RFI-ACT-SACT-20-45

Headquarters Supreme Allied Commander Transformation Norfolk, Virginia



REQUEST FOR INFORMATION RFI-ACT-SACT-20-45

This document contains a Request for Information (RFI) Call for Nations and Industry input to provide elements of NATO's Deployable Communication Information Systems (DCIS) Capability

Suppliers wishing to respond to this RFI should read this document carefully and follow the guidance for responding.

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HQ Supreme Allied Commander Transformation RFI 20-45		
General Information		
Request For Information No.	20-45	
Project Title	Request for Nations and Industry input to provide elements of NATO's Deployable Communication Information Systems Capability	
Due date for submission of requested information	15 JUNE 2020	
Contracting Office Address	NATO, HQ Supreme Allied Commander Transformation (SACT) Purchasing & Contracting Suite 100 7857 Blandy Rd, Norfolk, VA, 23511- 2490	
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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 to engage with Nations and industry. The intention is to discover that which is immediately available, the art-of-the-possible and state-of-the-art with respect to technologies, products or services in the area of NATO's DCIS, in order to support NATO Governance decision-making on Common-Funded Capability Development.
- 1.2. This RFI does not constitute a commitment to issue a future Request for Proposal (RFP). The purpose of this RFI is to involve Nations and industry through collaboration, in an examination of future capabilities related to DCIS assets, with a focus on technologies, products or services. The future capabilities will be either Nation-owned or commercially available (procured by a Nation as Host Nation, or by a NATO Agency). 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

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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.

2 - GENERAL BACKGROUND: HQ SACT Framework for Collaborative Interaction (FFCI)

- 2.1 HQ SACT has implemented an FFCI to increase opportunities for Nations, industry and academia to contribute to HQ SACT capability development efforts through collaborative work. Such collaboration enables HQ SACT, and NATO as a whole, to benefit from Nations/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 Nations/industry/academia with an improved understanding of NATO's capability requirements and the associated issues and development challenges that need to be addressed by HQ SACT. Potential collaborative projects are on specific topics that are of mutual interest to all parties but shall be restricted to collaborations in non-procurement areas. Several mechanisms have been developed to support the initiation of collaborative projects between Nations/industry/academia and HQ SACT 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 HQ SACT FFCI initiative can be found on the ACT website being developed to support FFCI projects at http://www.act.nato.int/ffci.
- 2.4 Note that recipients of this RFI are not required to initiate an FFCI agreement in order to respond to this RFI.

3- DESCRIPTION OF THE PROGRAMME

3.1 **Programme Vision**

3.1.1 The Programme's vision can be described as:

NATO requires Allied Joint Force and Land Commanders to be provided with flexible, interoperable and scalable DCIS Capability, capable of utilizing three (3) Network Domains¹ in order to plan, execute, and maintain Command and Control (C2) of military operations at Tactical, Operational and Strategic levels.

- 3.1.2 NATO's DCIS capability will be mainly employed in support of NATO Command and Force Structures. The effect and benefits are identified as:
 - Providing NATO Forces with a fully integrated, federated, scalable, modular and

¹ NATO SECR<mark>3</mark>T, MISSION SECR<mark>3</mark>T and NATO UNCLASSIFIED

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measurable suite of deployable communications components that allow real-time/near real-time communications within three (3) Network Domains;

- Supporting Allied Joint Force and Land Commanders in the decision-making process;
- Delivering effective C2 of NATO Land Forces, including planning support, targeting and interoperability capabilities;
- Enabling operational information exchange requirements (IERs) across the whole of the NATO Domain and especially to the Joint Force (Air, Maritime, Special Operations Forces, etc.);
- Providing the Recognized Air and Maritime picture; and
- Supporting Battlespace Management and related situational awareness for NATO forces within the Joint Operations Area, in order to minimize the risk of collateral damage and fratricide.

3.2 **Short Background**

- 3.2.1 Former Capability Package series 149 (CP 149) was initiated in 2002 as a result of Nations approving NATO's restructuring and consequent adoption of a NATO Response Force (NRF) Posture. The NRF posture envisioned NATO responding to existential threats in a staged and level-appropriate manner, describing these requirements broadly in two (2) areas:
 - 2x Major Joint Operations (MJO); and
 - 6x Small Joint Operations (SJO)
- 3.2.2 Having made these operational assessments, NATO planners were able to develop the required Command and Force structures and establish the Information Exchange and Communications requirements to match their broad operational conditions.
- 3.2.3 CP 149 was designed to provide all the required DCIS. Time, cost and technology altered and split the detailed requirements into affordable bundles (Revisions, Stand-Alone-Projects and an Addendum).
- 3.2.4 This RFI is focused on the planned Revision 1 Addendum 1 to CP149 (CP 149 R1 A1), which supplements the main body of CP149 R1 and comprises the following projects:

Serial	Description	Details
1	FMN Spiral Compliance for NRF (Spirals 4-6)	Annex A
2	Provide a transition capability for NATO Operational Concepts	Annex B
3	Provide DCIS Service Management and Control capability	Annex C
4	Provide DCIS Cyber Defence capability	Annex D
5	Augment and upgrade DCIS Terrestrial WAN Transmission capability Annex E	
6	Provide Secure Maritime CIS (SEMARCIS) (Increment 2)	Annex F
7	Provide General Purpose Non-CIS (Increment 2)	Annex G

3.3 **Current Status**

3.3.1 It was decided that CP 149 R1 A1 should transition towards the stage intended

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to define and describe the capability changes through a Capability Programme Plan (CPP). This phase of the NATO Common-Funded Capability Delivery Governance Model (CFCDGM) examines and confirms the means and methods that are best suited to deliver the Capability within scope, cost and schedule. In this DCIS case, the NATO CFCDGM includes decision points on the:

- Viability of a capability-based programme to satisfy the requirement (via the Capability Requirements Brief, currently under development) – the Programme Brief and Vision; and
- Establishment of a programme to deliver capabilities and to drive the transformational change (via the CPP) the Programme Plan.
- 3.3.2 Amongst other aims, the Capability Requirements Brief (CRB) is intended to determine the viability of a range of potential courses of action to address the requirement, including consideration of the possibility of "Adopt"-ing (an existing solution already in-service by Nations), "Buy"-ing (acquiring a solution from industry), or "Create"-ing (developing a solution bespoke to NATO). In the case of Buy or Create, solutions could either be delivered through a NATO agency or a Nation being the Host Nation. Courses of action allow meeting the requirement through any of the NATO-recognised lines of development including: doctrine, organisation, training, materiel (including services), leadership, personnel, facilities and interoperability. The viability of the courses of action comprises an assessment of the effectiveness, affordability, and risks (including technical maturity).
- 3.3.3 To apply due diligence in discovering courses of action in support of the CRB, a RFI is necessary to 'test the market' and determine relevant technologies and products or services that may exist or could be created within Nations and commercial market (as part of the consideration of "Adopt, "Buy or Create"). This request intends to identify prospective (sub-) systems or products/services for which the team may need to conduct additional in-depth discussions. This is not a formal request for submissions as part of a procurement; it is intended to determine whether any possible systems or products exist, which should be identified during the development of the CRB.
- 3.4 **Intent/Objectives** To support the transformational change of how NATO DCIS will be facilitated in the future, a CRB needs a robust assessment of potential courses of action across Adopt, Buy, and Create. This RFI is intended to provide Nations and industry an opportunity to provide data that would allow NATO to determine potential benefits they might receive from a product or service.
- 3.5 **Expected benefits to respondents** Nations and industry participants will have the chance to reveal state-of-the-art technologies and products to NATO.
- 3.6 **Expected Benefits to NATO** Exposure to, and understanding of, emerging technological drivers.
- 3.7 **Expected input from Nations/industry/academia** Expected input to this RFI is Nations and industry perspective on relevant current, emerging and future technologies and products.

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4 - REQUESTED INFORMATION

For Nations:

- What is the name and the purpose of your similar national capability (as product or service)? Which serial are you aiming to fulfil?
- Why/Where/How do you think that your national capability could be used by NATO to enhance its DCIS capability?
- With regards to an "Adopt solution", are you able to provide your national capability as a turnkey solution delivered, managed and maintained by yourselves? If yes, can you briefly explain the organisational framework needed to accomplish this?
- With regards to a "Buy or Create solution", would your Nation be willing to take the responsibility of a Host Nation on behalf of NATO?
- If we have follow-on questions regarding your national capability, to whom should we direct them? Who is your Point of Contact on this RFI?

For Industry:

- What is the name and the purpose of your product or service? Which serial are you aiming to fulfil?
- Please give a brief overview of your product's or service's capabilities and technical maturity.
- If your product or service is a software-oriented solution, provide an overview of your system's architecture.
- Is your product or service included in the NATO Approved Fielded Product List?
- Why/Where/How do you think that your product or service could be used by NATO to enhance its DCIS capability?
- Are you able to provide your product or service as a turnkey solution delivered, managed and maintained by yourselves? If yes, can you briefly explain?
- If we have follow-on questions regarding your product or service, to whom should we direct them? Who is your Point of Contact on this RFI?
- 4.1 **Answers to the RFI** The response(s) to this RFI may be submitted by e-mail to the Points of Contact listed above.
- 4.2 **Classified Information** NATO information that is CLASSIFIED is not included herein but can be passed to authorized industry recipients with appropriate clearances and control measures.

4.3 Follow-on

4.3.1 The data collected in response to this RFI will be used to develop a report to inform the NATO DCIS Capability Programme. The report will provide an assessment

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to support a decision as to whether NATO should pursue an Adopt, Buy or Create approach to meet DCIS requirements.

- 4.3.2 In the event that there is a competitive bidding process later as part of NATO Common-Funded Capability Development, the provision of data, or lack of, will not prejudice any respondent.
- 4.4 **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.
- 4.5 **Questions** Inquiries of a technical nature about this RFI shall be submitted by email solely to the aforementioned POCs. Accordingly, questions in an e-mail shall not contain proprietary and/or classified information. Answers will be posted on the HQ SACT P&C website at: www.act.nato.int/contracting-procurements.
- 4.6 Response Date 15-JUN-2020 1800 Hours EST
- 4.7 Summary This is an RFI only. The purpose of this RFI is to involve Nations/industry/academia, through collaboration, in an examination of future capabilities related to NATO DCIS with a focus on related technologies and commercial products. 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 an RFI, and not an RFP of any kind.

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Annex A to RFI-ACT-SACT-20-45 Dated 15 May 2020

FMN Spiral Compliance for NRF (Spirals 4-6)

- 1. The NATO Federated Mission Networking Framework, a programme to ensure interoperability in several iterations, will produce new FMN Spiral Specifications every two (2) years with increased scope in technical capability and interoperability.
- 2. NATO as an FMN affiliate is required to uplift its DCIS assets.

- 3. The scope of the project will cover the continuous evolution of the services to support operations in accordance with the FMN Spiral Implementation Plan.
- 4. Within this plan, specific details of Spiral 4 are drafted and planned for release by Nov 2020. Further Spirals remain undefined.



- 5. The project includes hardware, industry support and/or Internal Engineering Services over the lifespan of the project. Additionally, planning must take place to provide Operations and Maintenance (O&M) to assess, design, test, deploy and validate the implementation of three (3) consecutive spiral changes.
- 6. The training and reference systems will be upgraded accordingly.

Serial	Description	Task
1	FMN Spiral 4 compliance	Refresh the existing DCIS nodes and centralised function to support the full scope of command and control (C2) information exchange requirements (IER) for the operational user community, iaw FMN Spiral 4 (Nov 2020)
2	FMN Spiral 5 compliance	Refresh the existing DCIS nodes and centralised function to support the full scope of command and control (C2) information exchange requirements (IER) for the operational user community iaw FMN Spiral 5 (Nov 2021)
3	FMN Spiral 6 compliance	Refresh the existing DCIS nodes and centralised function to support the full scope of command and control (C2) information exchange requirements (IER) for the operational user community, iaw FMN Spiral 6 (Nov 2023)

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Annex B to RFI-ACT-SACT-20-45 Dated 15 May 2020

Provide a transition capability for NATO Operational Concepts

- 1. A technical refreshment of currently available Deployable Points Of Presence (DPOP) supporting NRF Deployable HQ and Afloat Command Platform (ACP) is required to maintain the operational requirement of the Alliance, pending revisions of DCIS needs based on revisited requirements post NCS-Adaptation. These refreshed assets will constitute a transition capability in support of NATO Operational Concepts.
- 2. Planning should include Service Delivery (as a Service) and O&M Options.

Scope

- 3. A technical refresh of the existing DPOP Land and Maritime to support the full scope of C2 IER for the operational user community. This should include:
- 3.1. The Information Services Module (ISM) to provide Core Enterprise Services (CES) and Community of Interest (COI) Functional Services in alignment with the Deployable Functional Area Services (FAS) concept (CES versus COI = FAS).
- 3.2. The capability of the Interconnection to Nations Module (INM), which is an interconnection to an external user in a deployable environment, to fulfil FMN requirements in accordance with Spiral 4;
- 3.3. Multipoint intra-theatre collaboration services capability to meet FMN requirements in accordance with Spiral 4 (e.g. Voice, VTC);
- 3.4. The network services (LAN and WAN);
- 3.5. The existing intra-node cross domain.
- 4. This project will also provide and integrate the prime and alternate crypto management capability required for Major Operations.
- 5. The technical refreshment could be in line with the latest existing NATO architecture; in this instance, no new training and reference system is needed but the reasoning will need to be noted.

Technical refresh of existing DPOPs

Serial	Task	
1	Refresh the Information Services Module (ISM) to provide Core Enterprise Services (CES) and Community of Interest (CoI) Functional Services in alignment with the Deployable FAS Concept.	
2	Refresh the capability of the Interconnection to Nations Module (INM) to fulfil FMN Spiral 4.	
3	Refresh multipoint intra-theatre collaboration services capability to meet FMN requirements (e.g. Voice, VTC).	
4	Refresh the Communications Services (LAN and WAN) and related management capability to meet Information Exchange Requirements.	
5	Refresh the existing intra-node cross domain information exchange capability between security domains.	

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6	Crypto management capability for Major Operations.	
7	Provision and integration of a redundant deployable crypto management capability.	

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Annex C to RFI-ACT-SACT-20-45 Dated 15 May 2020

Provide DCIS Service Management and Control capability

- 1. To maintain and manage DCIS, a three-tier Service and Network Management and Control (SMC) capability has to be provided in both the static and the deployed locations, supported by the following components:
- 1.1. Tier 1: MSMS/static Network Operation Centre (NOC) The Mission Service Management System (MSMS) is to provide an overview of the entire mission network, across all security domains. The MSMS is located in the centralised function and interconnected to the static SMC in the Operational Network.
- 1.2. Tier 2: Forward deployed NOC functionality that can be attached to a DPOP.
- 1.3. Tier 3: Local Management functionality in each DPOP.
- 2. Initial improvements and integration of existing SMC functionality using the available DCIS assets are programmed through CP 149 R01.
- 3. The desired capability is:
- 3.1. To perform service management in support of three (3) concurrent operations (requiring three (3) service management capabilities).
- 3.2. To be able to consistently do at least systems monitoring for all the DCIS nodes currently in operation when they operate standalone.
- 3.3. To be able to support seamless execution of SMC processes between DCIS and static (MS<->NS) with an SMC interface in MS.
- 4. All assets are covered for monitoring and configuration discovery, in all three (3) domains.
- 5. Service Request, Incident, Change, Problem, etc. covered only on MS; all tickets are to be forwarded into MS.
- 6. Cross-domain exchanges are required to consolidate information at MS.

- 7. The project will provide integration of existing NATO DPOP into contemporary OF/FF network management environment, as well as a full set of SMC tools (Incident, Problem, Configuration, Change Management, Service design and monitoring).
- 8. To provide a service management toolset across all DCIS assets and to federate the capability with nations on the mission domain.
- 9. The SMC tool will be deployed to support the static and deployable NOCs. The tool will also provide situational awareness input of the mission domain to the CCOMC and CyOC in Mons/Belgium. Furthermore, the project will cater to the interconnection of three (3) MSMS instances with static SMC capabilities and the necessary alignment of processes and procedures.

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Annex D to RFI-ACT-SACT-20-45 Dated 15 May 2020

Provide DCIS Cyber Defence capability

1. NATO DCIS requires development and implementation of cyber protective measures. Priority efforts are required in protection (including network intrusion detection) and in some cyberspace management capabilities.

- 2. Enable DCIS to operate with mechanisms to defend against attacks and respond to attacks detected in real time.
- 3. Capabilities will limit the risk and exposure of DCIS assets and possible exfiltration of data, or other types of attacks such as malware propagation.
- 4. The project will provide:
- 4.1. Security Information and Event Management alerting;
- 4.2. An incident management capability;
- 4.3. NCIRC updates; and
- 4.4. Packet Core Network (PCN) in compliancy with FMN spirals 3 and 4

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Annex E to RFI-ACT-SACT-20-45 Dated 15 May 2020

Augment and upgrade DCIS Terrestrial WAN Transmission capability

- 1. In order to provide the best, operationally resilient solution in terms of intratheatre WAN transmission capacity, NATO requires a mix of terrestrial WAN transmission assets including Beyond Line of Sight (BLOS), Short Range LOS (SR LOS) and Long-Range LOS (LR LOS).
- 2. The new systems are to be state-of-the-art, cutting-edge, utilizing emerging technology, enabling the required balance of deployable, robust and technical superiority required for SATCOM intra-theatre traffic.

- 3. The following systems are in the project scope:
- 3.1. Evolved Orthogonal Frequency Division Multiplexing (OFDM) LOS;
- 3.2. High Capacity BLOS;
- 3.3. HF Capability;
- 3.4. IPoR;
- 3.5. Area Coverage Radio; and
- 3.6. Deployable non-CIS

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Annex F to RFI-ACT-SACT-20-45 Dated 15 May 2020

Provide Secure Maritime CIS (SEMARCIS) (Increment 2)

Background

- 1. The requirement to exchange classified information with non-NATO nations participating in NATO-led Operations is supported by the NATO Strategic Concept, within which C3 interoperability is a crucial element in supporting the information flow, not only between the NCS and their forces but also with non-NATO entities (Land, Maritime and Air components).
- 2. Non-NATO Troop Contributing Nations (NNTCNs) and other Partners require that services and information systems be capable of extending the information domain outside of the Alliance Mission Secr<mark>3t Domains.</mark>
- 3. Increasingly NATO coalition operations indicate that there is a critical need to have information exchange mainly based on a mission-oriented network C3/CIS.

Outline Requirement

4. NATO has to be capable of collating, processing and exploiting received imagery, data, information and intelligence in order to meet the information requirements, of Component Commanders. This requirement is focused in the Maritime area providing services to NATO's Maritime Command (MARCOM) and includes creation and dissemination of the Recognised Maritime Picture (RMP).

Scope

5. SEMARCIS will provide support to the NATO RMP using collaboration tools that support chat, e-mail exchange, automatically formatted messages, such as OTH-Gold, and similar functions.

Serial	Task
1	Provide centralised function for maritime operations (up to three (3) at the same time)
2	Provide domain gateway-functionality to support maritime network mission domain.
3	Provide IS capabilities to support CES and COI service deployment.
4	Enhance IEG-C capability to provide COI/FS adaptation services
5	Provide NS-MS cross domain voice
6	Connectivity to non-NATO MOC
7	IP Crypto management (static)
8	Integration IP crypto into centralised function
9	Integration of standalone radios into centralised function
10	Integration narrowband crypto into centralised function

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Further Information

- 6. In developing this capability NATO adopted an incremental approach:
- 6.1. Inc. 1 provided tactical communications (further details available);
- 6.2. Inc. 2 is to upgrade Inc. 1 equipment to the latest FMN-spiral specifications as necessary in order to provide fully FMN-compliant services that enable communications between the MARCOM and its subordinate entities; and
- 6.3. This project will implement the services required to enable communications to Non-NATO nations.
- 7. MARCOM must be able to run a number of concurrent activities, and each activity is to be considered as using a logically separate network (i.e. the information exchange must be confined within each separate domain). Such domains shall be user-defined and configurable.

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Annex G to RFI-ACT-SACT-20-45 Dated 15 May 2020

Provide General Purpose Non-CIS (Increment 2)

Background

- 1. NATO-led Operations are supported by centrally-provided DCIS that is operated by NATO personnel. On deployment, NATO requires the ability to operate in the field with Non-CIS equipment (see table below).
- 2. NATO-led Operations also need to maintain a supply of first line spares for both DCIS and non-CIS equipment, including the ability to field store and supply locally with the appropriate vehicles, trailers and handling equipment.

- 3. Deployable non-CIS assets are split in two (2) main groups:
- 3.1. Those directly related to DCIS systems; and
- 3.2. Those required to provide general purpose (logistic support).
- 4. Given the natural lifecycle of equipment some general-purpose, deployable non-CIS assets need replacement.

Vehicles, Trailers, PGS, MHE	Storage, Shelters and Ancillaries
 Personnel Vehicle Rough Terrain, 	ISO Cargo Container, 20ft
4x4	Support Equip Storage Shelter
 Cargo Vehicle Rough Terrain 4x4 	Support Equip Maintenance Shelter
• Van 9 Pax	CIS Equipment Storage Shelter
Light Truck	Transmission Shelter (R.F.)
 Truck 10t + self-loading equipment 	OPS Shelter (Office Module)
Trailer 0.5t	PGS/AIRCO Maintenance Shelter
Trailer 10t	DCIS/CD Maintenance Shelter
 Power Generating Sets (PGS) 	Crypto/Classified Shelter
Trailer Mounted PGS 35 KW	CS Support Shelter
Material Handling Equipment (MHE)	Camouflage, Concealment and
Rough Terrain Forklift, 10t	Deception Set
• Crane, 20t	