mobilisation;

41.2.2. civil war, riot, rebellion and revolution, usurped power, insurrection, act of terrorism, sabotage or piracy;

41.2.3. currency and trade restriction, embargo, sanction;

41.2.4. act of authority whether lawful or unlawful, compliance with any law or governmental order, expropriation, seizure of works, requisition, nationalisation;

41.2.5. plague, epidemic, natural disaster or extreme natural event;

41.2.6. explosion, fire, destruction of equipment, prolonged break-down of transport, telecommunication, information system or energy; and

41.2.7. general labour disturbance such as boycott, strike and lock-out, go-slow, occupation of factories and premises.

41.3. The Affected Party must give the other party to the Contract (the "Other Party") written notice without delay detailing the occurrence and its expected duration. The Other Party shall within a reasonable time respond, stating whether it accepts or rejects the occurrence as Force Majeure.

41.4. If the Other Party accepts the occurrence as Force Majeure, the Contract shall remain in force but the Parties will be relieved from performance of their obligations (including payment) under Contract, from the date at which the Other Party received written notice, for so long as the effects of Force Majeure continue or for ninety (90) days, whichever is the shorter, provided that:

41.4.1. the Affected Party makes all reasonable efforts to limit the effects of Force Majeure upon performance and to avoid or overcome the effects of Force Majeure;

41.4.2. the suspension of performance is of no greater scope than is necessitated by Force Majeure;

41.4.3. the Affected Party continues to furnish weekly updates by email while the effects of Force Majeure continue detailing reasonable efforts made in accordance with paragraph 41.4.1, and notifies the Other Party immediately when the effects of Force Majeure are avoided or overcome, or cease, and resumes performance immediately thereafter.

41.5. Neither Party shall be in breach of the Contract nor liable for delay in performing, or for failing to perform, its obligations under the Contract, due to Force Majeure.

41.6. Unless otherwise agreed by the Parties, if Force Majeure continues for more than ninety (90) days, the Parties may agree: (a) to a revised delivery schedule at no cost; (b) to a reduction of scope terminating part of the contract at no cost; or (c) to terminate the whole of the Contract at no cost.

ARTICLE 42.   TERMINATION FOR DEFAULT

42.1. This Article replaces paragraph 39.9 of the Contract General Provisions as follows:

42.1.1. At the point of a Termination for Default, payment shall be for completed Contract Milestones (per Tab 3 of the SSS) that have been delivered to and accepted by the Purchaser.

ARTICLE 43.   ENGINEERING CHANGE PROPOSALS (ECP)

43.1. This Article supplements Article 16 of the Contract General Provisions.

43.2. Engineering Change Proposals (ECP) as defined in this Article are proposals for changes relevant to tasks, deliverables, technical requirements, processes, schedules or any other term of the contract which are submitted in written form by the Contractor upon request from the Purchaser or independently when such changes are necessary in light of varied facts or circumstances which prevent the execution of the contract in its form.

43.3. Any Engineering Change Proposal (ECP) submitted by the Contractor to the Purchaser in a format as in Annex D or compatible with any Contractor's internal change management methodology standards or forms, shall in any case, contain as a minimum, the following elements:

43.3.1. A sequential number of ECP identification

43.3.2. Rationale for the changes being proposed

43.3.3. Illustration of any relevant impact to the performance being rendered including but not limited to those relevant to schedules, technical solutions, requirements and delivery time.

43.3.4. List of contract documents affected by the changes being proposed.

43.3.5. Revised copy of the contract documents in native electronic format edited to incorporate the changes being proposed in a way that changes are immediately identifiable.

43.3.6. Total Firm Fixed Price of the ECP and illustration of cost impacts with respect to the total contract Firm Fixed Price and the single CLINs affected.

43.3.7. A detailed price breakdown of all costs to identify single elements of cost contributing to the total.

43.3.8. All labour costs quoted as part of any ECP shall be consistent with those stipulated in the Contract

43.4. The Purchaser shall assess the ECP being proposed by the Contractor and subject to its sole judgment and without recourse by the Contractor approve or reject the ECP by the mean of written communication to be dispatched solely by the Purchaser's Contracting Authority.

43.5. The Contractor shall proceed with the performance on the approved ECP and not on a Pending or Rejected ECP.

43.6. Formally approved ECPs shall be treated as interim authorization to proceed with the changes proposed strictly and limited to the scope, content and price as specified in the approved ECP.

43.7. The Purchaser shall not be liable for any cost incurred by the Contractor for performance rendered, regardless of the nature or time, associated to ECPs not formally approved by the Purchaser's Contracting Authority.

43.8. All formally approved ECPs will be incorporated in the Contract via the issuance of a formal Contract Amendment at the earliest practical time after their issuance.

43.9. The production of any ECP regardless of its final approval or rejection shall be at no cost for the Purchaser.

ARTICLE 44.   PERFORMANCE GUARANTEE

44.1. This Article replaces paragraph 8.4 of the Contract General Provisions as follows:

44.1.1. The standby letter of credit shall be issued by a financial institution listed in Annex E either on its own behalf or as a confirmation of the Standby Letter of Credit issued by a different bank not listed in Annex E to pay all or part of a stated amount of money, until the expiration date of the letter, upon presentation by the Purchaser of a written demand therefore. Neither the financial institution nor the Contractor can revoke or condition the Standby Letter of Credit.

END OF CONTRACT SPECIAL PROVISIONS

ARTICLE 45.   KEY PERSONNEL

The following Key Personnel shall be subject to the stipulations contained in Article 25 (Key Personnel) of the Contract Special Provisions for the period of designation indicated below:

Position	SOW Reference(s)	Labour Category	Name	Designation Period
Project Manager	3.5.2	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
Technical Lead	3.5.3	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
Test Director	3.5.4	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
Quality Assurance Manager	3.5.5	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract
ILS Manager	3.5.6	*To be completed by the Bidder*	*To be completed by the Bidder*	EDC through End of Contract

EDC: Effective Date of Contract

ARTICLE 46.   CONTRACTOR BACKGROUND IPR

a. The Contractor Background IPR specified in the table below will be used for the purpose of carrying out work pursuant to the Contract.

Item	Description / IP Ownership	Indicate if COTS[1]

b. The Contractor represents that it has and will continue to have, for the duration of this Contract, all necessary rights in and to the IPR specified above necessary to meet the Contractor's obligations under the Contract.

c. The Contractor Background IPR stated above complies with the terms specified in Article 26 of the Contract Special Provisions and shall be licensed to the Purchaser according to the terms and conditions specified therein and in Article 30 of the Contract General Provisions.

[1]Indicate whether the IPR is applicable to a COTS product as defined in the Contract General Provisions.

ARTICLE 47.   SUBCONTRACTOR AND THIRD PARTY IPR

a. The Subcontractor and Third Party Background IPR specified in the table below will be used for the purpose of carrying out work pursuant to the Contract.

Item	Description / IP Ownership	Indicate if COTS[1]

b. The Contractor represents that it has and will continue to have, for the duration of this Contract, all necessary rights in and to the IPR specified above necessary to meet the Contractor's obligations under the Contract.

c. The Subcontractor and Third Party Background IPR stated above complies with the terms specified in Article 26 of the Contract Special Provisions and shall be licensed to the Purchaser according to the terms and conditions specified therein and in Article 30 of the Contract General Provisions.

[1]Indicate whether the IPR is applicable to a COTS product as defined in the Contract General Provisions.

ARTICLE 48.   ENGINEERING CHANGE PROPOSAL (ECP) FORM

1. Contract#: CO-115461-NCOPBMD	2. ECP Sequential Number[1]:	3. Date
4. Requestor[2]	5. To Be Effected in Amendment:	
6.	7.	

8. Description and Rationale for changes being proposed

9. Impact on Project / Contract (other than price)

10. Impact on Contract Price

11. Contract documents to be revised as a result of ECP approval

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[1] ECP sequential numbers shall be unique and continuous regardless of the status of the ECP (pending / approved / rejected)
[2] Indicate requestor in terms of Purchaser or Contractor

Attachments to ECP (Check as appropriate)
Revised Schedule of Supplies and Services[3]
☐ Complete cost break-down sheets[4]
☐ Revised Annexes (*list as applicable*)[5]
☐ Other documents [6] (*list as applicable*)

Submitted by

Purchaser Determination

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾ **(APPROVED / REJECTED)**

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾ **(Signature)**

‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾ **(Contracting Officer Name)**

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[3] Include document and check if Block 6 of the ECP is to be filled
[4] Include document and check if Block 6 of the ECP is to be filled
[5] Include document and check if Block 7 of the ECP is to be filled
[6] Include document and check if Block 7 of the ECP is to be filled

ARTICLE 49.   LIST OF ACCCEPTABLE BANKS TO ISSUE PERFORMANCE GUARANTEES

#	Bank
1	KBC Group
2	Bank of Montreal (BMO)
3	Royal Bank of Canada
4	Scotiabank
5	Danske Bank
6	Citibank Europe
7	BNP Paribas
8	Credit Agricole Group
9	Societe Generale
10	Commerzbank AG
11	Deutsche Bank
12	Intesa
13	UniCredit S.p.A.
14	ING Group
15	Rabobank Group
16	Banco Santander
17	BBVA
18	Barclays PLC
19	HSBC Holdings
20	Standard Chartered Plc
21	Bank of America
22	Wells Fargo

These Banks are in NATO-member countries.

CO-115461-NCOPBMD

**Ballistic Missile Defence Increments 1&2 Functions
for NATO Common Operational Picture Delivery**

PART IV – STATEMENT OF WORK

**CP 0A3013 REV1
PROJECT SERIALS 2013/0IS03074-1 and 2013/0IS03089-1**

Version 1.0

DOCUMENT CONTROL PAGE

VERSION HISTORY

Version	Author	Date	Reason for Change	Superseded Document
1.0	NCIA	08/11/2021	Initial version for IFB	-

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SECTION 1:   INTRODUCTION

1.1.   Purpose

1.1.1.   The purpose of this Contract is to implement and support the Ballistic Missile Defense (BMD) Increment 1 (Inc1) and Increment 2 (Inc2) functions in the NATO Common Operational Picture (NCOP) capability. This is a fixed-price Contract for services and supplies to design, develop, test and support the NCOP-BMD capability.

1.2.   Background

1.2.1.   The Ballistic Missile Defence (BMD) Programme has been established to provide NATO with a verified architecture providing the NATO Commander with the capability to defend NATO European populations, territory and deployed forces against the full range of Ballistic Missile (BM) threats. The NCOP-BMD development is part of the Capability Package 0A1303REV1 [Ref EE], "*Provide Ballistic Missile Defence Capabilities*" and is authorised as the NSIP projects 2013/0IS03074 "*BMD Increment 1 Functions in Bi-Strategic Command (Bi-SC) - Automated Information System (AIS)*", specifically under sub-project 2013/0IS03074-1 "*BMD Increment 1 Functions in NCOP*", and 2013/0IS03089 "*BMD Increment 2 Functions in Bi-SC AIS*", specifically under subproject 2013/0IS03089-1 "*BMD Increment 2 Functions in NCOP*".

1.2.2.   The purpose of the NCOP-BMD development is to extend the existing NCOP Increment 2 (NCOP-2) capability to deliver BMD specific requirements for Situational Awareness (SA) and support for BMD specific Information Products. In addition, NCOP-BMD shall have an interoperability capability to fully participate in BMD exercises and training events.

1.2.3.   NCOP-BMD takes NCOP-2 as foundation and fully integrates the complete new BMD scope through extension of the NCOP Data Model; extension of NCOP services; augmentation of existing interfaces; and added new interfaces.

1.2.4.   To enable the NCOP-BMD capability, NCOP-2 provides joint situational awareness based on receiving information from NATO and National systems, collating the information into a mission tailored Common Operational Picture (COP) and making the COP information available to the NATO forces in a timely and responsive manner in accordance with NATO policy, doctrine and guidance. In order to support tailored Common Operational Pictures to various missions' specific needs, NCOP-2 delivers services in support of defining information requirements and establishing and managing the individual COP.

1.2.5.   For purposes of this SOW, the NCOP project represents the full capability consisting of the existing NCOP-2 system with the extension of the NCOP-BMD requirements.

1.3.   NCOP Incremental Implementation

1.3.1.   The NCOP project is approved for incremental implementation aligned with the BMD Programme Verification Strategy (BMD PVS) delivered via a Tranche

Concept. The purpose of BMD PVS is incremental delivery of measurable operational value in an integrated System of Systems (SoS) approach which culminates with an operational validation event at the end of each Tranche cycle. This SOW details that there will be three baselines deliveries in satisfaction of the NCOP requirements, each being delivered two years after the previous one. Each incremental delivery shall be linked to a BMD Delivery Tranche and each one delivering a major version: NCOP Baseline 3 (BL3) in Tranche 2025, NCOP Baseline 4 (BL4) in Tranche 2027, and NCOP Baseline 5 (BL5) in Tranche 2029. Each of these baselines is intended to incorporate a sequence of design, development, and testing, and each one delivering an integral, fielded baseline capable of supporting NATO operational requirements.

1.3.2.   The incremental development approach is intended to meet the full range of NCOP operational requirements, but also to balance operational user priorities with technical risks, implementation costs, and development schedules in determining the scope of each baseline. Requirements not allocated against the current baselines under development shall be the subject of parallel analysis efforts, either to refine the functional requirements or to assess the feasibility of technical solutions. The results of these studies shall then be used to define the scope of the following baseline.

1.3.3.   NCOP shall be based on a complete Service-Oriented Architecture (SOA) in order to meet the required flexibility and adaptability to the NATO environment. This includes:

- A set of Business Services to deliver the program's functionalities,
- A set of Enabler Services to deliver functionalities in support of Business Services, and perform actions that could be combined with or migrated towards NATO Core Enterprise Services as required,
- An architectural construct to provide sets of services to internal and external partners and to provide dedicated means of communications to Information Providers, and other methods enabling adequate transformations, also ensuring policy enforcement and governance within NCOP scope 1,
- An Orchestration Engine 2 to allow for flexibility in designing sequences of services interaction in support of evolving business processes definition.

1.4.   Key Operational Requirements

1.4.1.   The NCOP system provided by the Contractor shall improve Commanders' situational awareness of the related functions resulting from the expansion in the BMD capability and meet the key operational requirements stated below.

- Enhance the existing NCOP-2 capability. Since NCOP must be the continuation of NCOP-2, it will offer and maintain all functionalities present in NCOP-2, and will also deliver reported and validated users' requests for change collected after the delivery of the last NCOP-2 version.
- Monitor resource status, weapon system engagements; and display engagement start and end alerts.

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[1] Such an architecture construct may be called in the literature an "Enterprise Service Bus"

[2] Such engine may be also called "business process manager"

- Display Ballistic Missile consequence estimations for force protection, in support of Passive Defence.
- Associate surveillance and planning data; compile the NATO Common Operational Picture (COP); include warnings in the NATO COP; provide rolling summaries; display the NATO COP with BMD enhancements; and provide access to the enhanced NATO COP.
- Calculate and display track trajectory extrapolation.
- Provide separate user sessions for operations and exercises; mark exercise related information; initialise with geospatial information; and develop, initialise with and disseminate components of exercise specific settings and scenario.

1.4.2. The NCOP system shall be deployed across the NATO Command Structure (NCS). The commands originally authorised and confirmed by the operational community, hereafter referred as Authorised Sites, to be equipped with NCOP are:

1.4.2.1. Allied Command Operations (ACO) HQs, including Joint Force Commands (JFCs), Component Commands (CCs) and other subordinate commands, as listed below:

Table 1-1 NCOP primary sites

Serial	Sites
1	SHAPE (CCOMC)
2	JFC-BS (Brunssum, NLD)
3	JFC-NP (Naples, ITA)
4	MARCOM (Northwood, GBR)
5	AIRCOM (Ramstein, DEU)
6	BMDOC-R (Ramstein, DEU)
7	LANDCOM (Izmir, TUR)
8	Backup BMDOC-U (Uedem, DEU)
9	Backup BMDOC-T (Torrejon, ESP)
10	JFC (JTF HQ)
11	JFAC (Ramstein, DEU)
12	JFLC (Izmir, TUR)
13	JFMC (Northwood, GBR)

1.4.2.2. Support sites, including:

Table 1-2 NCOP support sites

Serial	Requirement
1	NCIA Reference System - UAT (NCIA The Hague, NLD)
2	NCIA Integrated Test & Development System (NCIA The Hague, NLD)
3	NCIA Independent Verification and Validation System (NCIA The Hague, NLD)
4	NCIA Integrated Test Bed for BMD (NCIA The Hague, NLD)

| 5 | Training capability for NCISS (Oeiras, PRT) |
| 6 | JWC – training facility (Stavanger, NOR) |

1.4.3. The NCOP system needs to exchange data with COP Information Providers and Information Consumers in various Communities of Interest such as Bi-SC AIS Functional and Core Services and National Systems. To that extent the NCOP system needs to support current standards of information exchange, data replication mechanisms and mechanisms derived from its SOA environment (e.g. Web-services based interfaces and Information Discovery).

1.4.4. The detailed NCOP requirements are being provided in the Annexes:
- "5a_NR_IFB-CO-115461-NCOPBMD_ Book II -Part IV-SOW-Annex A System Requirement Specifications"
- "5b_NU_IFB-CO-115461-NCOPBMD - Book II -Part IV-SOW-Annex B Required Architectural Views and Minimum Content"

1.5. Scope of Work

1.5.1. This Statement of Work (SOW) describes the Contractor's responsibilities and tasks to satisfy the NATO requirements of the NCOP system.

1.5.2. The Contractor shall provide all necessary resources in addition of those furnished by the Purchaser (e.g. the collaborative working environment) to include services, personnel, materials, components, equipment, data and documentation needed to accomplish the tasks described in the SOW, to meet the requirements of the SOW, and to fulfil Contract Provisions.

1.5.3. Three NCOP deliveries called BL3, BL4 and BL5 shall be developed and delivered approximately every two years. The goal for this approach is to deliver the BMD Functions, delivered by NCOP, when they are most meaningful, based on other systems delivery schedules and user priorities, as specified by the BMD Tranche Concept, including the BMD Tranche-based Capability Delivery Methodology [Ref GG], the BMD Programme Tranches Implementation Plan [Ref OO], and prioritized as specified in Section 5.4 of the BMD Architecture Definition Document (ADD) [Ref PP].

1.5.4. Multiple sequences of requirements review, design, development, testing and users demo activities will be conducted to deliver each baselines. Each sequence will be called a sprint which will not last more than two (2) months.

1.5.5. The BL3 delivery will implement the first portion of BMD Functions assessed as "NEW", "REWORK" and "MAINTAIN" allocated to Tranche 2025, as specified in the ARS (Ref NN) .

1.5.6. The BL4 will implement the portion of BMD Functions assessed as "NEW", "REWORK" and "MAINTAIN" allocated to Tranche 2027, as specified in the ARS and resolve all deficiencies or software faults identified and prioritized during previous BMD programme-led validation events.

1.5.7.   The BL5 will implement the BMD Functions assessed as "NEW", "REWORK" and "MAINTAIN" allocated to Tranche 2029, as specified in the ARS and resolve all deficiencies or software faults identified and prioritized during previous BMD programme-led validation events.

1.5.8.   In parallel, NCOP will be implemented to authorised site through another contract. The Contractor shall support its implementation and, if required, develop patches to fix deficiencies avoiding the use (technical or functional) of the system.
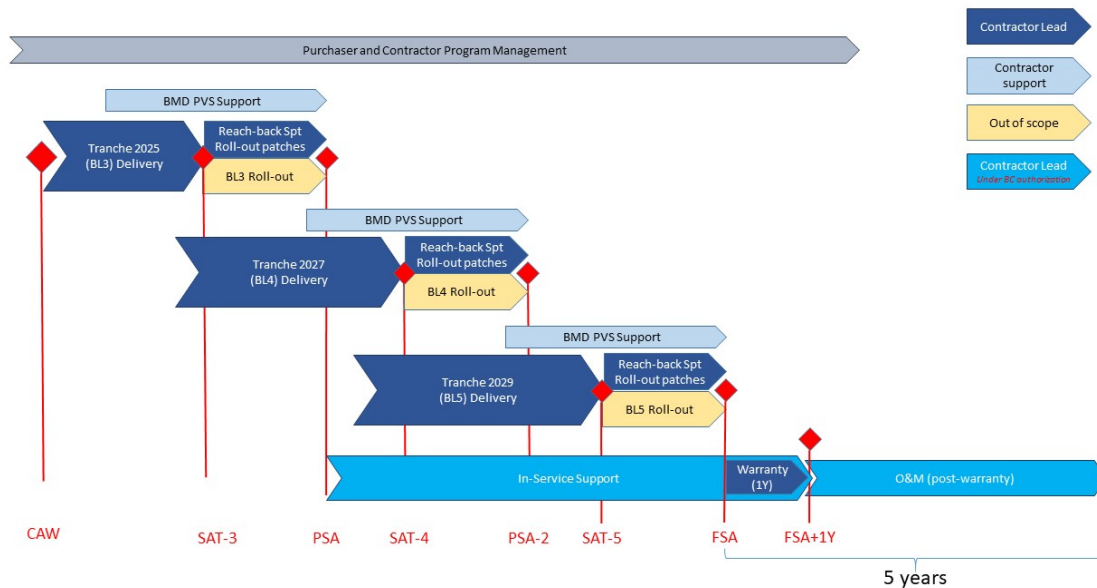
Figure 1 - NCOP Plan

1.5.9.   The Contractor shall:

1.5.9.1.   Design a system based, as practical, upon commercially-available products to meet the NCOP System Requirements Specifications, as per SOW Annex A - SRS.

1.5.9.2.   Organise, manage and report on the contracted work as directed by this Contract.

1.5.9.3.   Plan and execute developments and/or procurements required in order to ensure that the NCOP Product Baseline will at all times meet the Contract requirements.

1.5.9.4.   Plan and execute the required tests to certify the NCOP Product Baseline as meeting its functionality, performance, security and interoperability, as specified in the SRS.

1.5.9.5.   Provide expertise in Purchaser-led validation activities as required.

1.5.9.6.   Provide expertise during the preparation, installation and configuration of the NCOP system in the Purchaser IV&V Environment.

1.5.9.7. Provide expertise during the BMD validation events (e.g. PVS events).

1.5.9.8. Fully document the design, operation, and maintenance of the delivered operational and support systems by providing the required manuals, operational procedures, supporting technical data, computer software and drawings required by the Contract.

1.5.10. The Contractor shall implement all NCOP system requirements stated in Annex A – System Requirements Specification (SRS).

1.5.11. At the end of each baseline, the Contractor shall hand over the product baseline and all the related documents to a third party which will be responsible for the user trainings and the deployment of NCOP to the operational sites. During the deployment phase, the Contractor shall provide patches to correct deficiencies impacting the operational use of NCOP.

1.5.12. The Contractor shall perform all activities to deliver In-Service Support to fielded baselines until Final System Acceptance (FSA) is achieved. In-Service Support activities will include resolution of any deficiencies reported by production sites or operational validation events in support of the BMD Tranche Concept, and the delivery of any required software patches or updates to a future baseline.

1.6. Types of NCOP Sites

1.6.1. NCOP consists of different types of sites, as described below, to be deployed at NATO sites and Commands.

1.6.2. **"Datacentre" site**: This is the physical location where NCOP is installed. A datacentre provides capacities to many "User" site.

1.6.3. **"User" or "Static" site**: All users are connected to services hosted in the datacentres (located in another physical location) through the Wide Area Network (WAN). The capability is able to operate with low bandwidth and high latency connectivity conditions as needed.

1.6.4. **"Deployable" site**: The NCOP system is hosted on the DCIS platform and operates with a disadvantaged connection (possibly low bandwidth and high latency connectivity and limited, intermittent or no connectivity) with the static infrastructure. The system operates in an autonomous manner if the connectivity between the servers at different locations becomes broken, interrupted or is significantly reduced. This provides resilience to network outage/interruptions and the capability to work independently. The system automatically synchronises with other nodes once the connection is restored.

1.7. Statement of Work Organisation

1.7.1. This Statement of Work defines the general requirements for services and supplies provided under this Contract:
- Section 1 provides an introduction to the Statement of Work.
- Section 2 identifies applicable documents.
- Section 3 defines the management requirements.

- Section 4 defines the requirements for technical tasks.
- Section 5 defines the Integrated Logistics Support (ILS) requirements.
- Section 6 identifies the responsibilities and experience and education requirements for the labour categories.
- Section 7 lists requirements for documentation.
- Section 8 lists acronyms.

1.8. Standards for Interpretation of the Statement of Work

1.8.1. This SOW invokes a variety of Standard NATO Agreements (STANAGs), Allied Quality Assurance Publications (AQAPs), Military Standards (MIL-STDs) and International Standards. While these are NATO reference documents, there are national and international standards that are considered to be equivalent and are cited as such within these documents.

1.8.2. Where a national or international standard exists that is not specifically referenced in the STANAGs, AQAPs, or MIL-STDs as being equivalent, the Contractor may propose to utilise such a standard if it can demonstrate to the satisfaction of the Purchaser that such a standard is equivalent to the STANAG, AQAPs, or MIL-STD in question. The Purchaser, however, reserves the right to deny such a request and demand performance in accordance with the standard cited in the SOW.

1.8.3. The most relevant NATO standards will be available under request and stored under the Collaborative Working Environment.

SECTION 2: APPLICABLE DOCUMENTS

2.1. Compliance Documents

2.1.1. NATO

A. AC/35-D/1015-REV3, Guidelines for the Development of Security Requirement Statements (SRS), 31 January 2012 (NR)
B. AC/35-D/2005-REV3, Management Directive on CIS Security, 12 October 2015 (NU)
C. ACMP-2100 Ed. A Ver. 2 March 2017, The core set of configuration management contractual requirements
D. ACT DIR 75-3 (2007) Course Development
E. ACT DIR 75-10 (2006) Training Needs Analysis
F. STANAG 4107 Edition 11, dated Jan 2019 – Mutual Acceptance of Government Quality Assurance and Usage of the allied Quality Assurance publications (AQAP), and associated AQAPS, i.e. AQAP-2000, Edition 3, AQAP-2070, Edition B, AQAP-2105, Edition C, AQAP-2110, Edition D, AQAP-2131, Edition C, AQAP-2210, Edition A, AQAP-2310, Edition B, AQAP-4107, Edition A.
G. AC/322-D(2018)0002-REV1, NATO Architecture Framework (NAF) Ver. 4
H. STANAG 6001, Ed. 5, 2014, Language Proficiency Levels
I. NCIA DIR 06.03.04, Test, Verification and Validation
J. AC/322(CP/1)N(2020)0085-REV1, Guidance on Digital Labelling of NATO Information
K. AI 06.00.01 (2017), File Naming
L. AD 06.00.16, Configuration Management

2.1.2. Non-NATO

M. ISO 9001:2015 Quality management systems — Requirements
N. ISO/IEC 12207:2017: Systems and Software Engineering - Software life cycle processes
O. IEEE Standard 16326-2019, IEEE Systems and Software Engineering--Life Cycle Processes--Project Management
P. ISO 31000:2018 Risk management — Guidelines
Q. IEEE Standard 15288.2:2014, IEEE Standard for Technical Reviews and Audits on Defense Programs
R. ISO 10007:2017, Quality management — Guidelines for configuration management
S. IEEE Standard 1016-2009, IEEE Standard for information technology - systems design - software design descriptions
T. ISO 9241-210:2019, Ergonomics of human-system interaction — Part 210: Human-centred design for interactive systems
U. Unified Modelling Language (UML) 2.1, Object Modelling Group
V. ISO/IEC/IEEE 29119-1:2013 Software and systems engineering — Software testing — Part 1: Concepts and definitions
W. ISO/IEC/IEEE 29119-2:2013 Software and systems engineering — Software testing — Part 2: Test processes
X. ISO/IEC/IEEE 29119-3:2013 Software and systems engineering — Software testing — Part 3: Test documentation
Y. ISO/IEC/IEEE 29119-4:2015 Software and systems engineering — Software testing — Part 4: Test techniques

    Z. ISO/IEC 25010-2011, Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models

AA.   ISO 9000:2015 Quality management systems — Fundamentals and vocabulary

2.2. Other Reference Documents

2.2.1.   NATO

BB.   ACO COP Directive 80-80, May 2017

CC.   STANAG 4427 - Configuration Management in System Life Cycle Management, Edition 3, dated Dec 2014

DD.   AAP-20 Edition C Version 1 October 2015, NATO Programme Management Framework (NATO Life Cycle Model)

EE. Capability Package 5A0007 - Provide Information Systems in Support of ACE-wide Operations Mission Area

FF. Capability Package 0A1303 – "Provide NATO-wide Theatre Missile Defence Capabilities", NR, C-M(2005)0071, Jul 2005.

GG.   Capability Package 0A1303REV1 – "Provide Ballistic Missile Defence Capabilities", NR, AC/4(PP)N(2013)0091, BC-D(2013)0193, Nov 2013.

HH.   ACMP-2009-SRD-41 – Examples of CM plan requirements Edition A Version 1 March 2017

II. "Tranche-based Capability Delivery Methodology Guide", NU, NCIA/AMDC2/2019/01195, Dec 2019.

JJ. "Ballistic Missile Defence Programme Verification Strategy", NU, NCIA/AMDC2/2019/01185, Dec 2019

KK. ASD S1000D – International Specification for the Procurement and Production of Technical Publications

LL. ASD S3000L – International Procedure Specification for Logistic Support Analysis (LSA)

MM.   PEPD 16.30 Process Definition and Execution Document (PDED), NU, June 2020

NN. ARS 2.1 NCIA/AMDC2/2021/00970_TT8291, Aug 2021

OO. Tranche Concept, NCIA/AMDC2/2019/01240/TT-6840, Dec 2019

PP. BMD ADD, Version 4.3 (NCIA/AMDC2/2021/01184), dated 30 March 2021.

2.3. Applicability

2.3.1.   The Contractor shall be aware and apply the previously identified normative and informative documents throughout the Contract to all of the processes necessary for the Contractor to fulfil the contractual requirements.

SECTION 3:   MANAGEMENT

3.1.   Introduction

3.1.1.   This section outlines the Project Management Task Area for the NCOP Contract.

3.1.2.   The goal of the Contractor's project management shall be to guide the project through a controlled, well managed, visible set of activities to achieve the desired results and, wherever possible, to eliminate problems and to ensure that those problems that do occur are identified early, assessed accurately, and resolved quickly in partnership with the Purchaser.

3.2.   Project Management Methodology

3.2.1.   The Contractor shall apply the PRINCE2 project management methodology to the planning, delivery and control of services under this Contract. Subject to approval of the Purchaser, the Contractor may propose his own project management methodology.

3.3.   General Requirements

3.3.1.   This section outlines the general requirements for the NCOP Contract.

3.3.2.   The requirements of this section shall apply to all the activities issued under this Contract.

3.3.3.   Personnel Security
   - The Contractor shall ensure that all Contractor and Subcontractor personnel that shall work on a NATO site or have access to NATO S*CRET information and facilities shall have, at a minimum, a valid NATO S*CRET clearance as required by NATO policy.
   - The Contractor shall provide proof that these team members is in possession of a valid NATO S*CRET security clearance prior to Contract Award.
   - The Contractor shall process all Contractor and Subcontractor personnel through NATO security at each site, adhering to their procedures for clearances, to obtain security badges for the duration of the on-site activities.

3.3.4.   Independent Verification and Validation (IV&V)

3.3.4.1.   The main objective of the Independent Verification and Validation (IV&V) activity will be the evaluation of the performance of the NCOP Contractor and the verification and validation of the work being performed under the related effort, in particular evaluation of Contractor deliverables.

3.3.4.2.   The Purchaser IV&V Representatives will provide support for the NCOP Project. Purchaser IV&V Representatives will monitor, assess, and report on the NCOP-BMD Contract in order to identify, as early as possible, perceived problem areas.

3.3.4.3.   The Purchaser IV&V Representatives may monitor Contractor activities at Contractor's facilities or other sites related to the development, testing and

implementation of the NCOP system. The Contractor shall fully support such activities and in particular:

3.3.4.3.1.　　The Contractor shall make itself available for answering questions and furnishing information related to the project.

3.3.4.4.　　Allow the Purchaser IV&V Representatives to inspect and monitor testing activities, as well as management, technical and quality processes applicable to this project.

3.3.4.5.　　The Contractor shall transfer to the Purchaser IV&V Representatives all information deemed necessary to perform the IV&V activities, on his own initiative or on request by the Purchaser IV&V Representatives.

3.3.4.5.1.　　Not limitative list of information that the Contractor shall transfer to the Purchaser IV&V Representatives: minutes of Configuration Control Board (CCB) meetings, planning, control and review documents, source code, requirements documents and database, design, test, and other technical documentation.

3.3.5.　　Purchaser Responsibilities

3.3.5.1.　　The Purchaser's Project Manager (PM) will act as the Purchaser's representative and will be the primary interface between the Contractor and Purchaser.

3.3.5.2.　　The Purchaser's Project Manager will be supported by specialists in certain areas who may, from time to time, be delegated to act on the Project Manager's behalf in their area of expertise.

3.3.5.3.　　Neither the Project Manager, the integrated project team, nor any other NATO personnel may make changes to the terms and conditions of the Contract but may only provide the Purchaser's interpretation of technical matters. All changes to the Contract will be made through the Purchaser's contracting authority only.

3.3.5.4.　　The Purchaser will provide the Contractor with technical descriptions of existing NATO systems as required for the purpose of determining specific interface requirements between the NCOP system and these systems.

3.3.5.5.　　The Purchaser will make available to the Contractor the facilities necessary to test and demonstrate compliance with required interfaces to existing NATO systems.

3.3.5.6.　　Purchaser Furnished Items

3.3.5.6.1.　　The Purchaser will provide NCOP-2 source code for re-use as mandated by this Statement of Work in developing NCOP. The Contractor will provide the new functions defined in the SRS as well as the existing baseline requirements that are to be maintained.

3.3.5.6.2.   The Purchaser will provide access to sample existing databases and other data export formats to support the development of representative data for purposes of development, testing, and training. The intent is to provide this through remote access to the Collaborative Working Environment. The Contractor shall identify requirements for NATO testing environment test support in the SDP and the Project Test Plan.

3.3.5.6.3.   The Purchaser will provide (under the CWE) at PMR the security settings (https://nsap.nr.nato/SecSet/default.aspx) and related testing documentation for servers, workstations, and wide area network connections.

3.3.5.7.   The Contractor shall remotely access the test and integration environments. But on demand, the Purchaser will provide access to test and integration facilities for the NCOP to its premises in The Hague, Netherlands.

3.3.5.7.1.   The facility, currently known as NATO testing environment, shall provide reference operating systems/networks having NATO security settings and also NCOP applicable information objects.

3.3.5.7.2.   At the NATO testing environment, the Purchaser will provide access to those Core Services on which the NCOP system is to depend.

3.3.5.8.   The Purchaser will maintain configuration control for Purchaser-provided prototype software baseline. The Contractor shall identify to the designated Purchaser contact any deficiencies in this baseline it encounters during the course of requirements analysis, design, development, and test activities.

3.3.5.9.   The Purchaser will also provide:

- Access to Collaborative Working Environment (Development and Integration Environment, Validation Environment and Collaboration Space)
- Latest System Administrator Training Course Material
- ICD of interfaces and data sample (per system)

3.3.6.   Co-ordination with other NATO Projects

3.3.6.1.   The NATO CIS environment will be under continual development by other NATO projects that are being implemented in parallel with NCOP. The Purchaser will inform the Contractor and provide more detailed information concerning the changes in the operational or technical environment that may emerge as a result of these projects.

3.3.6.2.   The Contractor shall advise the Purchaser on the cost, schedule, and performance impacts of such changes on the project. Assessments requiring in-depth analysis will be addressed as separate activities.

3.3.7.   Operational User Involvement

3.3.7.1.   The Contractor shall involve (e.g., through participation in working groups reviews, workshops, Joint Technical Reviews, Formal Reviews, test events) appropriate operational users for input to, review of and testing of the project deliverables throughout the life span of the Contract work (i.e., requirements

refinement to system activation). The Purchaser will be the facilitator to determine the attendees to such meetings.

3.3.7.2. The operational user is expected to participate in the following activities:
- Validation of system requirements
- SME support for software analysis and design
- Human-Computer Interaction design
- SME support for implementation details
- Sprint End Review (e.g. Demo)
- User Acceptance Tests (UAT)

3.3.7.3. The Contractor shall support the Purchaser in the participation of operational user during workshops or working groups that required them.

3.3.8. Contract and activities Management

3.3.8.1. Location of work

3.3.8.1.1. Unless approved by the Purchaser, the main effort for this Project shall be carried out in the Contractor's premises.

3.3.8.1.2. Work at Purchaser Sites

3.3.8.1.2.1 To support extended collaborative efforts due to the failure of the Contractor, the Contractor may request to temporarily locate personnel at the Purchaser's facilities.

3.3.8.1.2.2 If the request is approved by the Purchaser, the Contractor shall be responsible for costs associated with working at the Purchaser's facilities per the Special Provisions of this Contract.

3.3.8.1.2.3 The Purchaser will provide Contractor personnel working at Purchaser locations as part of activities under this Contract with:

Table 3-1 Items provided a Purchaser location

Serial	Requirement
1	A desk, cubicle, or workbench, as appropriate
2	Standard office furniture
3	Common expendable office supplies
4	Access to the CWE
5	Access to utilities within the work area

3.3.9. Purchaser Quality Assurance Representative

3.3.9.1. As provided under STANAG 4107, the Purchaser may exercise its right to delegate some of the QAR responsibilities to a National Quality Assurance Representative (NQAR).

3.3.10.   Decisions

3.3.10.1.   All decisions taken during the project implementation lifecycle should be tracked per project phase, together with evidence of options analysis when apply. All decisions shall be recorded in the RAID Log.

3.3.10.2.   First decisions should be already available at CAW stage covering design decisions, development decisions, tools and environment covered by the proposal and any possible proposed change before starting the project implementation.

3.3.10.3.   A workflow shall allow for NCI Agency PM agreement with the decisions when proposed decisions are based on NCI Agency SME and stakeholders inputs.

3.3.10.4.   A decision log shall also record design rationale, i.e. information capturing the reasoning of the designer that led to the system as designed, including design options, trade-offs considered, decision made and the justification of those decisions.

3.3.10.5.   The decision log shall also record "architectural and implementation rationale" , i.e. information capturing the reasoning of the developer that led to the system as build, including implementation options, trade-offs considered, decision made and the justification of those decisions.

3.3.10.6.   A decision cannot and shall not overrule or modify:
- the Contract
- the Statement of Work
- the Product Scope as specified in the Contract
- any part of an already accepted or baselined Work product

3.3.10.7.   Any decision in a meeting to change any of the above artefacts shall be formalised by a decision in the RAID Log and through the Change Request process if required.

3.3.10.8.   Purchaser decision to accept contractual deliverables signifies only that the Purchaser agrees to the Contractor's approach in meeting the requirements. This acceptance in no way relieves the Contractor from its responsibilities to meet the requirements stated in this Contract.

3.4.   Project Management Teams

3.4.1.   Integrated Project Management Team

3.4.1.1.   The IPMT is important to engage and provides the information flow to the user. The actual schedule is coordinated through the IPMT. Feedback and Lessons Learned on a site installation are promulgated through this body. It is also important that information dissemination and coordination is made possible/available through a NCI Agency portal presence on the appropriate networks in general, training products, preparations.

3.4.1.2.   Upon award of this Contract, the Contractor shall become an advisory member of the NCOP Integrated Project Management Team (IPMT), which also serves as the NCOP Configuration Control Board.

3.4.1.3.   The NCOP IPMT comprises of key stakeholders in NCOP, including representatives of the Users, and serves as the primary mechanism for monitoring project status, resolving issues or conflicts within the project, and advising the Purchaser's NCOP Project Manager.

3.4.1.4.   The Purchaser's representative chairs the NCOP Integrated Project Management Team. The other voting members are designated representatives of the Purchaser. Technical experts within the NCIA and other bodies also serve as advisory members.

3.4.1.5.   The Contractor shall provide its inputs to the IPMT via the NCIA Project Manager.

3.4.2.   Project Board

3.4.2.1.   The NCOP Project Board is formed by the Purchaser according to PRINCE2 principles and serves as the primary mechanism for monitoring project status, resolving issues or conflicts within the project, and advising the Purchaser's NCOP Project Manager.

3.4.2.2.   The Purchaser's Chief C2 Service Line chairs the NCOP Project Board in an "Executive" role.

3.4.2.3.   Depending on the context of the meeting, the Contractor will become a member of the NCOP Project Board as the "Senior Supplier" role. The Contractor shall participate the Project Board Meeting as invited.

3.4.2.4.   Depending on the context of the meeting, the user community is represented by the "Senior User" role.

3.4.2.5.   The other members are designated representatives of the Purchaser.

3.5.   Project Management Office

3.5.1.   The Contractor shall establish and maintain a Project Management Office (PMO) to perform and manage all efforts necessary to discharge all his responsibilities under this Contract.

3.5.1.1.   The Contractor shall also provide all necessary manpower and resources to conduct and support the management and administration of operations in order to meet the objectives of the project, including taking all reasonable steps to ensure continuity of personnel assigned to work on this project. The personnel identified below shall be considered as Key Personnel in accordance with the Special Provisions of this Contract.

3.5.2.   Project Manager

3.5.2.1.   The Contractor shall designate a Project Manager (PM), who will direct and co-ordinate the activities of the Contractor's project team.

3.5.2.2.   The Project Manager shall be the Contractor's primary contact for the Purchaser's NCOP Project Manager and shall conduct all major project design, test, and status reviews.

3.5.2.3.   The Project Manager shall be prepared at all times to present and discuss the status of Contract activities with the Purchaser's Project Manager, Contracting Officer, or Technical Lead.

3.5.2.4.   The Project Manager shall assist the Purchaser's Project Manager in assessing of cost, schedule, and performance trade-offs within the scope of this Contract.

3.5.2.5.   The Project Manager shall serve as point of contact for the IV&V Service Line.

3.5.2.6.   The Project Manager shall demonstrate experience in leading previous projects that have maximized the reuse of NATO software PFI.

3.5.2.7.   The Project Manager shall meet the qualifications of Project Manager as specified in 6.2.1.

3.5.3.   Technical Lead

3.5.3.1.   The Contractor shall designate a Technical Lead for the project.

3.5.3.2.   The Technical Lead shall lead the analysis, design, development, integration, and follow-on enhancement efforts of the Contractor.

3.5.3.3.   The Technical Lead shall demonstrate experience in leading previous projects that have maximized the reuse of NATO software PFI.

3.5.3.4.   The Technical Lead shall meet the qualifications of a Senior Engineer and Senior Systems Engineer as specified in Senior Engineer 6.4.1 and 6.4.4, respectively.

3.5.4.   Test Director

3.5.4.1.   The Contractor shall designate a Test Director for all test activities conducted under this Contract.

3.5.4.2.   The Test Director shall demonstrate experience in participating in previous projects that have maximized the reuse of NATO software PFI.

3.5.4.3.   The Test Director shall meet the qualifications of Senior Test Engineer as specified in 6.4.18.

3.5.5.   Quality Assurance Manager

3.5.5.1. The Contractor shall designate a qualified individual to serve as the Quality Assurance Manager for activities under this Contract (ref quality management 3.14).

3.5.5.2. The Quality Assurance Manager shall report to a separate manager within the Contractor's organisation at a level equivalent to or higher than the Project Manager.

3.5.5.3. The Quality Assurance Manager shall meet the qualifications of Quality Assurance Manager as specified in 6.5.10.

3.5.5.4. The Contractor should designate Quality Engineers to work under the supervision of the Quality Assurance Manager for all Quality actions to be taken during the lifetime of the project

3.5.5.5. The term "Contractor QAR" (CQAR) shall apply to any of the Contractor appointed Quality Assurance Representative, nominated by the Contractor organisation. The CQAR shall be the point of contact for interface with and resolution of quality matters raised by the NCI Agency or his delegated NQAR(s). The CQAR(s) shall be identified in the Quality Plan (QP).

3.5.6. Integrated Logistics Support (ILS) Manager

3.5.6.1. The Contractor shall designate an ILS Manager to perform and/or oversee all ILS related activities as they are defined in Chapter 5 as well as the conformity with the non-functional requirements as they are defined in SRS.

3.6. Collaboration Space and Collaborative Working Environment

3.6.1. The Purchaser will provide a Collaborative Working Environment based on multiple technical environments (Figure 2 – Collaborative Working Environment).
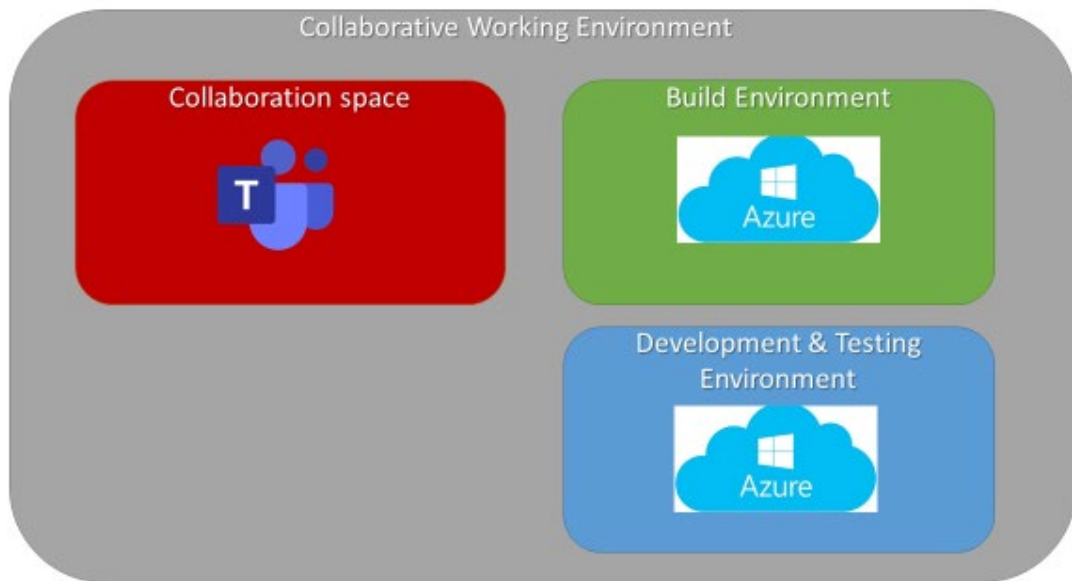
Figure 2 – Collaborative Working Environment

3.6.2.   The Purchaser will provide an unclassified Collaboration Space (based on Microsoft TEAMS) on which the Contractor shall maintain all relevant unclassified NCOP project documentation and datasets. This shall allow the Purchaser, the Contractor, NCOP project team, and IV&V Service Line to share content, collaborate and work efficiently online as a team.

3.6.3.   The Collaboration Space shall identify all relevant classified documents by title, unless a title is itself classified.

3.6.4.   The Collaboration Space shall allow the Purchaser access to the RAID Log, Quality Log, Project Master Schedule, and other datasets and tools required by this SOW.

3.6.5.   The Collaboration Space shall allow the Purchaser access to the finished and in-progress items, including design specifications and documentation.

3.6.6.   The Contractor shall maintain the Collaborative Working Environment (based on Microsoft AZURE) for the development activities of NCOP:
  • Source code configuration management ;
  • Development & Testing ;
  • Build and packaging ;

3.6.7.   Collaborative Working Environment shall contain links to the latest baseline of the software during all phases of project.

3.6.8.   The Contractor shall continuously update the CWE with the development artefacts.

3.7. Risk Action Issue Decision Log (RAID Log)

3.7.1. As part of the PRINCE2 methodology, the project management will be focused on delivering the product and not the documents. In order to simplify and trace accurately all the elements emerging from the project, the Contractor shall put in place a RAID Log.

3.7.2. The RAID Log will categorize and time stamp:
- Risks ;
- Actions ;
- Issues ;
- Decisions ;

3.7.3. The required fields for each section will be set and approved at PMR.

3.7.4. The RAID Log shall be available at any time in the CWE. It can be presented as an excel file or as a SharePoint list from which exports will be operated for contractual purposes.

3.7.5. The RAID Log shall provide the following data for each entry:

Table 3-2 RAID outlines

Serial	Requirement
1	Unique RAID identifier
2	Category (R/A/I/D)
3	RAID title
4	Description
5	Owner Organisation
6	Status
7	Reason
8	Priority
9	Importance
10	Milestones
11	Date reported
12	Assigned to
13	Contract Update required
14	Resolution information
15	Closure information
16	Related to (RAID item)
17	Source

3.8. Project Management Plan

3.8.1. The Contractor shall establish, provide and maintain a Project Management Plan (PMP) which shall describe how the Contractor will implement the totality of the

project, including details of the project control that will be applied and how the BMD Tranche Concept will be implemented along the project.

3.8.2. The PMP shall identify all major Contractor operating units and any Subcontractors involved in the development of the NCOP system and a description of the portion of the overall effort or deliverable item for which they are responsible.

3.8.3. The PMP shall cover all aspects of the project implementation, including the Contractor's project management structure and project control processes, personnel assignments, and external relationships necessary to provide the capability as required by this Contract, including alignment with the BMD Tranche Concept, as laid out in the key documents of the Tranche Information Package (ref OO)

3.8.3.1. The PMP shall describe the team capacity for all phases of the project. Even after the last delivery, the Contractor shall ensure that the sufficient capacity will remain in place to cover the support expected by this project.

3.8.4. The PMP shall be sufficiently detailed to ensure that the Purchaser is able to assess the Contractor plans with insight into the Contractor's plans, capabilities, and ability to satisfactorily implement the entire project in conformance with the requirements as specified in this SOW.

3.8.5. The PMP shall describe how the various project management processes (quality management, configuration management, risk management, etc.) are integrated, either via a tool set and/or internal project management practices.

3.8.6. The PMP shall describe how Collaboration Space and Collaborative Working Environment will be used to maintain communication between the Purchaser and the Contractor.

3.8.7. The PMP shall cover at least the following areas:

3.8.7.1. Project scope:
- Description;
- Major deliverables;
- Assumptions;
- Constraints.

3.8.7.2. Project organization:
- Internal structure, including a project organizational diagram;
- Roles and responsibilities of each organizational unit;
- Key personnel, their qualifications, and their responsibilities;
- Organizational boundaries between the project organization and the parent and subcontracted organizations;
- Governance structure.

3.8.7.3. Project management processes:

- Project start-up, including staffing, basis of cost and schedule estimates, and project infrastructure;
- Project control, including monitoring, reporting, and change management;
- Responsibility assignment matrix (Responsible, Accountable, Consulted, Informed – RACI);
- Issue management, including the identification, reporting, assessment, and logging of project issues;
- External communication and engagement management, including a proactive approach with regards to the coordination with NCI Agency and the stakeholders, including the Project's Website, its establishment, maintenance and use, Project Highlight Reports, Project Checkpoint Reviews, Request for Information (RFI), stakeholders and NCI Agency engagement plan and schedule, and all other communications with the Purchaser;
- Internal communication and engagement management, including a proactive approach with regards to the coordination within the Contractor's project teams required to guide them to achieve as a team of teams the project goals;
- Risk management, including the Contractor's process for risk identification, assessment, mitigation, monitoring, and reporting;
- Security management, including personnel and facility security and system security accreditation (where applicable);
- Purchaser involvement via Formal Reviews, Joint Technical Reviews, Working Group Reviews, (in)formal meetings, reporting, modification and change, implementation, verification, approval, acceptance and access to facilities.

3.8.7.4.   Software Project Management

3.8.7.5.   The PMP shall cover software project management aspects including managerial, technical and supporting process plans in accordance with IEEE Std 16326-2019 and ISO/IEC 12207-2017.

3.8.7.6.   Quality Management

3.8.7.6.1.   The PMP shall describe how Contractor will establish and use quality management programme, as described in 3.14.

3.8.7.6.2.   The PMP shall include as an annex a Quality Plan compliant with AQAP 2105. The QAP shall be updated as required.

3.8.7.6.3.   Quality management programme shall cover, but not be limited to quality assurance of work processes (system/software engineering activities on requirements, design and implementation), internal verification and validation, Joint Technical Reviews, Working Group Reviews, Formal Reviews and audits.

3.8.7.6.4.   Contractor's QA effort shall apply to all services and all products (both management products and specialist products) to be provided by the Contractor under this contract (this includes all hardware and software – COTS as well as developed for this project – documentation and supplies that

are designed, developed, acquired, maintained or used, including deliverable and non-deliverable items.

3.8.7.6.5.   The Contractor's QA effort shall ensure that procedures are developed, implemented and maintained to adequately control the management and control, analysis, design, development, production, purchasing, installation, inspection, testing, configuration management and customer support of all services and all products (both management products and specialist products), in accordance with the requirements of this Contract.

3.8.7.6.6.   The Contractor shall prepare, perform and document SRR, PDR, CDR based on the contractual requirements and tailoring IEEE 15288:2014 requirements and guidance to the specific project needs.

3.8.7.6.7.   The Contractor shall provide report(s) to the Purchaser following the completion of any verification, validation or assurance event, including testing.

3.8.7.6.8.   Quality management programme shall apply both the contractual requirements and the NATO requirements for quality identified by AQAP 2110, AQAP 2210 and AQAP 2310, to provide confidence on the Contractor's capability to deliver products that conforms to the Contractual requirements. In case of inconsistencies exist between the contract requirements and the AQAPS, the contract requirements shall prevail.

3.8.7.6.9.   The PMP shall define the major quality checkpoints that will be implemented while executing the project and the quality process to be used at each checkpoint.

3.8.7.6.10.   The PMP shall cite any references used in the quality management, such as methodologies, tools or best practice material.

3.8.7.6.11.   The PMP shall identify the organization and responsibilities of the quality assurance team and its relation to the project team.

3.8.7.6.12.   If sub-contracted quality resources are used, the PMP shall describe the controls and processes in place for monitoring the sub-Contractor's work against agreed timelines and levels of quality.

3.8.8.   The PMP shall include, as an annex, a Configuration Management Plan as described in 3.13.3.

3.8.9.   The approval of the PMP by the Purchaser signifies only that the Purchaser agrees to the Contractor's approach in meeting the requirements. This approval in no way relieves the Contractor from its responsibilities to meet the requirements stated in this Contract. The requirements of the Contract supersede any statement in the PMP in case of any conflict, ambiguity or omission.

3.8.10.   The PMP shall describe the relationship between the PMP and subordinate plans:
- Quality Plan (QP)
- Configuration Management Plan (CMP)

- Risk Management Plan (RMP)
- System Development Plan (SDP)
- Project Test Plan (PTP)
- Integrated Logistic Support Plan (ILSP)

3.8.11. The Contractor shall ensure that the PMP remains current throughout the duration of the Project to reflect the actual state of the Contractor's organisation and efforts, and maintain a current copy on the Collaboration Space.

3.9. Project Product Breakdown Structure

3.9.1. The Contractor shall establish and maintain Project Product Breakdown Structure (PPBS). PBS is a hierarchical list of all the products to be produced during the project where PRINCE2 guidance may be used.

3.9.2. The Contractor shall establish and maintain product-based planning which shall include a product description of the final product of the project, a Project Product Breakdown Structure (PPBS), Product Descriptions of each product and a Product Flow Diagram.

3.9.3. The PPBS shall describe the hierarchical structure that breaks down a final product into its constituent sub-products.

3.9.4. The PPBS shall describe the products to a sufficient level of detail to understand what is needed to build the final product and to clarify and identify all necessary work for the creation of the final product. The PPBS shall be used to identify the activities in the Project Work Breakdown Structure.

3.9.5. The Product Description shall be sufficient to understand the purpose and function of the product and the level of quality required of the product.

3.9.6. The Product Flow Diagram shall show the sequence of delivery of products and identify dependencies between those products, including external products.

3.9.7. The Contractor shall not change the PPBS without the approval of the Purchaser.

3.10. Project Work Breakdown Structure

3.10.1. The Contractor shall establish and maintain a Project Work Breakdown Structure (PWBS).

3.10.2. The PWBS shall structure the activities to be performed and the relationship between them and the end product.

3.10.3. The PWBS shall describe the activities to a level that exposes all project risk factors and allows accurate estimate of each work item's duration, resource requirements, inputs and outputs, and predecessors and successors.

3.10.4. The PWBS shall include a PWBS Dictionary that identifies for each work item its duration, resource requirements, inputs and outputs, predecessors and successors, assumptions, constraints, dependencies, and requirements for Purchaser support.

3.10.5.   The Contractor shall plan work contained within the lowest-level PWBS components.

3.10.6.   The PWBS shall be used as the primary framework for Contract planning and reporting to the Purchaser.

3.10.7.   The Contractor shall not change the PWBS or PWBS Dictionary, without the approval of the Purchaser.

3.11. Project Master Schedule

3.11.1.   The Contractor shall establish and maintain a Project Master Schedule (PMS) that contains all Contract events and milestones, including Contract-related Purchaser and IV&V activities and events (e.g., Purchaser reviews, provision of specific Purchaser-furnished items).

3.11.2.   The PMS shall take into accounts the external constraints coming from BMD programme events (e.g. PVS events) and the Implementation Contract delivery (e.g. deployment, Deficiency Report (DR)),

3.11.3.   The PMS shall depict the sequence, duration, and relationship among task orders, activities and work items.

3.11.4.   The PMS shall identify the start and finish dates, and duration.

3.11.5.   The PMS shall be provided in a format fully compatible with the latest commercial version of the MS Project or other Project Management Software as proposed by the Contractor and authorised by the Purchaser. The PMS shall be made available on the Collaboration Space.

3.11.6.   The initial version of the PMS shall, upon Purchaser Acceptance, be placed under the NCOP Configuration Control Board (CCB).

3.11.6.1.   Thereafter, the Contractor shall maintain the baseline version of the PMS on the Collaboration Space.

3.11.7.   The Contractor shall deliver a Performance Measurement Baseline (PMB) to include the Value Items against which the scope implementation can be planned and measured. The PMB represents what is planned to be accomplished by the contractor at any given point in time, and will be used by the Purchaser to monitor progress and performance. The PMB is an annex to the PMS.

3.12. Risk Management

3.12.1.   The Contractor shall establish a risk management program in accordance with ISO 31000:2018 and Prince2 and perform risk management throughout the period of performance of this Contract. As part of this, the Contractor shall establish and maintain a Risk Register for the project.

3.12.1.1.   The Risk Register will be part of the Risks, Actions, Issues, Decisions (RAID) Log for the project.

3.12.1.2.   In the Risk Register, the Contractor shall identify any management, technical, schedule, cost, quality and product risks.

3.12.1.3.   The Contractor shall rate each risk as High, Medium, or Low, based on its probability of occurrence and its impact on cost, schedule, and quality.

3.12.1.4.   The Contractor shall identify for each risk the measures being taken to mitigate any risk rated as high on any factor and make an assessment of the risk rate in case of implementation of the mitigation measures

3.12.2.   The Contractor shall make the Risk Register available on the Collaboration Space. The Contractor shall include in the Project Highlight Report a chart that lists all active risks rated high on any factor and note any significant forecasted changes in these risks.

3.12.3.   The Contractor shall update and brief the Risk Register at all Project Checkpoint Reviews and Formal Reviews.

3.12.4.   Risk Management Plan

3.12.4.1.   The Contractor shall prepare a Risk Management Plan (RMP) and deliver it together with the PMP.

3.12.4.2.   The RMP shall describe how the risk management will be performed.

3.12.4.3.   The RMP shall be quarterly updated.

3.12.5.   Risk Register

3.12.5.1.   This register is a record of any significant element which are relevant for the project execution.

3.12.5.2.   The Contractor shall establish and maintain a Risk Register within the RAID Log for the project.

3.12.5.3.   The Contractor shall identify management, technical, schedule, and cost risks and record them.

3.12.5.4.   The Contractor shall rate each risk as "High", "Medium", or "Low", based on its probability of occurrence and its impact on cost, schedule (including tranche/phase schedule), scope (including scope within a Tranche or phase), and quality.

3.12.5.5.   The Contractor shall identify for each risk the measures being taken to mitigate any risk rated as High on any factor and make an assessment of the risk rate in case of implementation of the mitigation measures.

3.12.5.6.   The Contractor shall provide the initial baseline version of the RAID Log at the PMR and maintain it throughout the period of the Contract.

3.12.5.7.   The Contractor shall make the RAID Log available on the Collaboration Space.

3.13. Configuration Management

3.13.1. General

3.13.1.1.   The CCB baselines and recommends any changes to the Functional, Allocated, Developmental, and Product Baseline.

3.13.1.1.1.   The Contractor shall serve as an advisory member of this board.

3.13.1.2.   The Contractor shall implement a Configuration Management (CM) program consistent with ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427.

3.13.1.2.1.   The Contractor shall ensure that an effective CM organisation is established and maintained to implement the CM program and manage the CM functions (configuration identification and documentation, configuration control, configuration status accounting, configuration audits).

3.13.1.2.2.   The Contractor shall be responsible for the application of all necessary CM procedures throughout the duration of the Contract.

3.13.1.3.   The Contractor shall maintain a version control system as part of its CM program.

3.13.1.3.1.   This version control system shall allow for the unique identification of all changes to the deliverables including documents, no matter how minor the change.

3.13.1.4.   The Contractor shall create and maintain 4 (four) configurational baselines for each NCOP release baseline (ref L), as follows:
   a) Functional Baseline (FBL or "as required")
   b) Allocated Baseline (ABL, or "as-designed");
   c) Product Baseline (PBL, or "as-built");
   d) Service Baseline (SBL, or "as-delivered", or "as-deployed").

3.13.1.5.   The Contractor's developed baselines shall be encapsulated and maintained by the Contractor in a database established by the Contractor as specified under Configuration Management Tools.

3.13.2. Baselines

3.13.2.1.   <u>Functional Baseline</u>. The Functional baseline shall be derived from the NCOP SRS and shall be established at the successful completion of the SRR with the approved updated SRS.

3.13.2.2.   <u>Allocated Baseline</u>. The Allocated Baseline for NCOP shall be established after successful completion of the PDR and shall be finally approved at CDR. The Contractor shall include the NCOP System Design Specification (SDS) (including the Requirements Traceability Matrix), the Project Test Plan, and any other documentation deemed appropriate by the Contractor, in

accordance with provisions of IEEE 12207, to ensure NCOP requirements are reflected in the system during development and integration, can be demonstrated through a comprehensive set of tests, and can be delivered in the form of the Product Baseline. The Contractor shall establish the Allocated Baseline for each NCOP release product.

3.13.2.3.   Product Baseline. The Product Baseline shall be established after successful completion of the CDR. It shall contain all delivered CSCI and documentation that comprise the NCOP system and any subsequent releases. It reflects the "as-built" configuration of the system.

3.13.2.3.1.   Since Incremental Development with Multiple Deliveries Approach is used, the Contractor shall establish the first PBL for the NCOP first released product, and the second PBL for the NCOP second release combining the first release functionalities with the additional ones. PBL for second baseline shall include, therefore supersede the first baseline. The third and final PBL shall include the second baseline, therefore supersede the second baseline and shall be the sole and final baseline encompassing all NCOP functionalities.

3.13.2.3.2.   The Contractor shall include in the Product Baseline release package the following elements, as a minimum:

Table 3-3 Product Baseline release package content

Serial	Requirement
1	All required CSCI.
2	The source code of elements categorised as foreground knowledge, script, and configuration setting baseline, including the documentation for these items.
3	The script and configuration setting baseline, including documentation for these items.
4	Release notes, which include a description of what is new or changed
5	List of open known problems and faults. Workarounds must be defined
6	The SRS and SDS versions against which the baseline has been developed.
7	Interface Control Documents for NCOP interfaces
8	All design artefacts provided as part of the SDS, updated to reflect the Product Baseline.
9	Conversion programs and instructions
10	Plug-ins/add-ins, glue-code and interfaces.
11	Parameter definitions.
12	Initial data sets.
13	Online help files.

14	Test procedures and test cases for any automated tests, along with all source data for the manual and automated tests and including the documentation for these items.
15	Copyright and license information.
16	Instructions for system administration staff to follow to save the previously installed system baseline, to install the new baseline, and to recover the old baseline if the new baseline installation must be interrupted or aborted.
17	Installation scripts.
18	Instructions on how to identify and report problems after acceptance.
19	Instructions for the generation of new Product baselines, distribution and installation of new software versions, and any test procedures and test cases necessary to verify the generated baseline before distribution.
20	Software Version Description (SVD)
21	Additional documentation artefacts identified in the SRS.
21	Support Documentation (operation and support manuals, Test Crew and System Administration training materials, CMDB extract)

3.13.2.4. Service Baseline. The Service Baseline (SBL) is the "approved" product configuration identification (documentation) for all delivered CSCI and other documentation that comprise any subsequent releases.

3.13.2.5. Since Incremental Development with Multiple Deliveries Approach is used, the Contractor shall establish the first SBL for the NCOP first released product, and the second SBL for the NCOP second release combining the first release functionalities with the additional ones. SBL for second baseline shall include, therefore replace the first baseline fully. The third and final SBL shall include the second baseline, therefore supersede the second baseline and shall be the sole and final baseline encompassing all NCOP functionalities.

3.13.2.6. The third and final SBL shall be established after successful completion of Validation Process and approved at the FSA.

3.13.3. Configuration Management Plan (CMP)

3.13.3.1. The Contractor shall describe their configuration management concept and methodology in a Configuration Management Plan (CMP). The Contractor shall align the CMP with the Sprint/Agile methodology in place.

3.13.3.2. As a minimum, the Contractor's CMP shall describe:

Table 3-4 CMP outlines

Serial	Requirement
1	Configuration identification and documentation
2	Baselines – functional and product

3	Configuration control
4	Interface management
5	Audits and reviews
6	Change Request (CR) process
7	Relationship with the Schedule of Supplies and Services

3.13.3.3.   The Contractor shall define Configuration Management organization and procedures in place to implement the CM program, manage the CM functions and the role of the CCB.

3.13.3.4.   The Configuration Management Plan shall describe relation between the CM system at the Contractor's site and the CM system to be deployed at the Purchaser's site.

3.13.3.5.   The Configuration Management Plan shall describe how the Configuration Management data will be handed-over to the Purchaser to be further supported as described in Section 5.

3.13.4.   Configuration Item Identification and Documentation

3.13.4.1.   The Contractor shall establish, document and maintain a configuration identification system in accordance with ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427.

3.13.4.2.   The Contractor shall support maintenance of following types of configuration items:

- Documentation
- Software products

3.13.4.3.   The Contractor shall use configuration identification to divide the system into configuration items (CI) for ease of management. The Contractor shall explain the criteria and the rationale used in the identification process, based on the criteria for selection of Cis in accordance with ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427.

3.13.4.4.   The CIs shall be chosen in accordance with ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427 and in a way to assure visibility throughout the development effort and easy support to the operational system after acceptance.

3.13.4.5.   Every CI and its associated documentation shall have a unique identifier and name.

3.13.4.6.   The SW versioning numbering scheme shall be compliant with the NCIA document SMD TI Version numbering 2-04.

3.13.4.7.   Each commercial/government/NATO/modified-off-the-shelf (OTS), adapted, and developed software application or module shall be designated as a CI.

3.13.4.8.   Each complete hardware element shall be designated as a CI, if applicable.

3.13.4.9.   The CI identification system shall provide the ability to easily trace higher and subordinate CIs.

3.13.4.10.   The CI structure shall be a tree structure with NCOP being the top level CI and shall show the relationships between the lower level CIs. The Purchaser reserves the right to modify the CI structure prior to its baselining.

3.13.4.11.   The Contractor shall populate and maintain a CMDB tool with the identified CIs (documentation and software) and configuration baselines.

3.13.4.12.   Each physical deliverable shall be marked with the Contract number, its associated CI identifier, name, version number, release date, and media copy number.

3.13.5.   Configuration Control

3.13.5.1.   The Contractor shall be responsible for issuing in a timely manner, as required by this SoW, all approved changes and revisions to the functional, allocated and product baseline documents included in the Contract. This includes changes originated both by the Contractor and the Purchaser.

3.13.5.2.   Where a change affects more than one document, or affects documents previously approved and delivered, the Contractor shall ensure that the change is properly reflected in all baseline documents affected by that change.

3.13.5.3.   All design changes shall be appropriately reflected in the technical documentation by the issue of appropriate changes or revisions and shall be provided to the Purchaser.

3.13.6.   Change Requests

3.13.6.1.   The Contractor shall establish and maintain a process for identifying, reviewing, approving, and tracking all requests for changes to NCOP baselines in accordance with ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427.

3.13.6.2.   Change Requests identify proposed changes to the Functional, Allocated or Product Baselines.

3.13.6.3.   Changes to the Contractor's developed baselined CIs shall be processed as either Class I or Class II CRs as required by ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427 and the change request requirements specified herein.

3.13.6.4.   The Contractor shall prepare and manage Change Requests as follows:
- Class 1 Change Requests affect the documentation and baselines managed by the NCOP Configuration Control Board and shall be approved by the Purchaser.

- Prior to implementation, all Class 2 CRs shall be submitted by the Contractor to the Purchaser for review and classification concurrence. If the Purchaser's representative does not concur in the classification, Class 1 CR procedures shall be applied by the Contractor and the CR shall be formally submitted to the Purchaser for approval or rejection.

3.13.7.   Deficiency Reports

3.13.7.1.   The Contractor shall establish and maintain a process for reporting, tracking, and resolving deficiencies in the Baselines.

3.13.7.2.   Deficiency Reports (DRs) document problems during the design, configuration, implementation, or operation of the NCOP system.

3.13.7.3.   DRs shall be closed when the identified problem is resolved through procedure or other action that does not affect the system baselines, or when a corresponding Change Request is opened to correct the deficiency through a change to a baseline.

3.13.7.4.   If required, the Contractor shall prepare, handle, and submit for Purchaser's approval, RFDs and RFWs as required by ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427.

3.13.8.   Interface Control Documents

3.13.8.1.   The Contractor shall document all the interfaces between the NCOP system and other systems and applications identified in the SRS (i.e., including application programming interfaces) and consider them as CIs. These interfaces shall be documented as Interface Control Documents (ICD) and provided to the NCOP Configuration Control Board to be included under Developmental Baseline and Product Baseline.

3.13.9.   Configuration Status Accounting

3.13.9.1.   The Contractor shall maintain a Configuration Status Accounting (CSA) system for all CIs. This system shall be capable of recording and reporting on the status of the configuration baselines and maintaining traceability of all configuration changes to the current baselines.

3.13.9.2.   The CSA system shall be maintained and provided as a database, spreadsheet, or version control system that provides the following data for each CI:

Table 3-5 CI outlines

Serial	Requirement
1	Associated baseline
2	CI identifier
3	CI name
4	Version number
5	Release date

6	Audit date

3.13.9.3.   The CSA system shall provide the following data for each Change Request (CR):

Table 3-6 CR outlines

Serial	Requirement
1	Unique CR identifier
2	CR title
3	Description
4	Justification
5	Category
6	POC identifying CR
7	Priority
8	Criticality
9	Baseline(s) affected
10	CIs affected
11	Impact on schedule, cost and performance
12	Date opened
13	Date approved or rejected
14	Date closed
15	Status.

3.13.9.4.   The CSA system shall provide the following data for each Deficiency Report (DR):

Table 3-7 DR outlines

Serial	Requirement
1	Unique DR identifier
2	DR title
3	Description
4	Category
5	POC identifying DR
6	Priority
7	Severity
8	Impact on SW product characteristic, schedule, cost and performance
9	Baseline(s) affected
10	CIs affected
11	Date opened
12	Date approved or rejected
13	Date closed

14	Status
15	Environment

3.13.9.5.   The CSA system shall be maintained in such a manner that it can readily be copied in part or in total.

3.13.9.6.   The CSA system shall provide a complete historical record of all CIs, CRs, and DRs.

3.13.9.7.   The CSA system shall be capable of providing the following reports:

Table 3-8 CSA's report

Serial	Requirement
1	List of CIs associated with a baseline
2	List of all CRs and DRs associated with a CI
3	List of all audits
4	Log of all changes to a baseline

3.13.9.7.1.   At the end of the Contract (FSA), the Contractor shall deliver a set of final CSA reports for each CI in electronic format.

3.13.10.   Configuration Management Tools

3.13.10.1.   Subject to approval of the Purchaser under the Technology Substitution clause, the Contractor shall establish and maintain the baselines referred to above using a version control/configuration management automated tool from the Collaborative Working Environment.

3.13.10.1.1.   The version control/configuration management automated tool shall include the capabilities for baselines management, source control versioning, configuration item identification, change request management, deficiency reporting management, and configuration status accounting.

3.13.10.2.   The Purchaser will provide the Contractor access to the version control/configuration management tool.

3.13.10.3.   The Purchaser will provide the Contractor access to the source code of the baseline via the version control/configuration management tool.

3.13.10.4.   Upon request from the Purchaser, the Contractor shall support functional (FCA) and physical configuration audits (PCA) to demonstrate that the actual status of all CIs matches the authorised state of CIs as registered in the CSA reports, CMDB and other documentation.

3.13.10.5.   The Contractor shall document the results of the audits and solve any deficiencies found during the Configuration Management Audits within the agreed timeframe and update the baseline accordingly.

3.13.11.   Software Version Description

3.13.11.1. The Contractor shall produce a Software Version Description (SVD) for each Baseline and for each new release thereafter.

3.13.11.2. The SVD shall list by identifying numbers, titles, abbreviations, dates, version numbers, and release numbers, as applicable, all physical media (for example, listings, disks) and associated documentation that make up the software version being released.

3.13.11.3. The SVD shall include applicable security and privacy considerations for the release.

3.13.12. The SVD shall contain a list of all changes incorporated into the software version since the previous version.

3.13.12.1. The SVD shall identify any possible problems or known errors with the software version at the time of release, any steps being taken to resolve the problems or errors, and instructions (either directly or by reference) for recognizing, avoiding, correcting, or otherwise handling each one. The information presented shall be appropriate for the user who may need advice on avoiding errors.

3.14. Quality Management

3.14.1. General

3.14.1.1. The Contractor shall establish, execute, and maintain an effective Quality Management (QM) program throughout the Contract lifetime.

3.14.1.2. The Contractor shall recognise the application of AQAP 2070 in the implementation of this project.

3.14.1.3. The Contractor shall periodically review the QA programme and audit it for adequacy, compliance and effectiveness.

3.14.1.4. The Contractor's QM program shall be based on AQAP-2110, which incorporates by reference ISO 9001 directive, and on NATO AQAP-2210

3.14.1.5. The QA Plan shall refer to all applicable contract specific procedures, including title and identification, and shall be made available for review by the Purchaser QAR and shall be subject to Purchaser QAR approval.

3.14.1.6. The Contractor shall provide a Quality Plan for the Purchaser review and approval in accordance with the requirements of AQAP-2105, Edition 2 and the above mentioned AQAPs, and as amended herein. The acceptance of the Quality Plan by the Purchaser signifies only that the Purchaser agrees to the Contractor's approach in meeting the requirements. This acceptance in no way relieves the Contractor from its responsibilities to meet the requirements stated in this Contract. The Quality Plan shall be updated annually throughout the lifecycle of the project.

3.14.1.7. The Contractor's Quality Plan shall distinguish between the Quality Assurance process (including product assurance and process assurance) and Quality Control Process and plan, manage and resource both.

3.14.1.8. The Quality Plan shall include a contract specific description of the organizational structure and identify those responsible for ensuring that the required activities are carried out. The responsibilities and authorities of responsible personnel related to quality, including the Management Representative, shall be described. The inter-relationships between those responsible personnel shall be explained. The independence of personnel designated for contract related quality responsibilities shall be clearly documented. The quality organization shall have sufficient responsibility, authority, organisational freedom and independence to review and evaluate activities, identify problems and initiate or recommend appropriate corrective action.

3.14.1.9. The QM program shall ensure that procedures are developed, implemented and maintained to adequately control the design, development, production, testing, configuration management, and support phase of all deliverables. The Contractor shall document these procedures in the QA Plan

3.14.1.10. The Contractor QA Plan shall include the details of the internal quality review and approval process for all the deliverables before released for Purchaser review and approval.

3.14.1.11. The Contractor shall establish and maintain, as part of the Collaboration Space, a project Quality Log, as specified in PRINCE2 that lists all planned and performed quality checks on Contractor deliverables both for all applicable products and documentation. The list shall cover both the Contractor's internal quality and technical reviews and the Contractual formal reviews performed by the Purchaser. Contractor's internal audits and technical reviews prior a formal review and the contractual ones shall be also addressed by the Quality log.

3.14.1.12. The Contractor shall establish and implement a Corrective Action System to ensure prompt detection, documentation and correction of problems and deficiencies (non-conformities). The Contractor shall document the Corrective Action System in the Quality Plan.

3.14.1.13. The Corrective Action System shall track all reported and recorded problems and deficiencies until their closure and clearance.

3.14.1.14. The contractor shall demonstrate that all the non-conformities are solved before the product acceptance.

3.14.1.15. Quality management personnel shall be of sufficient number and have sufficient resources to adequately and effectively monitor and control the QA Programme.

3.14.1.16. The Purchaser reserves the right to perform Reviews and Quality audits at any of the Contractor (or Sub-Contractor(s)) facilities. If notified by the

Purchaser, the Contractor shall cooperate and facilitate such quality audit by providing the relevant personnel and data/documentation to support Purchaser during the activity.

3.14.1.17. The Contractor shall make all support tools available for demonstration to the Purchaser QAR or his designated representative, upon request.

3.14.1.18. The Contractor shall make his quality documented information, and those of his subcontractors, available for evaluation by the QAR/NQAR throughout the duration of the Contract

3.14.1.19. The Contractor shall perform sprint retrospective meetings at the end of each sprint to give the opportunity to the Contractor's teams to perform a self-assessment and create improvement plans for the next sprints. A Contractor's Quality representative shall be present and the NQAR shall be timely informed.

3.14.1.20. The Contractor shall perform static code analysis during the system development and integration. A Contractor's Quality representative shall confirm that the static code analysis and source code reviews are timely performed and reported, and the NQAR shall be timely informed.

3.14.1.21. The Contractor shall be solely responsible for the conformance to requirements, of products provided to the Purchaser. The Contractor SHALL deliver all the Certificate of Conformity (CoC) for products, COTS SW (including firmware) released by the COTS Vendors unless otherwise instructed. The CoCs delivered by the Contractor SHALL be part of the acceptance data package of the product.

3.15. Meetings

3.15.1. General

3.15.1.1. Unless otherwise specified, at least one week before all meetings required under this Contract, the Contractor shall send an invitation, including:

Table 3-9 Meeting invitation outlines

Serial	Requirement
1	Purpose
2	Agenda
3	List of participants
4	Date, hour, place, duration

3.15.1.2. The Contractor shall record meeting minutes and post them on the Collaboration Space within 5 working days after the meeting.

3.15.1.3. The meeting minutes shall include:

Table 3-10 Meeting minutes outlines

Serial	Requirement
1	Date, time and location of the event
2	List of participants
3	Meeting Agenda
4	Input documents
5	Discussion
6	Comments raised
7	Decisions taken
8	Action Items
9	Attachments

3.15.1.4. The minutes shall not be used as a mechanism to change the terms, conditions or specifications of the Contract, nor as a vehicle to alter the design or configuration of equipment or systems. Such changes shall only be made by agreement, amendment or by authorised mechanisms as set forth in the Contract.

3.15.2. Project Checkpoint Reviews

3.15.2.1. The Contractor shall conduct Project Checkpoint Reviews (PCR) at least once a month throughout the Contract period of performance. By default, the PCRs shall take place in the week after delivery of the PHR. However; the date and time of PCRs may vary and, where possible, be scheduled with other project meetings

3.15.2.2. The Contractor shall identify and discuss problems with the Purchaser's NCOP Project Manager promptly, however, and not delay this until the next PCR.

3.15.2.3. The PCR shall be conducted in one of the Purchaser's sites or the Contractor's site and the location shall be subject to the Purchaser's Project Manager's approval. By default, NCIA The Hague shall be considered as the location to conduct PCR. However; the location of PCRs may vary and, where possible, be scheduled with other project meetings.

3.15.2.4. Attendance in person is preferred but video or telephone conferences may be accepted by the Purchaser if meeting agendas are too short to justify travel.

3.15.2.5. The Contractor shall organize the first PCR no later than one month after the Effective Date of Contract (EDC).

3.15.2.6. The Contractor shall provide the following documents for the PCR:

Table 3-11 – PCR Deliverables and documents

Serial	Activities / Documents
1	RAID Log
2	Project Checkpoint Review Report

3.15.2.7.   Entry Criteria

3.15.2.8.   The Contractor shall include in planning the PCR Entry Criteria given in Table 3-13 - PCR Entry Criteria and make them available to the Purchaser at least one (1) weeks prior to the PCR:

Table 3-12 - PCR Entry Criteria

Serial	Activities / Documents
1	Project Highlight Report
2	A preliminary PCR agenda
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Active RAID

3.15.2.9.   Success Criteria

3.15.2.10.   The Purchaser concludes that the PCR Success Criteria accomplished to complete the objectives of the PCR:

Table 3-13 - PCR Success Criteria

Serial	Requirement
1	The current issues and risks have been explained by the Contractor. Solutions or alternatives have been proposed by the Contractor.
2	Decisions have been made by the Purchaser.

3.15.2.11.   The Contractor shall prepare PCR Report and submit it within one (1) week after the completion of PCR.

3.15.3.   Formal Reviews

3.15.3.1.   Formal Reviews mark the milestones and the steps from one Contract Phase into the next. They assess where past work is mature and validated, future work is agreed upon and lessons learned are captured in the Lessons Log and Lessons Report is prepared.

3.15.3.2.   The Purchaser can use the Formal Reviews as break-points at which there will be administrative decision about whether or not continuing the project by executing the next phase. The Purchaser has the right to re-assess if the Contract and the capability it implements is still in NATO's best interest. If not, the Contract will be terminated and Premature Close-out procedure (see 3.19.2) will be activated.

3.15.3.3. A Formal Review will be assessed by the Purchaser using the Success and Fail Criteria. The result of the assessment shall be one of the following:

- Success: All items in the Success Criteria are met. The Purchaser will commit to continue the project.

- Provisional Success: One or more items of the Success Criteria are not fully achieved. They are recognised as in progress and will be completed within an agreed schedule. The Purchaser will commit to continue the project or wait until completion of all identified items. The pending items will be reassessed during other Checkpoints and the status of the Formal Review can be set to Success.

- Fail: One or more items of the Fail Criteria are met. This Formal Review can be a break-point for the Contract. The Purchaser may choose not to continue the project. A Cure Plan may be applicable, or the Contract may be terminated.

3.15.3.4. The result of the Formal Review assessment will be a written document signed by the Purchaser formalising the decisions made, or any other form that is deemed appropriate for the project.

3.15.3.5. The Contractor shall plan and execute the following Formal Reviews with the Purchaser:

Table 3-14 – Formal Reviews

Serial	Activities
1	Project Management Review (PMR)
2	System Requirements Review (SRR)
3	Preliminary Design Review (PDR)
4	Critical Design Review (CDR)
5	Test Readiness Review (TRR)
6	Support/Sustainment Qualification Review (SQR)
7	System Test Review (STR)
8	System Acceptance Test (SAT)

3.15.3.6. The scope and requirements for Formal Reviews are described in Section 4.

3.15.3.7. At least two weeks before each Formal Review, the Contractor shall send an invitation to the participants and an organisation paper, including as a minimum the following:

Table 3-15 – Formal Review Details

Serial	Activities / Documents
1	Agenda
2	List of participants,
3	Date, hour, location of the Formal Review

3.15.4. Other Meetings

3.15.4.1. Project Kick-Off Meeting

3.15.4.1.1. The Contractor's Project Manager or designated representative shall participate in an NCOP project kick-off meeting with the Purchaser's Project Manager, members of the NCOP Integrated Project Management Team (IPMT) and BMD Programme representatives. This meeting will be held at the Purchaser's facility.

3.15.4.1.2. Contractor's attendance in person is necessary unless determined by the Purchaser that a video meeting satisfies the requirement.

3.15.4.1.3. The Contractor shall be at least prepared to present a draft Project Management Plan and review the organisation of the Collaboration Space.

3.15.4.2. The Contractor shall provide the following documents for the KOM:

Table 3-16 – KOM Deliverables and documents

Serial	Activities / Documents
1	Initial Project Management Plan
2	Kick-off Meeting Report

3.15.4.3. Entry Criteria

3.15.4.4. The Contractor shall include in planning the KOM Entry Criteria given Table 3-18 - KOM Entry Criteria and make them available to the Purchaser at least one (1) weeks prior to the KOM:

Table 3-17 - KOM Entry Criteria

Serial	Activities / Documents
1	Effective Date of Contract passed
2	A preliminary KOM agenda
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Contractor Project Manager or representative designated and present
6	Purchaser Project Manager or representative designated and present
7	IPMT designated and present
8	The following Purchaser items: • Collaborative Working Environment

3.15.4.5. Success Criteria

3.15.4.6. The Purchaser concludes that the KOM Success Criteria accomplished to complete the objectives of the KOM:

Table 3-18 - KOM Success Criteria

Serial	Requirement
1	All resources requested to execute the plan are in place
2	An initial Project Management Plan has been presented by the Contractor

3	The organization of the Collaboration Space has been reviewed
4	All relative documents have been approved
5	The Contractor has access to: • Collaborative Working Environment

3.15.4.7.   The Contractor shall prepare KOM Report and submit it within one (1) week after the completion of KOM.

3.15.4.8.   KOM shall occur not later than two (2) weeks after EDC.

3.15.4.9.   NCOP Integrated Project Management Team/Configuration Control Board Meetings.

3.15.4.9.1.   The Contractor's Project Manager or designated representative shall participate in NCOP Integrated Project Management Team and CCB meetings as requested by the NCIA Project Manager.

3.15.4.9.2.   For each CCB the Contractor shall provide the status of all active change requests.

3.15.4.9.3.   Attendance in person is preferred but via video or telephone conferences may be accepted by the Purchaser if meeting agendas are too short to justify travel.

3.15.4.10.   Working Group meetings

3.15.4.10.1.   In support of sprint development the Contractor shall establish task-oriented working groups with NATO subject matter experts (SMEs).

3.15.4.10.2.   The Contractor shall organise Working Group meetings to conduct reviews with NATO subject matter experts as specified in chapter 4.3.12.

3.15.4.10.3.   The technical reviews supporting Working Groups shall be carried out in the formula of the Joint Technical Reviews and Working Group Reviews.

3.15.4.11.   Additional meetings

3.15.4.11.1.   The Contractor shall identify to the Purchaser's Project Manager any other meetings with NATO personnel required to support this Contract.

3.15.4.11.2.   Upon approval by the Purchaser's Project Manager, the Contractor shall schedule and conduct such meetings, which shall be mentioned in that month's Project Highlight Report.

3.16. Project Highlight Report

3.16.1.   The Contractor shall provide, no later than the third business day of each month, a Project Highlight Report (PHR). This report shall summarise activities, including:

Table 3-19 – PHR Content

Serial	Requirement
1	Summary of contract activities during the preceding month, including the status of current and pending activities;
2	Progress of work and schedule status against the PMS, highlighting any changes since the preceding report;
3	Management, development, test and acceptance test dashboards and measurements
4	Status of action items
5	Description of any identified problems, anomalies and high risk areas with proposed solutions and corrective actions;
6	Test(s) conducted and results during the engineering test and demonstration phase and the acceptance testing phase;
7	Provisional financial status and predicted invoices;
8	Changes in key Contractor personnel, as approved by the Purchaser;
9	Summary of Change Requests requested, recommended or approved;
10	Configuration Status Accounting (CSA) Report
11	Report on maintenance calls by number, type, and actions taken;
10	Plans and dates for activities and products during the following reporting period.

3.16.2.   The Contractor shall maintain an archive of Project Highlight Reports on the Collaboration Space.

3.17. Project Management Review

3.17.1.   The Contractor shall execute Project Management Review at the beginning of BL3.

3.17.1.1.   The purpose of the PMR is to review the scope and approve the plan for Contractor activities provided within this Contract.

3.17.1.2.   The PMR meeting shall be hosted by the Contractor.

3.17.1.3.   The Contractor shall provide the following documents for the PMR:

Table 3-20 – PMR Deliverables and documents

Serial	Activities / Documents
1	Project Management Plan (PMP)
2	Project Product Breakdown Structure (PPBS)
3	Project Work Breakdown Structure (PWBS)
4	Project Master Schedule (PMS)
5	Configuration Management Plan (CMP)
6	Risk Management Plan (RMP)
7	System Development Plan (SDP)

8	Initial Project Test Plan (PTP)
9	Quality Log
10	RAID Log
11	Change Request Log
12	Lessons Log
13	Deficiency Reports
14	Project Management Review Report (PMR)

3.17.1.4.   Entry Criteria

3.17.1.5.   The Contractor shall include in planning the PMR Entry Criteria given Table 3-22 - PMR Entry Criteria and make them available to the Purchaser at least one (1) month prior to the PMR:

Table 3-21 - PMR Entry Criteria

Serial	Activities / Documents
1	The effective date of contract is passed
2	A preliminary PMR agenda
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	The Collaborative Working Environment (PFE)
6	The Purchaser has shared the security settings

3.17.1.6.   Success Criteria

3.17.1.7.   The Purchaser concludes that the PMR Success Criteria accomplished to complete the objectives of the PMR:

Table 3-22 - PMR Success Criteria

Serial	Requirement
1	The scope and the plan of the project have been detailed by the contractor
2	The scope and the plan are approved by the Purchaser
3	All the documents have been approved by the Purchaser
4	The Sprint delivery has been understood and taken into account by the Contractor
5	The contractor has been able to use the Collaborative Working Environment
6	The project risks are understood; plans, process and resources exist to effectively manage them. Steps to mitigate risks are identified in the RAID Log.
7	The security settings are available to the Contractor

3.17.1.8.   The Contractor shall prepare PMR Report and submit it within one (1) week after the completion of PMR.

3.17.1.9.   PMR shall occur not later than one (1) month after EDC.

3.18. Project Status Assessments

3.18.1.   The project will be continuously assessed by the Purchaser through a series of control points. These control points are certain events like Milestones in addition to monthly Project Checkpoint Reviews.

3.18.2.   Milestones

3.18.2.1.   Milestones are the certain events that are held at the end of each development phase to provide visibility to system-wide issues, synchronise the management and engineering perspectives and verify that the goals of the phases have been achieved. SRR, PDR, SDR, TRR, FAT are examples to Milestones.

3.18.2.2.   Build Process Milestones such as SRR, SDR, and FAT focus the detailed content for a defined scope.

3.18.2.3.   The Contractor shall clearly identify in the Project Master Schedule all Milestones identified in this SOW.

3.18.3.   Checkpoints

3.18.3.1.   Checkpoints are the selected Milestones or events in the Project Master Schedule used to ensure that the project status is on agreed track. They have clear expectations and tangible results.

3.18.3.2.   The Contractor shall clearly identify the Checkpoints and the associated Milestones stated in this SOW in the Project Master Schedule.

3.18.4.   Checkpoint Assessment

3.18.4.1.   The project will be assessed at each Checkpoint by the Purchaser based on the associated Milestones.

3.18.4.2.   "Status Indicators" as traffic lights, Red-Amber-Green colours, will be used to visually indicate the status of the associated Milestones at the time of assessment. A Status Indicator will be assigned to each Milestone according to the amount of schedule deviation as defined in Table 3-24 - Status Indicators for Milestones:

Table 3-23 - Status Indicators for Milestones

Milestone Deviation	Description	Status
0 - 15 days	The Milestone is achieved earlier than the scheduled date or within fifteen (15) days behind the schedule.	Green
15 - 30 days	The Milestone is achieved between fifteen (15) and thirty (30) days behind the schedule.	Yellow
More than 30 days	The Milestone has not been achieved yet although it is more than thirty (30) days behind the schedule.	Red

3.18.4.3.   The Purchaser will decide which Status Indicator will be assigned to the Milestones at the time of the Checkpoint assessment.

3.18.4.4.   A Checkpoint will be assessed by the Purchaser. The result of the assessment shall be one of the following:

- Success: All associated Milestones are achieved on time ;
- Provisional Success: One or more Milestones are not fully achieved. They are recognised as in progress and will be completed within an agreed schedule. The pending items will be reassessed during other PCRs and the status of the Checkpoint can be set to Success ;
- Fail: The status of one or more Milestones are not acceptable for the Purchaser. The assessment have to be repeated according to a revised plan. Contractual leverages shall apply ;

3.18.4.5.   A Checkpoint Assessment may also include warnings to the Contractor, describing the risk areas and subjects to be improved. Warnings can be issued by the Purchaser within a Formal Notification (see Paragraph 3.18.6).

3.18.4.6.   Checkpoint Assessments will be in the form of a review meeting of the Purchaser and the Contractor. The first PCR after the associated Milestone can be used for Checkpoint Assessment.

3.18.5.   Contract Phases

3.18.5.1.   The Contract Schedule is divided into logical phases called "Contract Phases" in order to assess the performance of the Contract.

3.18.5.2.   The Purchaser will commit the Contract phase by phase (not as a whole). As such, each Contract Phase is bound to certain Milestones, a Checkpoint and a payment plan.

3.18.6.   Formal Notification

3.18.6.1.   The Purchaser may inform the Contractor about certain subjects which are deemed to be not compliant to the contractual requirements and cannot be acceptable. Continuous delays, inefficient plans, unacceptable quality of services, inappropriate project organization are examples to reasons that lead to Formal Notification.

3.18.6.2.   A Formal Notification may include one or more warnings to the Contractor, which may have indication levels as "Minor", "Medium" or "Major".

3.18.6.3.   The Purchaser may use the "Formal Notification" to inform the Contractor in writing about the unacceptable conditions of the Contract based on the status assessment of Formal Reviews.

3.18.6.4.   Formal Notifications may have impact on the decision taken by the Purchaser at Formal Reviews.

3.19. Contract Close-out

3.19.1.   Planned Closure

3.19.1.1.   Planned Contract Close-out occurs after all products and services provided by the Contractor have been accepted by the Purchaser.

3.19.1.2.   The Contractor shall finalise all plans such as PMP, and its annexes CMP and QP, and all records such as RAID Log and Lessons Log.

3.19.1.3.   The Contractor shall apply the project closure practices as defined in PRINCE2.

3.19.1.4.   The Contractor shall plan a Contract Close-out Meeting (CCM) to review all products and services are delivered, and all activities are successfully completed.

3.19.1.5.   Contract Close-out Meeting (CCM) and its report shall mark the End of Contract.

3.19.2.   Premature Closure

3.19.2.1.   Premature Close-out occurs when the Purchaser determines it is in the NATO's best interest to close the Contract at an earlier phase than the FSA. It does not mean that the work in progress is simply abandoned, but that the project salvages anything of value created to date and checks that any gaps left by the cancellation of the project are clearly defined.

3.19.2.2.   Upon the decision on premature close-out, the Contractor shall:
- Update the Project Plan with actuals from the final phase ;
- Identify the status of the Developmental Items under development ;
- Identify the work that has not started yet ;
- Identify the products already developed ;
- Agree the means for recovering products that have been completed or are in progress (if appropriate) ;
- Develop an Exception Plan to include additional work to create, make safe or complete products that needs to be delivered to the Purchaser ;

3.20. Other Project Management Work

3.20.1.   Other work that the Contractor shall perform as specified under appropriate sections under the Project Management Task Area includes:

3.20.1.1.   Project and security risk analysis.

3.20.1.2.   Presentations to Purchaser meetings or conferences.

3.20.1.3.   Preparation of project information materials such as brochures, white papers, posters and a video presentation.

SECTION 4:   TECHNICAL

4.1.   General

4.1.1.   This section outlines the Technical Task Area of the NCOP Contract.

4.1.2.   The Contractor shall design, develop, integrate, test, and deliver the NCOP system. Furthermore, the Contractor shall provide engineering and support for the NCOP system.

4.1.3.   The Contractor shall develop the System Design Specification (SDS) based on an analysis and a fine-tuning of the Purchaser's functional and non-functional requirements provided in the SRS; adapt and integrate the components to establish the NCOP Product Baseline; and plan and execute a series of tests to confirm that this baseline meets the functional and non-functional requirements.

4.1.4.   The Contractor shall provide continuing engineering for the NCOP system, which shall include analysing the cost and performance impacts on the NCOP Product Baseline of changes in OTS components or system requirements, integrating approved changes, and planning and conducting follow-on tests.

4.1.5.   The NCOP system shall be made available to its users as a web-based application running on the existing NATO UNCLASSIFIED, NATO S*CRET Wide Area Network and MISSION S*CRET Wide Area Network (NSWAN/MSWAN).

4.1.6.   NCOP shall consist of a combination of custom-developed, off-the-shelf (whether commercially available or developed for other customers), and potentially, adaptations of Purchaser-provided prototypes and systems.

4.1.7.   NCOP shall be built following a Component-Based Framework approach (CBF) for reusability of components and a Service Oriented Architecture (SOA) to provide for flexibility, scalability and agility, to minimise the impacts of future modifications to accommodate changes in other NATO systems and interfaces, as well as changes in the products and technologies employed in the NCOP-2 capability.

4.1.8.   The Contractor shall be responsible for the overall design, development, integration, and system engineering of the NCOP system throughout all increments delivered under this Contract.

4.1.9.   The Contractor shall support the BMD PVS for the verification and validation of BMD capability at the System of System level. The purpose of the BMD PVS is to assess the BMD capability by means of System of System testing and integration, architectural verification, and operational validation through a series of test events led by the Purchaser. Each NCOP Baseline undergoes PVS validation supported by the contractor as described in 4.8.12.

4.1.10.   The BMD capability is comprised of multiple systems, including NCOP, to deliver Battle Management, Command, Control, Communication, and Intelligence (BMC3I) as described in Figure 3. The purple coloured component in the diagram identifies the acquisition scope for this project. Boxes with a blue outline indicate

systems providing new and/or updated information related to BMD. Other boxes without a blue outline are out of scope of the NCOP project. Any reference to DCIS across this document is for illustrative purposes only, in the overall context of NCOP.
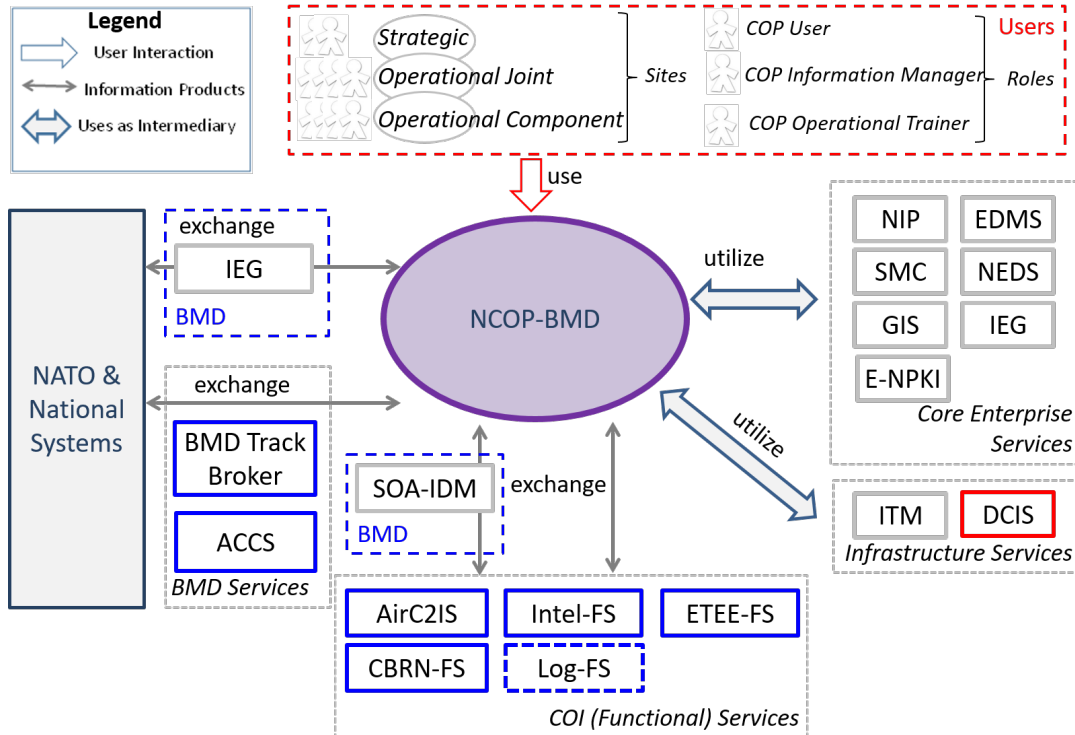
Figure 3 - Context diagram for NCOP

4.1.11.   The Contractor shall use quality engineering indicators to aid in managing his development process and communicating the quality achieved to Purchase.

4.2.   Baseline Delivery Cycle

4.2.1.   In support of the BMD Mission's overall objectives, the tranche concept aims at formalising regular incremental development of the BMD operational capability. Every 24 months, when a new tranche is completed and released, the BMD operational community will be able to perform its mission better in specific areas relating to the tranche. To support the BMD tranche concept, the Contractor shall deliver NCOP system in three Baselines divided into manageable scope in incremental delivery.

4.2.2.   During and after development, test and acceptance of a Baseline is complete, BMD PVS test activities will commence led by the Purchaser as described in 4.8.12. Training required to support a PVS shall also be provided as needed. After a Baseline has completed BMD PVS test activities and has been deployed, feedback from the user community will be documented in the form of an Engineering Change Proposal (ECP), recorded as a change request and incorporated by means of patches or the future Baseline as deemed appropriate.

4.3. Sprint Delivery Methodology

4.3.1.   The Contractor shall deliver NCOP using an agile delivery methodology (e.g. SCRUM). The delivery will follow a sprint schedule and each sprint is identified as a System Engineering Sprint.

4.3.2.   Each of the consecutive System Engineering Sprint shall implement a new scope of requirements, and consolidate it with implementation of the requirements from the previous sprint, as agreed with the Purchaser.

4.3.3.   As a good practice, each System Engineering Sprint has to be kept short and time-boxed. That will ensure the Contractor implementing the full scope of the sprint with more control and increasing the lessons learn for the next sprint. A sprint duration of two (2) months is recommended. The Contractor shall describe their software development approach in their proposal.

4.3.4.   A System Engineering Sprint shall include part of each stage: Requirements Analysis, System Design, and System Development, Testing & Integration.

4.3.4.1.   Within each stage part, the Contractor shall produce a revised version (draft or final) of the deliverables from the stage.

4.3.4.2.   The Contractor shall use the Change Management Process take into account the outcome of a System Engineering Sprint to revise deliverables as inputs for the next System Engineering Sprint.

4.3.4.3.   The Contractor shall organise and prioritize the requirements to be included in each System Engineering Sprint.

4.3.4.4.   The Contractor shall prepare a working development version of the NCOP software to demonstrate subsets of functionalities.

4.3.4.5.   In a sprint approach, it is common to apply a continuous integration. This approach will require to design the tests prior the sprint starts.

4.3.4.6.   The Contractor shall measure some metrics to value the product delivered:
- Defect density - it measures number of defects per software size, for example per lines of code (LOC). While this metric can easily be skewed, it is valuable in fast-moving projects to check if growth in defects is "normal" given the growth of the underlying codebase.
- Team Velocity - it measures how many user stories were completed by the team, on average, in previous sprints. It assists in estimating how much work the team is able to accomplish in future sprints.
- The sprint burn down chart - it shows the number of hours remaining to complete the stories planned for the current sprint, for each day during the sprint. The sprint burn down shows, at a glance, whether the team is on schedule to complete the sprint scope or not.
- Team member turnover - Low turnover (replacement of team members) in a scrum team indicates a healthy environment, while high turnover could indicate the opposite.

4.3.5.   As described in the SCRUM methodology, the development team (also called SCRUM team) shall not exceed 10 people and shall be composed of different roles:
- DT - Development Team (1 to x developers)
- PO - Product Owner (1)
- SM - SCRUM Master (1)

4.3.5.1.   The Contractor shall provide the development team.

4.3.5.2.   The Contractor shall provide a Proxy Product Owner which will get delegation from the NCIA Product Owner to daily interact with the DT.

4.3.5.3.   The Contractor shall provide the SCRUM master.

4.3.6.   Each sprint shall be articulated with these four mandatory events/meetings:
- Sprint planning meeting
- Daily SCRUM
- Sprint review
- Sprint Retrospective

4.3.6.1.   The Sprint Planning Meeting (see SDR 4.6.3.4)
- Takes place at the beginning of each sprint
- Lasts up to four (4) hours
- Attended by the SCRUM team and NCIA representatives

4.3.6.2.   Daily SCRUM
- Takes place at the same place (developers place or virtually), same time, every day
- Lasts up to fifteen (15) minutes
- Attended by the Development Team and required attendees by the DT

4.3.6.3.   Sprint review (see SER 4.3.14)
- Takes place at the end of each sprint
- Lasts up to four (4) hours
- Attended by the SCRUM team, NCIA & users representatives as required

4.3.6.4.   Sprint Retrospective
- Takes place at the end of each sprint
- Lasts up to three (3) hours
- Attended by the SCRUM team and NCIA representatives as required by the SCRUM team

4.3.7.   The Contractor should maintain traceability of the SRS requirements allocated to the User Stories.

4.3.8.   At the beginning of each sprint, The Contractor shall allocate the dedicated User Stories based on the requirements priorities (set by the Purchaser) and effort estimates (made by the contractor), the Contractor team workload capacity and

the existing sprint backlog. The sprint backlog is derived from the product backlog.

4.3.8.1.   The product backlog is a list of the new features, changes to existing features, bug fixes, infrastructure changes or other activities that a team may deliver in order to achieve a specific outcome. The product backlog is the single authoritative source for things that a team works on.

4.3.8.2.   The sprint backlog is the set of items selected from the product backlog to work on during the upcoming sprint.

4.3.8.3.   The Contractor shall provide dashboards based on the sprint metrics to follow the execution of each sprint.

4.3.9.   At the end of each System Engineering Sprint, the Contractor shall install the development version of the NCOP software to the Purchaser Collaborative Working Environment. If the scope of the sprint doesn't fit the foreseen scope, the Contractor shall plan the remaining work items in a later Sprint.

4.3.10.   The development versions of the NCOP software shall be usable by the Purchaser/Users without assistance from the Contractor (to enable feed-back for all review activities).

4.3.11.   Within each System Engineering Sprint, the Contractor shall organise the following types of meetings using the recent version of the developed products relevant to the aim of the meeting:

4.3.11.1.   Sprint Design Review (SDR);

4.3.11.2.   Sprint End Review (SER);

4.3.11.3.   Joint Technical Reviews (JTRs), if required;

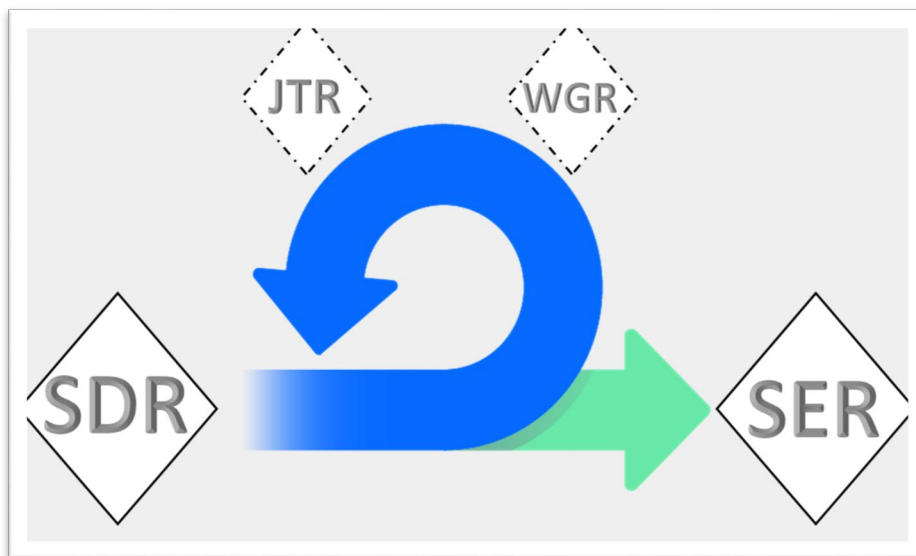4.3.11.4.   Working Group Reviews (WGRs), if required;

Figure 4 – Sprint Concept

4.3.11.5.   Attendance in the Working Group Review and Joint Technical Review is solely at the discretion of the Purchaser and shall not be limited by the Contractor.

4.3.11.5.1.   Remote meeting shall be preferred (as described in 4.3.13) to increase efficiency for the Users community to participate in the Working Group session.

4.3.11.5.2.   The Contractor shall organise a single Working Group Review not to last more than 2 hours for a remote meeting. In the case where the agenda requires more time, several sessions shall be organised in accordance with the Purchaser.

4.3.11.5.3.   The Contractor shall seek approval from the Purchaser to decide in which Working Group should be discussed a subject (activity or deliverable) in the event where the subject may belong to different groups.

4.3.11.5.4.   In the case where a subject is not within the scope of a Working Group, the Contractor shall seek approval from the Purchaser to decide in which Working Group the subject will be further refined.

4.3.11.6.   The Contractor shall capture and manage all issues raised and JTRs, WGRs in the project RAID Log with a category corresponding to the Working Group handling the issue.

4.3.12.   Working Groups

4.3.12.1.   The Purchaser will establish the membership and be responsible for the overall leadership of the Working Groups. Involvement by Users and Operational Stakeholders is key to the successful implementation of the project.

4.3.12.2.   The Contractor shall organise activities involving the Purchaser and the Users (excluding the Contractor internal engineering activities and Formal Reviews with the Purchaser) under a Working Group structure.

4.3.12.3.   The Contractor shall support the following Working Groups defined within the NCOP project:
- Architecture Working Group (AWG);
- End-User Working Group (UWG);
- Interoperability Working Group (InWG);
- Testing Working Group (TsWG).

4.3.12.4.   Architecture Working Group (AWG)

4.3.12.4.1.   The AWG scope is the overall technical Architecture of NCOP. The WG focus is the architectural-driving requirements and the design of NCOP.

4.3.12.5.   End-User Working Group (UWG)

4.3.12.5.1.　　The UWG scope is the end-user functional aspects, efficiency aspects, relation to the operational documentation (SOPs and CONOPS/CONUSE) and the Human-centred aspects.

4.3.12.6.　　Interoperability Working Group (InWG)

4.3.12.6.1.　　The InWG scope is the interoperability aspects, interfaces and information exchanges aspects.

4.3.12.7.　　Testing Working Group (TsWG)

4.3.12.7.1.　　The TsWG scope is the testing and acceptance aspects of the capability including both functional and non-functional aspects. This also includes any preparation for test data and scenarios.

4.3.12.8.　　The Contractor shall insure that each Working Group addresses requirements, planned or on-going activities, issues and deliverables in its respective scope by collaboration between Users, Purchaser and the Contractor.

4.3.12.9.　　The Working Groups shall meet under formula of Joint Technical Reviews (JTR) and Working Group Review (WGR).

4.3.12.9.1.　　The aim of the JTRs shall be to address issues prior to formal coordination of issues within the current sprint.

4.3.12.9.2.　　The aim of the WGRs shall be verification of the deliverables produced during the current sprint and providing recommendation for the next sprint.

4.3.13.　　Joint Technical Reviews

4.3.13.1.　　The Contractor shall recommend attendance to Joint Technical Reviews for Purchaser approval. The Contractor shall be responsible for the overall leadership of the Joint Technical Reviews.

4.3.13.2.　　The Contractor shall organize and conduct Joint Technical Reviews (JTR) to address and resolve critical technical issues in advance of the Working Group Reviews, supporting sprint development.

4.3.13.3.　　The Contractor shall propose the subject and the timing of the JTRs to ensure the most critical technical risks are raised and mitigated as early as possible. The JTRs shall be planned as early as possible but as a minimum 1 week prior to the review to provide sufficient time for the identification of appropriate operational users and arrangements for their participation.

4.3.13.4.　　The Contractor shall provide the following documents for the JTR:

Table 4-1 – JTR Deliverables and documents

Serial	Activities / Documents
1	RAID Log
2	Change Request Log

4.3.13.5.   Entry Criteria

4.3.13.5.1.   The Contractor shall include in planning the JTR Entry Criteria given in Table 4-2 - JTR Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the JTR:

Table 4-2 - JTR Entry Criteria

Serial	Activities / Documents
1	A critical issue occurred and has been shared
2	A preliminary JTR agenda
3	The appropriate audience is present
4	Active RAID log
5	Active Change Request

4.3.13.6.   Success Criteria

4.3.13.6.1.   The Purchaser concludes that the JTR Success Criteria accomplished to complete the objectives of the JTR:

Table 4-3 - JTR Success Criteria

Serial	Requirement
1	A mitigation or solution has been approved by the Purchaser

4.3.13.7.   The Contractor shall deliver the list of issues to be reviewed, with an impact assessment, root cause of the issue (evidence) and possible solutions per issue.

4.3.13.8.   Unless agreed by the Purchaser or organised remotely in accordance with 4.3.13.14, all JTRs shall be conducted at a Purchaser facility, either SHAPE, NCIA Brussels, or NCIA The Hague. The specific date and location must be agreed between the Contractor and the Purchaser's Project Manager.

4.3.13.9.   The Contractor shall provide all relevant resources including personnel, hardware, software, and tools at each review.

4.3.13.10.   The Contractor shall propose the detailed scope of the JTRs executed within System Engineering Sprint. The JTR's shall be based on deliverables reviewed at SRR, PDR and SDR, following the sprint development framework.

4.3.13.11.   The Contractor shall provide the following items at each review: presentation and discussion of each issue, including relevant technical material, such as requirements references, design specifications, views, user stories, mock-ups, screenshots, or prototypes, or developmental baseline release.

4.3.13.12.   The Contractor shall deliver the following items within one week after each JTR: meeting minutes, updated issues log, and any resulting proposed change requests.

4.3.13.13.   In addition to these mandatory JTRs, the Contractor may call additional working group meetings, when deemed necessary, to ensure that critical project risks are raised, discussed, and resolved as early as possible throughout the course of the project.

4.3.13.14.   The Contractor may organise JTRs using remote meeting technologies (online conferencing tool) over the Internet after approval by the Purchaser.

- The online review meeting shall take place in regular CET working hours,
- The online review may be planned on a shorter notice than a regular review, but not shorter than a week.
- The Contractor shall ensure that participation to an online review is at no-cost for the participants. Any licences for the online meeting shall be arranged at the beginning of the Contract by the Contractor.
- The Contractor shall allow the online review to go up to NATO Unclassified materials using appropriate security means.

4.3.14.   Sprint End Reviews

4.3.14.1.   The Contractor shall organize SER at the end of each sprint.

4.3.14.2.   The SER shall aim into recommendation for approval of the deliverables produced during the current System Engineering Sprint. The verification shall be carried out using the scope defined for SRR, PDR and SDR, as planned by the Contractor.

4.3.14.3.   The Contractor shall execute a demo to emphasize the achievements of the current sprint. The audience shall be constituted of NCIA project members and end-users.

4.3.14.4.   The Contractor shall provide the following documents for the SER:

Table 4-4 – SER Deliverables and documents

Serial	Activities / Documents
1	Sprint version of the software
2	User Story Documentation (updated)
3	Test Procedures
4	RAID Log
5	Sprint End Review Report
6	Deficiency Reports (DRs)
7	Change requests log
8	Sprint dashboards and metrics

4.3.14.5.   Entry Criteria

4.3.14.5.1.   The Contractor shall include in planning the SER Entry Criteria given in Table 4-5 - SER Entry Criteria and make them available to the Purchaser at least one (1) weeks prior to the SER:

Table 4-5 - SER Entry Criteria

Serial	Activities / Documents
1	Deficiency Reports and deficiency log have been shared
2	A preliminary SER agenda
3	The appropriate audience is present
4	8 weeks have lasted since the beginning of the sprint
5	The Contractor has prepared a demo covering the scope of the sprint
6	Sprint version software available in Purchaser CWE
7	Active RAID log
8	Active change requests (including PVS ECP)
9	The test procedures have been defined
10	The sprint test cases have been run after the last build
11	Sprint dashboards and metrics have been provided

4.3.14.6.   Success Criteria

4.3.14.6.1.   The Purchaser concludes that the SER Success Criteria accomplished to complete the objectives of the SER:

Table 4-6 - SER Success Criteria

Serial	Requirement
1	The contractor has demonstrated that the system fit the requirements for this particular sprint
2	Any missing or failed user story has been allocated in a new sprint after the approval of the Purchaser
3	The contractor has performed a demo highlighting the scope of sprint
4	The test procedures have been agreed by the Purchaser
5	Test cases have been executed, the results recorded and the RTM updated
6	The sprint backlog is up to date and any work item has been reallocated in a later sprint (product backlog updated).
7	Acceptance of PMR, SRR and PDR
8	Acceptance of CDR (applicable to last SER of each baseline)

4.3.14.7.   The Contractor shall prepare SER Report and submit it within one (1) week after the completion of SER.

4.3.14.8.   The SER report shall contain:
- Dates of the sprint
- Agreed scope
- Developed scope
- Test procedures
- Test log.

- Resulting backlog
- Updated RTM with the requirements status at the end of the sprint.

4.4. System Development Plan

4.4.1.   The Contractor shall provide and maintain a System Development Plan. The SDP shall describe all necessary activities for planning, managing and controlling the engineering efforts for specifying, designing, developing, testing, and supporting NCOP.

4.4.2.   The SDP shall describe:

4.4.2.1.   Engineering activities and work items defined in the PWBS Dictionary.

4.4.2.2.   The system development strategy including the organisation (by stage), tasks, resources, and methodologies.

4.4.2.2.1.   The system development strategy including the organisation (by stage), tasks,

4.4.2.3.   The technical approach, including the relationship between bespoke (i.e., software specially written to specification) and off-the-shelf products (i.e., existing products that can be integrated with little or no customization).

4.4.2.4.   The engineering processes (e.g., development technologies, development practices, design methodologies, unit testing and system integration procedures, static code analysis, risks analysis, control and monitoring mechanisms).

4.4.2.5.   The computing system environment including hardware and operating system environment.

4.4.2.6.   The development and test methodologies, standards, tools (including OTS products and programming or scripting languages), engineering environment, equipment, facilities, libraries, interfaces, plug-ins/add-ins, glue code and data.

4.4.2.7.   Change management of the NCOP System Requirements Specification, System Design Specification, and Project Test Plan. Change management shall be described in line with the CMP (3.13.3) and the sprint delivery methodology (described in 4.3).

4.4.2.8.   System development schedule. Schedule shall be developed in line with the sprint delivery methodology (described in 4.2).

4.4.2.9.   Purchaser/User participation. Participation shall be achieved using a working group structure (described in 4.3.12).

4.4.2.10.   Requirements management, to ensure traceability, and alignment with requirements from other NCI Agency projects, and baseline of requirements within the work packages and across increments (described in 4.5.9).

4.4.2.11.   Following annexes:

Requirements Implementation Schedule (RIS);

Usability Engineering Plan (UEP);

4.4.3. Requirements Implementation Schedule (RIS)

4.4.3.1. The Contractor shall provide a Requirements Implementation Schedule (RIS), which lists groups of NCOP requirements from the Contractual SRS and assigns in which Baseline the requirement will be implemented (Available at Baseline 1, 2, or 3). The assignment could be done at the sprint level.

4.4.3.2. The Contractor shall provide, in the RIS, the roadmap for any COTS components used in the technical solution. The Roadmap should contain the list of planned updates to the COTS product and the new functionality that will be included in each Baseline.

4.4.3.3. The Contractor will indicate, in the RIS, what will be implemented in each Build Process based on the proposed concept, technical solution envisioned, availability of COTS components and other relevant factors.

4.4.3.4. The schedule shall have tabular form with the following columns:
- Requirement id
- Requirement short description
- Implementation baseline and milestone:
  - SP1 to SPn (adjusted to the number of spiral)
- EDC
- BL3 – PSA
- BL4 – PSA2
- BL5 – FSA
- Not implemented (requirements will not or cannot be implemented)

4.4.3.5. Each requirement shall have at least one Implementation Milestone selected.

4.4.4. Usability Engineering Plan (UEP)

4.4.4.1. Usability Engineering Plan (UEP) which defines how the human-centred activities fit into the overall system development process shall be prepared as an annex to the SDP.

4.4.4.2. The UEP shall identify:
- The human-centred design process activities ;
- The individuals and the organization(s) responsible for the human-centred design activities and the range of skills and viewpoints they provide ;
- Effective procedures for establishing feedback and communication from users and other Purchaser representatives on human-centred design activities as they affect other design activities, and methods for documenting these activities ;
- Suitable timescales to allow feedback and possible design changes to be incorporated into the project schedule.

4.5. Requirements Analysis

4.5.1.   The Contractor shall review the NCOP System Requirements Specification (SRS – Annex A) and all other applicable documents; liaise with NATO subject matter experts as necessary; and prepare its recommendations in terms of proposed changes to the SRS. The Contractor may propose changes to the SRS, in order to resolve inconsistencies and/or make improvements. Such proposals shall be considered by the Purchaser through the CCB process after Systems Requirements Review Meetings.

4.5.2.   The Contractor shall conduct the Requirement Analysis phase using the sprint delivery methodology (described in 4.2).

4.5.3.   Within agreed System Engineering Sprints the Contractor shall update the Requirements Implementation Schedule annexed to the SDP to reflect the requirements to be implemented with the sprint, as agreed during the System Requirements Review (described in 4.5.10).

4.5.4.   The Contractor shall justify any proposed changes to the requirements by the expected system cost, schedule, performance, and supportability impacts.

4.5.5.   The Contractor shall also identify any requirements that are in conflict (e.g., with design constraints).

4.5.6.   The Contractor shall identify requirements initially satisfied by the COTS proposed by the Contractor.

4.5.7.   The Contractor shall ensure compliance with IEEE 12207 (section 6.4.2) for requirements analysis activities.

4.5.8.   Security Risk Assessment (SRA) (not required)

4.5.8.1.   The Contractor shall conduct a Security Risk Assessment (SRA) which identifies all threats, vulnerabilities, and resulting risks to NCOP using the EBIOS or the NATO version of the CRAMM methodology.

4.5.8.1.1.   The SRA shall identify any changes to the SRS required to achieve the desired system accreditation.

4.5.8.1.2.   The Contractor shall provide a report documenting the findings of its SRA.

4.5.9.   Requirements Identification, Elaboration and Validation Support

4.5.9.1.   The Contractor shall provide requirements identification, elaboration and validation support for NCOP as stated in the following:

- Elicit, analyse, and support validation of stakeholder needs, expectations, constraints, and interfaces to specify customer requirements that constitute an understanding of what will satisfy stakeholders.
- Develop the lifecycle requirements of the product (e.g., development, maintenance, transition to operations, evolution).

- Review operational concepts and scenarios to refine and discover requirements.
- Analyse needs and requirements (for each product lifecycle phase), the operational environment, and factors that reflect overall customer and end-user needs and expectations for attributes such as safety, security, portability, maintainability, performance, interoperability and affordability.
- Define the environment in which the product will operate, including boundaries and constraints.
- Analyse stakeholder needs, expectations, constraints, and external interfaces to remove conflicts and to organize into related subjects.
- Analyse requirements to determine whether they satisfy higher level requirements.
- Analyse requirements to ensure that they are complete, feasible, realizable, and verifiable.
- Explore the adequacy and completeness of requirements by developing product representations (e.g., prototypes, simulations, models, scenarios, and storyboards) and by obtaining feedback about them from relevant stakeholders.
- Analyse the requirements to determine the risk that the resulting product will not perform appropriately in its intended-use environment.
- Define constraints for verification and validation.
- Establish and maintain relationships among the requirements under consideration during change management and requirements allocation.
- Apply requirements elicitation, documentation, and verification and validation methods based on sound engineering principles.
- Provide impact assessment of new project issues, risks, and changes.

4.5.9.2. Requirements Elicitation Techniques: The Contractor shall employ the following techniques to elicit project requirements as applicable:

- Questionnaires and interviews.
- Business process analysis.
- Operational scenarios obtained from end users.
- Operational walkthroughs and end-user task analyses.
- Prototypes, storyboards and models.
- Observation of existing products, environments, and workflow patterns.
- Participation in NATO exercises.
- Brainstorming.
- Market surveys.
- Extraction from sources such as business process documents, standards, or specifications.
- Use cases and user stories.
- Business case analyses.
- Reverse engineering (for legacy products).

4.5.9.3. Requirements Specification

4.5.9.3.1. The Contractor shall employ the following techniques to refine project requirements:

- Organize, facilitate, and document the results of Joint Technical Reviews and other stakeholder workshops (such as the Working Groups) in an agreed requirements database, and architecture product deliverables.
- Develop User Story documentation (broken down from Epics and Features) to identify the required functions, supported processes, information exchanges, and operational modes of the service.
- Develop proposed changes to the SRS, justified and documented by the products mentioned above.

4.5.9.3.2.   The Contractor shall propose changes to the SRS during the sprint delivery in order to take into account outcomes of the Working Groups Reviews or to mitigate identified issues.

4.5.9.3.3.   The Purchaser will propose changes to the SRS during the sprint delivery to take into account outcomes of the Working Groups Reviews or to mitigate identified issues.

4.5.9.3.4.   The Contractor shall propose a ranking and trade-in mechanism to ensure that proposed changes can be considered by the CCB within the same project scope or an extension.

- Propose elaborated contractual requirements consistent with customer requirements to a level of detail that is sufficient to be included in the Contract.
- Support the development of operational concepts and scenarios that include functionality, performance, maintenance, support, and disposal, as appropriate.

4.5.9.3.5.   User story

4.5.9.3.5.1   The Contractor shall write User stories for users or the Purchaser to describe in few lines the functionality of the system being developed.

4.5.9.3.5.2   The Contractor shall start defining User stories from Epics which are high level user stories, close to individual project goals or high-level business requirements. Those Epics will be decomposed into Features (intermediate level stories or requirements) which will be themselves decomposed into user stories.

4.5.9.3.5.3   User stories describe what may be built in the software project. The Purchaser will prioritize the delivery of the User stories to indicate which are to be delivered first in accordance with the RIS.

4.5.9.3.5.4   The User Stories (Epics and Features level) will be initially delivered and reviewed at SRR. During the sprints deliveries and at each SDR, the User Stories of the current sprint will be detailed and broken down as required. The use of good practices like the INVEST model (criteria for judging good stories) or SPIDR approach (approach to splitting stories) shall be considered.

4.5.9.3.5.5   At TRR, the User Story documentation will be considered completed and ready for acceptance.

4.5.9.3.5.6	Each User Story must be linked with one or many requirements identified in the SRS. Those dependencies will be used in the development tool to allocate the sprint and follow the remaining work to perform and the quality (test driven).
4.5.9.3.5.7	During the testing phase with users, the Contractor shall use the user story documentation to verify the software.
4.5.9.3.5.8	A User Story will be considered done when the Proxy Product Owner (Contractor) and the Product Owner (NCIA) have noticed that the acceptance criteria have been met.

4.5.9.4. User Interface Specification

4.5.9.4.1.	The Contractor shall prepare User Interface Specification (UIS) to capture the details of the Human Machine Interface (HMI) including Graphical User Interface (GUI) and covering most of the actions that an end user may perform.
4.5.9.4.2.	The Contractor shall ensure that the GUI design is compliant to the NCI Agency Style Guide (Human Machine Interface (HMI) Style Guide for Rich C4ISR Applications edition 2.0, NCI Agency, 30 Jul 30 2018).
4.5.9.4.3.	The UIS shall include the following:

- Main user interaction through HMI.
- Main Application View design.
- Structure and navigation of Web pages.
- Individual Application GUI.
- Dialog boxes.
- Notification windows.
- Tooltips.
- Description and navigation for each window.
- All elements in a window (including the menu/list items).
- Behaviour of control widgets.

4.5.9.4.4.	The UIS shall include all logical flows illustrated by the user stories, description of displays, windows and dialog boxes, full range of information displayed in GUI elements (e.g. items for a pull-down list).
4.5.9.4.5.	The Contractor shall deliver the first UIS with high-level requirements at PDR, a more detailed versions at CDR-3 & 4 and a final one at CDR-5. The actual details for individual software elements shall be added during related Build Processes and evaluated at related Software Requirements Reviews and Software Design Reviews.
4.5.9.4.6.	The Contractor shall provide user interface mock-ups supporting the descriptions included in the UIS better understanding and more effective assessment.

4.5.10.   System Requirements Review

4.5.10.1.   System Requirements Review (SRR) is a multi-disciplined review to ensure that the system under review can proceed into initial systems development, and that all system requirements and performance requirements are defined and testable, and are consistent with cost, schedule, risk, technology readiness, and other system constraints.

4.5.10.2.   The Contractor shall organize and conduct System Requirements Reviews (SRR) to present its proposed changes to the Functional Baseline for the design and integration of the NCOP versions.

4.5.10.3.   The proposed changes to the SRS shall be delivered prior to a SRR.

4.5.10.4.   The System Requirements Specification shall be the Purchaser provided SRS with approved changes and, as required, extended with additional details supporting the approved scope.

4.5.10.5.   The Contractor shall provide the following documents for the SRR:

Table 4-7 – SRR Deliverables and documents

Serial	Activities / Documents
1	Updated System Requirements Specification (SRS)
2	Initial User Story documentation (Epics and Features only)
3	Active Change Requests (CR)
4	Requirements implementation schedule (RIS)
5	Initial Requirements Traceability Matrix (RTM)
6	The Collaborative Working Environment (PFE)
7	System Requirements Review Report (SRRR)
8	Functional baseline

4.5.10.6.   Entry Criteria

4.5.10.6.1.   The Contractor shall include in planning the SRR Entry Criteria given in Table 4-8 - SRR Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the SRR:

Table 4-8 - SRR Entry Criteria

Serial	Activities / Documents
1	PMR passed with success
2	A preliminary SRR agenda
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Preliminary system development plan
6	Updated risk assessment and mitigations in the RAID Log
7	Active Change Requests

8	The following Purchaser items:
	• Latest System Administrator Training Course Material of NCOP-2 release to be updated for NCOP
9	Functional baseline available

4.5.10.7.   Success Criteria

4.5.10.7.1.   The Purchaser concludes that the SRR Success Criteria accomplished to complete the objectives of the SRR:

Table 4-9 - SRR Success Criteria

Serial	Requirement
1	System requirements are identified, detailed and understood by the Contractor
2	All relative documents have been approved by the Purchaser
3	Performance requirements and qualification provisions are set in the SRS and understood by the Contractor
4	The SRS is sufficient to start the design and the implementation work
5	Preliminary system development plan exists
6	All changes to SRS are agreed, they are accepted to have sufficient detail to begin or continue with the system design and implementation work.
7	Major risks have been identified, and viable mitigation strategies have been defined. Steps to mitigate risks are identified in the RAID Log.
8	The following Purchaser items is available to the Contractor: • Latest System Administrator Training Course Material of NCOP-2 release to be updated for NCOP
9	Functional baseline approved

4.5.10.7.2.   The Contractor shall prepare SRR Report and submit it within one (1) week after the completion of SRR.

4.5.10.8.   SRR shall be considered completed when the Purchaser and the Contractor have agreed to all necessary changes to the SRS such that the SRS is sufficient to begin or continue with the design and implementation work.

4.5.10.9.   SRR shall be used within the sprint development framework to update the Requirements Implementation Schedule annexed to the SDP to reflect the requirements to be implemented within the current sprint.

4.5.11.   Requirements Change Requests

4.5.11.1.   The Contractor shall identify all proposed changes to System Requirements Specification in the form of one or more Change Requests.

4.5.11.2.   The Contractor shall prepare Change Requests following the guidelines of the Contract configuration management requirements as stated in 3.13.9.

4.5.11.3.   The CR impact description shall include a statement of compliance with the authorised scope of the project and any trade-offs that shall be considered.

4.5.11.4.   Provided approval of the Purchaser's Contracting Authority, the Contractor shall update the baseline SRS to reflect the decision of the CCB on these Change Requests.

4.5.11.5.   The Contractor shall use this updated and approved SRS as the basis for the NCOP system design and subsequent design changes.

4.6.   System Design

4.6.1.   The Contractor shall perform system design activities in compliance with the processes defined in IEEE 12207.

4.6.2.   The Contractor shall conduct the System Design phase using the sprint delivery methodology (described in 4.2).

4.6.3.   Design Reviews

4.6.3.1.   For each baseline, prior to the first sprint, the Contractor shall organize and conduct a Preliminary Design Review (PDR) to present its design of the NCOP system for the current baseline

4.6.3.2.   At the beginning of each sprint, the Contractor shall organize and conduct a Sprint Design Review (SDR) to present its design of the NCOP system and any subsequent maintenance and major releases.

4.6.3.3.   For each baseline, the Contractor organize and conduct a Critical Design Review (CDR) to formally validate the design of the current tranche. The CDR will be planned when all the evidences of a mature design will be demonstrated.

4.6.3.4.   Sprint Design Reviews

4.6.3.4.1.   The Contractor shall conduct the Sprint Design Reviews (SDR) to present its detailed design of the NCOP system for the next sprint. The SDR shall be considered completed when the Purchaser agrees to the sufficient SDS (constituting the Developmental Baseline) and the next sprint HMI prototypes and mock-ups which have been refined based on documented usability tests with operational users and Subject Matter Experts (SMEs).

4.6.3.4.2.   The Contractor shall conduct a SDR for each sprint of a baseline. It will be focused on the requirements of the current sprint.

4.6.3.4.3.   The Contractor shall provide the following documents for the SDR:

Table 4-10 –SDR Deliverables and documents

Serial	Activities / Documents
1	System Design Specification (SDS)
2	Requirements Traceability Matrix (RTM)
3	Verification Cross Reference Matrix (VCRM)
4	Interface Control Documents (ICD)
5	Active change requests – change request log
6	User Story documentation (updated – Epics & Features broken down)
7	Prototypes for user assessment and Graphical User Interface (GUI) design refinement
8	RAID log
9	Sprint Design review report
10	Analysis of Engineering Change Proposal (ECP) resulting from a PVS observations
11	Sprint Test cases
12	Sprint backlog

4.6.3.4.4.　　　　Entry Criteria

4.6.3.4.4.1　　　　The Contractor shall include in planning the SDR Entry Criteria given in Table 4-16 and make them available to the Purchaser at least one (1) weeks prior to the SDR:

Table 4-11 - SDR Entry Criteria

Serial	Activities / Documents
1	Successful completion of the PMR, SRR and PDR and responses has been made to all SDR open issues
2	A preliminary SDR agenda
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Prototypes and mock-ups refined based on usability tests
7	Updated risk assessment and mitigations in the RAID Log
8	Active Change Requests (including PVS ECP)
9	Context of use and supported user tasks have been understood and identified
10	The SDR must occur not later than the SER of the previous sprint
11	Updated User Story documentation reviewed by the Purchaser
12	The proposed requirements / User Stories to be allocated in the sprint have been estimated
13	The Contractor has provided its sprint team capacity
14	The sprint test cases have been reviewed by the Purchaser.

15	The team velocity is known

4.6.3.4.5.   Success Criteria

4.6.3.4.5.1   The Purchaser concludes that the SDR Success Criteria accomplished to complete the objectives of the SDR:

Table 4-12 - SDR Success Criteria

Serial	Requirement
1	All requirements have been allocated in the RIS (current sprint and the following ones).
2	Requirements of the sprint have been designed in the SDS and agreed by the Purchaser
3	HMI prototypes and mock-ups agreed by the Purchaser
4	Test datasets are identified and available
5	Major risks have been identified, and viable mitigation strategies have been defined. Steps to mitigate risks are identified in the RAID Log.
6	The User Stories mapping the requirements to be developed in the sprint have been detailed and approved
7	The requirements / User Stories allocated in the sprint have been prioritized and the Contractor team capacity is sufficient to cover their estimates
8	The sprint test cases have been approved by the Purchaser
9	There is no requirement or User Story allocated in the sprint which is not covered by a test case.
10	The Sprint allocation is realistic regarding the team capacity and the team velocity.
11	Acceptance of PMR, SRR and PDR
12	Acceptance of CDR (applicable to last SDR of each baseline)

4.6.3.4.6.   The Contractor shall prepare SDR Report and submit it within one (1) week after the completion of SDR.

4.6.3.4.7.   As required, the Contractor shall organise subsequent design reviews and shall deliver updated design documents as minor revisions within the sprint development framework that replaces earlier versions of the documents the Functional Baseline. The reviews shall be carried out within the framework of the Working Group Reviews

4.6.3.4.8.   Unless otherwise directed in an appropriate section, the Contractor shall include the following areas in its design reviews:

- NCOP overall system, subsystem and interactions.

- NCOP Services breakdown, Services, componentization and interactions.
- NCOP Human-Machine Interaction and Human Factors justifications.
- CSCI-level (Computer Software Configuration Item-level) functionality, design, and interfaces.
- NCOP System-level and Service-level interfaces, including external Services interfaces.
- Core Service integration (at Service-level and host environment-level).
- Design of NCOP Common Data Format (CDF), services messages and persistence layers.
- For off-the-shelf products, the intended product and version, and note if any modifications, adaptations, or additional elements (such as macros or plug-ins) are required. Open Source Software (OSS) are to be disclosed (for review of OSS conditions by NCIA).
- For any elements that require development: design, development, documentation, unit testing, and integration approach.
- Sequence and scope of system tests of the initial or updated Developmental Baseline and any requirements for Purchaser support and participation.
- Steps to mitigate risks identified in the RAID Log.

4.6.3.5.   Preliminary Design Reviews

4.6.3.5.1.   The Contractor shall conduct the Preliminary Design Reviews (PDR) and present its proposed System Design Specification for approval as the Allocated Baseline for the Contractor's Detailed Design activities. The PDR shall be considered completed when the Purchaser agrees to the initial SDS which shall include mock-ups or prototypes for system HMI.

4.6.3.5.2.   The Contractor shall conduct a PDR for each baseline. It will be focused on the requirements of the current baseline.

4.6.3.5.3.   The Contractor shall provide the following documents for the PDR:

Table 4-13 – PDR Deliverables and documents

Serial	Activities / Documents
1	Initial System Design Specification (SDS)
2	Initial Project Test Plan (PTP)
3	User Interface Specification (UIS)
4	Requirements Traceability Matrix (RTM)
5	Verification Cross Reference Matrix (VCRM)
6	Interface Control Documents (ICD)
7	Active change requests – change request log
8	User Story documentation (updated – Epics & Features broken down)
9	Prototypes for user assessment and Graphical User Interface (GUI) design refinement

10	RAID log
11	Preliminary Design Review report
12	Analysis of Engineering Change Proposal (ECP) resulting from a PVS observations

4.6.3.5.4.   Entry Criteria

4.6.3.5.4.1   The Contractor shall include in planning the PDR Entry Criteria given in Table 4-14 - PDR Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the PDR

Table 4-14 - PDR Entry Criteria

Serial	Activities / Documents
1	SRR passed with success
2	A preliminary PDR agenda
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Allocated baseline available
6	Updated risk assessment and mitigations in the RAID Log
7	Active Change Requests
8	Context of use and supported user tasks have been understood and identified
9	The ICDs have been provided by the Purchaser

4.6.3.5.5.   Success Criteria

4.6.3.5.5.1   The Purchaser concludes that the PDR Success Criteria accomplished to complete the objectives of the PDR:

Table 4-15 - PDR Success Criteria

Serial	Requirement
1	Initial System Design Specification is sufficiently detailed to implement the system
2	All relative documents have been approved by the Purchaser
3	Initial System Design Specification accepted by the Purchaser
4	Major user interface features are reviewed and concept of interfaces are agreed.
5	Agreement exists for the top-level requirements, including their verification and validation criteria, technical performance measures and any implementation constraints, and that these are finalised, stated clearly, and are consistent with the preliminary design.
6	Major risks have been identified, and viable mitigation strategies have been defined. Steps to mitigate risks are identified in the RAID Log.

| 7 | The initial Test Plan provide sufficient information to understand the overall test process and details the tests to be run during sprints. |
| 8 | Allocated baseline approved |

4.6.3.5.6.   The Contractor shall prepare PDR Report and submit it within one (1) week after the completion of PDR.

4.6.3.6.   Critical Design Reviews

4.6.3.6.1.   The Contractor shall conduct the Critical Design Reviews (CDR) and shall present its proposed System Design Specification for approval as the Allocated Baseline for the Contractor's Detailed Design activities. The CDR shall be considered completed when the Purchaser agrees to the final SDS for the current baseline which shall include mock-ups or prototypes for system HMI.

4.6.3.6.2.   The Contractor shall conduct a CDR for each baseline. It will be focused on the requirements and the design changes of the current baseline.

4.6.3.6.3.   The Contractor shall provide the following documents for the CDR:

Table 4-16 – CDR Deliverables and documents

Serial	Activities / Documents
1	System Design Specification (SDS)
2	User Interface Specification (UIS)
3	Requirements Traceability Matrix (RTM)
4	Verification Cross Reference Matrix (VCRM)
5	Interface Control Documents (ICD)
6	Active change requests – change request log
7	User Story documentation
8	Prototypes for user assessment and Graphical User Interface (GUI) design refinement
9	RAID log
10	Critical Design review report
11	Analysis of Engineering Change Proposal (ECP) resulting from a PVS observations

4.6.3.6.4.   Entry Criteria

4.6.3.6.4.1   The Contractor shall include in planning the CDR Entry Criteria given in Table 4-17 - CDR Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the CDR

Table 4-17 - CDR Entry Criteria

Serial	Activities / Documents
1	PDR passed with success
2	A preliminary CDR agenda
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Allocated baseline available
6	Updated risk assessment and mitigations in the RAID Log
7	Active Change Requests
8	Context of use and supported user tasks have been understood and identified

4.6.3.6.5.   Success criteria

4.6.3.6.5.1   The Purchaser concludes that the CDR Success Criteria accomplished to complete the objectives of the CDR:

Table 4-18 - CDR Success Criteria

Serial	Requirement
1	System Design Specification is fully detailed to implement the system
2	All relative documents have been approved by the Purchaser
3	User interface features are reviewed and concept of interfaces are agreed.
4	Agreement exists for the top-level requirements, including their verification and validation criteria, technical performance measures and any implementation constraints, and that these are finalised, stated clearly, and are consistent with the preliminary design.
5	The risks have been identified, and viable mitigation strategies have been defined. Steps to mitigate risks are identified in the RAID Log.
6	Product baseline approved

4.6.3.6.6.   The Contractor shall prepare CDR Report and submit it within one (1) week after the completion of CDR.

4.6.3.6.7.   As required, the Contractor shall organise subsequent design reviews and shall deliver updated design documents as minor revisions within the sprint development framework that replaces earlier versions of the documents specifying the Functional Baseline.

4.6.4.   System Design Specification

4.6.4.1.   The Contractor shall establish, provide, and maintain the NCOP System Design Specification (SDS) based on the approved SRS specifying the Functional Baseline. The Contractor shall provide a system design that

maximizes the reuse of NCOP-2 PFI and avoid any duplication of existing components.

4.6.4.2.   The SDS shall describe the NCOP system to a level of detail that is sufficient for the Purchaser to be able to understand how the NCOP system will be implemented, operated, and managed.

4.6.4.3.   The development of the SDS shall be in accordance with the processes defined in sections 6.4.3, 7.1.2, 7.1.3 of IEEE 12207, IEEE 1016 (IEEE Recommended Practice for Software Design Descriptions) and the specifications below.

4.6.4.4.   After having an approved initial SDS (constituting the Allocated Baseline) at the Preliminary design Review (PDR) meeting, the Contractor shall develop the final SDS in accordance with the processes defined in section 7.1.4 through 7.1.7 of IEEE 12207.

4.6.4.5.   The SDS shall identify the proposed Configuration Items and their design, functionality, interfaces, and data structures. For each CI, the SDS shall:

4.6.4.5.1.   Identify the functions and algorithms used by a component.

4.6.4.5.2.   Identify the functional requirements that are realized by a component.

4.6.4.5.3.   Identify any constraints imposed upon it.

4.6.4.5.4.   Identify any off-the-shelf and government furnished equipment (GFE) components necessary to build, deploy, or execute this computer software component.

4.6.4.6.   The SDS shall identify any Interface Control Documents (ICD) and Applications Programming Interfaces (API) required to document and control the interface between the NCOP system and external systems, services, or applications.

4.6.4.7.   The SDS shall identify all necessary customization (by parameterization or new software development) of the off-the-shelf packages that has to be performed.

4.6.4.8.   The SDS shall include the information as required in the architectural views listed in the SRS annex B "NCOP required architecture views and minimum content", based on the NATO Architectural Framework, Version 4.0 The SDS data model shall be importable into the NCIA modelling tool.

4.6.4.9.   The SDS shall provide both the high-level and detailed design information as an integrated set of model files using structured dataset format containing all the required data and relationships according to the SRS specifications The Contractor shall use Archimate notation using the Archimate Model Exchange File Format or UML version 2.5 as a notation (design view only). The Contractor shall propose the most appropriate notation and

representation to represent the underlying data in the SDS to be validated by the Purchaser at PDR.

4.6.4.9.1.　　The Contractor shall provide the SDS high level architecture model in the form of an <u>NCOP logical model</u>. The Purchaser will provide guidance on preparing the model.

4.6.4.9.1.1　　The NCOP logical model shall include at minimum the following UML diagram types: Use Case diagram, Class diagram, Object diagram, Activity diagram, Sequence diagram and State Machine diagram.

4.6.4.9.2.　　The Contractor shall provide the SDS detailed design information in the form of an <u>NCOP implementation model</u>.

4.6.4.9.2.1　　The NCOP implementation model shall include UML diagram types such as: Activity diagram, Class diagram, Object Diagram, Component diagram, Deployment diagram, Sequence diagram, State Machine diagram and Communication diagram.

4.6.4.9.2.2　　UML class diagrams shall be used to identify and describe the computer software units and their interdependencies. Class diagrams shall portray attributes (data), methods (functions, interface), and dependency relationships (e.g. inheritance, dependencies, associations). The Contractor shall produce the required information within NSV-1 and NSV-5 for these logical models.

4.6.4.9.3.　　The content and dependencies between both models of the SDS shall be updated and managed by the Contractor during the complete project lifecycle.

4.6.4.9.4.　　This design information shall be available using the standard output and viewing capabilities of an architecture tool to be agreed upon with the Purchaser, as well as to compatible web browsers using the web publishing capabilities (Microsoft Edge as Agency standard, Google Chrome and Mozilla Firefox).

4.6.4.10.　　The SDS shall include the database schema (Logical and Physical Data Models).

4.6.4.10.1.　　In addition to document-based versions of the schema, this database schema shall be provided in the native format of the database design tool proposed by the Contractor. The provided data model with the database design tool shall support automated generation of Data Definition Language scripts to create target database structures for the chosen database management system.

4.6.4.11.　　The SDS shall provide a detailed list of the OTS components (software) proposed to be supplied as part of the Contract. The product name, manufacturer name, and manufacturer's part number, date of general availability, last date of support version, or release number shall be stated, as appropriate.

4.6.4.12.   Each software item shall have at least three years of vendor support after final delivery.

4.6.4.13.   Requirements Traceability Matrix (RTM)

4.6.4.13.1.   As an appendix to the SDS, the Contractor shall provide and maintain a <u>Requirements Traceability Matrix</u> that guarantees the two way link between requirements (SRS), technical specifications (user story, SDS section, ICD section and configuration item), test scripts and test and operational acceptance criteria. The Contractor shall extend this matrix to the Developmental Baseline, Product Baseline, and the Project Test Plan to ensure verification throughout the project.

4.6.4.14.   Interface Control Document (ICD).

4.6.4.14.1.   The Contractor shall produce NCOP Interface Control Document, describing all external NCOP interfaces to be developed or updated within this contract. The ICD shall refer other ICDs where applicable.

4.6.4.15.   The Contractor shall include an updated set of all the above design artefacts as part of the delivered Product Baseline.

4.6.4.16.   Review and acceptance of design documentation provided by the Contractor to the Purchaser shall not imply Purchaser acceptance of the NCOP design. It remains the sole responsibility of the Contractor to prove the design through the regime of testing set forth in the Contract and it shall be the sole responsibility of the Contractor in the event that the system proves deficient in meeting the SRS.

4.7.   System Development and Integration

4.7.1.   The Contractor shall develop and integrate the components identified in the SDS.

4.7.2.   The Contractor shall perform system development and integration activities in compliance with the processes defined in sections 6.4 of IEEE 12207 and IEEE 1016 (IEEE Recommended Practice for Software Design Descriptions).

4.7.3.   The Contractor shall conduct the System Development and Integration phase using the sprint delivery methodology (described in 4.3).

4.7.4.   For such custom adaptation as identified at SDRs and agreed to as part of the SDS, the Contractor shall adapt, integrate, document, and test software applications and scripts.

4.7.5.   Purchaser Access during Development

4.7.5.1.   The Purchaser, case-by-case by use of the IV&V team, reserves the right to monitor the Contractor's activities, including code inspections, to ensure that sound engineering practices are followed and that the requirements of the SRS are met.

4.7.5.2.   During the process of development, the Contractor shall provide the Purchaser with Internet access to a version of the Developmental Baseline through the application lifecycle management/software development lifecycle (ALM/SDLC) software suite. This online accessible version of the application shall be updated to reflect the current build and allow access to both development data and dashboards.

4.7.5.3.   The Contractor shall permit Purchaser personnel or designees to inspect the Developmental Baseline.

4.7.5.4.   The Purchaser will notify the Contractor at least three working days before an inspection visit.

4.7.6.   The Purchaser shall retain ownership of the source code for any software developed as foreground knowledge.

4.7.7.   The Contractor shall deliver the source code, including internal and external libraries, and the software development environment required to allow future maintenance by the Purchaser.

4.7.7.1.   The Contractor shall integrate the source code, the requirements, and the links from the requirements to test cases in the test plan, the automated build and the test plan (with the test cases) into the Configuration Management Repository of the Purchaser.

4.7.7.2.   The Contractor shall deliver all test documentation, test data, and test suites to allow a full or partial retest after maintenance operations by the Purchaser.

4.7.8.   Software Engineering

4.7.8.1.   The Contractor shall apply a formally defined and documented object-oriented engineering methodology. The methodology shall be documented in the System Development Plan.

4.7.8.2.   The Contractor shall use a Component-Based Architecture for developing the NCOP system as it is expected that it will be a combination of custom-developed and off-the-shelf (whether commercially available or developed for other customers). The Contractor shall design, document and implement components supporting well-defined interfaces and supporting reuse, encapsulation and independent deployment.

4.7.8.3.   The Contractor shall develop the NCOP system as a service-oriented architecture. The Contractor shall identify, document and implement services (primarily as web services) that can be accessed within NCOP and by other authorised systems.

4.7.8.4.   The Contractor shall utilise available Bi-SC AIS Core Enterprise Services which will be provided either as components of the target operating environment or by the development of other NATO systems with which NCOP must co-operate and communicate.

4.7.8.5.   The Contractor shall provide integration with available Bi-SC AIS Functional Services which will be provided either as components of the target operating environment or by the development of other NATO systems with which NCOP must co-operate and communicate.

4.7.9.   Subject to approval of the Purchaser under the Technology Substitution clause, the Contractor shall use the latest commercial version of the help authoring tool specified in the SRS to generate on-line help documentation. In addition to the executable modules, all on-line help source and configuration files shall be delivered.

4.7.10.   The Contractor shall be responsible for integration of the NCOP system. This integration shall include both the integration of the various hardware and software elements that constitute the NCOP system and the integration of the NCOP system with the existing NATO systems and capabilities specified in the SRS.

4.7.11.   Upon completion of the Baseline, the Contractor shall provide a candidate version of the Product Baseline to be delivered via the Collaborative Working Environment.

4.7.12.   Development and Integration Environments

4.7.12.1.   The Purchaser will provide the NATO Software Factory (NSF[3]) as PFE. The Contractor shall, unless otherwise agreed with the Purchaser, use the NSF as the platform for all software engineering, implementation work, and testing (including system integration testing).

4.7.12.2.   As the Contractor can only create and maintain engineering artefact at unclassified level on the NSF, the Contractor shall :
- On occasions be able to use mock data values (e.g. mock domain values) and/ or data structures to enable work at unclassified level;
- For any module/ component/deliverable where it is not feasible to work and provide at unclassified level (using mock data is not feasible), be able to do the work in Contractor's own secure software engineering environment at NATO RΞSTRICTED level;

4.7.12.3.   The Contractor shall, when feasible, use existing NSF tooling (see footnote 3) for managing the project engineering artefacts. The Contractor may propose additional tooling for managing engineering artefacts using the NSF for Purchaser's approval.

4.7.12.4.   The Contractor shall organize the engineering artefacts in a structured and logical way that will enable the Purchaser to quickly find any artefacts based on context (e.g. work package, increment/ deliverable, etc.) and artefact type.

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[3] The NSF toolchain includes a number of tools that the Contractor can make use of in execution of this work including Azure DevOps, GitLab, Jira, Jenkins, Nexus, SonarCube

4.7.12.5.   The Contractor shall provide the software build instruction and all the libraries (internal and external) which must allow the Purchaser to create a product baseline. The software build instruction must cover these functions:

- Fetching the code from the source control repository
- Compile the code and check the dependencies/modules
- Run the automated unit tests
- Link the libraries, code, files, etc. accordingly
- Once successfully passed, Build the artefacts and store them
- Archive the build logs
- Send the notification mails

4.7.12.6.   The Purchaser will provide a Validation Environment. On the Purchaser request, the Contractor shall install NCOP on this environment in order to perform any activity of testing, verification or validation.

4.8.   Testing, Verification and Validation (TVV)

4.8.1.   The NCOP TVV follows a standard and established NATO cycle, but has been extended with steps required for BMD Programme Verification Strategy (PVS). As described in Figure 5, the TVV cycle is comprised of five modules: 1) System Test under Contractor lead; 2) Request for Change Test under Purchaser lead with Contractor support; 3) Patch Testing and Verification under Contractor lead; 4) On-Site Validation to be performed under separate contract; and 5) BMD Programme Validation under Purchaser lead with Contractor support. The purpose of the BMD PVS is to perform System of System testing and integration, architecture verification, and operational validation. Verification and validation events supporting the BMD PVS take place on the basis of a two-year rolling test schedule in line with delivery of capability by Tranches as described in Section 1.3.
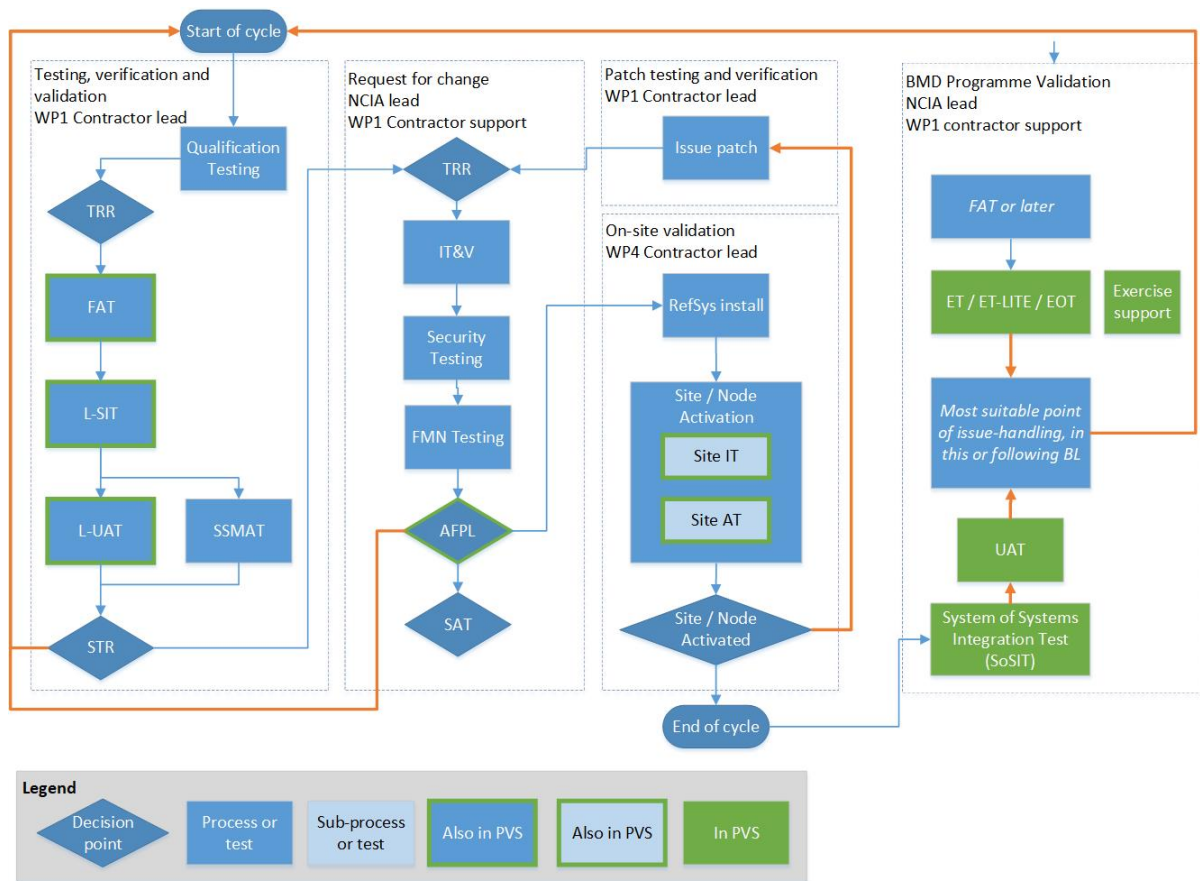
Figure 5 – Overview of NCOP testing

4.8.2.   The NCOP TVV cycle will be executed for each of the three NCOP product baselines.

4.8.3.   Contractor Lead Testing.

4.8.3.1.   The Contractor shall define and develop test programs, plans, and procedures, conduct testing, and evaluate and document results.

4.8.3.2.   The Contractor shall ensure that rigorous testing, including regression testing when required, is performed at every stage of the project lifecycle in order to identify and correct deficiencies as early as possible and minimize impact on cost and schedule.

4.8.3.3.   The Contractor shall lead and perform verification and validation by means of the following methods; inspection, analysis, demonstration and/or testing (IADT) during, the engineering testing and demonstration phase and the acceptance test phase.

4.8.3.4.   The Contractor shall conduct testing and verification during all the sprints. The contractor shall provide evidence to the Purchaser of the results of these testing activities. The Contractor shall respond to any Purchaser clarification requests regarding test results or performance within two working days.

4.8.3.4.1.   The Contractor shall install the candidate version of the Laboratory, IV&V and BMD verification environments.

4.8.3.5.   The Contractor shall perform sequence of testing on the Release Candidate of each NCOP software baseline (BL3, BL, and BL5) in order to verify its quality and receive necessary approvals required to deploy the system in NATO operational environment.

4.8.3.5.1.   The Purchaser reserves the right to develop additional test procedures and conduct independent testing.

4.8.3.6.   The Contractor shall have the overall responsibility for meeting NCOP testing requirements, and shall provide the manpower required to integrate the NCOP system into the Purchaser testing environment and to perform the tests under its responsibility.

4.8.3.7.   The Contractor shall designate a Test Director and provide an overall Project Test Manager, who will work closely with the Purchaser's assigned TVV&A lead through the execution of all test verification and validation activities during the software engineering phase and the acceptance test phase.

4.8.3.8.   The Contractor shall produce and maintain a Requirements Traceability Matrix (RTM) to track the test, verification, validation and assurance (TVV&A) status of all requirements during both the software engineering phase (engineering testing and demonstration) and the acceptance test phase.

4.8.3.9.   The contractor shall prepare the test documentation in accordance to the contractual requirements and ISO/IEC/IEEE-29119-3.

4.8.3.10.   The Contractor shall support the Purchaser during the NATO validation phase.

4.8.3.11.   The Purchaser or its designees (e.g., IV&V) will review/approve the Contractor's test plans and procedures for correctness and completeness, and will monitor and inspect the Contractor's test activities to ensure compliance.

4.8.3.12.   The Contractor shall ensure that its hardware, software, test equipment, instrumentation, supplies, facilities, and personnel are available and in place to conduct or support each scheduled test.

4.8.3.13.   The Contractor shall provide test data to support developmental, acceptance activities.

4.8.3.13.1.   The test data shall provide the quantities; the varieties of object types, object sizes and attribute values; the exceptional values; and the update frequency appropriate to the type of testing and sufficient to verify that all system requirements are met.

4.8.3.13.2.   For acceptance testing, the test data shall also include, as a minimum, the anticipated operational quantities and sizes of information objects identified in the SRS.

4.8.3.14. The Contractor shall perform testing to evaluate NCOP system performance and establish benchmarks for future enhancements, including the changes which are made to meet the requirements.

4.8.3.15. The Contractor shall perform developmental, acceptance, and operational testing for future NCOP enhancements and modifications undertaken as part of this Contract, including the changes which are made to meet the requirements

4.8.3.16. The Contractor shall support post go-live activities during the Service Operation and Operational Test and Evaluation period. This will allow for the evaluation of the capability's operational requirements such as performance and availability. It will also establish benchmarks for future enhancements, including any changes made to fulfil the requirements

4.8.3.17. All results of all formal test, verification or validation activities performed during a given day shall be recorded in the test management tool. The Contractor shall provide these test results for any given day by the start of the next working day (0900 AM), or as agreed by the Purchaser following the completion of the test activities.

4.8.3.18. The Contractor shall only proceed to the next formal test event, after the successful completion of the previous test event and the agreement/approval by the Purchaser.

4.8.3.19. For each event, the Contractor shall provide log/record of the event, including but not limited to individual test results, deficiencies found, requirement coverage, test execution durations, deviations during execution and sign-off for each result by both the Contractor and Purchaser.

4.8.3.20. The Contractor shall produce and maintain the Requirement Traceability Matrix (RTM) which includes all functional, non-functional requirements and SSRS throughout the Contract execution to demonstrate and confirm that the verification and validation methods have successfully verified the requirements and that those requirements are tracked. The Purchaser will review and approve the proposed RTM.

4.8.3.21. The Contractor shall produce and maintain the Verification Cross Reference Matrix (VCRM) which defines how the requirement will be verified at each of the IVVA phases. As a minimum, it shall consist of the following items and may be merged with the RTM into one configuration item upon agreement with the Purchaser:
- Requirement UID from the Contractor's database.
- Requirement ID, from the SoW/SRS.
- Requirement Text, from the Functional Baseline.
- Change Request (CR) traceability.
- Requirement heading, and descriptors from the SRS.
- Operational acceptance criteria (OAC).
- Implementation sprint, baseline and milestone.

- Configuration Item mapping. Reference to the Configuration Item (CI) to the Computer Software Configuration Item (CSCI), HWCI, Computer Software Components (CSC) and Computer Software Units (CSU).
- Document mapping. Reference to document(s) and section(s) enabling to verify implementation of the requirement. Typically Low-level design.
- The verification method: Inspection, Analysis, Test or Demonstration.
- Correspondent test phase(s) for each requirement.
- Verification Mechanism, including TC UID and Test Case name.
- Verification Mechanism status/test case status.
- Test Event, reference to latest test event when test case have been addressed.
- Coverage Status (traceability verified, not verified).
- Requirement confirmation status (met, not met).
- Software Build Version and Release Number.
- Platform, including security domain information.
- Test Case date change and change description.
- Contractor's tester.
- NCI Agency witness.
- IVV Engineer status, to record the independent assessment.
- IVV QA Status to record the independent assessment.

4.8.3.22.   The Contractor's RTM shall be generated automatically from information managed by means of requirements/test management tools.

4.8.3.23.   The Contractor shall provide the Purchaser with updates (via the tools) to the RTM and VCRM daily during the execution of each IVVA event, and following the conclusion of each event. A workflow for updating the RTM and VCRM shall be proposed by the Contractor within two weeks after each event and approved by the Purchaser.

4.8.3.24.   If applicable, the Contractor shall develop and validate any Test Harnesses, simulators and stubs, including all script/code/data/tools required to execute the planned functional and non-functional tests in the Test Environment

4.8.3.25.   The QA organisation shall verify that all tests, including formal and informal, are adequately planned, designed, and executed in accordance to the Contract, the Project Test Plan and the Contractor's QMS.

4.8.3.26.   A Contractor QAR shall be present at all formal test activities.

4.8.4.   Project Test Plan (PTP)

4.8.4.1.   The Contractor shall produce a Project Test Plan that details all test verification, validation and acceptance test activities the Contractor proposes to conduct to meet all the requirements in the SOW, requirements specifications and final design. The Purchaser will review the Project Test Plan and approve once all deficiencies have been corrected. The Purchaser will monitor and inspect the Contractor's activities to ensure compliance. The Contractor shall keep the Project Test Plan always up to date.

4.8.4.2.   The Project Test Plan shall describe how the Contractor intends to meet the following objectives:

- Verification that the design produces the required capability;
- Verification that implemented requirements do not introduce in regression in the system;
- Confidence that system deficiencies are detected early and tracked through to correction by using a test management tool and logged in a file;
- Compliance with the requirements of the SRS, including quality attributes and their test case coverage and with external system interfaces as defined in the ICDs, including any plug-ins/add-ins and glue code;
- Operational readiness and suitability of all configurations;
- Verification by the operational users that the system is usable and acceptable;
- Verification that the system can be efficiently supported and maintained;
- System characterisation to establish the system's performance benchmarks;
- Documentation and code verification;
- Implementation of the validation environment.

4.8.4.3.   The Project Test Plan shall describe the Contractor's test organisation and its relationship with the Contractor's Project Management Office, QA functions, the Configuration Management structure and the design and development teams.

4.8.4.4.   The Project Test Plan shall provide a flow diagram that identifies the overall sequence of tests, the location, and Contractor and Purchaser equipment and personnel involved in each test, and the relationship of test events to project milestones

4.8.4.5.   The Project Test Plan shall describe how the Contractor will apply requirements-based testing to ensure that the requirements have been addressed during testing, to determine whether NCOP meets the contractual and end user requirements.

4.8.4.6.   The Project Test Plan shall describe how the Contractor will apply Service-based-testing to ensure that NCOP processes and people can work effectively and efficiently together to deliver NCOP services, according to the contractual requirements. The contractor shall define test scenarios that include elements of the three pillars: people, processes and technology. All Contractor's service based test cases and scenarios shall be approved prior to their execution by the Purchaser. The Contractor shall demonstrate through testing the integration of NCOP with processes and with trained users. The Contractor shall develop test cases for each type of quality criteria and ensure full test coverage. Contractor shall conduct Quality Based Testing (QBT) for each Release prior to any deployment activity

4.8.4.7.   The Project Test Plan shall describe how the Contractor will apply QBT, including usability and performance testing, through both engineering testing and demonstration phase, to verify the SW product quality model characteristics defined by ISO 25010 and specified by the SRS. The

Contractor shall conduct QBT for each Release prior to any deployment activity.

4.8.4.8.   The Project Test Plan shall identify the test documentation associated with each test, including the scenario, procedures, test data, test results, and test reports.

4.8.4.9.   The Contractor shall prepare the Project Test Plan in keeping with the format, concepts, test process and test techniques identified by ISO/IEC/IEEE 29119-1, ISO/IEC/IEEE 29119-2, ISO/IEC/IEEE 29119-3, ISO/IEC/IEEE 29119-4.

4.8.4.10.   The Contractor shall generate one test plan (including test design specification) per event that will detail all the information for that event. The Contractor shall provide and maintain these phase test plans as annexes to the Project Test Plan.

4.8.4.11.   The Project Test Plan shall identify how deficiencies are tracked through to correction by using a test management tool or deficiencies management tool respectively.

4.8.4.12.   The Project Test Plan shall identify any specialised or long-lead items required for testing.

4.8.4.13.   The Project Test Plan shall identify all NCOP Configuration Items (CIs) that are subject to the test program and shall indicate by which method the items will be evaluated.

4.8.4.14.   The Project Test Plan shall include a description of how the Requirements Traceability Matrix (RTM) shows how test tasks demonstrate that the tested system fulfils specific SRS requirements and implements specific SDS features.

4.8.4.15.   The Project Test Plan shall provide the allocation of test procedure to each test task supporting the tests.

4.8.5.   Test Management Tool

4.8.5.1.   The Contractor shall perform Test Quality Management by introducing a Test Management Tool and Test Automation Tool

4.8.5.2.   The Contractor shall use a common and verified Test Management System in coordination with the Purchaser, and shall provide the outputs of the Test Management System as required.

4.8.5.3.   The Test Management Tool shall:

4.8.5.3.1.   Link requirements in the SRS to test cases, procedures, and results.

4.8.5.3.2.   Support Test Preparation, Test execution, as well as the logging of errors.

4.8.5.3.3.   Support the establishment of version-controlled test baselines associated with the Functional, Development and Product Baselines.

4.8.5.3.4.   Provide all Test Case references to the associated SRS requirement(s).

4.8.5.3.5.   Provide all Test Case references to the associated functional area(s) in the logical model of NCOP SDS.

4.8.5.3.6.   Provide detailed Test Case description, including:

Table 4-19 Test case description

Serial	Requirement
1	Unique identifier
2	Objective
3	Expected results
4	Input data
5	Preconditions
6	Execution procedures
7	Output data
8	Post conditions
9	Exception handling, including test break-off criteria

4.8.5.3.7.   Provide overall and individual Test Case dependencies.

4.8.5.3.8.   Provide overall procedures for sequences of tests, such as those for the Factory Acceptance Test.

4.8.5.3.9.   Provide individual and summary test results.

4.8.5.3.10.   Provide a Test Log of all tests run, including:

Table 4-20 Test log

Serial	Requirement
1	Date
2	Test-ID
3	Tester
4	Test conditions
5	Test results
6	Test witness
7	Release number

4.8.5.4.   Support change management, including data on test errors, affected Test Cases, associated deficiency reports, and change history.

4.8.5.5. The Contractor shall make the contents of the Test Management Tool information (including deficiencies management) accessible on a read-only basis via the Collaborative Working Environment.

4.8.5.6. The Contractor shall deliver the contents of the Test Management Tool once a month based on Purchaser's request.

4.8.6. Test Automation Tool

4.8.6.1. The Contractor shall make use of automated testing and supporting testing tools (test management, requirement coverage, issue tracking, etc.) to the maximum applicable extent, for all system development, implementation, internal and formal tests. The process and proposed supportive tools shall be described in the Project Test Plan. In areas where the Purchaser already uses specific tools, the Contractor shall make use of the tools in use by the Purchaser.

4.8.6.2. The Contractor shall use a test automation tool which is part of the test management tool to allow automation on repeatable test cases related to performance and stress testing

4.8.7. Test Procedures

4.8.7.1. The Contractor shall develop and maintain procedures (or test scripts) for each test task supporting the NCOP tests.

4.8.7.1.1. The test procedures shall cover the verification events executed on the laboratory environments and the UAT executed on the NATO S*CRET environment (see Figure 5 – Overview of NCOP testing).

4.8.7.2. The test procedures shall cover all aspects of the user stories.

4.8.7.3. The Contractor shall identify any conditions which shall be satisfied prior to application of the test with, if applicable, a block diagram showing the proposed method of meeting the test requirements.

4.8.7.4. The Contractor shall state for each test the following items:

Table 4-21 Test description

Serial	Requirement
1	Test objective;
2	NCOP elements and facilities and test equipment involved;
3	Configuration parameter resets (i.e., to allow recording of relevant initial parameter settings)
4	Steps to be taken to achieve the test outcome
5	Data to be collected
6	Expected outcome.

4.8.7.5. The Contractor shall include a subset of the Requirements Traceability Matrix (RTM) to show how test tasks are linked to and demonstrate specific

SRS requirements. The relationship between the Test Procedure and the Requirement shall be bi-directional.

4.8.7.6.   The Contractor shall identify the means of measurement or assessment for each test.

4.8.7.7.   The Contractor shall forward the test procedures for Purchaser review and acceptance at least two weeks prior to test execution.

4.8.8.   Test Reports

4.8.8.1.   The Contractor shall provide test status reports to the Purchaser regarding verification and validation activities during the planning/design and development phases, via the use of a dashboard report within the test management tool set and through meetings.

4.8.8.2.   The Contractor shall record the results for each test called for in the test plan in a test report, using test results sheets incorporated in the relevant test procedure.

4.8.8.3.   Where the Purchaser or his representative has witnessed the testing, the Contractor shall make appropriate annotations on each page of the test results to ensure that the test report is a true record of test activities and results as witnessed by the Purchaser, and the whole test report shall be signed by the Contractor representative and by the Purchaser representative on completion of that testing. Where the Purchaser has witnessed the testing, the witness shall sign the summary test results. Such signatures shall only confirm the accuracy of the test results and shall not be considered as an acceptance of the testing.

4.8.8.4.   Any failure to complete a test successfully shall be recorded by the Contractor, logged as a Deficiency Report, and noted in the test report.

4.8.8.5.   An electronic report shall be distributed to the Purchaser for acceptance within two weeks after the completion of the test.

4.8.8.6.   The Contractor shall provide, as a minimum, the following information with test report:
- Test report cover sheet which clearly shows how many tests passed, failed, or were not run.
- Summary covering test result assessment, result dashboard and logs covering test cases, requirements and deficiencies status;
- Reference to test plan, test procedure, test case/suite;
- Date when the test was run;
- Identification of the PBL and specific build under test;
- Identification of the data set used to conduct the test session;
- Description of the system under test and of the configuration of the testing environment.
- Test result ("Pass", "Fail", "Not run"); if "Fail", identification of the associated deficiency report addressing the deficiencies;

- Test Item status, including contractual requirements status;
- Deficiency reports log;
- Any annotations by the Purchaser's representative;
- Comments;
- Contractor representative signature (Test Suite);
- Purchaser representative signature;

4.8.9. Test Failures

4.8.9.1. Classification of Failures

4.8.9.1.1. Should a failure occur during testing, the Contractor shall submit a failure report (individually identified to ensure traceability) and carry out a preliminary investigation to classify the failure as one of the following:

4.8.9.1.1.1 Class "A": there is evidence that the cause was an external or transient condition;

4.8.9.1.1.2 Class "B": there is mutual agreement between the Contractor and Purchaser that the cause was an inherent design or manufacturing deficiency in the unit under test;

4.8.9.1.1.3 Class "C": When the specific nature of the cause cannot be immediately determined and a more detailed investigation is required before a conclusion can be drawn;

4.8.9.2. Class "A" Failures

4.8.9.2.1. In the event that a preliminary investigation results in the classification of a failure as described above, the Contractor shall repeat the test at least three successive times in order to confirm the failure.

4.8.9.2.2. If the re-test is successful, the Purchaser will close the observation and testing shall be resumed from the point immediately after that where the failure occurred.

4.8.9.2.3. If the re-test fails, the Contractor shall change the failure category to class "B" or "C", as described above.

4.8.9.3. Class "B" Failures

4.8.9.3.1. If a failure is classified as a Class "B" from above, the Contractor shall suspend all testing until the Contractor determines the specific cause of the failure and proposes appropriate remedial action acceptable to the Purchaser.

4.8.9.3.2. If the Contractor determines that the cause of the failure or the effect of the proposed remedial action will have no influence whatsoever on other areas of scheduled testing, it may propose to the Purchaser to continue testing in the other areas prior to the rectification of the cause of the failure.

4.8.9.3.3.   The Purchaser shall have the right to require repetition of any or all tests performed in these circumstances after the rectification of the cause of the failure and the subsequent re-tests, to prove they have been successfully completed.

4.8.9.3.4.   The Contractor shall be responsible for all costs related to the rectification of deficiencies or failures and subsequent re-testing caused by the design or production of the deliverables identified during the verification and/or testing cycles.

4.8.9.3.5.   The Contractor shall be responsible for any travel, subsistence and other incidental expenses incurred by the Purchaser as a result of the requirement for the re-performance of tests necessitated by test failures.

4.8.9.3.6.   The Contractor shall provide full details describing the cause of the failure and the recommended remedial actions to be taken by the Contractor.

4.8.9.3.7.   After the Contractor has taken remedial action, the test may be resumed at the step during which the deficiency or failure was identified; however, the Purchaser shall have the right to require that re-testing includes all of the tests related to the verification of that particular specification requirement.

4.8.9.4.   Class "C" Failures

4.8.9.4.1.   If a failure is classified as a Class "C" from above, the Contractor shall immediately suspend testing of test case and conduct a detailed investigation into its causes.

4.8.9.4.2.   The Contractor shall report its findings and recommendations on the cause and remedial action required and advise if the failure should be re-classified as either a Class "A" or "B." The actions previously described relating to these classifications shall then be commenced.

4.8.9.4.3.   If the Contractor determines that the test failure was due to a component failure and not attributable to a deficiency in design, then the defective component may be replaced and the failure re-classified as a Class "A" failure.

4.8.9.5.   Tracking of Failures

4.8.9.5.1.   If a failure occurs during testing, the Contractor shall record the event and log the subsequent actions taken to resolve the failure

4.8.9.6.   Test deficiency categorization:

4.8.9.6.1.   Should a test failure be a test deficiency, the Contractor shall classify the deficiency according to its severity and its priority, where:

4.8.9.6.1.1   The severity is the degree of impact that the deficiency has on the development or operation of a component or system. The severity of the failure shall initially be proposed by the tester but shall officially be set in

agreement with all the stakeholders. When agreement cannot be reached the Purchaser's PM will set the severity.

4.8.9.6.1.2   The priority defines the order in which deficiencies SHALL be resolved. The priority of the deficiency shall initially be proposed by the tester but shall officially be set in agreement with all the stakeholders. When agreement cannot be reached the Purchaser's PM will set the priority.

4.8.9.6.2.   According to their severity, deficiencies SHALL be classified as one of the following severity classes:

4.8.9.6.2.1   Critical: A major deficiency for which a work around does not exist. The deficiency totally prevents the system from performing operational processes and/or causes unrecoverable data loss. Applies to conditions under which one or more components are totally inoperative and jeopardize the ability to continue using the system. This condition generally is characterized by a complete or catastrophic system failure and requires immediate restoration or correction

4.8.9.6.2.2   Major: A significant deficiency that causes severely impaired functions but does not prevent operational processing. Applies to conditions under which one or more components are partially inoperative, but are still usable by the users. A workaround is available but it may be labour intensive or require manual intervention.

4.8.9.6.2.3   Minor: A functional deficiency that causes a specific aspect of the system to fail. There is a reasonably satisfactory work around which can be used during normal operations for a limited period of time. The system may be released provided the deficiency and work around is documented. Applies to conditions under which one or more components are usable with limited functions, but creates a manageable situation with respect to the normal operations. A work around is available and does not require any manual intervention

4.8.9.6.3.   The Contractor shall ensure, that according to their priority, deficiencies are classified as one of the following in Priority Classes:

4.8.9.6.3.1   Urgent. The deficiency shall be resolved as soon as possible

4.8.9.6.3.2   Medium. The deficiency shall be resolved in the normal course of development activities. It can wait until a new build or version is created.

4.8.9.6.3.3   Low. The deficiency is an irritant which should be repaired, but repair can be deferred until after more serious deficiencies have been fixed.

4.8.10.   Test Waivers

4.8.10.1.   If the Contractor has previously successfully completed qualification testing to national or international standards for assemblies, subassemblies, components or parts, the Contractor may submit documentation that substantiates the particular test requirement.

4.8.10.2.   The Purchaser reserves the right to review and approve the test documentation for acceptance and waiver of any test requirement.

4.8.10.3.   The Contractor shall produce the following to justify a test waiver:

4.8.10.3.1.   The nationally or internationally certified test results;

4.8.10.3.2.   The test standards, procedures and methods employed on the testing; and

4.8.10.3.3.   The test environment specifications that show that the previous testing matches the requirements of this Contract.

4.8.10.3.3.1   The Contractor shall certify that the environment to be implemented is identical to that which was originally tested and certified, or advise the Purchaser of design/construction changes which affect form, fit or function.

4.8.10.3.3.2   The Purchaser, after review of such changes and their impact, reserves the right to require test and certification of the modified equipment at no cost.

4.8.10.4.   The Contractor shall record and log all waiver requests along with their resolution.

4.8.11.   Tests

4.8.11.1.   Test Readiness Review (TRR)

4.8.11.1.1.   A Test Readiness Review (TRR) ensures that the test article (hardware/ software), test facility, support personnel, test procedures, test data and test tools are ready for testing and data acquisition, reduction, and control.

4.8.11.1.2.   Before scheduling any testing or evaluation phase, the Contactor shall host a Test Readiness Review (TRR) to review preparations and readiness for testing of software configuration items, including adequate version identification of software and test procedures.

4.8.11.1.3.   The Contractor shall provide the following documents for the TRR:

Table 4-22 – TRR Deliverables and documents

Serial	Activities / Documents
1	Project Test Plan (PTP)
2	Test Procedures
3	(Acceptance Test Phase) Test Plans
4	Test Report form (empty)
5	Product baseline
6	Software qualification evidence - Source Code Review Report
7	Software qualification evidence - All previous test reports (including last dry-run test report)
8	Software qualification evidences - Test log

9	Software qualification evidence – Requirements Traceability Matrix addressing the last verification status for all the Contractual requirements associated with one or more of the verification methods (IADT).
10	Software qualification evidences - Functional configuration Audit (FCA) report
11	Test Automation Tool
12	RAID Log
13	Test Crew Training
14	Maintenance Instruction
15	User & System Administration manuals
16	System administrator training materials
17	Build Environment
18	Test Readiness Review Report
19	User Story documentation
20	Software Version Description (SVD)

4.8.11.1.4.   Entry Criteria

4.8.11.1.4.1   The Contractor shall include in planning the TRR Entry Criteria given in Table 4-23 - TRR Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the TRR:

Table 4-23 - TRR Entry Criteria

Serial	Activities / Documents
1	Product baseline finalized
2	Specifications for the systems are complete and approved
3	A preliminary TRR agenda
4	Success Criteria (enhanced or adapted)
5	All relative documents have been delivered and reviewed
7	Qualification Testing Performed
7	Test procedures documented, approved and ready to be executed
8	Software version to be tested identified
9	Test Report performed by Contractor internal testing
10	Network accreditation for CFBLNet connectivity is in place (not necessary when a simulation is brought to ITB)
11	Active RAID Log
12	Test Automation Tool has been delivered
13	The NCOP team has received the Test Crew Training
14	The Story documentation is available and fully cover the current baseline

15	All required test resources people (including a designated test director), facilities, test articles, test instrumentation, and other test enabling products have been identified and are available to support required tests
16	Roles and responsibilities of all test participants are defined and agreed to
17	Test contingency planning has been accomplished, and all personnel have been trained
18	Last SER has been succesfull

4.8.11.1.4.2   Documentation that requires formal review for Purchaser acceptance prior to a TRR, shall be provided no less than two (2) week prior to TRR.

4.8.11.1.5.   Success Criteria

4.8.11.1.5.1   The Purchaser concludes that the TRR Success Criteria accomplished to complete the objectives of the TRR:

Table 4-24 - TRR Success Criteria

Serial	Requirement
1	All tests, support personnel, and test procedures are approved and ready to execute the test events
2	All relative documents have been approved by the Purchaser
3	The objectives of the testing have been clearly defined , documented, and they provide a reasonable expectation that the objectives will be met
4	Each requirement is covered by one or more test cases
5	A test case do not cover more than five requirements
6	Operational software (baselined version to be tested) (PBL) is available on the NCOP Test System
7	Test personnel have received appropriate training in test operation and safety procedures
8	Test Report form (empty) has been approved
9	Test Automation Tool is available
10	The Contractor has demonstrated its capability to perform most of the test procedures using the Test Automation Tool
11	Major risks have been identified, and viable mitigation strategies have been defined. Steps to mitigate risks are identified in the RAID log.
12	The authorisation to continue to the system test event has been granted.

4.8.11.1.6.   The Contractor shall prepare TRR Report and submit it within one (1) week after the completion of TRR.

4.8.11.1.7.   The contractor shall conduct a Test Readiness Review (TRR) meeting at least one week prior to the FAT event.

4.8.11.1.8.   The Contractor shall conduct a nimble Test Readiness Review (TRR) prior each of the test events executed after FAT.

4.8.11.2.   Factory Acceptance Test (FAT)

4.8.11.2.1.   The purpose of the Factory Acceptance Test is to demonstrate that the Product Baseline complies with the Functional Baseline and that the off-the-shelf and uniquely developed elements of the NCOP system have been integrated to meet the requirements of the SRS and the SOW, based on a selection of tests.

4.8.11.2.2.   The testing environment for FAT shall reflect the target implementation environment including configuration and NATO – approved security settings. The tests shall cover both functional testing and security testing. Tests shall also cover all product characteristics to the maximum possible extend.

4.8.11.2.3.   The FAT is conducted by the Contractor and observed by the Purchaser. The Contractor shall allow the Purchaser to perform specific tests after demonstration of that test by the Contractor.

4.8.11.2.4.   The FAT shall be conducted on the basis of tests. These tests shall be developed by the Contractor. The tests shall be based on test data and description of test outcomes developed/produced by the Operational community (the final users) if available.

4.8.11.2.5.   The Contractor shall facilitate and support up to five days of ad hoc testing by Purchaser personnel. The Contractor shall support the ad hoc testing and shall provide space and up to five NCOP system-enabled workstations for Purchaser personnel. The Contractor shall record and assess for Contract relevance any discrepancies identified during ad hoc testing.

4.8.11.2.6.   The Contractor shall provide the following documents for the FAT:

Table 4-25 – FAT Deliverables and documents

Serial	Activities / Documents
1	Factory Acceptance Test Procedure
2	Project Test plan
3	Test procedures executed
4	Test reports
5	RAID Log
6	User Story documentation
7	Sprint backlogs / Product backlog

4.8.11.2.7.   Entry Criteria

4.8.11.2.7.1   The Contractor shall include in planning the FAT Entry Criteria given in Table 4-26 - FAT Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the FAT:

Table 4-26 - FAT Entry Criteria

Serial	Activities / Documents
1	TRR passed with success
2	System delivered
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Testing environment ready to be used and it reflects the target implementation environment
6	Purchaser ad hoc testing ready
7	Time, location, material and resource available for Contractor and ad hoc testing
8	Test procedures covering the requirements provided (Requirement traceability)
9	Test schedule provided
10	Product Baseline installed on the ITB

4.8.11.2.8.   Success Criteria

4.8.11.2.8.1   The Purchaser concludes that the FAT Success Criteria accomplished to complete the objectives of the FAT:

Table 4-27 - FAT Success Criteria

Serial	Requirement
1	The Product Baseline complies with the Functional Baseline and the system meets the requirements of the SRS
2	All test procedures of the scope of the Product Baseline have been executed
3	At least 80 % of the executed test procedures are passed with success
4	All the user stories are passed without any blocking deficiencies (critical DR)
5	The Purchaser has been able to perform its ad hoc testing
6	All discrepancies has been logged and the Product backlog has been updated
7	The number of deficiency report (class B and C) in the product baseline, linked to requirement in the SRS, do not exceed five (5) critical DR and no more than twenty (20) major DR

4.8.11.2.9.   The Contractor shall prepare FAT Report and submit it within one (1) week after the completion of FAT.

4.8.11.3.   Laboratory System Integration Test (L-SIT)

4.8.11.3.1.   The purpose of Laboratory System Integration Testing (L-SIT) is to demonstrate that the Product Baseline complies with the Functional Baseline concerning the integration with the Bi-SC AIS Hardware Baseline and the Bi-SC AIS Core Services and other Bi-SC AIS Functional Services.

4.8.11.3.2.   The purpose of the L-SIT is also to demonstrate the Product Baseline compatibility and that complies with the Interoperability requirements as specified in the SRS. Such as: information exchange and interfaces to other systems, standards and protocols.

4.8.11.3.3.   The purpose of the L-SIT is also to demonstrate on a NCI Agency environment that the Product Baseline complies with all other software product characteristics requirements identified by the SoW, including but not limited to usability, performance efficiency and reliability in order to mitigate risks at System Acceptance Test (SAT).

4.8.11.3.4.   The Contractor shall perform L-SIT by installing the Product Baseline on a Purchaser-specified Reference System or NATO testing environment and performing system integration and interoperability tests, with emphasis on any CIs that have been modified since Factory Acceptance Test.

4.8.11.3.5.   The L-SIT shall be conducted on the basis of test. The Contractor shall develop the initial version of the tests. The Purchaser will review, amend and approve the tests prior to execution.

4.8.11.3.6.   The L-SIT shall also include testing of all supporting capabilities, including:
- data migration capabilities ;
- collaboration capabilities ;
- data display and validation ;

4.8.11.3.7.   L-SIT shall use test data that is realistic in terms of structure, content and size.

4.8.11.3.8.   The Purchaser reserves the right to observe the tests and to have the Contractor perform selected testing tasks on the Reference System to confirm compliance.

4.8.11.3.9.   The Purchaser reserves the right to perform 10 days of ad hoc testing by Purchaser personnel with support from Contractor personnel. The Contractor shall record and assess for Contract relevance any discrepancies identified during ad hoc testing.

4.8.11.3.10.   The Contractor shall provide the following documents for the L-SIT:

Table 4-28 – L-SIT Deliverables and documents

Serial	Activities / Documents
1	Laboratory System Integration Test Procedure
2	Project Test Plan
3	Test Procedures
4	User Story documentation

5	Test Reports
6	RAID Log
7	System Integration Test Report
8	Sprint backlogs and Product backlog

4.8.11.3.11.   Entry Criteria

4.8.11.3.11.1   The Contractor shall include in planning the L-SIT Entry Criteria given in Table 4-29 – L-SIT Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the L-SIT:

Table 4-29 – L-SIT Entry Criteria

Serial	Activities / Documents
1	FAT passed with success
2	AIS Core Services and other Bi-SC AIS Functional Services are available
3	Success Criteria (enhanced or adapted)
4	All relative documents have been delivered and reviewed
5	Realistic test data
6	Purchaser ad hoc testing ready
7	Time, location, material and resource available for Contractor ad hoc testing
8	Test procedures covering the requirements provided (Requirement traceability)
9	Test schedule provided

4.8.11.3.12.   Success Criteria

4.8.11.3.12.1   The Purchaser concludes that the L-SIT Success Criteria accomplished to complete the objectives of the L-SIT:

Table 4-30 – L-SIT Success Criteria

Serial	Requirement
1	The Product Baseline complies with the Functional Baseline and the Product Baseline can be integrated with the other functional services
2	The Product Baseline complies with the Interoperability Requirements
3	Tests reviewed, amended and approved by Purchaser
4	The data used during the L-SIT are realistic in terms of structure, content and size.
5	All test procedures of the scope of the Product Baseline have been executed
6	At least 80 % of the executed test procedures are passed with success

7	All the user stories are passed without any blocking deficiencies (critical DR)
8	The Purchaser has been able to perform its ad hoc testing
9	All discrepancies has been logged and the Product backlog has been updated
10	The number of deficiency report (class B and C) in the product baseline, linked to requirement in the SRS, do not exceed five (5) critical DR and no more than twenty (20) major DR

4.8.11.3.12.2   The Contractor shall prepare L-SIT Report and submit it within one (1) week after the completion of L-SIT.

4.8.11.4.   System Support and Maintenance Acceptance Testing (SSMAT).

4.8.11.4.1.   The purpose of System Support and Maintenance Acceptance Testing is to demonstrate that the Product Baseline complies with the Functional Baseline based on a selection of tests and provides Purchaser support staff with the capability to modify, test, and implement changes to the Product Baseline after handover to the Purchaser.

4.8.11.4.2.   The Contractor shall perform System Support and Maintenance Acceptance Testing by installing the Product Baseline on a Purchaser-specified Reference System and performing System Test Review, with emphasis on any CIs that have been modified since Factory Acceptance Testing.

4.8.11.4.3.   The Contractor shall perform SSMAT by installing the PBL using the Software Installation Configuration Guide on the NCOP Test System at the Test Facility.

4.8.11.4.4.   Software Installation Configuration Guide

4.8.11.4.5.   Software Installation Configuration Guide (SIG) provides information about all actions to take in order to install and configure the NCOP Operational Software, including COTS components.

4.8.11.4.5.1   The SIG shall include the following:
- Prerequisites for installing NCOP (e.g. the necessary operating system access right to perform installation) ;
- The necessary supplementary software, drivers, etc. to install NCOP ;
- The required disk space ;
- Configuration file information (location, content, available settings of the items and their meaning) ;
- How to modify the configuration file ;
- How to configure the database management systems (including both the data model and access mechanisms) ;
- How to modify the system backbone to run NCOP ;

- Any additional information specific to the system ;
- Text and/or screenshots of the system feedback which will be displayed after each action ;
- Detailed installation procedures for all services installed or migrated on new or existing platforms, allowing system administrators to rebuild services from scratch ;

4.8.11.4.5.2   The Contractor shall deliver the SIG at least three (3) weeks prior to the System Support and Maintenance Acceptance Testing (SSMAT).

4.8.11.4.6.   System Support and Maintenance Acceptance Testing (SSMAT) shall also include testing of all supporting capabilities, including data migration capabilities, data migration verification and validation shall include use of test data that is realistic in terms of structure, content and size.

4.8.11.4.7.   The Purchaser reserves the right to observe the tests and to have the Contractor perform selected testing tasks on the Reference System to confirm compliance.

4.8.11.4.8.   The Purchaser reserves the right to perform five days of ad hoc testing by Purchaser personnel with support from Contractor personnel. The Contractor shall record and assess for Contract relevance any discrepancies identified during ad hoc testing.

4.8.11.4.9.   The Contractor shall provide the following documents for the SSMAT:

Table 4-31 – SSMAT Deliverables and documents

Serial	Activities / Documents
1	SSMAT procedure
2	Project Test Plan
3	Test Procedures
4	Test Reports
5	RAID Log
6	Software Installation Configuration Guide (candidate)
7	User Manual (candidate)
8	Quick User Guide (candidate)
9	System Administrator Manual (candidate)
10	System Supportability and Maintenance Acceptance Test Report
11	Sprint backlogs / Product backlog

4.8.11.4.10.   Entry Criteria

4.8.11.4.10.1   The Contractor shall include in planning the SSMAT Entry Criteria given in Table 4-32 - SSMAT Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the SSMAT:

Table 4-32 - SSMAT Entry Criteria

Serial	Activities / Documents
1	SIT passed with success
2	Success Criteria (enhanced or adapted)
3	All relative documents have been delivered and reviewed
4	Software Installation Configuration Guide available
5	The product Baseline has been installed on a Purchaser reference system and is available
6	The Purchaser has provided a reference system and this system is available
7	Purchaser ad hoc testing ready
8	Time, location, material and resource available for Contractor ad hoc testing

4.8.11.4.11.   Success Criteria

4.8.11.4.11.1   The Purchaser concludes that the SSMAT Success Criteria accomplished to complete the objectives of the SSMAT:

Table 4-33 - SSMAT Success Criteria

Serial	Requirement
1	SSMAT procedure covers all the SSMAT requirements
2	The Product Baseline complies with the Functional Baseline based on a selection of tests and provides Purchaser support staff with the capability to modify, test, and implement changes to the Product Baseline after handover to the Purchaser
3	All test procedures of the scope of the Product Baseline have been executed
4	At least 80 % of the executed test procedures are passed with success
5	The Purchaser has been able to perform its ad hoc testing
6	All discrepancies has been logged and the Product backlog has been updated

4.8.11.4.12.   The Contractor shall prepare SSMAT Report and submit it within one (1) week after the completion of SSMAT.

4.8.11.5.   Laboratory User Acceptance Testing (L-UAT)

4.8.11.5.1.   The Contractor shall develop and carry out tests of the NCOP system to verify that all SRS and SOW requirements are met and to establish benchmarks for system performance and system reliability, maintainability, and availability. This shall be referred to as a Laboratory User Acceptance Test (L-UAT).

4.8.11.5.2.   The L-UAT shall be conducted by representatives of the operational community, with support from the Contractor personnel.

4.8.11.5.3.   The L-UAT shall be conducted on the basis of test scripts. The Contractor shall develop an initial version of the test scripts using test data and description of test outcomes developed/produced by the operational community if available. The Purchaser will review, amend with the operational community and approve the L-UAT tests procedures prior to execution. The BMD operational community will confirm the L-UAT test procedures are adequate to validate the product baseline in accordance with the system specifications.

4.8.11.5.4.   The L-UAT shall also be conducted on the basis of an operational context in addition to the L-UAT Test plan execution, using representative BMD operational data. The Purchaser and the BMD operational community will determine which events will provide the context for the additional L-UAT scope.

4.8.11.5.5.   The Contractor shall provide two in person NCOP training courses per Baseline delivery to the representatives of the operational community in support of the BMD PVS.

4.8.11.5.6.   The Purchaser will observe the L-UAT and the Contractor shall perform selected testing tasks to confirm compliance.

4.8.11.5.7.   The Contractor shall support the L-UAT on a Purchaser-specified Reference System (e.g. NCIA NCOP Reference system).

4.8.11.5.8.   The Purchaser reserves the right to perform five days of ad hoc testing by Purchaser personnel and the Operational Community with support from Contractor personnel.

4.8.11.5.9.   The Contractor shall record and assess for Contract relevance any discrepancies identified during testing.

4.8.11.5.10.   The Contractor shall provide the following documents for the L-UAT:

Table 4-34 – L-UAT Deliverables and documents

Serial	Activities / Documents
1	Project Test Plan
2	Test Procedures
3	User Story documentation
4	Test Reports
5	RAID Log
6	Laboratory User Acceptance Test Report
7	Sprint backlogs and Product backlog
8	Verification Cross Reference Index (VCRI)

4.8.11.5.11.   Entry Criteria

4.8.11.5.11.1   The Contractor shall include in planning the L-UAT Entry Criteria given in Table 4-35 – L-UAT Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the L-UAT:

Table 4-35 – L-UAT Entry Criteria

Serial	Activities / Documents
1	L-SIT passed with success
2	Success Criteria (enhanced or adapted)
3	All relative documents have been delivered and reviewed
4	L-UAT tests procedures validated by the Purchaser
5	NCOP is available for testing
6	Test environment identified and available
7	Test procedures covering the requirements provided (Requirement traceability)
8	Test schedule provided
9	NCOP BMD operators have been identified
10	NCOP BMD operators are available to participate in the L-UAT
11	Purchaser ad hoc testing ready
12	Time, location, material and resource available for Contractor ad hoc testing
13	Operational data have been provided

4.8.11.5.12.   Success Criteria

4.8.11.5.12.1   The Purchaser concludes that the L-UAT Success Criteria accomplished to complete the objectives of the L-UAT:

Table 4-36 – L-UAT Success Criteria

Serial	Requirement
1	All test procedures of the scope of the Product Baseline have been executed
2	At least 90 % of the executed L-UAT test procedures are passed with success
3	L-UAT test procedures are passed without any blocking deficiencies (critical DR)
4	Any critical or major failed test procedure logged during a previous milestone has been fixed
5	The Purchaser has been able to perform its ad hoc testing
6	All discrepancies has been logged and the product back log has been updated
7	The number of deficiency report (class B and C) in the product baseline, linked to requirement in the SRS, do not exceed three (3) critical DR and no more than twenty (20) major DR

4.8.11.5.13.   The Contractor shall prepare L-UAT Report and submit it within one (1) week after the completion of L-UAT.

4.8.11.6.   Regression Test

4.8.11.6.1.   Regression Test (RegT) is a quality control measure to ensure that the newly modified code still complies with its specified requirements and that unmodified code has not been affected by the maintenance activity. The intent of regression testing is to provide confidence that corrective actions have not introduced or exposed anomalies in unchanged parts of the test item.

4.8.11.6.2.   The Contractor shall plan and execute RegT to uncover new software problems or regressions in the system after changes or bug fixes are applied.

4.8.11.6.3.   The Contractor shall demonstrate in the RegT that the deficiencies found in the previous test events are solved and the rest of the system is not affected.

4.8.11.6.4.   The Contractor shall perform a RegT on the whole system (or some components) if a formal test activity is deemed to be "Conditionally Passed". The test status shall be changed to "Passed" if the RegT is agreed to be successful.

4.8.11.6.5.   The Contractor shall provide Regression Test Procedure to the Purchaser prior to the test, execute the test, update the Test Log and provide the Regression Test Report (RegT-R) within two (2) weeks after the test.

4.8.11.6.6.   The Contractor's regression tests shall be conducted using automated test cases in the following areas:

- Data creation ;
- Interoperability ;

4.8.11.6.7.   The Purchaser will authorise manual tests for some GUI or complex functions.

4.8.11.7.   System Test Review (STR)

4.8.11.7.1.   STR is the last milestones of the testing and verification under the Contractor lead. The Contractor shall demonstrate the product baseline is mature enough to be carried under the NCIA validation.

4.8.11.7.2.   The Contractor shall provide the following documents for the STR:

Table 4-37 – STR Deliverables and documents

Serial	Activities / Documents
1	Software Installation Configuration Guide (final)
2	User Manual (final)
3	Quick User Guide (final)
4	System Administrator Manual (final)
5	Product baseline (candidate)

6	Configuration audits reports

4.8.11.7.3.   Entry Criteria

4.8.11.7.3.1   The Contractor shall include in planning the STR Entry Criteria given in Table 4-38 - STR Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the STR:

Table 4-38 - STR Entry Criteria

Serial	Activities / Documents
1	TRR, FAT, L-SIT, L-UAT and SSMAT passed with success
2	Success Criteria (enhanced or adapted)
3	All relative documents have been delivered and reviewed
4	RTM updated with the last verification status per contractual requirement
5	Last version of the CSA registers all known DRs associated to the product baseline (candidate) has been delivered

4.8.11.7.4.   Success Criteria

4.8.11.7.4.1   The Purchaser concludes that the STR Success Criteria accomplished to complete the objectives of the STR:

Table 4-39 - STR Success Criteria

Serial	Requirement
1	All relative documents have been approved
2	All test procedures of the scope of the Product Baseline have been executed and their results reported
3	At least 90 % of the executed test procedures are passed with success
4	The Product Baseline has been declared usable by the Purchaser in coordination with the BMD operational community based on L-UAT results
5	All the user stories are passed without any blocking deficiencies (critical DR)
6	The Purchaser has been able to perform its ad hoc testing
7	All discrepancies has been logged and the Product backlog has been updated
8	The number of deficiency report (class B and C) in the product baseline, linked to requirement in the SRS, has no (0) critical DR and no more than twenty (20) major DR

4.8.11.7.5.   The Contractor shall prepare STR Report and submit it within one (1) week after the completion of STR

4.8.11.7.6.   The Contractor shall conduct a Test Review Meeting (TRM) no more than one (1) day following a test event, i.e. FAT, L-SIT, L-UAT, SSMAT, and

Regression Testing in order to reduce the STR risks. The TRM shall ensure that the event results and deficiencies categorization is agreed upon. The Contractor shall ensure that the Purchaser and Contractor agree on the results of the event following the TRM. If agreement is not reached, the disputed items shall be escalated to the Purchaser's and Contractors' Project Managers.

4.8.11.8.   Independent Verification & Validation

4.8.11.8.1.   The Contractor shall provide support to the Purchaser to conduct Independent Verification and Validation (IV&V) Testing including the Independent Security Testing (IST).

4.8.11.8.2.   The Contractor is responsible for successfully obtaining security accreditations of NCOP Operational Software for both NU and up to NR Domains that:

- The developed application/set of applications shall not contain security bugs / vulnerabilities. (tested by security testing)

- The Contractor shall support NCIA to conduct a (independent) security penetration testing by providing all the necessary information / documentation and assisting in security findings resolution.

4.8.11.8.3.   The purpose of Software Accreditation is to demonstrate that NCOP meets its security requirements and can be accredited for use on NATO networks within the NCI Agency jurisdiction.

4.8.11.8.4.   Any software to be used in NATO networks and operational environments is subject to security screening and approval by the NCI Agency. In particular, this software must be included in the NATO Service Baseline as described in the Approved Fielded Product List (AFPL). The process of software accreditation is divided in two (2) phases:

- Configuration Change Proposal – the software to be accredited is presented to a Configuration Control Board;

- Software Accreditation Test – the Software itself and the software documentation are subjected to in-deep technical assessment by the NCI Agency.

4.8.11.8.5.   The Contractor-provided software shall operate within the environment of NATO Service Baseline (defining software deployed at NATO computers) as listed in the AFPL.

4.8.11.8.6.   The Purchaser will provide the Contractor the images of the latest version of the supported software configuration (Service Baseline) for servers and clients as defined in the AFPL.

4.8.11.8.7.   The Purchaser will provide the Contractor with the licenses for the activation of the COTS software indicated in the software that is covered by Enterprise Agreements the Purchaser has signed, unless otherwise specified (e.g. the Contractor purchases the software licenses on behalf of the Purchaser).

4.8.11.8.8.   In case third party software is used, the Contractor shall provide the software warranty and licensing documentation to the Purchaser at least three (3) weeks before the IV&V Security Testing or when otherwise specified to ensure that Security Test can be carried out at the Purchaser's facility.

4.8.11.8.9.   The Contractor shall develop and provide system documentation as required by the IV&V and NCI Agency Enterprise CAB in order to support the security penetration test and screening activities (to be conducted using the NCI Agency IV&V testing environment) and to include NCOP in the AFPL. The list of documents required to conduct such activities will be provided as part of PFE on Contract Award.

4.8.11.8.10.   The Contractor shall deliver the IV&V test documentation for reviewing at least thirty (30) days prior to the IV&V testing activity. This delivery shall be indicated in the PTP.

4.8.11.8.11.   The Contractor is responsible for providing the necessary documentation to successfully obtaining listing on the necessary AFPL. This includes the provision of the required product documentation and actively supporting the product testing.

4.8.11.8.12.   Two (2) test sessions per baseline for software accreditation are foreseen, whose duration is five (5) working days each. Test session schedule will be planned in advance by the NCI Agency and in coordination with the Purchaser. The Contractor will be communicated in due time the test schedule.

4.8.11.8.13.   IV&V Test sessions will be repeated until completion with a Pass or Conditional Pass.

4.8.11.8.14.   Upon successful completion of the test, the software product is added to the AFPL and then it can be installed on BMD ITB and a NATO site (or ref sys environment).

4.8.11.8.15.   The NCI Agency will provide the Contractor with a Test Report at the end of each test session, where the reason for failure and remedial actions will be indicated.

4.8.11.8.16.   The Purchaser will perform IV&V Testing in support of the approval process for changes to the operational Bi-SC AIS configuration. The IV&V Testing will be performed at the Purchaser's IV&V Test Facility, unless mutually agreed by the Contractor and the Purchaser. Standard Bi-SC AIS components (e.g. operating systems, e-mail servers) will be provided at the IV&V Test Facility.

4.8.11.8.17.   The Contractor shall support the Purchaser for Initial Planning Conference (IPC) and Final Planning Conference (FPC) prior to the IV&V Testing.

4.8.11.8.18.   The Contractor shall support the installation and configuration of the NCOP system (as delivered in the Product Baseline) in support of IV&V Testing. The Contractor shall install all required elements of the NCOP PBL including

Purchaser- and Contractor-provided COTS components on the equipment in the IV&V Test Facility using the Site Installation and Activation Procedures. The Contractor shall install test databases to support Acceptance Testing.

4.8.11.8.19.   The Contractor shall provide support to the IV&V Testing activity performed by the Purchaser. The Contractor shall provide on-site support for the testing, including supporting the identification and resolution of issues, performance of test procedures to demonstrate system functionality, and participation in pre- and post-test reviews. The Contractor shall record and assess for Contract relevance any discrepancies identified during IV&V Testing.

4.8.11.8.20.   The Contractor shall support interoperability testing performed between NCOP and external systems/services as defined in SRS. These applications will be defined in correspondence of the Contractor's submission of the Project Test Plan.

4.8.11.8.21.   The Contractor shall resolve any discrepancies relevant under the Contract and support additional IV&V Testing required to verify these fixes. If the resolution of discrepancies requires changes to the PBL, the Contractor shall deliver a revised version of the PBL prior to site installation and additional testing.

4.8.11.8.22.   The IV&V Testing will be repeated for the three Baselines.

4.8.11.8.23.   The Purchaser reserves the right to perform the user-produced test scenarios during this test.

4.8.11.8.24.   The Contractor shall provide the following documents for the IV&V:

Table 4-40 – IV&V Deliverables and documents

Serial	Activities / Documents
1	Project Test Plan
2	RAID Log

4.8.11.8.25.   Entry Criteria

4.8.11.8.25.1   The Contractor shall include in planning the IV&V Entry Criteria given in Table 4-41 – IV&V Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the IV&V:

Table 4-41 – IV&V Entry Criteria

Serial	Activities / Documents
1	STR passed with success
2	Success Criteria (enhanced or adapted)
3	All relative documents have been delivered and reviewed
4	RFC submitted
5	Contractor project material provided by the Contractor
6	IV&V coordinator has been designated

7	IV&V slot planned with IV&V coordinator

4.8.11.8.26.   Success Criteria

4.8.11.8.26.1   The Purchaser concludes that the IV&V Success Criteria accomplished to complete the objectives of the IV&V:

Table 4-42 – IV&V Success Criteria

Serial	Requirement
1	Testing is conducted in a manner consistent with Agency policy during all stages of the life cycle
2	The necessary materials have been produced
3	Functional and non-functional requirements are satisfied

4.8.11.9.   Security Tests and Analysis and Reporting

4.8.11.9.1.   The Contractor shall, within the Contractor's continuous integration build pipeline, set up automated security test that tests security aspects of the implemented software in accordance with the OWASP Testing Guide. The automated security tests shall include:

- (1) Static Application Security Testing (SAST) (e.g. using the NSF SonarQube);
- (2) Dynamic Application Security Testing (DAST) (e.g. using OWASP ZAP);
- (3) Dependency checking (i.e. security scanning of third-party libraries);
- (4) Security-related unit and integration tests.

4.8.11.9.2.   The Contractor shall during source code reviews shall also consider security in accordance with the OWASP Code Review Guide.

4.8.11.9.3.   The Contractor shall document all security test and analysis findings in a Security Test Report (SecTR). The Contractor shall document all security test and analysis findings in a Security Test Report (SecTR)

4.8.11.9.4.   Security Test Report (SecTR)

4.8.11.9.4.1   The SecTR shall record the results of source code analysis of security vulnerabilities, of manual security tests, and of automated security tests.

4.8.11.9.4.2   The SecTR shall describe any security measures that aim to mitigate security issues identified in the SecTR.

4.8.11.10.   System Acceptance Test (SAT)

4.8.11.10.1.   The Contractor shall perform (under NCI Agency environment) and report potential additional tests to the Purchaser's satisfaction before the Product Baseline can be accepted by the Purchaser for deployment authorization.

4.8.11.10.2.   The Contractor shall provide the following documents for the SAT:

Table 4-43 – SAT Deliverables and documents

Serial	Activities / Documents
1	Product Baseline (final)
2	All approved deliverables to be included on the media

4.8.11.10.3.   Entry Criteria

4.8.11.10.3.1   The Contractor shall include in planning the SAT Entry Criteria given in Table 4-44 - SAT Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the SAT:

Table 4-44 - SAT Entry Criteria

Serial	Activities / Documents
1	The Product Baseline is approved on the NATO AFPL
2	Success Criteria (enhanced or adapted)
3	All relative documents have been delivered and reviewed
4	The Product Baseline has been installed on the BMD ITB

4.8.11.10.4.   Success Criteria

4.8.11.10.4.1   The Purchaser concludes that the SAT Success Criteria accomplished to complete the objectives of the SAT:

Table 4-45 - SAT Success Criteria

Serial	Requirement
1	IV&V and AFPL milestones have been successfully passed
2	All contractual requirements have been verified and the non-compliances have been identified and agreed
3	The number of deficiencies (class B and C) in the product baseline, linked to the SRS requirements, does not contain any critical DR and does not exceed more than five (5) major DR

4.8.11.10.5.   The Contractor shall prepare SAT Report and submit it within one (1) week after the completion of SAT.

4.8.12.   Support validation during Programme Verification Strategy (PVS) events

4.8.12.1.   The PVS sets out the strategy for the verification and validation (V&V) of the BMD capability. It also describes subsequent Programme support to user and operational validation and capability acceptance and transition activities, which are led by the NATO Bi-Strategic Commands (Bi-SC = ACO & ACT)

4.8.12.2.   For each Tranche the contractor shall support; one Ensemble Test (ET), one Ensemble Test LITE (ET-LITE), Ensemble Operator Test (EOT), surge support for two exercises, one Operational Evaluation in terms of a User's Acceptance Test (UAT), and one System of System Integration Test (SoSIT).

4.8.12.3.   The Contractor shall provide the support to PVS events up to the estimates provided in table Table 4-46.

Table 4-46 – PVS events effort

PVS event	Quantity of events	Total man-days
Ensemble Test (ET)	3	60
Ensemble Test – LITE (ET-LITE)	3	30
Operational Evaluation (UAT)	3	60
Ensemble Operator Test (EOT)	3	30
System of Systems Integration Test (SoSIT)	3	15
Exercise STAR-like	3	30
Exercise STJU-like	3	30
Exercise JPOW-like	3	30
Training	5	50

4.9.   System Acceptance

4.9.1.   Provisional System Acceptance

4.9.1.1.   Provisional System Acceptance (PSA) occurs when all capabilities and services are provided for the reference system. Rolling-out the system at the authorised sites will be performed prior PSA. This project will include one PSA at the end of BL3 and one PSA at the end of BL4.

4.9.1.1.1.   The Contractor shall map the applicable Operational Acceptance Criteria (OAC) to the SoW and SRS requirements in the Requirement Traceability Matrix Document. The Contractor shall establish the OAC traceability at SRR stage and finally approved at CDR.

4.9.1.1.2.   The Contractor shall provide the following documents for the PSA:

Table 4-47 – PSA Deliverables and documents

Serial	Activities / Documents
1	Product baseline (BL3 and BL4)
2	Patches

4.9.1.1.3.   Entry Criteria

4.9.1.1.3.1   The Contractor shall include in planning the PSA Entry Criteria given in Table 4-48 - PSA Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the PSA:

Table 4-48 - PSA Entry Criteria

Serial	Activities / Documents
1	Success Criteria (enhanced or adapted)

2	All relative documents have been delivered and reviewed
3	All patches have been delivered and approved
4	All the authorized sites have installed and activated

4.9.1.1.4.   Success Criteria

4.9.1.1.4.1   The Purchaser concludes that the PSA Success Criteria accomplished to complete the objectives of the PSA:

Table 4-49 – PSA Success Criteria

Serial	Requirement
1	The baseline is accepted
2	The baseline has been successfully installed and activated at authorized sites as confirmed by the users
3	The patches have been delivered and applied
4	All the critical deficiencies have been corrected or are allocated to the upcoming baseline
5	All required documentation and support tools are delivered.

4.9.1.1.4.2   The Contractor shall prepare a PSA Report and submit it within one (1) week after the completion of PSA.

4.9.2.   Final System Acceptance

4.9.2.1.   Final System Acceptance (FSA) occurs when the Purchaser has evaluated the whole system and has determined that it meets the requirements of this Contract including all deliveries and services. This project will include one FSA at the end of BL5.

4.9.2.1.1.   The Contractor shall provide the following documents for the FSA:

Table 4-50 – FSA Deliverables and documents

Serial	Activities / Documents
1	Final CSA reports
2	Final Configuration Audits reports

4.9.2.1.2.   Entry Criteria

4.9.2.1.2.1   The Contractor shall include in planning the FSA Entry Criteria given in Table 4-51 - FSA Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the FSA:

Table 4-51 - FSA Entry Criteria

Serial	Activities / Documents
1	Success Criteria (enhanced or adapted)
2	All relative documents have been delivered and reviewed

4.9.2.1.3.   Success Criteria

4.9.2.1.3.1   The Purchaser concludes that the FSA Success Criteria accomplished to complete the objectives of the FSA:

Table 4-52 - FSA Success Criteria

Serial	Requirement
1	Product Baseline is updated and the patches have been integrated.
2	All critical and major deficiencies are fixed. Remaining ones are planned for correction under warranty
3	Reference Systems are updated with the current Product Baseline
4	All the authorised sites have been installed and activated as confirmed by the users
5	All due deliverables are accepted in writing by the Purchaser.
6	Support Desk delivered.
7	ILS documentation is updated.
8	FSA Report is provided.

4.9.2.1.3.2   The Contractor shall prepare FSA Report and submit it within one (1) week after the completion of FSA.

SECTION 5:   INTEGRATED LOGISTICS SUPPORT (ILS)

5.1.   General

5.1.1.   This section outlines the supportability requirements of the project. It addresses the Integrated Logistic Support (ILS) elements requirements.

5.1.2.   Requirements for the inclusion of all Contractor's identified activities and milestones are described in SOW.

5.1.3.   The Contractor shall use the [AIA/ASD SX000i, 2016] specification as guidance when establishing and conducting the ILS Process, in accordance with the requirements of the contract.

5.2.   Integrated Logistic Support Plan (ILSP)

5.2.1.   The Contractor shall provide and maintain an Integrated Logistic Support Plan, tailored to the Project Program phases and in accordance with the requirements in this section.

5.2.2.   The Contractor shall detail in the ILS Plan how Integrated Logistic Support will be designed, managed, procured and provided throughout the system lifetime detailing the activities and deliverables required by each subsection under SECTION 5:   Integrated Logistics Support.

5.2.3.   The Contractor's ILSP shall have an annex dedicated to the transition aspects from NCOP-2 BL2 to NCOP BL3. This shall include the change summary for the operational aspects (functionality changes) and maintenance and system administration aspects (installation, configuration, check out, troubleshooting, testing, fault isolation, system restoration etc.) for the new solution compared to the NCOP-2.

5.2.4.   The Contractor's ILSP shall have an In-Service Support annex detailing the support to be provided by the Contractor during implementation (transition) and during operational phase of the NCOP software in accordance with the requirements outlined in Section 5.9 Operational Support and Section 5.10 Warranty and Support.

5.2.5.   The Contractor's In-Service Support annex shall provide sufficient details to show compliance with the contractual support requirements; at minimum this annex shall describe the Contractor's organization, PoCs, support level definitions and responsibilities, response times and metrics, procedures to follow for Incident and Problem Management or other support requests in line with the defined scope within SOW.

5.2.6.   The Contractor's ILSP shall be provided to the Purchaser for review and acceptance, and shall be updated as required throughout the project implementation.

5.2.7.   The acceptance of the ILSP by the Purchaser signifies only that the Purchaser agrees to the Contractor's approach in meeting the requirements. This acceptance

in no way relieves the Contractor from its responsibilities to meet the requirements stated in this Contract.

5.2.8.   The Contractor shall maintain and update the ILSP with its annexes as required to reflect changes in the Project Baselines, especially between the NCOP BL3, BL4, and BL5.

5.3.   Maintenance and Support Concept

5.3.1.   Definitions

5.3.1.1.   Support Concept

5.3.1.1.1.   The Support concept is the set of activities and processes in charge of managing the various level of maintenance and to escalate the problem to the appropriate level in accordance with the defined responsibilities.

5.3.1.1.2.   It is based on the Incident management process defined in ISO/IEC 20000 and ITIL framework, software supportability concept of ASD S3000L or equivalent.

5.3.1.1.3.   The Service management is divided in three different level of service, which interface each other, in order to activate the proper level of maintenance in accordance with the event happened on the system.

5.3.1.1.4.   First Level Support Process

5.3.1.1.4.1   The 1st Level Support Process implements the Incident Management process in accordance with the ISO/IEC 20000 and ITIL framework or equivalent;

5.3.1.1.4.2   As part of the Incident Management, the Service Desk receives the issue from the user, puts it into a standard format (Trouble Ticket (TT)), performs an initial assessment and distributes it to the predefined actors to solve it.

5.3.1.1.5.   Second Level Support Process

5.3.1.1.5.1   The 2nd Level Support Process implements the Problem Management process in accordance with the ISO/IEC 20000 and ITIL framework or equivalent;

5.3.1.1.5.2   The Problem Management process receives the TT from the Service Desk and performs the following tasks (not limited to):
- (Re-) evaluation of TT category, criticality and priority.
- Identification of the root cause of the issue (e.g. by issue replication testing).
- Identification of workarounds.
- Identification and initial planning of possible short, medium and long-term solutions (e.g. workarounds, patches, or new baseline or CI releases).

- Create Problem Analysis Report and Change Request incl. schedule of implementation, and synchronisation with the Baseline Maintenance process.
- Presentation of the Problem Analysis Report and Change Request to the CCB for approval.
- Monitor and Control the approved Change Request during implementation.
- Trigger 3rd Level Support and/or 3rd Level Maintenance process to implement the Change Request, in case the incident cannot be solved at 2nd level.
- Perform the post- Change Request implementation review.

5.3.1.1.6.   Third Level Support Process

5.3.1.1.6.1   The 3rd Level Support Process implements the Deployment and Release Management process in accordance with the ISO/IEC 20000 and ITIL framework or equivalent.

5.3.1.1.6.2   The Deployment and Release Management process receives the approved Change Request from the 2nd Level Support and performs the following tasks (not limited to):

- Activating Level 3 maintenance when new solutions shall be developed / release of the solution (release unit/record);
- Development of the solution (e.g. new CI Fix, Repair, Replacement, Patch, or Release),);
- Testing of the solution (e.g. Regression testing, issue/deficiency replication testing),);
- Update of baseline content and status;
- Release of the solution (release unit/record);
- Delivery and deployment of the solution.

5.3.1.2.   Maintenance Concept

5.3.1.2.1.   The Maintenance Concept is the set of activities and processes in charge of restoring the system functionality in the shortest time possible.

5.3.1.2.2.   All proactive Maintenance tasks are defined in the Service/Capability and Site specific O&M Manuals (What) and corresponding Procedures (How) and scheduled in the Maintenance Plan.

5.3.1.2.3.   Reactive Maintenance activities are triggered by Incident and Change Requests coming either from the Service Customer via the Customer Support Services or from the OEM/Vendor

5.3.1.2.4.   First Level of Maintenance (SL1)
- It is responsible for the very basic maintenance activities including the software failure recovery by simple diagnostics, data back-up or restart by site personnel. It is responsible to activate the second level of maintenance when it is needed.

- It implements the initial preventive Maintenance procedures and any additional Service/Capability and/or site specific procedures that are defined in the corresponding O&M Manual. All 1st Level Maintenance procedures do not require specialised tools and/or specialised personnel.

5.3.1.2.5.   Second Level of Maintenance (SL2)

- It is responsible of isolation and resolution of system-level maintenance and management of deficiency reports and repair including the simple SW customizations, SW reloading/installation, execution of scripts, management of users/profiles usually performed by system administrators. It is responsible to activate the third level of maintenance when it is needed.

- It implements the initial preventive Maintenance procedures and any additional Service/Capability and/or site specific procedures that are defined in the corresponding Manual. All 2nd Level Maintenance procedures do not require specialised tools and/or specialised personnel.

5.3.1.2.6.   Third Level of Maintenance (SL3)

- It is responsible of any support that involves a change to the system baseline, such as software patches or new releases including the bug recording and reporting, advanced troubleshooting and configuration changes with the changing environment. Third level maintenance is activated by third level support and can be initiated either to define the solution to a problem (corrective maintenance) or to maintain up to date software configuration (adaptive maintenance following changes to the underpinning hardware, firmware and software environment) e.g. security patches, operating system upgrades, minor software configuration changes due to operational/interface needs requested.

- It implement the initial preventive Maintenance procedures and any additional Service/Capability and/or site specific procedures that are defined in the corresponding Manual. 3rd Level Maintenance procedures can require specialised tools and/or Personnel such as software architects, programmers, advanced system administrators and specialists.

5.3.1.2.7.   Fourth Level of Maintenance (SL4)

- It is the responsibility of the software original developer under warranty or through separate agreements outside the warranty duration. It is activated from the 3rd level of maintenance only when it is needed and requires debugging, re-coding and testing (both in simulated and emulated environments), patch creation and deployment.

5.3.2.   As an Annex of the ILSP, the Contractor shall develop and maintain the Maintenance and Support Concept that defines the maintenance and support environment, constraints, locations, procedures, artefacts, organisation and personnel skills to maintain the Delivered baselines of the platform.

5.3.3.   The Contractor shall design/deliver the system/elements and the Support/Maintenance documentation, training, instructions, and resources (skills, tools/test equipment) in order to allow the Purchaser to fully operate the software,

to perform SL1/2 and SL3 Maintenance and Support from the Provisional Site Acceptance (PSA).

5.3.4. Starting from PSA and until the end of warranty period, all maintenance activities beyond Purchaser capabilities/skills (as per Maintenance Concept and Contractor delivered training and documentation) required to restore the System from a critical failure shall be carried on by the Contractor by dedicated on-site interventions and/or off-site resolutions.

5.3.5. For the system failures that is beyond the capability of the Purchaser, the Contractor shall ensure system restoration within 2 days of Purchaser notification providing workarounds; and within 10 calendar days for critical bug fixing including the fault identification, software recoding, patch creation, software testing and release of the new version. New patch releases shall be done quarterly for non-critical bugs.

5.3.6. The Contractor's Maintenance and Support Concept shall refer to the functional and non-functional Requirements of the system.

5.3.7. The Contractor's Maintenance and Support Concept shall define the Maintenance and Support tasks at any level of support and at any level of maintenance.

5.3.8. The Contractor's Maintenance and Support Concept shall define the Delivered Baselines maintenance and support processes and flow amongst the various NATO locations, organisations, groups, and people. This shall include the flow and interfaces between various maintenance and support levels.

5.3.9. The Support process interface definition shall include the input and output information, its structure, the communication path (POC's), the time constraints for sending and receiving information, and quality criteria to evaluate the integrity of the interface.

5.3.10. At each Support and Maintenance Level, the Contractor's Support Concept shall describe the support environment, constraints, locations, procedures, artefacts, organisation and personnel.

5.3.11. The Contractor's procedural description shall include objective(s), triggering event(s), input(s), output(s), task(s), roles and responsibilities (RACI-format), constraints, exceptional case(s), and tool(s) support.

5.3.12. The Contractor's ILSP shall be based on the established Support Concept, approved by the Purchaser

5.4. Logistic Support Analysis (LSA) and RAM (Reliability, Availability, Maintainability) Requirements.

5.4.1. The Contractor shall develop and document a detailed Logistic Support Analysis in accordance with the ASD S3000L Specification.

5.4.2. The Contractor shall propose to the Purchasers a tailoring of the S3000L Specification, in order to define as a minimum the following elements in accordance with the Maintenance and Support levels defined in Annex A and the Maintenance Concept defined in Section 5.2:

- o Full Logistic Breakdown Structure (LBS)
- o Full and detailed Operation and Maintenance Task Analysis (OMTA)
- o Maintenance Plan.

5.4.3.   The tailoring of the S3000L specification, the minimum dataset and the formats of the data/deliverables shall be agreed no later than the PDR.

5.4.4.   The Contractor shall define and design the Maintenance tasks and resources associated to the new/modified/upgraded equipment in order to allow 95% of the failures to be recovered and operations to be executed at Organizational Level (SL1/2) by Purchaser personnel.

5.4.5.   The Contractor shall provide the following data/elements as part of this project, in conformance with the latest applicable Product baseline (PBL, see Section 3.13):
- o Detailed hierarchical Logistic Breakdown Structure (LBS) down to the Maintenance Significant Item (MSI);
- o MSIs category (Line Replaceable Unit - LRU, Insurance Item - II, Attaching Part - AP, Technical and/or non-Technical consumable, Next Higher Assembly - NHA, not-MSI);
- o Full Configuration Management data (identification of Configuration Items - CIs, type of CI, relationships, dependencies) in accordance with Section 3.13;
- o Maintenance Level (preventative, corrective, troubleshooting) associated to each individual item identified in the LBS;
- o MTBF (Mean Time Between Failure) for each element down to MSI level and relevant calculation method (predicted, allocated, field data, specification) and conditions (temperature, environment etc.);
- o MTTR (Mean Time to Repair) for each hardware element down to MSI;
- o Preventative Maintenance periodicities and durations (Mean Time Between Preventative maintenance - MTBP and Mean Time To Preventive - MTTP as per guidelines given by MIL-HDBK-338B);
- o Skills/Trades and numbers;
- o Population at each MSI level and QEI (Quantity per End Item);
- o SMR (Source, Maintenance, Recoverability) Coding down to MSI level in accordance with AR 700-82/SECNAVINST 4410.23/AFMAN 21-106;
- o Safety instructions (if applicable).

5.4.6.   All LSA and RAM data shall be provided both as raw MS Excel tables and as summary reports (with supporting MS Excel data, calculation methods and applicable standards and handbooks), fully consistent with the LBS and the relevant PBL.

5.4.7.   The Contractor shall develop and maintain the list of all operation tasks, Service Management and Control (SM&C) tasks, administrative tasks, corrective maintenance tasks and preventive maintenance tasks, to be used as a starting point for the task analysis.

5.4.8.   For each identified task, the Contractor's OMTA shall clearly show the associated software CI, subsystem –system identification (higher level COTS or developed software components), associated maintenance level, responsible/associated role

(user, advanced user, contributor, manager, functional and system administrator, refer to Table 5-4 – NCOP roles) and other parameters as listed in 5.4.14

5.4.9. The Contractor shall perform and deliver the first issue of Operation and Maintenance Task Analysis before Critical Design Review (CDR) and accepted at CDR for each NCOP baseline; BL3, BL4 and BL5.

5.4.10. The Contractor's analysis shall contain also the list of procedures needed to configure the platform for mission and/or exercise environment.

5.4.11. The Contractor's operation tasks shall be identified through analysis of the functional and no functional requirements of the new system taking into account mission scenarios and conditions under which the system will be operated.

5.4.12. The Contractor's analysis shall examine each system function allocated to personnel and determine what operator tasks are involved in the performance of each system function.

5.4.13. The Contractor's SM&C tasks shall be identified through analysis of all functions related to customer support and service management and control and analysis shall examine each customer support function and service management and control function allocated to personnel and determine what SM&C tasks are involved in the operation and maintenance of the system.

5.4.14. For each task, the Contractor shall determine the properties and physical resources required to execute the task. For that purpose, each task shall be analysed to identify and capture:
- the support level to be assigned;
- location/ facility involved;
- personnel skills required;
- task duration and frequency, reusing MTBF and MTTR data available;
- Manpower required.

5.4.15. The Contractor's data and results of the Task Analysis shall be used as input to the development of technical publication (all manuals at any level of maintenance) and the development of training material to the maximum extent possible to enable the Purchaser to Support the System up to Level 3 (centralised) and Maintain it up to SL1/2 as per Maintenance/Support concept.

5.4.16. The Operational instructions shall specify the tasks, the processes and the resources required at each Support Level (as per maintenance and support concept defined in Section 5.2) including the interaction/coordination with the Maintenance activities.

5.4.17. The Contractor shall deliver, together with OMTA, a full and detailed report of PM tasks (including troubleshooting) and relevant durations, periodicities, resources (skills/trades, tools, materials), Safety data/procedures.

5.4.18. The Contractor shall be responsible, from PSA up to the end of the Warranty period, of the SL3/4 activities and for the provision of remote and onsite technical

assistance beyond the scope and capabilities of Organizational Level Maintenance (SL1/2).

5.4.19. The Organizational Level maintenance shall be executed on site and shall include Preventative Maintenance, Corrective Maintenance and related troubleshooting activities to be reflected in the training, training material and Operation and Maintenance (O&M) manuals that the Contractor shall provide.

5.5. Supply Support

5.5.1. System Inventory

5.5.1.1. The Contractor shall provide the Purchaser's ILS POC with a System Inventory in electronic Microsoft Excel format at least 14 (fourteen) calendar days before each delivery of Software (SW).

5.5.1.2. The Contractor's System Inventory is site-specific (and per CLIN) and shall include, in separate chapters, all items furnished under this Contract, as follows:
   a. all SW – i.e. all SW components, licenses, software tools, SW test equipment, etc. (where applicable);
   b. All HW devices that is used for SW deliveries,
   c. all Purchaser Furnished Equipment (PFE); (where applicable);
   d. all documentation, such as manuals, handbooks and drawings;
   e. all training materials.

5.5.2. Physical Labelling

5.5.2.1. All hardware (CD, USB, memory stick, hard drive etc.) that is used to deliver or transfer the software by the Contractor shall be physically labelled with the contract information, CLIN, identification, release date and security classification. The label shall be durable and non-erasable to ensure proper identification is warranted at all times.

5.5.3. Software Delivery

5.5.3.1. The Contractor shall provide a detailed Software Distribution List (SWDL), which shall detail comprehensively all CSCIs and associated software, firmware or feature/performance licenses provided under this Contract. The SWDL shall include, the following data elements:
   a. CSCI identification number;
   b. nomenclature;
   c. version number;
   d. license key (if applicable);
   e. license renewal date (if applicable);
   f. warranty expiration date;
   g. date of distribution;
   h. distribution location (geographically);
   i. distribution target (server).

5.5.3.2.   The Contractor shall make sure that all licenses are registered with the NCI Agency as end-user.

5.5.4.   Tools and Test Equipment

5.5.4.1.   Tools and Test Equipment fall into two (2) categories:

- "Special to Type" Tools and Test Software, intrinsically related to NCOP
- "Standard" Tools and Test Software, which are common and are likely to be already available at NATO sites.

5.5.4.2.   The Contractor shall deliver a fully detailed and priced Recommended Tools and Test Software List (RTTL), covering the "Standard" Tools and Test Software.

5.5.4.3.   The Contractor shall provide "Special to Type" tools and/or test software if required, in particular on the Reference System and/or on the testing environment.

5.5.4.4.   The Contractor shall provide at CDR + eight (8) working weeks to the Purchaser PM and ILS Officer the following data, in accordance with S2000M Spec., for hardware RTTL and Standard tool list, including (but not limited to):

- Part Number
- NCAGE (NATO Commercial and Government Entity code)
- NCAGE Data (name, address, Point of Contact – POC, etc.)
- Description/nomenclature
- MSI type
- Quantity per End Item (QEI)
- Recommended quantity (RQTY)
- Unit Price (UP)
- Price Unit Of Measure (UOM)
- Minimum Order Quantity (MOQ)
- SMR Code
- Turn-Around-Time (TAT) or Lead Time (LT), coherent with the SMR Code

5.6. Packaging, Handling, Storage, Transportation (PHST)

5.6.1.   SW shipment

5.6.1.1.   Unless clearly specified otherwise, the Contractor shall be responsible for the shipment (INCOTERMS with DDP) delivery of Installation packages (physical/electronic media) of all SW, firmware and modifications provided under this Contract from Contractor's premises to the respective implementation destination.

5.6.1.1.1.   The Contractor shall be responsible for any insurance covering these shipments.

5.6.1.1.2.　　The Contractor shall apply all the necessary supply chain security and information security precautions for such shipments to prevent any tampering with the software or the device the software is being transferred in.

5.6.2.　Customs

5.6.2.1.　　The Contractor shall be responsible for customs clearance and/or export licences of all deliveries into their destination countries.

5.6.2.2.　　For that, the Contractor shall perform and follow all necessary procedures including the timely request of Customs 302 form from the Purchaser that is used for customs import/export tax exemption.

5.6.2.3.　　It is the Contractor's responsibility to take into account delays at customs. The Contractor shall therefore consider eventual delays and arrange for shipment in time. Under no circumstances can the Purchaser be held responsible for delays incurred, even when utilising Purchaser provided Customs Form 302 (if applicable).

5.6.2.4.　　If a Country refuses to accept the Custom Form 302 and requires the payment of custom duties, the Contractor shall immediately inform the Purchaser by the fastest means available and obtain from the Custom Officer a written statement establishing that its country refuses to accept the Custom Form 302.

5.6.2.5.　　Only after having received Purchaser's approval, the Contractor shall pay these customs duties and shall claim reimbursement to the Purchaser.

5.6.3.　Notice of Delivery

5.6.3.1.　　14 (fourteen) calendar days before each delivery of supplies, the Contractor SHALL provide the Purchaser with a Notice of Delivery comprising the following details:
   a. Shipment Date;
   b. Purchaser Contract Number;
   c. CLIN;
   d. Consignor's and Consignee's name and address;
   e. Number and type of Installation media and/or Packages/Containers;
   f. Number of 302 Forms used (if applicable).

5.6.4.　Documentation Shipment

5.6.4.1.　　The Contractor shall ship all required software, documentation (e.g. design docs, reports, manuals, training package etc.), and installation or testing tools to the locations designated by the Purchaser.

5.6.4.2.　　The Contractor shall be responsible for resolving any loss incurred in shipping.

5.6.5.　On-site Delivery

5.6.5.1.   During the Site Survey, the Purchaser will provide the Contractor with the exact shipment addresses and NATO Points of Contact (POC).

5.6.5.2.   Delivery, unless otherwise specified, shall be to a single location.

5.6.5.3.   Each site Point Of Contact shall be notified of all impending deliveries prior to their shipment. The notification shall include:

5.6.5.3.1.   Reception instructions.

5.6.5.3.2.   All details of the shipped item as per Packing Lists.

5.6.5.3.3.   Reception instructions.

5.6.5.3.4.   An inspection and inventory check-up form.

5.6.5.4.   Each site POC shall be faxed or sent by email a copy of the tailored reception instructions, at least by the date the shipping notice is given. The reception instructions shall include a reception check-out form to be used to inspect and inventory the received shipment.

5.6.5.5.   The Contractor:

5.6.5.5.1.   Shall expect that User designated site personnel will be able to carry out a visual inspection of the received items in order to identify any external indications of damage. This will allow the Contractor to initiate a claim for damage to package content to the shipping insurance.

5.6.5.5.2.   Shall acknowledge that the Purchaser representative cannot be held liable for not having reported any damage on received items.

5.6.5.6.   The Contractor, as indicated in the reception instructions, shall request that no package be opened, even to conduct a visual inspection, unless written permission has been given.

5.7.   Technical Documentation

5.7.1.   General

5.7.1.1.   Technical documentation shall be prepared in accordance with the requirements outlined in this section and non-functional requirements describing the technical documentation covered in the SRS.

5.7.1.2.   Non-functional requirements regarding the technical manuals, administrative manuals, and software maintenance manuals shall be applied to the Maintenance and Administration Manual as described in 5.7.5.

5.7.1.3.   All the technical Documentation shall be kept updated by the Contractor and under configuration control for the entire life cycle of the system.

5.7.1.4.   The above information contained in each technical documentation shall be coherent with the operational configuration (SBL) deployed.

5.7.1.5.   The Contractor's technical documentation shall be developed as follows:

- online technical publication shall be accessible using the platform;
- offline technical publication shall be accessible without using the platform.

5.7.1.6.   Technical documentation shall consist (as a minimum) of:

- Training material (for system administrators and test crew)
- Operation and User Manuals (off line[4] documentation);
- Installation Configuration Guide (off line documentation);
- Maintenance and Administration Manuals (off line documentation);
- OEM (for COTS product) (Off line documentation);
- Quick user guide (on line documentation);
- Release Notes (On line documentation);
- Read me file (Off line documentation);
- On line Help (On line documentation);
- Frequently Asked Question (FAQ) (On line documentation);
- Transition Manuals (as described in SRS)
- Other project documentation as required in this SoW.

5.7.1.7.   All the activities, milestones and actors associated with the development of technical documentation shall be described in the Contractor's ILS Plan.

5.7.1.8.   All the off line technical documentation shall be provided by the Contractor in electronic form.

5.7.1.9.   The Contractor shall provide all the technical documentation in the British English language.

5.7.1.10.   The Contractor shall make use of the OMTA results while creating the content for various technical documentation.

5.7.1.11.   While describing various tasks, the Contractor's technical documentation shall always refer to the various operational and maintenance roles from purchaser organization and the user community. The classifications and definitions shall be agreed with the Purchaser.

5.7.1.12.   The Contractor shall maintain lowest level possible for Classification of the Technical documentation. The security classification of any on line Contractor's documentation shall not be higher than NATO UNCLASSIFIED.

5.7.1.13.   All Contractor's documents, however short, shall identify the complete name and version identifier of the software they refer to, originator, date of production, the type of document, and configuration management information of the document itself.

5.7.1.14.   All Contractor's documents shall contain a list of those CIs (title and version identifier) that the document or parts thereof refers to.

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[4] hard (printed) or soft copy (pdf, word) but stand-alone delivery and accessible independently

5.7.1.15. The Contractor shall submit all final and accepted versions of documentation deliverables in PDF, with an OCR (Object Character Recognition) capability format or in Microsoft Office Professional (MS Word) compatible format.

5.7.1.16. The Contractor shall submit documentation, intended for review by the Purchaser, with each modification identified through the change tracking feature or otherwise marked.

5.7.1.17. The Contractor's developed manuals shall supplement the off-the-shelf (OEM) documentation the Contactor shall provide with the system.

5.7.1.18. The Contractor shall provide the initial versions of the technical documentation at least 8 weeks prior to the official delivery dates stipulated in the SSS to enable the Purchaser to review the technical content and leave the Contractor sufficient time to update the documents accordingly.

5.7.1.19. The Contractor shall provide the initial and final versions of each set of document defined in this section both for BL3, BL4 and BL5 in accordance with the defined milestones for each baseline.

5.7.2. Installation Configuration Guide

5.7.2.1. The Contractor shall develop, provide and maintain the System Installation Configuration Guide to include minimum the following:
- Prerequisites for installing NCOP (e.g. the necessary operating system access right to perform installation)
- The necessary supplementary software, drivers, etc. to install NCOP
- The required disk space
- Configuration file information (location, content, available settings of the items and their meaning)
- How to modify the configuration file
- Software configuration details for different platforms
- Software installation and configuration tasks, detailed step by step with screenshots of the system feedback which will be displayed after each action

5.7.3. Technical Manuals

5.7.3.1. The Contractor shall propose, at the CDR, a tailoring of the S1000D specification in order to start the development of the manuals (Interactive Electronic Technical Publications) once the business rules have been agreed.

5.7.3.2. The Contractor shall deliver the following manuals (fully compliant with S1000D Spec.):
- Operation and User Manuals (see section 5.7.4);
- Maintenance and Administration Manuals (see section 5.7.5);
- OEM Manuals for COTS product (see section 5.7.6).

5.7.3.3. The above listed manuals shall be delivered to the Purchaser's PM and ILS Officer as a preliminary version not later than PSA – twelve (12) working

weeks and be ready, used and commented when the training sessions will occur.

5.7.3.4.   The Contractor shall execute a desktop verification of the manuals content, structure and layout and usability S1000D fully compliant browser and shall be QA approved before such manuals are delivered to the Purchaser.

5.7.3.5.   The Purchaser will validate the manuals and will collect comments to the manuals in different stages (including the training sessions) and will provide all the comments to the Contractor not later than PSA – 4 working weeks.

5.7.3.6.   The Contractor shall deliver the original version (starting from the preliminary version including the implementation of all the comments) not later than PSA – one (1) working week.

5.7.3.7.   The Manuals shall be delivered as an installation package to be viewed/browsed with a S1000D fully compliant browser for Windows 10 environment.

5.7.4.   Operation and User Manuals

5.7.4.1.   The Contractor shall develop, provide and maintain the System Operation Manual (SOM).

5.7.4.2.   The Contractor's developed Operation Manual shall describe the complete system by the explanation of functional blocks and Configuration Items with the user functions, interrelationship and the step by step logical sequence.

5.7.4.3.   The Contractor's developed Operation Manual shall define the in-depth, step-by-step procedure how to use the software and how to perform Level 1 maintenance tasks.

5.7.4.4.   The Contractor's developed SOM shall include all the Standard Procedures in order to safely operate and use the platform.

5.7.4.5.   The operation described in the Contractor's developed Manual shall be an outcome of the Operation and maintenance Task Analysis

5.7.4.6.   The Contractor shall include each and any procedure as a minimum the following information:
   a. location/ facility involved (if the operation is performed remotely, it has to be specified);
   b. personnel skills required;
   c. personnel role,
   d. task duration and frequency, reusing MTBF and MTTR data;
   e. manpower required;
   f. tools and special tools required (if any);
   g. the steps needed to perform the operation.

5.7.5.   Maintenance and Administration Manuals (including system administrator manual)

5.7.5.1.   The Contractor shall develop, provide and maintain the System Maintenance and Administration Manual.

5.7.5.2.   The Contractor's Maintenance Manual shall:

- contain all the possible Scheduled and Unscheduled maintenance procedure and all the possible Administration procedures as requested in SOW; the Contractor shall ensure that all Configuration Items and all items required for maintenance are included in this full product breakdown list;
- define the in-depth, step-by-step procedure how to perform the 1st, 2nd and 3rd level corrective and preventive maintenance tasks and SM&C tasks;
- contain a full product breakdown list.

5.7.5.3.   The Contractor's manual shall include an annex with troubleshooting information. The troubleshooting annex shall provide a break-down on actions to solve a full range of (potential) problems or provide workarounds (Problem Management).

5.7.5.4.   The Contractor's manual shall contain all the possible configuration information and settings.

5.7.5.5.   The Contractor's Maintenance Manual shall also include all information, illustrations, and procedures required for the installation, configuration, provisioning, testing, repairing, replacing and troubleshooting of an item CI.

5.7.5.6.   The Contractor's manual shall contain all the possible information on the use and the locations of the log files.

5.7.5.7.   Each and any procedure in the Contractor's manual shall include as a minimum the following information:

- the support level to be assigned;
- location/ facility involved (if the operation is performed remotely, it has to be specified);
- personnel skills required;
- task duration and frequency (if applicable), reusing MTBF and MTTR data available;
- manpower required;
- tools and special tools required (if any);
- the steps needed to perform the procedure.

5.7.6.   OEM Manuals for COTS product

5.7.6.1.   The Contractor shall be responsible to keep the OEM COTS manual under configuration control and to assure that all the O&M COTS Manuals will be always coherent with the Operation configuration (SBL) deployed.

5.7.6.2.   The Contractor shall assure that all the possible information needed to configure, operate, manage and maintain the COTS product will be in the User Manual and in the Maintenance Manual if they are no in the COTS O&M manuals.

5.7.7. Quick User Guide

5.7.7.1. The Contractor's Platform shall be equipped with a Quick User Guide.

5.7.7.2. The Contractor's Quick User guide shall describe the frequently used user functions in a short format.

5.7.7.3. The Contractor's Quick User guide shall be integrated in the "help on line" publication.

5.7.8. Release Note

5.7.8.1. Each Contractor's Platform release shall be equipped with a Release Notes file which shall include:

5.7.8.2. the change log describing the difference in functionality with the previous release;

5.7.8.3. know issues of the current release.

5.7.9. Read Me File

5.7.9.1. The Contractor's Platform shall be equipped with 'Read Me' files for specific components.

5.7.9.2. The Contractor's Platform Read Me files shall at minimum contain:
- minimal system requirements necessary to run the specific Platform part;
- the functional changes since the latest release;
- the solved errors;
- known errors;
- contact information for problem reporting.

5.7.10. On Line Help

5.7.10.1. The content of the online-help shall be in line with the user manuals.

5.7.11. Frequently Asked Question (FAQ)

5.7.11.1. The content of the FAQ shall be in line with the user manuals.

5.7.12. Transition Manuals

5.7.12.1. Equipped with NCOP Transition Manuals describing the transition from NCOP-2 to NCOP-BMD in terms of functionality upgrade and migration of data.

5.7.12.2. Equipped with NCOP Transition Manuals describing the transition from an NCOP increment to the next NCOP increment in terms of functionality upgrade and migration of data.

5.7.12.3. Transition Manual shall describe:

- how to update an NCOP installation to the next increment.
- how to convert the data from an NCOP increment to the next NCOP increment.
- how information can be exchanged between different increments of NCOP.
- the difference in functionality between the successive NCOP increments.

5.7.13. Other Project Documentation

5.7.13.1. All the Other Project Documentation required shall respect the general requirement about publication in this SoW.

5.7.14. Amendments to documentation

5.7.14.1. The Contractor shall be the responsible authority for the issue, control, and distribution of amendments to delivered documentation in the format provided for the associated equipment or system until expiration of the warranty period.

5.7.14.2. The Contractor shall release the documentation for each baseline, BL3, BL4 and BL5. For that, the Contractor shall amend and re-release the whole documentation set for BL5, clearly summarizing the changes between two baselines and operational and maintenance tasks.

5.7.14.3. Upon Purchaser request, the Contractor shall amend any documentation listed in 5.7.1.6 until the end of warranty, to complete or correct any operational, maintenance, administrative, configuration or installation tasks.

5.7.14.4. For that purpose, the Contractor shall provide the necessary data (in written form) to complete/correct the missing/incorrect information within 5 business day upon written request from the Purchaser. The changes shall be conducted under the change process methodology in place.

5.7.14.5. The Contractor shall, at minimum, amend the documentation and deliver it in final form before PSA, FSA and end of warranty. The frequency for the in between releases (PSA-FSA and during warranty) will be agreed by both parties to minimize the administrative burden, and ensure faster communication in case of an urgent information need.

5.7.15. Manual Issuing Schedule

5.7.15.1. The Contractor shall test and validate the procedures and resources described in the technical manuals.

5.7.15.2. Not later than two (2) months prior to the delivery of the System at the first location, the Contractor shall submit a copy of the draft to the Purchaser for review.

5.7.15.3.   Any resulting recommended changes, corrections and/or additions submitted by the Purchaser will be incorporated by the Contractor in the final version.

5.7.15.4.   The Contractor shall provide the final versions of each Technical Publication, in the requisite number of copies within four (4) weeks of FSA.

5.7.15.5.   Until the expiration of the warranty, the Contractor shall remain responsible for any changes to the manuals required as a result of any omission or inaccuracy discovered in use or, whenever changes/modifications in equipment or spare parts are made under the Contractor's responsibility.

5.7.15.6.   In addition to the "Manual Issuing schedule", the Contractor shall update all Manuals as needed throughout this contract.

5.8.   Training and Training Material and Aids/Equipment Preparation

5.8.1.   General

5.8.1.1.   The Contractor shall create and provide the following trainings for each system baseline (BL3, BL4 and BL5):

- Instructor Led Training (ILT)/ On-the-job Training (OJT) for the test crew
- Instructor Led Training (ILT)/ On-the-job Training (OJT) for system administrators
- Instructor Led Training (ILT)/ On-the-job Training (OJT) for the general user during UAT (PVS event)

5.8.1.2.   The Contractor shall make use of the OMTA results as an input while creating the content for both system administrator and operational user trainings.

5.8.1.3.   The Contractor shall develop an operationally-realistic set of NCOP data, including a representative number of each information object to support training objectives for use in NCOP Training Courses and Training Materials. The training database shall be dynamic and allow replay of training scenarios.

5.8.1.4.   The Contractor shall develop the Training Data according to the specifications of the SRS.

5.8.2.   Training Plan

5.8.2.1.   The Contractor shall develop and provide NCOP Training Plan for Purchaser approval.

5.8.2.2.   Training plan shall describe in a coherent way how the training will be developed, delivered and maintained detailing the milestones, training organization, training material development, course schedule planning and execution in line with the training requirements specified herein SOW and SRS.

5.8.2.3.   Training Plan shall detail the course material development process and material type proposal for each course and provide it for purchaser review and approval.

5.8.2.4.   Training Plan shall detail the approach and activities for transition training between BL3, BL4 and BL5.

5.8.3.   Test Crew Training

5.8.3.1.   The Contractor shall provide a mix of ILT and OJT to test crew before the testing event and shall cover minimum the following.

5.8.3.2.   The purpose of the Test Crew Training is to train the Purchaser and Operational Community representatives on the functionality to be tested, including the changes from NCOP-2 in terms of both operational and maintenance aspects and how the tests will be performed.

5.8.3.3.   The Contractor shall provide Test Crew Training (including system overview) to the Purchaser Test Crew participating in the tests during the test events.

5.8.3.4.   The Contractor shall update the training material for BL5, and shall provide the delta training to the test crew in Purchaser location (NCIA, The Hague). The Contractor shall ensure that the duration of this training shall not exceed five days.

5.8.3.5.   The Contractor shall deliver training courses at Purchaser-specified locations using Purchaser-furnished facilities and equipment and the training version of the NCOP database before the SAT.

5.8.4.   System Administrator Training

5.8.4.1.   The Contractor's System Administrator Training shall provide as a minimum the following training on the software:
- description of the software, including the changes from NCOP-2 in terms of both operational and maintenance aspects;
- how to install, configure and deploy the software, including the COTS components;
- how to maintain the software, including the use for logging and performance counters provided by the system which, as minimum, shall include:
  - all the configuration settings for the Platform modules, services and components;
  - how to configure the logging and uses of performance counters;
  - where to find the log files;
  - the different categories of logging;
  - the different performance counter categories;
- how to trouble shoot and restore the system, including actions to solve a full range of (potential) problems or provide workarounds;

- transition training to outline the differences between NCOP-2 and NCOP in terms of functionality and system administration
- how to manage database information, including database tables, triggers and stored how perform back-up and restore procedures.

5.8.4.2. The Contractor shall provide the system administrator training in Purchaser location (NCIA, The Hague) for a duration that is not longer than five days. The Contractor shall update the training material for BL5, and shall provide the delta training to the system administrators in Purchaser location (NCIA, The Hague). The Contractor shall ensure that the duration of this training shall not exceed five days.

5.8.4.3. The Contractor shall deliver training courses at Purchaser-specified locations using Purchaser-furnished facilities and equipment and the training version of the NCOP database before the SAT.

5.9.   In-Service Support (ISS) during Implementation

5.9.1. NCOP In-Service Support (ISS) shall take place in parallel with development, implementation and roll-out of NCOP as such transition support shall be provided for BL3 implementation starting from PSA during the development of BL4; for BL4 implementation during the development of BL5; and for BL5 implementation until FSA.

5.9.2. The Contractor shall conduct a Support/Sustainment Qualification Review (SQR) to demonstrate that they are fully ready with the support structure and processes to begin to support the NCOP systems upon installation.

5.9.2.1.   The Contractor shall provide the following documents for the SQR:

Table 5-1 – SQR Deliverables and documents

Serial	Activities / Documents
1	Software Distribution List
2	Integrated Logistics Support Plan (ILSP)
3	System Administrator Training
4	Monthly management reports in accordance with the report templates included in NCIA SLA Template (PFE).

5.9.2.2.   Entry Criteria

5.9.2.2.1.   The Contractor shall include in planning the SQR Entry Criteria given in Table 5-2 - SQR Entry Criteria and make them available to the Purchaser at least two (2) weeks prior to the SQR:

Table 5-2 - SQR Entry Criteria

Serial	Activities / Documents
1	Success Criteria (enhanced or adapted)
2	All relative documents have been delivered and reviewed
3	Support levels detailed and cover the whole scope of the project

| 4 | Profiles to execute support level are described |
| 5 | The NCOP support team has received the System Administrator Training |

5.9.2.3.   Success Criteria

5.9.2.3.1.   The Purchaser concludes that the SQR Success Criteria accomplished to complete the objectives of the SQR:

Table 5-3 - SQR Success Criteria

Serial	Requirement
1	The Contractor has demonstrated that he is able to provide ISS
2	Implementation Reachback Support Desk is available
3	The Contractor has demonstrated that the implementation, the training and the support are ready to be executed by the future BMD O&M Contractor
4	All the hand over documentation has been delivered by the Contractor and approved by the Purchaser
5	Software warranty and licensing documentation has been delivered by the Contractor to the Purchaser

5.9.2.3.2.   The Contractor shall prepare SQR Report and submit it within one (1) week after the completion of SQR.

5.9.3.   Implementation Reachback Support Desk

5.9.3.1.   The Support Desk shall act as central point of contact for the Purchaser.

5.9.3.2.   The Support Desk shall handle incidents and requests and provide an interface for all activities linked with the implementation of the product baseline.

5.9.3.3.   The Support Desk shall be responsible to:

Serial	Requirement
1	Receive and record all calls from the Purchaser.
2	Analyse incidents linked to NCOP baselines installation
3	Provide incident analysis results by telephone and Internet electronic mail
4	Provide work arounds to incident to ensure that NATO site deployment can be finalised
5	Provide up to two patches by baseline to ensure the product baseline can be implemented at all NATO sites.

5.9.3.4.   The Support Desk shall provide its services in the English language.

5.9.3.5.   The Support Desk shall be operated by the Contractor up to NCOP FSA declaration.

5.9.4. Within the task of providing In Service Support, the Contractor shall:

5.9.4.1. Analyse incidents linked to NCOP baselines installation and provide feedback by telephone and Internet electronic mail.

5.9.4.2. Use the Collaborative Working Environment to manage incidents.

5.9.4.3. The Contractor shall ensure that the individual(s) providing this support are familiar with the requirements, design, test, implementation, and support of a COP capability and are capable of supporting all of the following NCOP roles:

Table 5-4 – NCOP roles

Serial	Requirement
1	NCOP User
2	NCOP Advanced User
3	NCOP Contributor
4	NCOP Manager
5	NCOP Functional Administrator
6	NCOP System Administrator

5.9.4.4. The Contractor shall provide technical assistance, as required, to the Purchaser assigned personnel to answer the technical questions that are not clear or not fully covered within the existing documentation. This shall specifically address data migration from NCOP-2 to NCOP BL3, information requests for training and implementation areas and shall be provided via phone and email as applicable.

5.9.4.5. The Contractor shall be only responsible for preparation and training to bring the System Administrator to the performance level required to fulfil its role.

5.9.4.6. The Purchaser's on-site representative will assign and monitor progress on specific tasks within the scope of this Contract and this task.

5.9.4.7. The Contractor's designated individuals shall travel on a NATO site as required by the Purchaser. This on-site support shall be up to five (5) days by baseline including travel time and on three different locations in Europe. Upon Purchaser's notification, the Contractor shall be on site within 3 days.

5.9.4.8. The Contractor shall report on activities under this task as part of all Project Status Reports and Reviews conducted during the period of performance of this task.

5.9.5. Patches

5.9.5.1. After delivering each product baseline, if any incident during the implementation period is characterised blocking or critical and must be corrected before the next product baseline, the Contractor shall deliver patches within 10 calendar days of notification from the Purchaser.

5.9.5.2.   The Contractor shall deliver up to two patches by baseline.

5.9.5.3.   The Contractor shall integrate each non-critical patch in the subsequent baseline:

- Baseline 4 for patches of baseline 3 (for non-critical incidents during implementation, BMD PVS, or BL3 warranty);
- Baseline 5 for patches of baseline 4 (for non-critical incidents during implementation, BMD PVS, or BL4 warranty);
- Warranty baseline (quarterly if needed or final before the end of warranty period) for patches of baseline 5;

5.9.6.   Handover of SW warranty and licenses

5.9.6.1.   The Contractor shall provide Software warranty and licensing documentation (SWDL and others as required) to the Purchaser at least three weeks before IV&V security testing or when otherwise specified to ensure that Security test planning can be carried out at the Purchaser's facility.

5.9.6.2.   The Contractor shall ensure the warranty and license model allows for transfer of responsibility between the Purchaser and other NATO entities as required by NATO's organization structure.

5.9.6.3.   The Contractor shall ensure the SW licenses are correctly attributed to the Purchaser's Organization that will actually use the application.

5.9.6.4.   The transfer of responsibility shall be carried out without incurring additional cost for the Purchaser.

5.10. Warranty

5.10.1.   General

5.10.1.1.   The Contractor shall warrant that all software and documentation furnished under this Contract conform to the requirements of this contract and standards that are referred to, and is free of any code or workmanship for a period starting at date of BL3 acceptance to the date of BL5 FSA plus one (1) year. Therefore, the warranty period shall last till BL5 FSA plus one year covering the BL3 and BL4 functionalities within BL5 baseline warranty.

5.10.1.2.   The warranty shall be applicable to all Product baseline CIs delivered under this contract, without requiring further explicit reference.

5.10.1.3.   If the Contractor becomes aware at any time before the end of this contract (FSA + 1 year) by the Purchaser that a deficiency exists in any supplies, the Contractor shall coordinate with the Purchaser and correct the deficiency accordingly with warranty requirement.

5.10.2.   The Contractor shall provide the following services during the Warranty to maintain the system to the required performance level, being responsible for:

5.10.2.1.   Service Desk

5.10.2.1.1.   On-demand support and technical assistance at the Contractor's premises providing indication for SW corrective/unscheduled and preventive/scheduled maintenance from SL 3 up to SL 4 included and onwards to ensure that the response times specified can be met (e.g.: MTTR).

5.10.2.1.2.   The Contractor shall provide assistance by Internet electronic mail, and shall use the CWE to track all repair and replacement actions.

5.10.2.1.3.   The Contractor shall provide the Purchaser instructions for handling replacement actions.

5.10.2.2.   Maintenance corrective/unscheduled and preventive/scheduled maintenance: remediation/resolution of all bugs, flaws, etc. of all software installations, provided as part of this contract.

5.10.2.2.1.   In case of any critical bug, the Contractor shall provide analysis to the Purchaser within one (1) day, provide a workaround (of possible) after two (2) days and deliver a corrective baseline after ten (10) days.

5.10.2.2.2.   In case of non-critical bugs, the Contractor shall give an analysis and workaround to the Purchaser within three (3) days and deliver a corrective baseline at the end of the quarter. Before the end of the warranty, the Contractor shall provide a final release including all patches resolving the non-critical bugs.

5.10.2.2.3.   The Contractor shall provide on-site support on the request of the Purchaser for all SL3 and SL4 corrective/unscheduled and preventive/scheduled maintenance and the warranty cases that cannot be resolved remotely. This support will cover any other SL incident which cannot be handled remotely or needs a local expertise. This support shall be exceptional and only to fulfil the warranty requirements within the scope of the contract

5.10.2.3.   Repairs and Replaces

5.10.2.3.1.   The warranty scope includes replacement of any faulty NCOP CI provided by the Contractor. The faulty NCOP CI is characterised as a critical deficiency in the product baseline preventing installation or operational use.

5.10.2.3.2.   The Contractor shall provide for a specific remedy such as a repair or replacement in the event the software application fails to meet the warranty conditions.

5.10.2.4.   Problem Log

5.10.2.4.1.   During the Warranty Period all problems reported by the Purchaser that are encountered shall be added to a problem log in the CWE, together with a clear description of the problem and including classification. The entries in the Problem Log shall include, but not be limited to, the following information:

Table 5-5 – Problem Log during warranty

Serial	Requirement
1	Software Item, Component or Module.
2	Problem Description.
3	Date Occurred.
4	Business Impact (Severity).
5	Priority.
6	Affected CI
7	Effort
8	Schedule
9	Corrective actions (associated CWE work items)

5.10.2.4.2.   This classification, as well as the classification of each logged problem, shall be jointly agreed by the Purchaser and the Contractor.

5.10.2.4.3.   The Contractor shall submit a Warranty Report:

5.10.2.4.3.1   At the end of every 3 months period during the warranty period, documenting all identified warranty cases, affected CI's, corrective actions, cost and schedule.

5.10.2.4.3.2   At the end of the warranty period that cumulative report all identified warranty cases, affected CI's, corrective actions, cost and schedule

5.10.3.   The warranty for NCOP Product Baseline is limited to the scope provided by the Contractor to the Purchaser. The Purchaser, in consultation with the Contractor, may apply changes to the NCOP Product Baseline. The scope of the Purchaser's changes will be excluded from the warranty.

5.10.4.   If the actual achieved performance and quality figures of NCOP system does not (or no longer) satisfy the Performance and Quality requirements in this Contract then the Contractor shall modify the design and the source code to fulfil the requirements in this Contract.

5.10.5.   For any breach of this warranty, the Purchaser's exclusive remedy and the Contractor's entire liability shall be the re-performance of the deficient services, and if the Contractor fails to re-perform the services as warranted, the Purchaser is entitled to recover the fees the Purchaser paid the Contractor for those deficient services or components.

5.10.6.   Configuration Management

5.10.6.1.   The Contractor shall maintain updated, for the whole duration of ISS, the Full Configuration Management data (identification of Configuration Items - CIs, type of CI, relationships, dependencies) in accordance with Sections 3.13 and 5.4.

5.11. Operation and Maintenance (O&M) services after warranty

5.11.1.   General

5.11.1.1.   The Contractor shall provide Operation and Maintenance (O&M) services starting at the end of warranty plus four (4) years. The O&M will cover:

- Field Engineering
  - Service Desk
  - SW Maintenance

5.11.1.2.   The Contractor shall provide the necessary engineering support per year for applying Corrective and Preventive Maintenance.

5.11.1.3.   Quarterly Maintenance Review

5.11.1.3.1.   The Contractor shall plan and conduct Quarterly Maintenance Review (QMR) in order to determine the status of maintenance activities and planning for the next activities.

5.11.1.3.2.   The QMR shall include reviewing and analysing the activities summarized in the ISS Quarterly Report.

5.11.1.3.3.   The first QMR shall be conducted in the first week of January, April, July, October, whichever is the closest after the package invoke date (i.e. first week of April if the invoke date is between 1 January and 31 March.

5.11.1.3.4.   The QMR shall be executed at the Contractor premises or any other location approved by the Purchaser two weeks prior the event.

5.11.2.   Field Engineering

5.11.2.1.   Service Desk

5.11.2.1.1.   The Contractor shall provide service desk during all the duration of the O&M period.

5.11.2.1.2.   On-demand support and technical assistance at the Customer's premises providing indication for SW corrective/unscheduled and preventive/scheduled maintenance up to SL 2 included and onwards to ensure that the response times specified can be met (e.g.: MTTR, MTRS).

5.11.2.1.3.   The Contractor shall provide assistance by Internet electronic mail, and shall maintain a trouble-ticketing system to track all repair and replacement actions.

5.11.2.1.4.   The Contractor shall provide the Purchaser instructions for handling replacement actions.

5.11.2.2.   Software Maintenance

5.11.2.2.1.   The Contractor shall perform following types of Software Maintenance in the context of Third Level Maintenance:

- Corrective Maintenance

5.11.2.2.2. Corrective Maintenance

5.11.2.2.2.1   Corrective Maintenance is modification of the software to correct discovered problems or defects (a.k.a. bugs). It is carried out after fault recognition and intended to put a software unit into a state in which it can perform its intended function.

5.11.2.2.2.2   In case of any critical bug, the Contractor shall provide analysis to the Purchaser within one (1) day, provide a workaround (of possible) after three (3) days and deliver a corrective baseline after ten (10) days.

5.11.2.2.2.3   In case of non-critical bugs, the Contractor shall give a response to the Purchaser within three (3) days and deliver a corrective baseline at the end of the quarter. Before the end of any year of the O&M, the Contractor shall provide an annual release including all the remaining patches resolving the non-critical bugs.

5.11.2.2.2.4   The Contractor shall provide on-site support on the request of the Purchaser for all SL 3 corrective/unscheduled maintenance and the ISS cases that cannot be resolved remotely. This support will cover any other SL incident which cannot be handled remotely or needs a local expertise. This support shall be exceptional and only to fulfil the warranty requirements within the scope of the contract

5.11.2.2.2.5   The Contractor shall perform SL3 and SL4 Corrective Maintenance which includes the following activities:
- Trouble shooting
- Determining the cause
- Correcting the defect
- Generating a patch with versioning
- Testing at the Test and Reference Systems
- Applying the patch
- Testing (including regression and nominal testing)
- Recording maintenance data.

5.12. In Service Support Plan

5.12.1.   The Contractor shall establish, provide, execute and maintain an effective In Service Support Plan (ISSP) that describes in detail the practical instructions necessary for the Purchaser's In Service Support organisation to operate and maintain the system delivered under this Contract.

5.12.2.   The ISSP shall describe the ISSP strategy and the detailed process and procedure to execute the ISS. This plan shall be detailed enough to form a comprehensive understanding of how the Contractor proposes to meet the support requirements of this SOW.

5.12.3. The Contractor shall provide the first release of ISSP six (6) months before the ISS starts and a second version six (6) months before the warranty starts. Any other release of ISSP will be issued by Contractor on necessity base during the ISS and warranty, if any process or procedure will change. The Contractor shall provide a description of how its proposed CM procedures shall continue to be implemented on the System (hardware and software/firmware) during the operative phases.

5.12.4. The ISSP shall be considered a living document and as such shall be updated as necessary by the Contractor, with the Purchaser's concurrence, throughout the contracted O&M post warranty.

5.12.5. The ISSP shall describe and detail the following:
- Detailed description of the product baseline
- Contractor's proposed Management Organisation and Structure, to carry out the effort proving adequate experience in the maintenance and support of major defence systems including specialised software.
- Plan and methods for performing ISS, warranty and O&M activities (e.g.: intervention on each site, preventive maintenance, repair activities, spares replenishment) and evaluating the Contractor's performance through proposed Key Performance Indicators for each area.
- Details for suggested Service Level Agreements (SLA) and relevant Key Performance Indicators (KPI) methods, measures and thresholds
- Details for maintaining and updating the Technical Publications and the Logistics Database providing relevant input to training material for refreshing training courses [included in Engineering Support Area].
- Plan and methods for Configuration Management specific for the ISS and warranty.
- Plan and methods for communication (e.g.: for site personnel to inform ISS Contractor when assistance is needed) detailing also the use of Call centre and Collaborative environment and how any exceptions have to be handled.

5.12.6. The Contractor shall provide a description of the proposed logistics and maintenance information processes. This description shall detail how the information from locations and the Contractor's maintenance facilities will be collected, stored and made available for evaluation. The term "Sites" refers to every physical location where systems or items under this contract are located when Contractor's activity is required.

5.12.7. The Contractor shall provide a description of how the QA/QC Programme of the Prime Contractor and sub-contractors providing ISS services shall meet the provisions of this contract. The Contractor shall include applicable certificates (issued by National Governments or International Organisations such as ISO) that demonstrate that the sub-contractors Quality Programme conforms to the requirement of the Prospective ISS Contract. The Contractor shall also demonstrate how the provisions of the Prospective ISS Contract regarding QA/QC shall be inserted in all subcontracts and enforced by the Prime Contractor.

5.12.8.   The Contractor shall provide the ISSP detailing the relevant content to cover the following structure.

Table 21 - ISSP Content and Structure

Structure	Content
1	Introduction
2	Documents and Acronyms
2.1	List of Applicable Documents
2.2	List of Reference Documents
2.3	List of Acronyms
3	System Overview
3.1	Architecture
3.2	Operational scenario
3.3	Maintenance Concept
3.4	Support Concept
4	ISS Management
4.1	ISS team
4.2	ISS processes and procedure overview
4.3	ISS RACI Matrix
4.3	ISS constraints
4.4	ISS tools
4.5	ISS Contractual Documentation Requirements List (CDRL)
5	System Breakdown
6	Engineering Support (ES)
6.1	Framework and processes description
6.2	Data Reporting Analysis from CWE
6.3	Key Performance Indicators for ES
7	Field Engineering (FE)
7.1	Framework and processes description
7.2	Manpower and support concept
7.3	Facilities
7.4	Key Performance Indicators for FE

5.13.   In Service Support Quarterly Report

5.13.1.   The Contractor shall submit an ISS Quarterly Report that documents all the ISSP foreseen activities. This report shall describe in detail all task performed in the preceding months under the contract through appropriate use of Data Reporting Analysis from CWE.

5.13.2.   For any activity performed during ISS, warranty and O&M at least the following data shall be recorded:

- Date and time of occurred failure (actual and/or estimated);
- Date and time of reception of request;
- Part Number of CI that requires a patch;
- Activities performed and failure reporting analysis (or diagnosis with evaluation cost, proposed solution and details on the disposal);
- Time to issue a new patch;
- Date and time of closure of request.

5.13.3. The ISS Quarterly Report shall report all relevant activities performed, dashboard for the KPI evaluation to provide a performance analysis.

5.13.4. The ISS Quarterly Report shall report activities in terms of:
- Maintenance scheduled and executed;
- Corrective maintenance performed;
- Manpower involved and facilities issues;
- List of all requests for on-site support, including:
  - Date and time of reception of request;
  - Name of the employee(s) sent on-site;
  - Location;
  - Start and end-date and time of support provided;
  - Date and time of closure of request.
- Patches issue:
  - List of patches issued;
  - List of CI under investigation;
  - List of patches installed.
- Test Equipment (TE):
  - List of TE with location;
  - List of TE planned to be used in the next period.

5.13.5. List of all requests for technical assistance (solved by Help Desk), including:
- Date and time of reception of request;
- Nature of the request;
- Details of SME responding to the request;
- Date and time of closure of request;

5.13.6. The ISS Quarterly Report shall include the update of the Supportability Plan.

5.13.7. The ISS Quaterly Report shall be delivered no more than one week after the Quaterly Maintenance release is delivered.

SECTION 6:   LABOUR CATEGORIES

6.1.   General

6.1.1.   This section outlines minimum educational and experience qualifications for Contractor staff supporting this Contract. The labour categories identified shall be available to support all Task Areas as required.

6.1.2.   The purchaser may request to interview any Contractor staff to ensure they fully comply with the expectations of the Purchaser.

6.1.3.   The Purchaser reserve the right to revoke any Contractor staff who would not suit the expectations of the Purchaser. A particular attention will be paid to the key personnel (3.5.1).

6.1.4.   Substitution of experience or education is allowed as outlined in Table 9-1 below.

Education	Equivalent Education + Experience	Equivalent Experience
Associate degree		4 years of relevant experience
Bachelor degree	Associates + 2 years of relevant experience	6 years of relevant experience
Master degree	Bachelors + 4 years of experience	8 years of relevant experience

Table 6-1 - Experience/Education Substitution

6.2.   Management

6.2.1.   Project Manager

6.2.1.1.   Responsible for project management, performance and completion of tasks and delivery orders. Establishes and monitors project plans and schedules and has full authority to allocate resources to insure that the established and agreed upon plans and schedules are met. Manages costs, technical work, project risks, quality, and corporate performance. Manages the development of designs and prototypes, test and acceptance criteria, and implementation plans. Establishes and maintains contact with Purchaser, Subcontractors, and project team members. Provides administrative oversight, handles contractual matters and serves as a liaison between the Purchaser and corporate management. Ensures that all activities conform to the terms and conditions of the Contract and Work Package procedures.

6.2.1.2.   Education: Master degree in management, engineering, or business administration. Formal certification through Project Management Institute or equivalent source.

6.2.1.3.   Experience: At least seven years in information systems design and project management. At least two years as the project manager for an effort of similar scope and complexity, including the application of a formal project management methodology such as PRINCE2.

6.3.   Project Management Support

6.3.1.   Project Control Analyst

6.3.1.1.   Establishes and maintains project schedule and cost baseline and analyses risks and potential impacts. Prepares project highlight reports.

6.3.1.2.   Education: Bachelor degree.

6.3.1.3.   Experience: At least three years in project scheduling, project control, or project monitoring and reporting.

6.3.2.   Webmaster

6.3.2.1.   Provides website construction and administration, develops connections between databases and web based front ends. Generates technical reports and related documentation as required. Provides expertise in the development and maintenance of web sites. Provides training on the uploading of documents, creating pages, links and other web functions. Maintains access rights to pages on web. Maintains reports and statistics on utilisation of the Project Website.

6.3.2.2.   Education: Associates degree or two years of technical training.

6.3.2.3.   Experience: At least one year in website support and at least one year in website construction.

6.3.3.   Contract Security Specialist

6.3.3.1.   Provides support in areas directly pertinent to administration, supervision, and control of facility security in an industrial and/or government environment. Possesses a working knowledge of government and industrial security regulations.

6.3.3.2.   Education: Bachelor degree.

6.3.3.3.   Experience: At least three years in Contract security administration.

6.4.   Engineering and Technical

6.4.1.   Senior Engineer

6.4.1.1.   Performs complex engineering tasks and multiple tasks simultaneously. Assists with or plans major research and engineering tasks or programs of high complexity. Directs and co-ordinates all activities necessary to complete a major, complex engineering program or multiple smaller tasks or programs. Performs advanced engineering research, hardware or software development.

6.4.1.2.   Education: Master degree in engineering.

6.4.1.3.   Experience: At least seven years in engineering positions associated with the review, design, development, evaluation, planning and operation of electrical or electronic components, subsystems, or systems for government or commercial use. Member of recognised professional body.

6.4.2.   Intermediate Engineer

6.4.2.1.   Performs engineering tasks and additional duties as assigned. Assists higher level engineers with larger tasks. Manages or directs multiple engineering tasks, directing research and development activities as required. Performs advanced engineering applications programming and analysis for systems/equipment assigned.

6.4.2.2.   Education: Bachelor degree in engineering.

6.4.2.3.   Experience: At least three years in engineering functions associated with the review, design, development, evaluation, planning and operation of electrical or electronic components, subsystems, or systems for government or commercial use.

6.4.3.   Junior Engineer

6.4.3.1.   Performs engineering tasks under the direction of higher level engineers. Performs independent research, conducts studies and analysis, and participates in the design and development of complex systems.

6.4.3.2.   Education: Bachelor degree in engineering.

6.4.3.3.   Experience: At least one year in engineering functions associated with the review, design, development, evaluation, planning and operation of electrical or electronic components, subsystems, or systems for government or commercial use.

6.4.4.   Senior Systems Engineer

6.4.4.1.   Plans and co-ordinates project management and engineering. Provides comprehensive definition of all aspects of system development from analysis of mission needs to verification of system performance. Competent in technical disciplines as applied to government and commercial information and communications systems. Prepares trade-off studies and evaluations for vendor equipment. Recommends design changes/enhancements for improved system performance. Supervises the work of a design, integration, test, and implementation team.

6.4.4.2.   Education: Master degree in engineering or computer science.

6.4.4.3.   Experience: At least seven years in system design and integration. At least five years in the design, integration, or implementation of COP systems.

6.4.5.   Intermediate Systems Engineer

6.4.5.1.   Performs system engineering assignments in support of the analysis of complex system design, formulating requirements, developing alternative approaches, conduct of studies, and application of standards. May function as a member of an engineering team assigned responsibilities for specific task areas.

6.4.5.2.　　Education:　Bachelor degree in engineering or computer science.

6.4.5.3.　　Experience:　At least three years in system design and integration.

6.4.6.　　Junior Systems Engineer

6.4.6.1.　　Conducts research and application of system design principles for the design, development, implementation, or support as a member of assigned task staffing. Develops alternative solutions, concepts, or processes through research into assigned systems and components.

6.4.6.2.　　Education:　Bachelor degree in engineering or computer science.

6.4.6.3.　　Experience:　At least one year in system design and integration.

6.4.7.　　Senior Communications Engineer

6.4.7.1.　　Performs communications system implementation planning, engineering design for integration with processing systems, specification development, standards, interface design, testing, and the conduct of transmission and traffic studies.

6.4.7.2.　　Education: Master degree in engineering.

6.4.7.3.　　Experience: At least seven years of experience in the engineering of communications systems via all transmission media.

6.4.8.　　Intermediate Communications Engineer

6.4.8.1.　　Prepares communications systems designs and technical documentation, and other design criteria. Implements COTS and emerging communications systems and develops technical plans, documentation, and support.

6.4.8.2.　　Education: Bachelor degree in engineering.

6.4.8.3.　　Experience: At least three years of experience in the engineering of communications systems via all transmission media.

6.4.9.　　Junior Communications Engineer

6.4.9.1.　　Conducts engineering analysis, develops technical documentation, investigate communications requirements, formulates network interfaces, and assists in project/program execution.

6.4.9.2.　　Education: Bachelor degree in engineering.

6.4.9.3.　　Experience: At least one year experience in the engineering of complex communications systems via all transmission media.

6.4.10.　　Senior Network Engineer

6.4.10.1. Designs network topologies and architectures. Determines applicable hardware, software, and connectivity solutions. Supports implementation through configuration set-up, testing, and training of users.

6.4.10.2. Education: Master degree in engineering and completion of a formal network certification program.

6.4.10.3. Experience: At least seven years of experience in network systems. At least five years of experience with TCP/IP wide area networks.

6.4.11. Intermediate Network Engineer

6.4.11.1. Develops detailed network interface and configuration data. Surveys and evaluates applicable products. Prepares network diagrams. Provides guidance for system implementation and support.

6.4.11.2. Education: Bachelor degree in engineering.

6.4.11.3. Experience: At least five years of experience in network systems. At least three years of experience with TCP/IP wide area networks.

6.4.12. Junior Network Engineer

6.4.12.1. Develops network interface and configuration data for system components. Surveys and evaluates network products. Prepares network diagrams. Prepares routing tables and installation and support documentation.

6.4.12.2. Education: Bachelor degree in engineering.

6.4.12.3. Experience: At least one year experience in the engineering of complex communications systems via all transmission media.

6.4.13. Systems Integration Analyst

6.4.13.1. Develops and implements solutions using the optimal technology, platform, and interfaces Researches available tools and technologies to determine alternate technology solutions. Researches, implements, and supports multiple computing platforms, operating systems, processing environments, and telecommunications technologies. May conduct cost/benefit or feasibility analyses; perform capacity analyses and planning.

6.4.13.2. Education: Bachelor degree in engineering or computer science.

6.4.13.3. Experience: At least seven years in the integration and implementation of COTS-based information systems.

6.4.14. Senior Software Programmer

6.4.14.1. Performs complex program development using standard and specialised languages to create special purpose software, modify existing programs, and enhance system efficiency and integrity. Translates detailed designs into software, tests, debugs, and refines software packages. Manages software

development teams in modular development of complex applications. Provides technical direction to assigned programmers.

6.4.14.2.   Education: Bachelor degree in engineering or computer science.

6.4.14.3.   Experience: At least seven years in the design, programming, and testing of applications software.

6.4.15.   Intermediate Software Programmer

6.4.15.1.   Analyses systems requirements and design specifications to develop block diagrams and logic flow charts. Translates detailed designs into computer software for specific applications. Prepares documentation, including program and user documentation.

6.4.15.2.   Education: Bachelor degree in engineering or computer science.

6.4.15.3.   Experience: At least three years in the design, programming, and testing of applications software.

6.4.16.   Junior Software Programmer

6.4.16.1.   Performs programming tasks based upon specifications and flow diagrams. Translates concepts into program modules for testing, debugging, refinement, and integration with other modules. Prepares draft documentation including program and user documentation. Functions as a member of a software development team under the guidance of more experienced programmers.

6.4.16.2.   Education: Bachelor degree in engineering or computer science.

6.4.16.3.   Experience: At least one year in the design, programming, and testing of applications software.

6.4.17.   System Support Engineer

6.4.17.1.   Designs and integrates system support applications and protocols to meet system requirements. Analyses architectural options for performance and manageability. Analyses and designs implementations to meet specialised message formats or interfaces.

6.4.17.2.   Education: Bachelor degree in engineering.

6.4.17.3.   Experience: At least seven years in the design, integration, and implementation of information systems. At least three years of experience with SNMP and system support applications.

6.4.18.   Senior Test Engineer

6.4.18.1.   Directs test planning, design and tools selection. Establishes guidelines for test procedures and reports. Co-ordinates with Purchaser on test support requirements and manages Contractor test resources.

6.4.18.2.   Education: Bachelor degree in engineering.

6.4.18.3.   Experience: At least seven years in the design and execution of information systems tests.

6.4.19.   Intermediate Test Engineer

6.4.19.1.   Designs and documents unit and application test plans. Transforms test plans into test scripts and executes those scripts. Supervises individual tests and prepares test reports.

6.4.19.2.   Education: Bachelor degree in engineering.

6.4.19.3.   Experience: At least three years in the design and execution of information systems tests.

6.4.20.   Junior Test Engineer

6.4.20.1.   Performs testing activities under supervision of more experienced test personnel. Executes defined test cases and procedures. Collects and analyses test data. Prepares test reports

6.4.20.2.   Education: Bachelor degree in engineering.

6.4.20.3.   Experience: At least one year in the design and execution of information systems tests.

6.4.21.   Test Technician

6.4.21.1.   Provides installation and administration support to information system testing. Constructs and tests prototype equipment for electrical systems and components, consistent with engineering and other specifications. Executes tests and collects test data. Assists in preparing test reports.

6.4.21.2.   Education: Associates degree or two years of technical training.

6.4.21.3.   Experience: At least two years in the configuration and administration of information systems or test and measurement systems.

6.4.22.   Information Systems Security Engineer

6.4.22.1.   Analyses and develops network systems and information security practices to include: operating systems, applications, TCP/IP, security architecture, multi-level security, intrusion detection, virus detection and control, PKI, vulnerability assessment. Documents findings and recommend changes in procedures, configuration, or design.

6.4.22.2.   Education: Bachelor degree.

6.4.22.3.   Experience: At least three years in information systems security. At least five years in information systems integration, implementation, or operation.

6.4.23.   Information Systems Security Specialist

6.4.23.1.   Provides support in implementing procedures and practices prescribed for safeguarding and control of an automated information system and the processing of classified information.

6.4.23.2.   Education: Associates degree or two years of technical training.

6.4.23.3.   Experience: At least two years as an Information Systems Security Officer for an operational system.

6.4.24.   Field Engineer

6.4.24.1.   Conducts site surveys, prepares implementation plans, prepares implementation procedures, supervises installation and activation, reports on installation status, manages repair and modifications to systems/equipment, performs field maintenance, and performs system configuration changes based upon approved specifications.

6.4.24.2.   Education: Bachelor degree.

6.4.24.3.   Experience: At least seven years in the installation and support of information systems.

6.4.25.   Senior Technician

6.4.25.1.   Supervises technicians in the troubleshooting, repair, installation, training, integration, and upgrade of systems and equipment. Works closely with assigned engineers and systems personnel to support implementation and activation efforts.

6.4.25.2.   Education: Associates degree.

6.4.25.3.   Experience: At least seven years in the installation and maintenance of network and information systems.

6.4.26.   Intermediate Technician

6.4.26.1.   Performs troubleshooting, repair, refurbishment, and installation of systems and equipment. Performs factory or field testing of systems, development of maintenance or repair procedures, and supports installation teams in specific areas of expertise.

6.4.26.2.   Education: Associates degree.

6.4.26.3.   Experience: At least three years in the installation and maintenance of network and information systems.

6.4.27.   Junior Technician

6.4.27.1.   Performs troubleshooting, repair, and installation functions as assigned. May be assigned as technical support technician for specific systems or hardware. Performs factory or field testing and supports installation teams as assigned.

6.4.27.2.   Education: Secondary school graduate with one year of technical training.

6.4.27.3.   Experience: At least two years installing and maintaining network and information systems.

6.4.28.   System Management Specialist

6.4.28.1.   Analyses, develops, and maintains operational system configuration parameters. Establishes and implements system policy, procedures and standards, and ensures their conformance with system requirements. Ensures that security procedures are established and implemented. Provides technical assistance to operational, logistics, and system engineering staff.

6.4.28.2.   Education: Bachelor degree and completion of a formal system administration or network management certification course.

6.4.28.3.   Experience: At least three years in the administration of distributed information systems.

6.5.   Implementation Support

6.5.1.   Logistics Management Specialist

6.5.1.1.   Provides support in the development of support documentation to include as a minimum, elements such as support equipment, technical orders, supply support and computer resources support, process of evolving and establishing maintenance/support concepts.

6.5.1.2.   Education: Bachelor degree.

6.5.1.3.   Experience: At least seven years in supply and support of information systems. At least three years in support of distributed systems in more than one NATO nation.

6.5.2.   Logistics Analyst

6.5.2.1.   Creates and helps execute plans for the integrated logistics support (ILS) of complex systems. Analyses adequacy and effectiveness of current and proposed logistics support provisions. Supervises the efforts of other logistics personnel in the execution of assigned tasks.

6.5.2.2.   Education: Bachelor degree.

6.5.2.3.   Experience: At least three years in ILS planning and analysis.

6.5.3.   Inventory Specialist

6.5.3.1.   Creates and maintains an inventory control system. Tracks materials, co-ordinates shipping and receiving, and supervises packing operations.

6.5.3.2.   Education: Associates degree.

6.5.3.3.   Experience: At least three years in shipping, receiving, and inventory control.

6.5.4.   Shipping and Receiving Clerk

6.5.4.1.   Co-ordinates the shipping and receiving of materials. Tracks property using automated equipment. Performs and records materials inventory checks.

6.5.4.2.   Education: Secondary school graduate.

6.5.4.3.   Experience: At least three years in shipping and receiving.

6.5.5.   Technical Writer

6.5.5.1.   Develops, writes, and edits materials, briefs, proposals, instruction books, and related technical and administrative publications concerned with work methods and procedures for installation, operations and enhancement of equipment. Organises material and compiles writing assignments for clarity, conciseness, style, and terminology. Prepares and edits documentation incorporating information provided by users, and technical and operations staff. Possesses a substantial knowledge of the capabilities of computer systems. Capable of writing, editing, and generating graphic presentations.

6.5.5.2.   Education: Bachelor degree.

6.5.5.3.   Experience: At least three years as a technical writer.

6.5.6.   Senior Configuration Manager

6.5.6.1.   Establishes and maintains a process for tracking the life cycle development of system design, integration, test, training, and support efforts. Maintains continuity of products while ensuring conformity to Purchaser requirements and commercial standards. Establishes configuration control forms and database.

6.5.6.2.   Education: Bachelor degree.

6.5.6.3.   Experience: At least five years of experience in specifying configuration management requirements, standards, and evaluation criteria in acquisition documents, and in performing configuration identification, control, status accounting, and audits. At least three years in computer and communication systems development, including physical and functional audits and software evaluation, testing and integration. At least two years of experience with application of configuration management tools.

6.5.7.   Intermediate Configuration Manager.

NATO RESTRICTED
(NATO UNCLASSIFIED when separated from SOW-Annex A_System Requirement Specifications)

6.5.7.1.   Maintains a process for tracking the life cycle development of system design, integration, test, training, and support efforts. Maintains continuity of products while ensuring conformity to Purchaser requirements and commercial standards. Maintains configuration control records and databases.

6.5.7.2.   Education: Associates degree or two years of technical training.

6.5.7.3.   Experience: At least three years in technical system configuration management. At least two years in computer and communication systems development, including physical and functional audits and software evaluation, testing and integration.

6.5.8.   Junior Configuration Manager

6.5.8.1.   Prepares and co-ordinates change requests, configuration items, and system baselines. Maintains configuration control records and databases.

6.5.8.2.   Education: Associates degree or one year of technical training.

6.5.8.3.   Experience: At least one year in technical system configuration or document management.

6.5.9.   Data Control Specialist

6.5.9.1.   Performs assigned portions of managing the data input into complex information systems. Analyses and administers data for both the developing team and the customer. Handles daily administrative tasks, produces and edits technical reports based on data system processing, monitors use of data and performs updates as required. Participates in all phases of system development with emphasis on the data collection, input, documentation, and acceptance phases. Designs and prepares technical reports and related documentation, and makes charts and graphs to record results.

6.5.9.2.   Education: Associates degree.

6.5.9.3.   Experience: At least three years in administration of configuration management or technical documentation.

6.5.10.   Quality Assurance Manager

6.5.10.1.   Establishes and maintains process for evaluating software, hardware, and associated documentation. Determines the resources required for quality control. Maintains the level of quality throughout the system life cycle. Develops project quality plans. Conducts formal and informal reviews and audits at predetermined points throughout the system life cycle.

6.5.10.2.   Education: Bachelor degree.

6.5.10.3.   Experience: At least seven years working with quality control methods and tools. At least four years supporting system development and test projects.

6.5.11.   Quality Assurance Specialist

6.5.11.1.   Develops and implements quality standards. Reviews hardware, software, and documentation. Participates in formal and informal reviews to determine quality. Participates in the development of system quality plans. Examines and evaluates design, integration, and test processes and recommends enhancements and modifications.

6.5.11.2.   Education: Bachelor degree.

6.5.11.3.   Experience: At least four years working with quality control methods and tools.

6.6.   Training Support

6.6.1.   Instructional Systems Designer

6.6.1.1.   Conducts the research, necessary to identify training needs based on performance objectives and existing skill sets; prepares training strategies and delivery methodology analyses; and prepares cost/benefit analyses for training facilities and deliverables. Develops training delivery plan, instructional guidelines, and performance standards and assessment mechanisms. Plans and directs the work of training material developers and coordinates activities with system development staff. Supervises the implementation and adaptation of training products to customer requirements.

6.6.1.2.   Education: Bachelor Degree.

6.6.1.3.   Experience: At least three years in the design and development of training for information systems using an Instructional Systems Design approach such as the Systems Approach to Training, Performance-Based Training, Analysis, Design, Development, Implementation, and Evaluation (ADDIE), or Criterion Referenced Instruction.

6.6.2.   Senior Training Materials Developer

6.6.2.1.   Conducts the research necessary to develop and revise training courses and prepares training plans. Develops instructor (course outline, background material, and training aids) and student materials (course manuals, workbooks, handouts, completion certificates, and course feedback forms). Trains personnel by conducting formal classroom courses, workshops, seminars, and/or computer based/computer-aided training. Provides daily supervision and direction to staff.

6.6.2.2.   Education: Bachelor Degree.

6.6.2.3.   Experience: At least five years in the preparation of technical training, including Computer Based Training CBT materials.

6.6.3.   Training Materials Developer

6.6.3.1.   Conducts the research necessary to develop and revise training. Develops training materials (course outline, manuals, workbooks, handouts, completion certificates, and course feedback forms.

6.6.3.2.   Education: Associates degree.

6.6.3.3.   Experience: At least three years in the preparation of technical training materials.

6.6.4.   CBT Developer

6.6.4.1.   Uses CBT tool to design and implement course flowchart, text, animation, voice, and graphic displays.

6.6.4.2.   Education: Bachelor degree.

6.6.4.3.   Experience: At least three years in the preparation of CBT courses.

6.6.5.   Senior Instructor

6.6.5.1.   Supervises trainers who conduct technical training classes. Conducts training classes. Works closely with Purchaser personnel to determine training and scheduling requirements. Develops and maintains training materials. Reviews and provides inputs for technical documentation.

6.6.5.2.   Education: Bachelor Degree.

6.6.5.3.   Experience: At least four years in systems administration or operation and at least four years as technical training instructor.

6.6.6.   Junior Instructor

6.6.6.1.   Conducts technical training classes. Prepares and updates training documentation.

6.6.6.2.   Education: Bachelor Degree.

6.6.6.3.   Experience: At least four years in systems administration or operation and at least two years as technical training instructor.

6.7.   Operational Support

6.7.1.   System Administrator

6.7.1.1.   Administers systems operations and configuration. Maintains user accounts and profiles. Performs system backup and restoration procedures. Troubleshoots operational problems. Co-ordinates system configuration and performance issues with central network support staff and Purchaser site personnel.

6.7.1.2.   Education: Associates degree or two years of technical training.

6.7.1.3.   Experience: At least one year in systems administration of Windows 2000/2003 systems. At least one year in the administration and operation of X.400 systems.

6.7.2.   Network Manager

6.7.2.1.   Oversees administration and operation of network and service management applications. Develops and implements operating procedures. Administers upgrades to system support and network management components. Collects operational performance data and performs performance analysis.

6.7.2.2.   Education: Associates degree.

6.7.2.3.   Experience: At least two years in administration and implementation of SNMP or other system support systems.

6.7.3.   Database Administrator

6.7.3.1.   Manages network-wide configuration databases. Develops and implements data synchronisation procedures and resolves database discrepancies. Maintains and publishes network configuration tables and indices. Designs and implements queries and other utilities.

6.7.3.2.   Education: Associates degree.

6.7.3.3.   Experience: At least two years in database administration.

6.7.4.   Operational Support Manager

6.7.4.1.   Organises, directs and manages operational support activities. Analyses system performance data and prepares reports and assessments. Meets with Purchaser personnel to co-ordinate support issues and co-ordinates with system implementation personnel on activation and cut-over. Ensures conformance with Work Package requirements.

6.7.4.2.   Education: Bachelor degree.

6.7.4.3.   Experience: At least five years in the administration and operation of a distributed information system.

6.8.   Functional Support

6.8.1.   Senior COP Functional Specialist

6.8.1.1.   Provides support in the development of doctrine; operational concepts; requirements; tactics, techniques and procedures; standard operating procedures and other functional documentation. Supports testing and operational validation. Meets with Purchaser personnel to co-ordinate functional and operational implementation issues. Designs and prepares reports and related documentation.

6.8.1.2.   Education: Bachelor degree.

6.8.1.3. Experience: At least seven years in the COP functional area in NATO or a NATO nation. At least three years in the development of COP doctrine; operational concepts; requirements; tactics, techniques and procedures; standard operating procedures and other functional documentation.

6.8.2. Intermediate COP Functional Specialist

6.8.2.1. Provides support in the development of doctrine; operational concepts; requirements; tactics, techniques and procedures; standard operating procedures and other functional documentation. Supports testing and operational validation. Meets with Purchaser personnel to co-ordinate functional and operational implementation issues. Designs and prepares reports and related documentation.

6.8.2.2. Education: Associate degree.

6.8.2.3. Experience: At least four years in the COP functional area in NATO or a NATO nation. At least one year in the development of COP doctrine; operational concepts; requirements; tactics, techniques and procedures; standard operating procedures and other functional documentation.

SECTION 7: CONTRACT DOCUMENTATION REQUIREMENTS

7.1. Documentation

7.1.1.   General:

7.1.1.1.   All documentation provided to the Purchaser shall be written in English with spelling and usage based on the Concise Oxford English Dictionary, 11th edition.

7.1.1.2.   The convention to be used for numbers appearing in textual documents is for a comma to be the thousands separator and a period to be the decimal separator (e.g., 1,365,276.24).

7.1.1.3.   The convention to be used for dates appearing in free text (e.g., quoting dates of meetings) is day-month-year and not month-day-year.

7.1.1.4.   All documentation deliverables must be "stand-alone" with no dependence on other documentation or applications in the Contractor's environment for its comprehension. Likewise if there are hyperlinks to other areas of the Contractor environment, they must be fully available.

7.1.1.5.   Documentation shall not be marked with corporate logos or contain warnings limiting the rights to use or reproduction.

7.1.1.6.   The security classification of the documentation shall follow agreed NATO security guidelines. Documentation developed under this project shall have its security classification shown on each page, top and bottom. It is expected that none of the documentation requires a higher classification than NATO Restricted.

7.1.1.7.   The documentation within this contract will respect the naming convention as stated in The NCIA instruction AI 06.00.01 (naming convention).

7.1.2.   Reports:

7.1.2.1.   For all reports delivered under this Contract, the Contractor shall ensure the following standards are met:

7.1.2.2.   The report shall be candid, forthright and complete.

7.1.2.3.   The report shall contain only material that can be supported by evidence and confirmed by independent analysis.

7.1.2.4.   The report shall provide evidence to support or justify the conclusions reached.

7.1.2.5.   The report shall be concise. If necessary, supporting data should be placed in appendices or referenced as backup material.

7.1.2.6.   The report shall use charts, graphs, matrices, tables, and other illustrative techniques to present data in an easily-understood form. Each illustration should be accompanied with a narrative showing how the data displayed is relevant to the process improvement.

7.1.3.   Unless otherwise directed by the Purchaser, the Contractor shall furnish requested documentation as follows:

7.1.3.1.   All contractual documentation (e.g., change proposals, invoices, etc.) shall be delivered in electronic format.

7.1.3.2.   All project management documentation (e.g., plans, schedules, reports, etc.) shall be delivered as electronic copies in MS Office format (MS Office 2016 or higher).

7.1.3.3.   The rest of the deliverables shall be furnished as an electronic copy in a format which is best suited for review and maintenance by the Purchaser (e.g., Project Master Schedule in MS Project format, Project Highlight Reports in MS Word). In general the following guidelines shall be used: Microsoft Word shall be used for generating text document; Microsoft Excel shall be used for tabular or matrix data; Microsoft Visio shall be used for drawings; Microsoft Project shall be used for schedule; and Microsoft PowerPoint shall be used for briefings. The Contractor shall use MS Office 2016 or higher version. The rest of deliverables shall be furnished as electronic copy of the agreed tools/media used.

7.1.3.4.   Documentation shall be distributed as follows:
- An electronic copy to the Purchaser's Project Manager.
- An electronic copy to the identified IV&V Service Line.
- An electronic copy to the Project Website.

7.1.4.   Each document shall contain the following information for identification:

Serial	Requirement
1	Version of the document and version history
2	Due date
3	Delivery date
4	CLIN number.
5	Status (e.g., accepted/approved/draft…)

7.1.5.   The Contractor shall submit all documentation for Purchaser review as described below. At each review cycle, the Purchaser will state if the document is likely to be accepted in its Final version.

7.1.5.1.   If the review is organized within sprint development, the Contractor shall provide documents for the review at least two (2) weeks before the review date, and four (4) weeks otherwise, unless specified differently the Statement of Work or in Schedule of Supplies and Services

7.1.5.2.   Attached to the documents to be reviewed, the Contractor shall send the invitation, including:

Serial	Requirement
1	Agenda
2	List of participants,
3	Date, hour, location of the review
4	List of deliverables identifying the version
5	Contractor's review outputs evidence
6	Non-conformities and corrective actions required, if any

7.1.5.3.   During the development the Contractor may be required to provide subsequent Draft versions of the documents (starting with version 0.1) for the Purchaser comments, as defined in the sprint development methodology.

7.1.5.4.   The Contractor shall provide last Draft version (identified as version 0.9) of each deliverable for Purchaser review.

7.1.5.4.1.   The Purchaser will provide comments, corrections, and suggested changes to the Contractor within two (2) weeks of receipt for deliverables being submitted part of the sprint development and four (4) weeks otherwise.

7.1.5.4.2.   This version shall be substantially complete and correct, and the delivery dates specified in the Schedule of Supplies and Services assume this.

7.1.5.4.3.   The Purchaser reserves the right to return without review a document that has significant deficiencies.

7.1.5.4.4.   The Contractor shall not rely on the Purchaser review to fill in deficiencies or obtain missing Purchaser information

7.1.5.4.5.   The Contractor shall ensure that any documentation delivered to the Purchaser has been properly reviewed according to Contractor's quality management process.

7.1.5.4.6.   The Contractor shall ensure that only acceptable products, intended for delivery, are released. The Purchaser reserve the right to reject non-conforming products.

7.1.5.4.7.   The Contractor shall notify the Purchaser of proposed action, resulting from Review Output before releasing v0.9 that will affect compliance with contractual requirements.

7.1.5.4.8.   The Contractor's Review outputs shall, where action item(s) are identified, specify the responsible person/function and due date of the action item(s).

7.1.5.4.9.   The Contractor shall notify the Purchaser of non-conformities and corrective actions required, unless otherwise agreed with the Purchaser.

7.1.5.5. The Contractor shall provide the Final version (version 1.0) of the document, for approval, within two (2) weeks after the review.

7.1.5.6. Until FSA the Contractor shall remain responsible for updating all the deliverable documents to reflect necessary changes.

7.2. Contract Documentation Requirements List

7.2.1. The Contract Documentation Requirements List (CDRL) identifies the documents required to be delivered under this Contract and the applicable quality standards by which they will be reviewed for acceptance.

7.2.2. The CDRL shall comply with the project applicable documents for security marking and electronic labelling (Ref. 14J).

7.2.3. The CDRL for this Contract is provided in Table 7-1. For each item, the table identifies the:

7.2.3.1. Cross-reference to the SOW paragraph requiring the document.

7.2.3.2. Document title.

7.2.3.3. Document acceptance requirements, where:
- "A" means the Purchaser must review and approve the initial submission and subsequent changes.
- "I" means the item is provided to the Purchaser for information purposes only and the Purchaser will only request changes if it finds errors or omissions.

7.2.3.4. Applicable quality standard against which the document will be reviewed for acceptance. Where this SOW is the quality standard. "SOW" is indicated.

Table 7-1 - Contract Documentation Requirements List.

SOW Ref.	Title	A/I	Quality Standard
4.6.4.9.1	Architecture Model	A	SOW
3.13.6	Change Request Log	A	SOW
3.13	Configuration Management Plan	I	ACMP-2100 and the additional guidelines from ACMP standards within STANAG 4427, especially AQAP-2105 Edition C Version 1 January 2019, NATO requirements for quality plans.
3.13.7	Deficiency Report	I	SOW
5.12	In Service Support Plan	A	SOW
5.13	ISS Quarterly Report	A	SOW
4.8.11.4.4	Interface Control Documents	A	SOW
5.2	Issue Log	A	SOW
4.6.4.14	Meeting Minutes	A	SOW
3.17.1.4	Issue Log	I	Managing Successful Projects with PRINCE 2, Second Edition
3.15	Meeting Minutes	A	SOW

SOW Ref.	Title	A/I	Quality Standard
3.16	Project Master Schedule	I	SOW
3.8	Project Management Plan	A	SOW
3.11	Project Test Plan	A	SOW
3.9	Project Work Breakdown Structure	A	Managing Successful Projects with PRINCE 2, Second Edition
4.8.4	Quality Log	A	SOW
3.10	Quality Plan	A	SOW
3.14		I	SOW
3.14.1.6	Quality Plan	A	SOW
5.7.7	Quick User Guide	A	SOW
4.4.3	Requirements Implementation Schedule	A	SOW
4.6.4.13	Risk Register	A	SOW
3.7	Risk Management Plan	I	SOW
3.12.5	Risk Register	I	SOW
3.12.4	Risk Management Plan	A	SOW
4.7.12.5	Software Build Instruction	A	SOW
5.5.3.1	Software Distribution List	A	SOW
4.6.4	System Design Specification	A	SOW
4.4	System Development Plan	A	SOW
4.5.8	System Development Plan	A	SOW
4.8.11.9.3	Security Test Report	A	SOW
4.8.7	Test Procedures	A	SOW
4.8.8	Test Report	A	SOW
4.5.9.3	User Story Documentation	A	SOW
4.5.9.4	User Interface Specification	A	SOW
5.7.4	User Manual	A	SOW

SECTION 8: ACRONYMS

Abbreviation	Description
AFPL	Approved Fielded Product List
AGS	Alliance Ground Surveillance
AIS	Automated Information System
Bi-SC	Bilateral Strategic Commands
Bi-SCD	Bi-SC Directive
BL	Baseline
BMD	Ballistic Missile Defence
AOI	Area of Interest
C2	Command and Control
C2IS	Command and Control Information System
CAW	Contract Award
CBT	Computer Based Training
CCB	Configuration Control Board
CCD	Course Control Document
CCO	Commercial Manager/Contracting Officer
CDR	Critical Design Review
CIL	Contractor Implementation Lead
CIS	Communication and Information Systems
CLIN	Contract Line Item Number
CM	Configuration Management
CMS	Content Management System
COP	Common Operational Picture
COTS	Commercial off the Shelf
CPM	Contractor Project Manager
CQM	Contractor Quality Manager
CR	Change Request
CTL	Contractor Training Lead

DC	Data Centre
DCIS	Deployable Communication and Information Systems
DIF	Difficulty, Importance and Frequency
DR	Deficiency Report
EDC	Effective Date of Contract
E&IT	Education and Individual Training
ELO	Enabling/Learning Objectives
ET	Ensemble Test
EOT	Ensemble Operator Test
FAQ	Frequently Asked Questions
FAS	Functional Area Services
FAT	Factory Acceptance Test
FSA	Final System Acceptance
HQ	Headquarters
IDR	Implementation Design Review
ITB	Integration Test Bed (BMD)
ILT	Instructor Led Training
INA	Installation Node Acceptance
ITM	IT Modernisation
IV&V	Independent Verification & Validation
IWG	Implementation Working Group
JFC	Joint Force Command
JTR	Joint Technical Review
KOM	Kick-Off Meeting
MAF	Mission Anchor Function
MIR	Mission Information Room
NAC	North Atlantic Council
NATO	North Atlantic Treaty Organisation
NCI Agency/NCIA	NATO Communication and Information Agency

NCOP	NATO Common Operational Picture
NCS	NATO Command Structure
NRF	NATO Response Force
NSF	NATO Software Factory
OJT	On-the-job Training
OT&E	Operational Testing & Evaluation
OTS	Off-the-shelf
PBS	Product Breakdown Structure
PCO	Purchaser Contracting Officer
PCR	Project Checkpoint Review
PD	Product Description
PDR	Preliminary Design Review
PFI	Purchaser Furnished Item
PHR	Project Highlight Report
PMI	Project Management Institute
PMP	Project Management Plan
PMR	Project Management Review
PMS	Project Master Schedule
PO	Performance Objectives
POC	Point of Contact
PPM	Purchaser Project Manager
PSA	Provisional System Acceptance
PTL	Purchaser Technical Lead
PTP	Project Test Plan
QP	Quality Plan
RAID	Risks, Assumptions, Issues, Decisions
RTM	Requirements Traceability Matrix
SACEUR	The Supreme Allied Commander Europe
SAT	System Acceptance Test

SDE	System Data Element
SDR	Sprint Design Review
SER	Sprint End Review
SHAPE	Supreme Headquarters Allied Powers Europe
SIT	System Integration Test
SOP	Standard Operating Procedures
SOW	Statement Of Work
SQR	System/sustainment Qualification Review
SRR	System Requirement Review
SSMAT	System Sustainment Maintenance Acceptance Test
STR	System Test Review
SSS	Schedule of Supplies and Services
SVD	Software Version Description
TRR	Test Readiness Review
TWG	Training Working Group
UAT	User Acceptance Test
VTC	Video Tele-Conference
WBS	Work Breakdown Structure
WP	Work Package