

**Headquarters Supreme Allied Command Transformation Norfolk,
Virginia**



REQUEST FOR INFORMATION

RFI-ACT-SACT-24-76

This document contains a Request for Information (RFI) call to industry, academia and nations for their input to NATO's requirement for testing the implementation and performance of (Data Driven Decision Making).

Industry, academia and nations wishing to respond to this RFI should read this document carefully and follow the guidance for responding.

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General Information	
Request For Information No.	24-76
Project Title	Data Driven Decision Making, including situational awareness
Due date for questions concerning related information	5:00 pm EST 15 Jul 2024
Due date for submission of requested information	5:00 pm EST 29 Jul 2024
Contracting Office Address	NATO, HQ Supreme Allied Commander Transformation (SACT) Purchasing & Contracting Suite 100 7857 Blandy Rd, Norfolk, VA, 23511-2490
Contracting Points of Contact	<p>Ms. Tonya Bonilla E-mail: tonya.bonilla@act.nato.int Tel: +1 757 747 3575</p> <p>Ms. Catherine Giglio E-mail: catherine.giglio@act.nato.int Tel: +1 757 747 3856</p> <p>Mr. Laurent Munter E-mail: Laurent.munter@act.nato.int Tel: +1 757 747 3861</p>
Technical Points of Contact (address all in correspondence)	<p>Name: Dr. Henrik Heidenkamp E-mail : henrik.heidenkamp@shape.nato.int</p> <p>Name: Mr. Patrick De Laere E-mail: Patrick.delaere@shape.nato.int</p> <p>Name: LTC Rene Landreau and Mr. Warren Low e-mail : rene.landreau@act.nato.int and warren.low@act.nato.int</p>
All request for clarifications, questions and responses to this RFI must be sent via email to all Points of Contact reported above. Individual emails will not be accepted and should not be sent. Contracting and Technical POCs must be included in any correspondence.	

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1. INTRODUCTION

Headquarters Supreme Allied Commander Transformation (HQ SACT) is issuing this Request for Information (RFI) in order to engage with industry and academia on state of art support to military decision making to support decision making across multiple operational domains in collaboration with non-military instruments of power, The engagement will be a joint effort between Allied Command Transformation and Allied Command Operations for this RFI. The intention is to evaluate what could be immediately available, the art-of-the possible and state-of-the-art with respect to systems, products, services, technologies, and methodologies pertaining to data-driven decision making. The obtained knowledge will help NATO to appropriately facilitate and support an accelerated process for the rapid deployment of such digital science solutions. ACO are interested in what is immediately available and ACT for the medium and longer term evolution of such capabilities in order to create increasing MDO capable NATO Alliance.

This is an RFI ONLY. This RFI DOES NOT constitute a current RFP nor a commitment to issue a future RFP, nor does it constitute the commencement of any other type of procurement process. Therefore, those choosing to respond to this RFI will not, merely by virtue of submitting such a response, be deemed to be "bidders" in any sense, and no such respondent will have any preference, special designation, advantage or disadvantage whatsoever in any subsequent procurement process related. HQ SACT is not seeking proposals at this time; therefore, HQ SACT will not accept unsolicited proposals in respect to this RFI.

Further, respondents are advised that HQ SACT will not pay for any information or administrative costs incurred in responding to this RFI. The costs for responding to this RFI shall be borne solely by the responding party. Not responding to this RFI does not preclude participation in any subsequent Request For Proposal (RFP), if issued in the future.

The purpose of this request is to involve industry through collaboration, in an examination of future capabilities related to the implementation of Data-Driven Decision Making capabilities.

All information shared with HQ SACT & SHAPE might be shared with contracted third parties in order to support the capability development process as needed. Provision of data, or lack of, will not prejudice any respondent in the event that there is a competitive bidding process later as part of NATO Common-Funded Capability Development.

2. REQUESTED INFORMATION

This is not a formal request for submissions as part of a procurement; but rather a general request intended to determine whether any possible solutions exist that should be included in one or many alternatives during the development.

3. PROJECT DESCRIPTION

3.1. Background

3.1.1. NATO transition to MDO enabled Alliance is a multi-pronged effort that includes full integration of the Space and Cyberspace operational domains; second bringing in the cognitive domain; and the non-military instruments of power in order to support conduct decision making. The need for systems that incorporate these aspects will be critical in order for NATO commanders to conduct operations and achieve effects, decisive conditions and objectives, at strategic, operational and tactical levels. Incorporation of space and cyberspace domain functionality and data with existing or new systems should provide a cohesive set of services that provide warfighters with abilities to operate effectively exploiting all military domains in conjunction with other non-military instruments of power and cognitive environments. The importance of situational awareness to support shared understanding and ultimately decision making is particularly important as a force multiplier. The rapid introduction of capabilities in the short term and then to support requirements development for medium term NATO MDO enablement is being sought.

3.2. Vision

3.2.1. NATO accelerates the deployment of modern digital solutions for enhanced data-driven decision-making, including situational awareness. This is required in order to provide an essential component of the digital enablement of Allied Command Operations and to NATO progressing towards a Multi-Domain Operations capable alliance. The vision behind this RFI is to complement and inform ongoing efforts for the enhancement of data-driven decision making. Hereto it is essential to understand what is immediately available, state of the art, art of the possible, and future developments with respect to systems, products, services, technologies, and methodologies pertaining to data-driven decision making, including situational awareness.

3.2.2. In this increasingly diverse, complex, quickly evolving, and demanding operational environment, the NATO Enterprise and the Alliance need to enhance their ability to operate across multiple domains to effectively prevent, detect, counter and respond to the full spectrum of threats using all available tools necessary, alongside relevant civilian and military stakeholders. This includes the development and maintenance of MDO related capabilities delivered through changes in doctrine, organization, training materiel, leadership, personnel, facilities, and interoperability.

3.3. Objectives

3.3.1. Receive responses to a set of questions in order to assess industry and academia immediately available and/or future systems, products, services, technologies and methodologies pertaining to data-driven decision making, including situational awareness applicable to the military environment. This RFI is interested in information about materiel and non-materiel digital science solutions in support of data-driven decision-making. HQ SACT information needs, surveyed with a questionnaire provided at Appendix 1, include but are not limited to:

3.3.1.1. Systems, products, services, applications (and their functionality),

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interfaces, data, and dependencies on hardware, facilities, and infrastructure;

3.3.1.2. Processes, personnel, and organizational nodes required to operate and manage the solutions;

3.3.1.3. Technologies and technical standards (open, proprietary).

3.3.1.4. Availability, readiness, and feasibility of Industrial and Academic solutions

3.3.2. Seek industry participation in demonstrating state of the art technology at a display event at SHAPE planned for Q3/Q4 2024, subject to SHAPE Command Group and HQ SACT approval that could inform operational users in data driven decision making including situational awareness.

3.3.3. Selection Criteria. HQ SACT and SHAPE in coordination with other NATO entities will review responses to questions to qualify and rank applying industry for selection for display at SHAPE, as stated in section 3.3.2 planned for Q4/2024. The selection criteria are outlined here:

3.3.3.1. Ability to support Data Centricity and Artificial Intelligence. The solution provide the ability to exploit data in operationally relevant fashion to provide situational awareness and decision making in novel ways. The warfighter is given decision superiority based on the outcomes enabled.

3.3.3.2. Ability to advance User Interface/Customization: The solution will be used at Strategic HQ level, but also the ability of integrating the command and control nodes collectively to operate off the same pane of glass and to improve the decisions making process. User configurable outputs that can be adapted with doctrine changes will be very useful. Consistency, simplicity and short time to familiarization are important aspects to be considered.

3.3.3.3. Ability to contribute to interoperability and advance security: The ability of the solution to consume and provide information in standardized formats (e.g. Standardization Agreements) that are aligned with NATO programs like Federated Mission Networking Spiral Specifications 9f applicable). Secure systems design that utilize zero trust and Data Centric Security concepts.

3.3.3.4. Operational Design requirements: iterative and incremental design and configuration. High availability services for extended periods of time.

3.3.3.5. Service provisioning and Operations and Maintenance: sensors, autonomous devices, security, data standards

3.3.3.6. Organizational Perspectives: Experience with military customers and in particular multi-national environments.

3.3.3.7. Resources: Costs for investment, operations and maintenance including personnel to operate the solution.

3.4. Expected Benefits to Respondents

3.4.1. Industry and Academia participants will have the chance to display and introduce their state-of-the-art systems, products, services and technology in the data-driven decision making area of interest. Present/future developments,

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evolutions of current offerings and expose visions of advances to be made with data driven decision making with application to the military environment.

3.5. Expected Benefits to NATO

3.5.1. Exposure to, and understanding of, current, emerging, and future solutions in data-driven decision making, including situational awareness area of interest.

4. REQUESTED INFORMATION

4.1. The response(s) to this RFI shall be submitted by e-mail.

Submissions must include both the Contracting and Technical POCs listed on page 2. HQ SACT reserves the right to seek clarification on submissions.

4.2. Eligibility to Respond:

Only NATO Nations, Industry and Academia that originate or are chartered/incorporated within NATO Nations are eligible to respond to this RFI. Companies from Partner Nations who want to participate should collaborate with a primary company headquartered within a NATO Nation.

4.3. Response Template:

4.3.1. Provide name, mailing address, overnight delivery address (if different from mailing address), designated point of contact (phone number, e-mail).

4.3.2. Respondents can collaborate with other providers, but all companies/organizations must be clearly identified and their role/services clearly stated.

4.3.3. Response should include at a minimum, responses to the questionnaire within the Excel workbook. Please respond to each question and do not disclose any classified information. Please see Appendix 1 for the questions.

4.3.5. In addition to the responses to questions, any available product brochures, specification sheets, photographs, illustration and technical descriptions that describe your company's current services are welcome. Companies are encouraged not to include marketing informational materials that do not relate to the requested items described in this RFI as it will be discarded; however, responses may include URL links to technical documentation materials (i.e., technical data sheets for products) are welcome.

4.3.7. The document should be single-spaced, have one-inch margins, assume US letter-size (8 1/2 by 11 inches) or European A4 page, use 12-point font, and be formatted for compatibility with Adobe Acrobat Reader (current versions).

4.3.8. Submissions should be named according to the following convention:
<Respondent company name; maximum of 12 characters>_DATA DRIVEN

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DECISION MAKING_<date in YYYYMMDD format>.PDF. d

4.3.9. Responses shall not be classified above NATO UNCLASSIFIED.

4.3.10. The information may be considered in developing any future potential Statement of Work requirements. HQ SACT will consider selected information for developmental contracts and experimentation candidates.

4.4. Price Estimates

HQ SACT seeks non-binding Rough Order Magnitude (ROM) price estimates for the sole purpose of estimating programmatic costs and planning funding for future programme proposals/bids. Provision of data, or lack of, will not prejudice any respondent in the event that there is a competitive bidding process later as part of NATO Common Funded Capability Development.

4.5. Response Due Date

Responses to this RFI must be received by **5:00 p.m. EST on 29 July 2024.**

5. CLARIFICATIONS AND QUESTIONS

Inquiries of a technical nature about this RFI shall be submitted by e-mail solely to the aforementioned POCs. Accordingly, questions in an e-mail shall not contain proprietary and/or classified information. Answers will be posted as soon as possible on the HQ SACT P&C website at: <https://act.nato.int/contracting>.

All questions should be submitted by **15 Jul 2024** to allow for appropriate response time prior to the response due date.

6. ADDITIONAL INFORMATION

6.1. Non-disclosure Principles and/or Non-disclosure Agreement (NDA) with Third Party Company.

6.1.1. Please be informed that HQ SACT may contract a company to conduct investigation in support of this project. HQ SACT will follow nondisclosure principles and possibly conclude an NDA with other entities involved to protect submitted information from further disclosure. As the third party beneficiary of this nondisclosure, this RFI serves to inform you how HQ SACT plans to proceed and intent to protect information from unauthorized disclosure. This requires all entities handling the provided information to protect the disclosed information using the highest degree of care that the company utilizes to protect its own Proprietary Information of a similar nature, and no less than reasonable care.

6.1.2. The entities handling the received the information shall not, without explicit, written consent of HQ SACT:

- a) Discuss, disclose, publish or disseminate any Proprietary Information received

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or accessed under nondisclosure principles and subject to an NDA, if an NDA is concluded;

b) Use disclosed Proprietary Information in any way except for the purpose for which it was disclosed in furtherance of the goals of the instant project, collaboration, activity or contract; or

c) Mention the other party or disclose the relationship including, without limitation, in marketing materials, presentations, press releases or interview.

6.2. Organizational Conflicts of Interest.

As Procurement/Contracting involves the expenditure of funds allocated by the member nations, we must always strive to maintain trust in and preserve the integrity of the procurement procedures. It is essential that our procedures facilitate transparent and robust competition from industry.

Contractor and subcontractor personnel performing work under an HQ SACT contract may receive, have access to, or participate in the development of sensitive information relating to source selection methodology, cost or pricing information, budget information, and future specifications, requirements or Statements of Work or perform evaluation services that may create a current or subsequent Organizational Conflict of Interests (OCI). Similarly, companies responding to an HQ SACT RFI may create a subsequent OCI determination when pursuing future NATO contracts generated from that RFI.

Each individual contracting situation will of course be examined on the basis of its particular facts and the nature of any proposed contract. The exercise of common sense, good judgment, and sound discretion is required in both the decision on whether a significant potential conflict exists and, if it does, the development of an appropriate means for resolving it.

In anticipation of a future OCI determination, any company either awarded an HQ SACT contract or responding to an HQ SACT RFI while also anticipating bidding on future NATO contracts relating to this work, should consider having a mitigation plan in place to address or mitigate any OCI concerns now or in the future.

6.3. Handling of Proprietary Information

Proprietary information, if any, should be minimized and clearly marked as such. HQ SACT will treat proprietary information with the same due care as the command treats its own proprietary information. HQ SACT will exercise due care to prevent its unauthorized disclosure. Please be advised that all submissions become HQ SACT property and will not be returned.

6.4. Exceptions to Obligations. The entities receiving the information may disclose, publish, disseminate, and use Proprietary Information:

a) To its employees, officers, directors, contractors, and affiliates of the recipient who have a need to know and who have an organizational code of conduct or written

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agreement with the recipient requiring them to treat the disclosed Proprietary Information in accordance with nondisclosure principles and the NDA (if executed);

b) To the extent required by law; however, the company receiving the information will give HQ SACT prompt notice to allow HQ SACT a reasonable opportunity to obtain a protective order or otherwise protect the disclosed information through legal process that is:

- demonstrated in written record to have been developed independently, or
- already in the possession of the company receiving the information without obligation of confidentiality, prior to the date of receipt from HQ SACT, or
- disclosed or used with prior written approval from HQ SACT, or
- obtained from a source other than HQ SACT without obligation of confidentiality; or publicly available when received.

6.5. Any response to this RFI is considered to establish consent to this process. A copy of the NDA, if or when concluded, can be provided on request.

7. SUMMARY

This is a RFI only. The purpose of this RFI is to involve industry and academia through solicited collaboration, for their input to NATO's requirement for examining data drive decision making, including topics such as (but not limited to) decision support systems and situational awareness with a focus on related systems, products, services, technologies, methodologies, and engineering practices. HQ SACT hereby does not make any commitment to procure any of the items described herein, and release of this RFI shall not be construed as such a commitment, nor as authorization to incur cost for which reimbursement will be required or sought. **It is emphasised that this is a RFI, and not a RFP of any kind.**

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APPENDIX:

1. RFI-ACT-SACT-24-76 - QUESTIONNAIRE

1. Instructions

1.1. Respondents to the Request for Information (RFI) should complete the questionnaire within the Excel workbook provided at the HQ SACT contracting website at www.act.nato.int/contracting. Please respond to every question.

1.3 Features of Interest:

1.3. HQ SACT may contact some of the participants to clarify the ambiguities about their responses.

2. Questions

Overview:

2.1. What is/are the name(s) of your digital science solution(s) to support Allied Command Operations' (ACO) and NATO's data driven decision making?

2.2. Please give a brief overview of your solution architecture. If possible, please include The required information (e.g. architecture diagram) and description on high level solution including main constituents and the interactions with external systems.

Data Centricity and Artificial Intelligence:

2.3. Can your solution's data fabric be deployed onto a military approved public/private/hybrid cloud and/or IT infrastructure environment?

2.4. Please describe your solutions' major relationships, dependencies, and interfaces with other relevant systems and data pertaining to data-driven decision making?

2.5. Can your solution integrate data from existing military (e.g. NATO) command and control systems and enable manual data inputs for non-automated processes?

2.6. Can your solution generate smart battlespace objects for different hostility status with tiered classification tailored to the user's classification authority?

2.7. Can your solution employ deterministic and Artificial Intelligence-enabled tools to find relevant relationships between authoritative data on assigned and derived entities, as well as environmental inputs?

2.8. Is your solution Artificial Intelligence-enabled to refine simulation models based on course of action (CoA) iterations and engagement outcomes?

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- 2.9.** Can your solution provide access to allow NATO entities to modify/manipulate data outputs/processes to connect to new NATO data sources using an application programming interface (API)?
- 2.10.** Does your solution provide an entity library that can be referenced for/drawn from Application Programming Interfaces (API) tools?
- 2.11.** Does your solution offer a simulation/wargame tool to exist in a NATO approved cloud Environment/IT infrastructure to support Operations Planning, and Command and Control during the Operations Process with live readiness posture of Alliance formations?
- 2.12.** Is your solution able to ingest authoritative, live data sources, including warfighting function information and doctrinal guidance?
- 2.13.** Does your solution provide editable tables/inputs for doctrine, orders of battle, and correlation of forces and means?
- 2.14.** What data analytics techniques are employed in your solution to enhance situational awareness and decision-making processes? (e.g. retrospective playback, predictive play forward of the battlespace)
- 2.15.** Does your solution allow for the incorporation of real-world terrain data?
- 2.16.** Does your solution provide the ability to analyse results and data developed from simulations and wargames and highlight novel victory/defeat conditions from batched wargame series?
- 2.17.** Can your solution implement Commanders' Critical Information Requirements and other rules for thresholds to prompt notifications to battle staff?
- 2.18.** Is the provision of data, products and services in your solution automated or manual (human resourced)?
- 2.19.** Are there any limitations on the number of sources that your solution can exploit information from? If yes, what is the maximum number and please explain if there are other concerns in the comments column.

User Interface/Customization

- 2.20.** Does your solution offer the ability for vertical multi-user distributed utilization across different military and non-military entities supporting military operations?
- 2.21.** Does your solution provide a constructive engagement suite that resolves combat actions in a predictive and real-time fashion, utilizing authorized data integration solution input?
- 2.22.** Does your solution allow for the configuration of user generated solutions to discover more means and methods to automate the collection of authoritative data?

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2.23. What are the key technical capabilities of your product in the domain of MDO Situational Awareness (SA), 2.23.1. How do they address the integration of multiple operational domains (land, air, maritime, space, and cyberspace)?

2.24. Does your solution include a granular correlation of forces and means calculator?

2.25. Can your solution generate Courses of Action based on known and assessed mission variables and doctrinal templates, including friendly and adversary?

2.26. Does your solution offer visualization in a number of formats including, but not limited to geospatial, tabular, relationship diagrams, in a user defined operating picture for the last 24 hours, and up to the next 96 hours based on waged CoAs?

2.27. Does your solution provide an ability to output results in NATO doctrinal warfighting products (Synchronization Matrix, relevant orders, annexes, etc.)?

2.28. Does your solution provide an ability to visualize the mutual support and enemy systems of systems intuitively to inform the visualization and targeting process?

Interoperability/Security:

2.29. Is your solution NATO interoperable? What standards/formats do your solution follow (e.g. STANAG, ISO, MIL-STD, etc.)?

2.30. Is your solution compliant with NATO'S Federated Mission Network spiral specification? If no, please state the reasons in the comments column.

2.31. Is your solution compliant with NATO Security Directives? If not, please state what level of effort would be required to make your solution compliant with NATO Security Directives in the comments column.

2.32. Does your solution provide an ability to export all graphics and warfighting products to compliant with NATO Standards?

Design

2.33. Does your solution allow for iterative and incremental system design and configuration?

2.34. Does your solution deliver 24/7 services? Does the solution provide high availability over extended periods of time? If there are concerns please explain in the comments column.

2.36. Is solution compliant with energy efficiency standards?

Service Provisioning and O&M

2.37. Please provide information on when your proposed solutions could be available and the degree of tailoring required for use by NATO (if not currently available)?

2.38. What is your organisation's estimated timeframe (in terms of months or years) for the

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implementation and sustainment of your solutions for use by NATO? Please take into account, technology refresh cycles for the expected lifespan of this solution. Range estimates are acceptable. If possible, please describe the decomposition and phased development and delivery of your proposed solutions.

2.39. (FOR INDUSTRY ONLY) Would your company/institution be able and willing to provide your solutions (current or developed) as a turnkey solution for NATO, delivered, managed and maintained by yourselves?

2.40. Are there any production or delivery considerations for your solution?

2.41. What is the average lifecycle (e.g. refresh/modification) of your system? Please explain providing detailed Information on the product long term roadmap for evolution.

2.42. Please explain your licensing policy. Do you have an enterprise licensing policy? Do you provide different tiers of license with different functionalities? Do these have different license costs?

2.43. Explain which non-CIS support equipment (e.g. power, transportation, force protection etc.) your solution includes.

2.44. Explain which non-CIS support equipment (e.g. power, transportation, force protection etc.) your solution requires but is not provided in your solution.

2.45. If your solution is in service, where is it used and what types of support does your organisation currently provide for such a solution?

2.46. Please describe the operational context of how your solution is used (e.g. employment scenarios, workflows, use cases, vignettes, or procedures).

2.47. What is the Technology Readiness Level (TRL) of your solution? (Based on EU TRL Definitions)

2.48. What type of products and services can you deliver once a request is processed?

Organizational/Legal Perspectives:

2.49. Explain your organisation's experience and knowledge with data-driven decision making related tools and systems.

2.50. Does your organisation have any previous experience with NATO, a national Government or military? If yes, please explain.

2.51. Please describe any legal and commercial considerations (e.g. Intellectual Property Rights (IPR) availability, licensing restrictions, export controls or National regulations) preventing your solutions use by NATO?

2.52. (FOR INDUSTRY ONLY) What are the most suitable types of contract for working with your company and how is it best to establish them? Please provide diagrams and

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overviews.

2.53. What lead times and conditions would apply for an on-site demonstration of your solution?

2.54. If we have follow on questions, whom do we direct them to? Please provide emails and telephone numbers?

Resources

2.55. What is the investment and annual Operations and Maintenance (O&M) cost for your solution architecture?

2.56. What are the life cycle costs assuming 50, 100, 200, 500, 1000 users?

2.57. What cost, technical, schedule, and programmatic risk areas do you foresee in your solution architecture?

2.58. What types of users, personnel, and organisational framework are required to operate and manage the solution? Please also describe any required skills and training.