NORTH ATLANTIC TREATY ORGANISATION
HEADQUARTERS SUPREME ALLIED COMMANDER
TRANSFORMATION 7857 BLANDY ROAD, SUITE 100
NORFOLK, VIRGINIA, 23551-2490

Request for Proposal

RFP-ACT-SACT-26-16 Part B

Force Lethality Enhancement eXtended (FLEX) Modelling and Simulation Study

Contents

BIDDING INSTRUCTIONS

1. General

a. This is a **Firm Fixed Price Deliverables** contract in accordance with HQ SACT General Terms and Conditions.

b. HQ SACT General Terms and Conditions Dated **15 January 2026** are applicable to this procurement and can be located on the ACT Website at; WWW.ACT.NATO.INT/CONTRACTING under Contractor Information.

c. Contract Award is contingent upon funding availability; Partial bidding is allowed.

2. Classification

This Request for Proposal (RFP) is a NATO UNCLASSIFIED document.

3. Definitions

a. The "Prospective Bidder" shall refer to the entity that has indicated thereon its intention without commitment, to participate in this RFP.

b. The term "Bidder" shall refer to the bidding entity that has completed a bid in response to this RFP.

c. The term "Contractor" shall refer to the bidding entity to whom the contract(s) is awarded.

d. The term "Contracting Officer" designates the official who executes this RFP on behalf of HQ SACT.

e. "Contracting Officer`s Technical Representative" or "COTR" is the official who is appointed for the purpose of determining compliance of the successful bid, per the technical specifications.

f. The term "HQ SACT" shall refer to Headquarters Supreme Allied Commander Transformation.

g. The term "ACT" shall refer to Allied Command Transformation.

h. The term "NATO" shall refer to the North Atlantic Treaty Organization.

i. The term "days" as used in this RFP shall, unless otherwise stated, be interpreted as meaning calendar days.

4. Eligibility

a. This RFP is open to governmental or commercial entities:

b. Established in a North Atlantic Treaty Organization Alliance member nation.

c. Working in the required field of study and legally authorised to operate in the country and countries in which this contract is to be performed, at the time of bidding. Has performed the desired past performance including size, cost and scope, as described in this RFP.

d. All proposed key personnel identified to work on this requirement must be citizens of a NATO member nation.

5. Duration of Contract

a. The contract awarded shall be effective upon date of award.

b. Period of Performance: 1 May – 31 July 2026

6. Exemption of Taxes

In accordance with the agreements (Article VIII of the Paris Protocol dated, 28 August 1952) goods and services under this contract are exempt from taxes, duties and similar charges.

7. Amendment or Cancellation

a. HQ SACT reserves the right to amend or delete any one or more of the terms, conditions or provisions of the RFP prior to the date set for bid closing. A solicitation amendment or amendments shall announce such action.

b. HQ SACT reserves the right to cancel, at any time, this RFP either partially or in its entirety. No legal liability on the part of HQ SACT shall be considered for recovery of costs in connection to bid preparation. All efforts undertaken by any bidder shall be done considering and accepting that no costs shall be recovered from HQ SACT. If this RFP is cancelled, any/all received bids shall be returned unopened, per the bidder's request.

8. Bidder Clarifications

a. Prospective Bidders should seek clarification at their earliest

convenience. Any explanation regarding the meaning or interpretation of this RFP, terms, clause, provision or specifications, shall be requested in writing, from the Contracting Officer. All Contracting Officers listed on this RFP must receive such requests via email for clarification no later than **13 March 2026.**

b. In lieu of a bidder's conference, HQ SACT invites bidders to submit technical and contractual questions not later than **13 March 2026.**
c. Information in response to all inquiries / requests for clarification to a prospective bidder shall be furnished to all prospective bidders at the following link: http://www.act.nato.int/contracting as a Question-and-Answer addendum. All such addendums and any necessary solicitation amendments shall be incorporated into this RFP. Verbal Interpretations shall not be binding.

9. Bid Closing Date

Bids shall be received at HQ SACT, Purchasing and Contracting Office, no later than **10 April 2026, 0900 hours, Eastern Standard Time, Norfolk, Virginia, USA.** No bids shall be accepted after this date and time. **No hard copy proposals will be accepted.** Please see Proposal Submission (paragraph 12) for more details.

10. Bid Validity

a. Bids shall remain valid for a period of one hundred and twenty days (120) from the applicable closing date set forth within this RFP. HQ SACT reserves the right to request an extension of validity. Bidder shall be entitled to either grant or deny this extension of validity. HQ SACT shall automatically consider a denial to extend the validity as a withdrawal of the bid.

b. **HQ SACT will not accept supplier proposals prepared, in whole or in part, by means of generative artificial-intelligence (AI) tools, including and without limitation to chatbots, such as Chat Generative Pre-Trained Transformer (Chat GPT), or other language generating tools. HQ SACT reserves the right to screen applications to identify the use of such tools. All applications prepared, in whole or in part, by means of such generative or creative AI applications may be rejected without further consideration at HQ SACT's sole discretion, and HQ SACT reserves the right to take further steps in such cases as appropriate.**

11. Content of Proposal

The proposal shall consist of two (2) separate documents (Technical / Price) sent via e-mail as per the instructions. No hard copy proposals will be accepted. The E-mailed documents shall be received no later than **10 April**

2026, 0900 hours, Eastern Standard Time, Norfolk, Virginia, USA.

The company description portion of its technical proposal shall be limited to 10 pages.

a. Technical Proposal shall be a Signed PDF document and contain:

1) A table of contents for the entire proposal (See Enclosure #1):

2) The bidder's full name, address, Points of Contact, Telephone, Fax number; Internet site.

3) Compliance statement (See Enclosure#2).

4) Past performance (See Enclosure #3).

5) List of key personnel to produce deliverables.

6) Company description and supplementary relevant information; and

7) Compliance matrix (See Annex B to Statement of Work).

b. Price Proposal shall be

1) **Submitted in U.S. Dollar Currency.** Contractor may request payment post award in alternate currency based on agreed conversion rate.

2) Prices shall be on a **Firm Fixed Price Basis,** include any relevant discount schedule and shall include, separately, a cost associated with any required travel associated with delivery. **Do not include the estimated associated travel costs as part of the overall bid proposal. Travel will be assessed separately after award for Fair and Reasonable Pricing but will not form part of the award decision to ensure fairness to industry from all NATO members nations.**

12. Proposal Submission

a. Proposals shall be separate e-mail submissions

to:

Technical proposal: hqsact.techproposal@nato.int
Price proposal: hqsact.priceproposal@nato.int

b. E-mail subjects shall include the solicitation information along with company name (for example: RFP -ACT-SACT-26-16_Tech_ABC Inc. / RFP - ACT- SACT-26-16_Price_ABC Inc.). **Allow sufficient time in sending your submission should you encounter e-mail size challenges.**

c. No verbal bids or verbal modifications or telephonic bids shall be considered.

d. It is the ultimate responsibility of a prospective bidder prior to submission that all proposal submissions are reviewed to ensure they meet the technical, contractual and administrative specifications and that offers meet the limitations and expressed conditions.

13. Late Proposals

a. It is solely the bidder's responsibility that every effort is made to ensure that the proposal reaches HQ SACT prior to the established closing date and time. No late bids shall be considered.

b. **A delay in an e-mail exchange due to server or size restrictions does not constitute a delay by NATO.**

14. Bid Withdrawal

A bidder may withdraw their bid up to the date and time specified for bid closing. Such a withdrawal must be completed in writing with attention to the HQ SACT Contracting Officer.

A bid withdrawal will be announced in the Contract Award Report.

15. Bid Evaluation

a. The evaluation of bids and determination as to the responsiveness and technical adequacy or technical compliance, of the products or services requested, shall be the responsibility of HQ SACT. Such determinations shall be consistent with the evaluation criteria specified in the RFP. HQ SACT is not responsible for any content that is not clearly identified in any proposal package.

b. HQ SACT reserves the right to conduct pre-award discussions with proposed key personnel to accurately assess identified technical competencies. Discussions will be limited to the scope of this RFP and the evaluation criteria identified.

c. Proposals shall be evaluated and awarded taking into consideration the following factors:

1) Successful administrative submission of bid packages as requested in paragraph 11 and as listed in this RFP.

2) Successful determination of compliance on mandatory criteria. (Compliant/non-compliant).

3) Technical factors / pricing factors rated as follows: Technical / Price = 70/30 (Best Value).

4) Technical clarifications as determined may be conducted.

5) Acceptance of HQ SACT General Terms and Conditions.

16. Proposal Clarifications

During the entire evaluation process HQ SACT reserves the right to discuss any bid, clarify what is offered and interpret language within the bid to resolve any potential areas of concern.

17. Award

a. HQ SACT intends to award a firm fixed price deliverables contract to the Offeror(s) whose proposal(s) represents the Best Value offer to NATO. Partial awards are authorized. HQ SACT reserves the right to award a single research topic to more than one supplier.

b. HQ SACT will collect information from references provided by the Offeror on its past performance. Contractors must provide authorization to contact references.

c. HQ SACT reserves the right to negotiate minor deviations to the listed General Terms and Conditions to this RFP.

18. Surge Capability:

A surge capability requirement is included to have a contract vehicle in place should emerging circumstances require a quick and temporary increase in contractor support (LOE or Deliverable) to meet new requirements within the scope of the existing Statement of Work. The Supplier shall be prepared to provide support services per labour category described above. The contractor shall be prepared to evaluate requirements and submit a price proposal for any new in scope requirement for consideration by HQ SACT.

Surge proposals will be evaluated by the Contracting Officer for fair and reasonable pricing and should be developed based upon the same pricing structure as the original contract proposal. The rate for surge effort shall not exceed the base/option year rate. Surge requirements will be incorporated by formal contract modification.
Requests for pricing are made on a non-committal basis and do not constitute a formal commitment by HQ SACT to contract for additional work; supplier will not be reimbursed costs for preparing price proposals or other related expenses in response to a surge request. HQ SACT surge efforts will not exceed 50% of the annual contract value or 50% of the cumulative contract value. Requests to surge from other organizations outside of HQ SACT are not counted against HQ SACT when calculating the surge tolerances

19. Disputes

Disputes will be settled between the bidder and the Contracting Officer by mutual agreement through negotiation, while respecting and observing NATO regulations and policies.

20. Proposed Candidates

If successful, contractor company must notify HQ SACT of any special accommodation or requirements of its personnel for on-site support.

21. Communications

All communication related to this RFP between a prospective bidder and HQ SACT shall only be through the nominated HQ SACT Contracting Officer. Designated contracting staff shall assist the HQ SACT Contracting Officer in the administrative process. There shall be no contact with other HQ SACT personnel regarding this RFP. Such adherence shall ensure Fair and Open Competition with equal consideration and competitive footing leverage to all interested parties.

22. Points of Contact

(PLEASE INCLUDE ALL BELOW ON ALL CORRESPONDENCE)

Tonya Bonilla, ACT Contracting Officer, 757-747-3575;
Margaret Anderson, ACT Contracting Officer, 757-747-3699;
Louis Syms, ACT Contracting Specialist, 757-747-3788

E-mail: Hqsact.contracting.nato.int

Enclosure 1: Proposal Content / Checklist

PROPOSAL CONTENT / CHECKLIST

Table of Contents

- ☐ Bidder's name, address, POC, Contact numbers, email address.
- ☐ Compliance Statement.
- ☐ Past Performance (including References).
- ☐ List of Key Personnel.
- ☐ Technical Proposal.
- ☐ Price Proposal (Excel worksheet – Enclosure 4 - provides mandatory price proposal format)

Enclosure 2: Compliance Statement

COMPLIANCE STATEMENT TO SEALED BID RFP-ACT-SACT-26-16 Part B

It is hereby stated that our company has read and understands all documentation issued as part of this RFP. Our company proposal submitted in response to the referenced solicitation is fully compliant with the provisions of this RFP and the intended contract with the following exceptions(s); such exemptions are considered non-substantial to the HQ SACT solicitation provisions issued.

Note: Any requested deviations/adjustments or considerations regarding HQ SACT General Terms and Conditions **must be identified here - at the time of bidding - for consideration by the contract awards committee.**

Clause	Description of Minor Deviation
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(If applicable, add another page)

Company:_____

Signature:

Name &Title:_____ Date:

_____

Company Bid Reference: _____

Bidder's proposal must be based on full compliance with the terms, conditions and requirements of the RFP and all future clarifications and/or amendments. The bidder may offer variations in specific implementation and operational details provided that the functional and performance requirements are fully satisfied. In case of conflict between the compliance statement and the detailed evidence or explanation furnished, the detailed evidence/comments shall take precedence/priority for the actual determination of compliance. Minor or non-substantial deviations may be accepted. Substantial changes shall be considered non-responsive.

Enclosure 3: Past Performance Information Form

Company is required to submit minimum of one. Company should be clear about how the company met the requirements of past performance. Reference to a contract must include a detailed description of the work performed relevant to the requirements outlined in the SOW. Generic or Vague references to the contract awarded without clear connection to work performed will be disqualified

(a) Contracting Entity:

(b) Contract No:

(c) Type of Contract (Firm Fixed Price, IDIQ, Requirements):

(d) Title of Contract:

(e) Description of Work Performance and Relevance to Current Acquisition (Type of facility, capacity, estimated patronage, summary of staff used):

(f) Contract Dollar Amount:

(g) Period of Performance:

(h) Name, Address, Fax and Telephone No. of Reference:

(i) Indicate Whether Reference Acted as Prime or Sub-contractor:

(j) Comments regarding compliance with contract terms and conditions:

(k) Complete Contact Information for client:

(l) Permission to contact client for reference: Yes / No

Name/Signature of Authorized Company Official:

This Enclosure is designed to assist the respective company provide HQ SACT with all necessary documents/information required. For clarification, please refer to bidding instructions in part 1 of subject solicitation.

Enclosure 4 – Mandatory Price Proposal Excel Spreadsheet

Pricing shall be submitted using the excel workbook provided. Bidders may elect to submit a PDF proposal for pricing **in addition to the required excel workbook.**
Proposals not submitted in the proper format will not be considered.

Formulas have been added for convenience; however, it is the company's responsibility to ensure that the formulas are correctly reflecting your expected bid proposal value.

ANNEX A: STATEMENT OF WORK (SOW)

Contract Support to Headquarters Supreme Allied Commander Transformation (SACT) for the Force Lethality Enhancement eXtended (FLEX) Modelling and Simulation Study

Introduction

Headquarters Supreme Allied Commander Transformation (HQ SACT) was activated on 19 June 2003 to be NATO's agent for change, leading the continuous improvement of Alliance capabilities to uphold NATO's global security interests.

Background and Scope of Work.

Allied Command Transformation (ACT) is initiating Force Lethality Enhancement eXtended (FLE(X)), building upon the outcomes of the initial FLE study conducted in 2025. FLE focused on identifying novel options to deliver NATO Defence Planning Process (NDPP) Capability Targets (CT) in whole or in part. FLE(X) broadens the scope to include exploratory questions that look at the evolving operational problem sets that drive requirements and then CT. FLE(X) aims to identify new ways and means of achieving operational effects and to accelerate the translation of innovation into operational capabilities.

FLE(X) will explore how the rapid adoption of new and emerging technologies, including robotics, autonomy, artificial intelligence, advanced networking, and precision-strike systems, can enhance the lethality of the NATO force and improve survivability, agility, sustainability and affordability. The studies will seek to deliver evidence-based insights that can support national decision-making on capability options and inform future NATO capability development including force-design activities.

The contractor will provide analytical support through mission analysis, modelling and simulation, and structured evaluation of operationally relevant use-cases to identify credible opportunities for enhancement. This work will form part of a broader evidence base developed by ACT and participating Allies to inform the transformation of the Alliance's military instrument.

FLE(X) Part B will commence with three research studies identified by SACT as key areas for near-term force enhancement:

- Suppression of Enemy Air Defence (SEAD), Stressing and Degrading Adversary Systems
- Space-Enabled Persistent Air and Missile Detection
- Integrated Air and Missile Defence (IAMD): Pursuing an Advantageous Cost-Exchange Balance

Type of Contract and Period of Performance.

a. **Type of Contract.** This is a Firm Fixed Price (FFP) deliverables contract

b. **Period of Performance.** 1 May 2026 – 31 July 2026 based on the Statement of Work Deliverables' schedule.

Tasking and Deliverables

Tasking

The contractor shall perform tasks/functions, complete and submit deliverables to be approved by the COTR and submit periodic reports.

Approach

Building on the background and scope of work described in paragraph 2 of this Annex, the contractor will conduct analytical work to support the initial phase of FLE(X). This includes the derivation of operational use-cases, associated mission analysis, modelling and simulation, and structured evaluation guided by the research questions identified by SACT.

The contractor shall:

- develop and use unclassified scenarios representing NATO and Allied operations to assess and measure the outcomes.
- document all assumptions, data sources, and methodologies to ensure transparency and reproducibility.
- identify alternative means and approaches (solutions) that prioritize interoperability to deliver required effects, potentially using Emerging and Disruptive Technologies (EDT) that enhance the lethality of the NATO force and improve survivability, agility, sustainability and affordability;
- apply appropriate analytical tools and validated data to quantify the operational benefits, risks, and trade-offs of using the potential solutions;
- present findings as a set of evidence-based options, including cost, manpower, industrial, and timeline implications.

The contractor shall maintain close coordination with ACT staff and designated subject-matter experts throughout the project, participating in periodic review meetings and workshops to validate findings and refine analytical priorities.

The Contractor can propose adjustments to improve the research questions in terms of focus, and scope. Such proposals and any resulting change to deliverables will need to be agreed by the COTR and Contracting Officer.

Research Topics

The following research questions define the specific areas to be assessed and analysed under this Statement of Work:

Suppression of Enemy Air Defence (SEAD), Stressing and Degrading Adversary Systems

Why and What

1. The purpose of this research is to assess how NATO can transition from a predominantly exquisite, stand-off SEAD model to a complementary stress-and-degrade approach that combines decoys, autonomous teaming, stand-in capabilities and multi-domain convergence (cyber, space and electromagnetic warfare). The study will evaluate integrated architectures and operationally relevant use cases, rather than individual platforms, to generate persistent SEAD pressure, disrupt adversary sensing and engagement chains, and create windows of opportunity for Allies' forces.

2. The research will employ unclassified, realistic scenario-based mission analysis supported by modelling and simulation to compare options, trade-offs and cost-sustainability implications. Options identified shall be realistic, interoperable and implementable by Allied forces within approximately five years. Outcomes are intended to inform national decision-making and capability development. The study will not define detailed acquisition programmes or system-level designs.

Capability Options for Nations

3. Research must focus on modular, high-capacity options (TRL 7+) that allow Nations to scale their SEAD contributions quickly, potentially including:

a. Low-Cost Decoys & Attritables. High-volume, expendable systems designed to saturate adversary sensors and impose missile expenditure dilemmas.

b. Mothership & Autonomous Teaming. Utilizing existing transport or fighter aircraft as launch platforms for swarms of autonomous drones.

c. Multi-Domain Convergence. Integrating non-kinetic effects (cyber and electromagnetic operations) to blind or confuse defensive nodes without firing a shot.

d. AI-Enabled Kill-Webs. Automated target prioritization that matches the most cost efficient and effective SEAD effector to the target area.

Systems to be Augmented or Replaced

4. This research assesses how novel, distributed approaches can complement, enhance or replace legacy requirements including:

a. Exquisite Stand-off Effectors. Reduces the "expenditure rate" of high-cost, limited-stockpile cruise missiles and platforms.

b. Crewed Penetrating Aircraft. Replaces high-risk crewed sorties into Surface-to-Air Missile (SAM) rings with autonomous "stand-in" assets.

c. Single-Domain Electronic Warfare (EW). Moves from isolated jamming pods to a synchronized, multi-domain disruption web.

Explicit Research Questions: The Benefit Perspective

5. Lethality & Capacity. What decoy-to-shooter ratio is required to physically exhaust an adversary's magazine, and how does this increase overall coalition mission success?

6. Affordability & Mass. What is the cost-exchange ratio of using expendable autonomous and/or decoy systems versus losing a manned platform or using exquisite stand-off weapons?

7. Personnel Safety. In high-threat environments, to what extent can human-in-the-cockpit exposure be reduced by utilizing autonomous stand-in SEAD?

8. Operational Persistence. How can mothership concepts provide operational windows rather than one-and-done missile strikes?

9. Multi-Domain Impact. To what extent space, cyber, and other EW effects can reduce the kinetic requirement to neutralize an Integrated Air Defence System (IADS) node?

Analytical Focus & Required Outputs

10. The final report must deliver a structured set of implementable capability options based on the following metrics:

a. Cost-Benefit Matrix (Cost per Target Suppressed). A quantitative comparison of traditional SEAD strikes vs. autonomous/decoy-heavy saturation strategies.

b. Attrition & Survivability Modelling. Simulations showing how autonomous stand-in platforms reduce loss rates for manned assets.

c. Manpower & Training Assessment. An analysis of the personnel requirements to operate distributed drone swarms vs. traditional specialized SEAD squadrons.

d. Implementable Capability Menu. A set of options, interoperable across Allies and alongside existing platforms for Nations defining:

i. Rapid Adoption Paths. How Allies can add SEAD mass to the Alliance within 5 years.

ii. Burden-Sharing Models. How smaller Allies can provide high-volume decoys or EW plug-ins to support shooters offered by larger Allies.

iii. Industrial Scalability. The ability to mass-produce these systems during a protracted conflict.

iv. Governance & Autonomy Framework. Clear recommendations about human-on-the-loop oversight for autonomous SEAD teaming.

Space-Enabled Persistent Air and Missile Detection

Why and What

1. This research, modelling and simulation study aims to identify space-based sensing options that enhance and integrate with existing air, maritime and ground systems. The objective is to facilitate the transition from fragmented legacy surveillance to a multi-domain sensing architecture that provides real-time detection and tracking of aircraft and missiles. The study will identify realistic options for broader Allied participation and contribute to securing decision advantage by enabling NATO to out-pace and out-manoeuvre adversaries in contested environments.

2. The objective is to facilitate the transition from fragmented legacy surveillance to an integrated, distributed architecture that enhances detection persistence, continuity of tracking and detect-to-effect timelines in contested and degraded environments. The study will identify realistic, interoperable and implementable capability options that lower the cost of entry, and enable broader Allied participation. Options identified shall be realistic, interoperable and implementable by Allied forces within approximately five years The study will not define detailed acquisition programmes or bespoke system designs.

Capability Options for Allies

3. Research must focus on realistic, implementable options (TRL 7+) that allow for broad Allied participation:

a. Distributed Architectures. Moving from "exquisite" single satellites to proliferated Low Earth Orbit (pLEO) constellations.

b. Public-Private Integration. Leverage commercial hosted payloads and dual-use data to lower the cost of entry, while maintaining the necessary information classification level.

c. Burden-Sharing Models. Identifying multinational investment frameworks that allow all Allies to contribute.

d. Resilience via Reconstitution. Prioritizing the ability to rapidly replace (including production capacity and launch cadence) low-cost assets over the expensive hardening of a few high-value targets.

Systems to be Enhanced or Replaced

4. The study includes evaluating how space-based assets can offload or replace:

a. High-Risk Crewed Platforms. Reducing reliance on legacy Airborne Warning and Control System (AWACS) and Airborne Early Warning (AEW) aircraft in contested no-go zones.

b. Static Terrestrial Sites. Supplementing ground-based radars vulnerable to terrain masking and kinetic strikes.

c. Human-Intensive Data Loops. Replacing manual fusion processes with automated, space-linked C4ISR or C5ISTAR systems.

Research Questions and Benefit Perspective

5. Lethality & Effect. How does space-based sensing shorten the detect-to-effect timeline and increase the precision and effectiveness of current weapon systems?

6. Survivability. Which pLEO architectures provide the most graceful degradation and resilience against kinetic, cyber and electronic warfare attacks?

7. Affordability. What is the lifecycle cost comparison (and potential savings) between maintaining a crewed or uncrewed AEW fleet versus a shared, proliferated space constellation, including projected service life and replacement, and initial capital expenditures?

8. Personnel Requirements. To what degree can automated space sensing reduce specialized aircrew and maintenance footprints, and what are the associated training and sustainment cost implications?

9. Technical Synergy. Which sensor combinations (Infrared, Radar, Optical, and others) offer the highest performance-to-cost ratio for tracking low-observable/hypersonic threats?

Analytical Focus & Required Outputs

10. The final report must provide a quantitative and qualitative assessment of the following:

a. Benefit-Driven Scenario Analysis. A comparison of mission success rates, lethality, and survivability using space-integrated models vs. current legacy architectures.

b. Cost-Effectiveness Matrix. A breakdown of Cost per Square Kilometer of Coverage, comparing orbital assets against traditional airborne sensors.

c. Personnel & Sustainment Impact. A formal assessment of the potential to reduce human-in-the-loop requirements through automated data fusion and orbital persistence.

d. Implementable Capability Options. A set of interoperable options for Allies that define:

i. Financial Entry Points. Scalable investment levels for different Allies.

ii. Governance & Sovereignty. Models for data-sharing and national control.

iii. Timeline to Deployment. Paths to operational capability within five years.

iv. Risk & Reconstitution Trade-offs. An assessment of the cost-benefit of Rapid Reconstitution (launching new satellites) versus traditional Asset Protection strategies.

Integrated Air and Missile Defence (IAMD): Pursuing an Advantageous Cost-Exchange Balance

Why and What

11. This research aims to address the fundamental economic and operational asymmetry inherent in Integrated Air and Missile Defence (IAMD). The current reactive posture relies on high-cost interceptors to defeat increasingly low-cost, mass-produced threats, creating an unsustainable cost-exchange ratio under expected saturation attacks. The study will determine how offensive–defensive integration and the ingenious use of new and affordable technologies[1] can create an advantageous cost-exchange balance; also ensure sustainability; and achieve defined kill probabilities and asset survival in high-intensity conflict.

Capability Options for Nations

12. Research shall focus on options that are realistic, interoperable and implementable by Allies within approximately five years, and that support Allies' efforts to achieve IAMD mission effectiveness and sustainability, including:

a. Layered Cost-Effective Interception. Integration of lower-cost interceptors, proximity-based defeat mechanisms and other innovative effectors to preserve high-end kinetic effectors for high-value threats.

b. Directed Energy Integration. Assessment of laser and other directed-energy systems as near-infinite magazine alternatives to kinetic interceptors for short-range and massed threats.

c. Offensive–Defensive Convergence. Linking defensive sensors to counter-launch and counter-battery strike options to neutralize launchers before repeat fires.

d. Any-Sensor, Best-Weapon Architecture. Networked allocation logic that matches the most cost-effective effector (missile, laser, EW or cyber effect) to each threat, based on probability of kill and cost per engagement.

e. Arsenal Resilience & Industrial Surge. Evaluation of stockpile depth, production scalability and reconstitution timelines under protracted conflict conditions.

Systems to be Augmented or Optimized

13. The study shall assess how proposed options can supplement or optimize:

[1] Including alternative effectors and multi-domain sensing.

a. High-Cost Kinetic Interceptors. Reduce expenditure rates of Patriot-, Standard Missile (SM)-class and equivalent interceptors against low-end threats.

b. Static Defensive Architectures. Enhance survivability of homeland and forward-deployed IAMD networks under sustained attack.

c. Reactive Engagement Logic. Transition from purely defensive shielding to dynamic offensive–defensive integration.

Research Questions: The Cost-Sustainability Perspective

14. Cost-Exchange Optimization. What types of sensors needed to categorize targets and enable the determination of appropriate effectors? What is the optimal mix of kinetic, directed-energy and non-kinetic effects required to minimize campaign cost while sustaining defined kill probabilities? How does the addition of novel effectors influence shot doctrine or high-cost interceptors?

15. Magazine Sustainability. At what saturation threshold does interceptor depletion become operationally decisive, and how can layered alternatives delay or prevent this tipping point?

16. Temporal Trigger Point. When should IAMD transition from reactive interception to offensive counter-launch strikes to maximize asset survival and minimize fiscal depletion?

17. Industrial & Production Constraints. How do the production timelines of high-cost interceptor and innovative effectors compare to adversary munition production rates in protracted conflict?

18. Operational Scaling. How can offensive–defensive integration scale from local theatre defence to continental-level homeland protection architectures?

Analytical Focus & Required Outputs

19. The final report shall provide quantitative and qualitative assessment including:

a. Multi-Domain Campaign Simulation. Modelling of persistent saturation attacks comparing purely defensive postures versus integrated offensive–defensive strategies.

b. Cost-Per-Engagement Matrix. Comparative analysis of cost per threat defeated across kinetic, directed energy and non-kinetic options.

c. Magazine Depletion Modelling. Simulation of stockpile exhaustion timelines under varying attack densities and resupply rates.

d. Implementable Capability Options. A structured set of interoperable options for Allies defining:

i. Scalable investment models for layered defence integration.

ii. Directed-energy integration pathways within five years.

iii. Offensive–defensive command and control requirements.

iv. Industrial surge and reconstitution trade-offs.

ANNEX B

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Requirements Matrix

1. Contractor's technical proposals will be assessed on the qualifications of the company and the proposed team to perform the work. Teams will be measured against each of the criteria specified below to ascertain whether the team qualifications are considered compliant. **Scores cannot be assumed to be a one for one calculation. Scores will be assigned within a range based on the number of years, relevancy of experience, level of experience, depth of experience, etc.** (HQ SACT reserves the right to conduct technical discussions for clarification). Examples of how detailed knowledge levels were attained are expected.

Compliance Matrix

Item	Compliant	Non-Compliant
1. Key personnel supporting development must be citizens of NATO member nations.		
2. Personnel Expertise. The qualifications and experience of the personnel proposed must include a background in senior security and defence roles.		
3. Past Performance. At least one past performance citation within the last five years. The citation must show that work that is similar to or directly traceable to the requirements outlined in this SOW has been successfully completed.		
4. Access to data. Must have access to data that is fit for purpose (validated, authoritative and reliable) to support strategic decisions and force comparisons.		
5. Contractor company is Headquartered within a NATO member nation.		

Best Value Criteria Matrix

Item	Range		Score (100 pts possible)
1. NATO Experience. Recognized for conceptual soundness and strategic depth in analysis of military posture, plans structures, forces and capabilities from both a NATO and adversaries' perspectives.	<1yrs = 0 (Non-compliant) 1yrs< &<4yrs =1-10 points 4yrs< =11-15 points		
2. Work that demonstrates critical and creative military thinking that questions assumptions, challenges conventional wisdom, and is not subject to cognitive biases. Work that develops innovative, non-obvious approaches and solutions to complex problems.	<1yrs = 0 (Non-compliant) 1yrs< &<4yrs =1-10 points 4yrs< =11-15 points		
3. Military strategic, operational and tactical level analysis experience and the ability to integrate doctrine, logistics, cost, and risk into force options. (include references)	<2yrs = 0 (Non-compliant) 2yrs< &<4yrs =1-10 points 4yrs< =11-20 points		
4. Experience in modelling and simulation and data analysis. Expert knowledge of the relevant M&S tools to assess lethality, performance and survivability in specified mission areas. The contractor must know the models' limitations, biases, and data requirements.	<1yrs = 0 (Non-compliant) 1yrs< &<3yrs =1-10 points 3yrs< =11-15 points		
5. At least 1 analyst (contractor staff) with considerable experience in warfare capabilities in each of the Maritime, Land, Air, Space and Cyber Domains.	<1yrs = 0 (Non-compliant) 1yrs< &<4yrs =1-10 points 4yrs< =11-15		

	points		
6. Experience with metrics Development. Experience in defining clear, quantifiable Measures of Effectiveness (MOEs) that link force structure elements directly to mission outcomes.	Yes = 1-5 points No = 0 points (Not a disqualifier)		
7. Number of successful completions of similar types of projects/analyses delivered to NATO or NATO- member(s) after 2020 (Customer references)	<1 =0 (non-compliant) 1< &<3 =1-10 points 3<=11-15 points		