Headquarters Supreme Allied Commander Transformation Norfolk Virginia

REQUEST FOR INFORMATION
RFI-ACT-SACT-17-22

This document contains a Request for Information (RFI) Call for Industry input to NATO's future distributed networked systems related to future capabilities for command and control and intelligence, surveillance, and reconnaissance. and the networks which support these functions during a NATO Industry Forum (NIF)-branded working group. Suppliers wishing to respond to this RFI should read this document carefully and follow the guidance for responding.

General Information	
Request For Information No.	17-22
Project Title	Call for industry input to NATO's future distributed network capabilities in the areas of collection, fusion, dissemination and the networks and technologies which support these functions at a workshop to be held in The Hague Jun 7-8, 2017.
Due date for submission of requested information	May 12th, 2017
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1 - INTRODUCTION

1.1   **Summary**. Headquarters Supreme Allied Commander Transformation (HQ SACT) is issuing this Request for Information (RFI) in order t o engage with industry. The intention is to establish the art-of-the-possible and state-of-the-art with respect to technologies for distributed networked systems related to future capabilities for command and control and intelligence, surveillance, and reconnaissance. This engagement is supported by a NATO Industry Forum (NIF)-branded event to be held 7-8 June 2017 in The Hague, NLD.

1.2   There are a number of interrelated areas of examination: Process; Environment, Requirements, Technologies, and Network Design.

Process		
Collect	Assess	Disseminate
Environments		
Benign	Complex / Challenging Contested	Denied
Requirements		
Tactical	Operational	Strategic
Technologies		
Sensors	Fusion Encryption	Storage
Network Design Characteristics		
Centralized	De-centralized	Distributed

1.3   The workshop will use scenarios and guided discussion in order to examine the **Process**, specifically collecting, fusion, and dissemination. Each will be affected by characteristics of a network and technologies:

- Collection: Examination of all-aspect sensor phenomenology[1], with particular emphasis on implications for data management: collection, onwards transmission, and storage.
- Fusion: Ingesting, cataloguing, correlating, corroborating, and discovering in order to extract relevant information to support decision making at the tactical and operational levels.
- Dissemination: the necessity and ability to transmit relevant information to tactical elements in order to deliver information in a useful format.

1.4   The Operational **Environment** which may be benign, complex, contested, or denied.
- Benign: Able to operate without any constraints
- Complex / Challenging: Factors in the environment mean that we operate with constraints, but these constraints result from benign actors or elements
- Contested: Environment contains actors actively working against us; and
- Denied: Adversary prevents access to the environment.

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[1] In this case, physical phenomena (e.g. an object's electromagnetic or optical signature) and their impact on relevant measurement tools (i.e. sensors).

1.5   Future capabilities are designed to meet **Requirements**, which support decision makers. There are different levels of decision makers (tactical, operational, and strategic); different needs for the speed that decisions are required; and different types of decisions to be supported.

1.6   There are changing **Technologies**, for example: sensors; processing moving from on-board to off-board or cloud-based, artificial intelligence; encryption and compression of network traffic; and storage of data including archiving and retrieval.

1.7   Finally there are **Network Design** considerations. There are both topological ones (shapes such as mesh, ring, star, or tree) and characteristics of the distribution of services (centralization versus de-centralization).

1.8   These interrelated areas are the focus to ensure connectivity of systems and provision of information in a timely manner to support decision makers. Specific case studies may be used, for example: the NATO Joint Intelligence, Surveillance, and Reconnaissance (JISR) programme and the Alliance Future Surveillance and Control (AFSC).

1.9   **Disclaimer**. This request for information does not constitutes a commitment to issue a future request for proposal (RFP). The purpose of this RFI is to involve industry through collaboration, in an examination of future capabilities related to the collection, fusion and dissemination of command and control and intelligence, surveillance, and reconnaissance data with a focus on the network capabilities and characteristics which support these activities. HQ SACT has not made a 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. 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 RFP if issued in the future. RFI respondents would be willing to share their technical knowledge, expertise, and observations with NATO and other attendees participating in the working group and are responsible for complying with national laws regarding transferring information within this NATO forum.

2 – GENERAL BACKGROUND: ACT Framework for Collaborative Interaction (FFCI)

2.1 ACT has implemented a Framework for Collaborative Interaction (FFCI) to increase opportunities for industry and academia to contribute to ACT capability development efforts through collaborative work. Such collaboration enables HQ SACT, and NATO as a whole, to benefit from industry/academia models, advice, capabilities and experience in the course of this work. In addition to the benefits HQ SACT gains from such projects, this collaborative effort will provide industry / academia with an improved understanding of NATO's capability requirements and the associated issues and development challenges to be addressed by HQ SACT. Potential collaborative projects are on specific topics that are of mutual interest to both parties but shall be restricted to collaborations in non-procurement areas. Several mechanisms have been already developed to support the initiation of collaborative projects between industry/academia and ACT ranging from informal information exchanges, workshops, studies or more extensive collaboration on research and experimentation.

2.2   Depending on the level and type of interaction needed for a collaborative project, a specific agreement may be needed between parties. The FFCI agreement for any specific project, if required by either party for the project to proceed, will range from "Non-disclosure Agreements" (NDA) for projects involving exchange of specific information to more extensive "Declaration of Mutual Collaboration" (DOMC) to address intellectual property and other issues.

2.3   More extensive information on the ACT FFCI initiative can be found on the ACT web site being developed to support FFCI projects at http://www.act.nato.int/ffci.

2.4   No FFCI agreement is required to respond to this RFI.

3 - DESCRIPTION OF THE PROJECT

3.1   **Background.**
The NATO-Industry Forum is the primary venue for strategic dialogue with the defence and security industry on NATO capability planning and development. The Forum builds upon the Warsaw Summit Communiqué in which NATO Heads of State and Government highlighted that, *"A stronger defence industry across the Alliance, which includes small- and medium-sized enterprises, greater defence industrial and technological cooperation across the Atlantic and within Europe, and a robust industrial base in the whole of Europe and North America, remain essential for acquiring needed Alliance capabilities".* Previous NIF events have been held at executive level with attendees at the "four-star" and Chief Executive level. This working group will be held at an action officer working level with the expectation that industry attendees will be well versed in the technology and capability they are presenting as NATO attendees will have a firm grasp of NATO requirements. This year, ACT will hold a series of smaller events which will be used to inform the larger event. NIF-branded events are specific workshops involving ACT and industry, which were selected to provide a report as a preparation for the NIF, due to the high level of interest and connection to NATO's strategic objectives.

3.2   **Intent/Objectives.**
This RFI is to call for formal collaboration with industry in order to identify those who wish to contribute to a working group to explore and identify key technologies needed to underpin NATO's future networked systems. Two case studies have been selected Joint Intelligence, Surveillance, and Reconnaissance and Alliance Future Surveillance and Control. These two programs are highly dependent on the collect, fuse, disseminate process and are affected by network capability.

3.3   **Expected benefits to respondents**
Industry participants will have the chance to expose NATO participants to state of the art technologies and processes and also understand how NATO and nations view future capabilities.   By understanding the art of the possible, NATO envisions producing and understanding better the requirements which define future systems.

3.4   **Expected input from industry/academia**.
Expected input to this RFI is industry perspective on current and future technologies, processes, and capabilities regarding collecting, fusing and disseminating data in all conditions as described above. Whilst the primary focus is for respondents to participate at the NIF-branded workshop, ACT will accept any industry contributions which describe these

capabilities.

4 - REQUESTED INFORMATION

4.1 **Answers to the RFI**.
The answer to this RFI should be submitted by e-mail and should contain the names and areas of expertise of industry participants.

4.2 **Follow-on**.
The data collected in response to this RFI and at the NIF-branded workshop will be used to develop a report to inform the next high-level NIF forum.

4.3 **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, and will exercise due caution to prevent its unauthorized disclosure. Please be advised that all submissions become HQ SACT property and will not be returned**.**

4.4 **Questions.** Questions of a technical nature about this RFI announcement shall be submitted by e-mail solely to the above-mentioned POCs. Accordingly, questions in an e-mail shall not contain proprietary and/or classified information. HQ SACT does not guarantee that questions received after 12 May 2017 will be answered. Answers will be posted on the HQ SACT P&C website at: [www.act.nato.int/contracting-procurements.](www.act.nato.int/contracting-procurements)

4.5 **Response Date**. 12 May 2017

4.6 Summary. **This is a RFI only. The purpose of this RFI is to involve industry/academia, through collaboration, in a NATO Industry Forum (NIF)-sponsored working group.** HQ SACT has not made a 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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