

HQ Supreme Allied Commander Transformation

RFIP-ACT-SACT-21-54

Headquarters Supreme Allied Commander Transformation Norfolk Virginia



REQUEST FOR INNOVATIVE PARTICIPATION (RFIP) RFIP-ACT-SACT-21-54

This document contains a Request for Innovative Participation (RFIP) Call for Industry and Academia collaboration regarding the Innovation Challenge 2021/Spring (IC-21/Spring) calling for solutions (applications, systems, tools, concepts etc.) that can support solution development for NATO. Industry and Academia wishing to respond to this RFIP should read this document carefully and follow the guidance for responding.

General Information	
Request For Information No.	RFIP-ACT-SACT-21-54
Project Title	Innovation Challenge 2021/Spring: Space Domain Awareness
Due date for submission of requested information	23 May 2021
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SECTION I - INTRODUCTION

1.1 **Summary.** HQ SACT is issuing this Request for Innovative Participation (RFIP) announcement in order to facilitate collaboration between NATO HQ SACT Innovation Hub and industry and academia regarding solutions¹. The purpose of this RFIP is to request representatives from industry and academia to submit solutions (either existing and/or under development) to the scenario presented at Annex I to participate in NATO Innovation Challenge 2021/Spring. Submissions must conform to this RFIP.

A Selection Committee composed of representatives from NATO HQ SACT, advisors from the IC-21/Spring Partners² and other relevant experts invited by NATO HQ SACT will select up to 10 solutions amongst the responses submitted by industry, academia, or by individuals (participating under separate Terms of Participation). The selected solutions will be invited to participate in the IC-21/Spring *Pitch Day* on June 29, 2021. Participation in the *Pitch Day* is exclusively online. An Advisory Panel will be composed of representatives from NATO HQ SACT, the IC-21/Spring Partners and other relevant experts invited by NATO HQ SACT. The Advisory Panel will assist in assessing which solution(s) respond best to the scenario. The final selection of the IC-21/Spring winners will be performed by a Board, composed entirely by representatives of HQ SACT.

The nature of this event will be *discovery* only and will not be intended to solicit contracts. However, relevant solutions could potentially support development of future concepts, doctrine, STANAGs, user requirements, capability development, etc.

1.2 **Dates.** The events and timelines of IC-21/Spring is described in Section III. It will take place between March and 29 June 2021, with the IC-21/Spring *Pitch Day* taking place online on 29 June 2021. Details will be posted on the Innovation Challenge webpage.

1.3 **Disclaimer.** This is a Request for Innovative Participation (RFIP) only, and in no way constitutes a current Request for Proposal (RFP) or a commitment to issue a future RFP.

HQ SACT has not made a commitment to procure any of the products/solutions described herein, and release of this RFIP 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

¹ In this RFIP, the term “solutions” refers to applications, tools, systems concepts or devices.

² Old Dominion University (USA), Ministry of National Defense (Portugal).

any information or administrative costs incurred in *responding* to this RFIP, nor will HQ SACT pay costs associated with participating in the IC-21/Spring. The costs for responding to this RFIP and participating in the IC-21/Spring shall be borne solely by the responding party. Not responding to this RFIP does not preclude participation in any subsequent RFP if issued in the future.

SECTION II –BACKGROUND

2.1 ACT Framework for collaborative Interaction (FFCI).

2.1.1 HQ SACT 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 ACT gains from such projects, this collaborative effort will provide industry/academia with an improved understanding of NATO's capability requirements and associated issues and development challenges to be addressed by ACT. 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 and studies, to more extensive collaboration on research and experimentation.

More detailed 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>.

2.1.4 HQ SACT has since 2017 conducted Innovation Challenges; these are informative and exploratory events focused mainly at the application of new technologies. The collaborative interaction sought for the IC-21/Spring is focused on presenting and demonstrating solutions to improve the Space Domain Awareness through collecting and analyzing relevant information, assessing and preventing any disruption of the space based services, visualizing and presenting the space domain information (see scenarios at Annex I). RFIP respondents should be willing to share their knowledge, expertise, and products/solutions with NATO and national representatives participating in the IC-21/Spring.

2.1.5 IC-21/Spring winners for HQ SACT will be selected by a Board of HQ SACT

representatives and announced as part of the *Pitch Day* program.

All information provided in response (abstracts, supporting materials, and, if selected for *Pitch Day*, in the presentations) must be releasable to the public. While the abstracts only will be provided in the public domain if selected for presentation at IC-21/Spring *Pitch Day*, both the Selection Committee and the Advisory Panel will be comprised of representatives from NATO HQ SACT and other relevant experts invited by NATO HQ SACT.

SECTION III - DESCRIPTION OF THE IC-21/Spring

3.1 Background.

The HQ SACT Innovation Hub is the main organizer of the IC-21/Spring. The HQ SACT Innovation Hub also coordinates the NATO Innovation Network, federating national entities in order to leverage open innovation. For more information on the HQ SACT Innovation Hub, please visit <https://innovationhub-act.org/>.

3.2 Objectives.

The objectives of this RFIP is to invite eligible industry and academia to participate in IC-21/Spring through submission of abstracts in response to the scenario at Annex I, identifying and exploring existing and emerging technologies that could address current and foreseeable challenges to an effective and efficient approach.

3.3 Planned activities. The IC-21/Spring will consist of:

- a. Initial Selection Phase: The selection will be announced 23 days prior to the *Pitch Day*, allowing further development of the presentation. Finalists will be contacted directly by email by the Innovation Hub team and the announcement will be made on the IC-21/Spring webpage. The selected submissions will be invited to be presented live online on the *Pitch Day*. Any cost associated with presenting online remains the sole responsibility of the industry/academia providing the submission.
- b. Final selection phase: On the *Pitch Day*, the winners of the IC-21/Spring will be selected by a Board of HQ SACT representatives and announced as part of the *Pitch Day* program.

3.4 Expected input from industry/academia. See below in Section IV.

3.5 Expected benefits to industry. Through this collaboration, HQ SACT offers industry / academia an opportunity to gain awareness about the particularities of the innovation

challenges in NATO and Nations. It will be an opportunity to engage with HQ SACT Innovation Hub and other participants within a framework of a community of interest focused on the development of innovative solutions based on new technologies in support of the NATO Innovation Process.

3.6 **Monetary Awards**

3.6.1 HQ SACT presents three levels of monetary awards for the top three winners of the IC-21/Spring: a. first place: \$5,000 USD, b. second place: \$2,500 USD, c. third place: \$1,000 USD.

3.6.2 The monetary award is presented to the first, second and third place recipients in the HQ SACT Innovation Challenge 2021/Spring. The presentation of the award does not alter the relationship between HQ SACT and the recipient and is only presented to eligible industry or academia entries, who have complied with the terms and conditions defined for the Challenge. The recipient is responsible for the proper recording and reporting of the monetary award to the appropriate tax authorities and the payment of any associated taxes.

3.6.3 Monetary awards will be paid to the recipient with an Electronic Funds Transfer.

SECTION IV - REQUESTED INFORMATION

4.1 **Intent.** The intent of this RFIP is to call for formal collaboration with industry and academia in order to present solutions based on new technologies that can support the improvement of NATO Innovation process. These solutions should be applicable in a federated information environment and should be interoperable by design. Additionally, they should be intuitive, requiring none or very limited training at the end-user level. Solutions are sought at different levels of development, from the “advanced concept development stage” through “customizable applications” available “commercial off-the-shelf”. Solutions may address some of the challenges described in the scenario presented in Annex 1, associated to one or more of the following **areas of interest**:

- **Collect and analyze** all relevant open sources information contributing to the space domain Awareness
- **Assess and prevent** any disruption or denial of space based capabilities and services

- **Visualize and present** the space domain information in an innovative, different way that would facilitate quick and efficient decision-making

The inherent discovery nature of the IC-21/Spring allows also for novel approaches to these challenges.

4.2 Responses to the RFIP.

In response to the RFIP, please submit an abstract (4500 characters maximum) describing the solution idea. Based on this submission, an IC-21/Spring Selection Committee will select and invite up to 10 abstracts to be presented at the Innovation Challenge *Pitch Day*.

The response to this RFIP should be submitted through the webform at <https://innovationhub-act.org/eform/submit/nato-innovation-challenge-2021-1>. It must contain:

- 1) The name of the participant (Industry/academia)
- 2) The name of the proposed solution and which area(s) of interest it addresses;
- 3) Name(s) of participant's representative(s) (new representatives cannot be appointed after pre-selection)

The abstract can include:

- up to 4500 characters max text document
- max 5 graphics, pictures or slides
- max 4 min video/audio file

Note that all information provided in response to this RFIP has to be releasable to the public.

4.3 **Evaluation of Solutions and Selection Process.** A Selection Committee will be convened to analyze and evaluate the responses to the RFIP and select which submissions will be presented/demonstrated at IC-21/Spring. The Selection Committee will assess each response according to the following criteria:

4.3.1 **Eligibility:** The response to this RFIP should reflect a solution that addresses at least one of the areas of interest presented at paragraph 4.1.

Submissions will specifically be scored against:

- **Usefulness:** Understood as the potential impact of proposed solution on challenge topic.
- **Innovativeness:** Understood as if it is a genuinely new idea or an already existing

solution adapted for this Challenge.

- **Feasibility:** Understood as if the solution is cost-effective and easy to develop and implement.

4.3.2 *Priority:* the Selection Committee retains the right to prioritize the answers to RFIP based on the relevance and diversity of the solutions, on the proposed *demonstration* method, and the complexity of the challenges addressed. Additionally, ensuring a balanced representation of both industry and academia will be part of the prioritization process.

4.3.3 Status: Only submissions by industry and academia headquartered or located in NATO member countries will be considered for IC-21/Spring.

4.4 Terms applicable to this RFIP: The participating industry and academia agree that the IC-21/Spring, without any limitation or further compensation, may use the participant's name as well as voice and/or likeness of its representative(s) in any and all media for the purpose of advertising and promoting the IC-21/Spring, HQ SACT, and any associated programs. Further, the participant grants HQ SACT and the IC-21/Spring the right to take photographs and videos of the submission in connection with the challenge and grant the right to the IC-21/Spring to use, and to publish the photographs and videos with or without the participant's name and for any lawful purpose, including but not limited to, publicity, illustration, advertising, and internet and social media content. Additionally, the participants agree that the IC-21/Spring and thus HQ SACT may demonstrate the operation and functionality of the submission (but may not modify or publicize the source code) in connection with advertising and promoting the IC-21/Spring and subsequent events organized by HQ SACT.

- a. The participating industry and academia represent and warrant that there are no contractual or other obligations that would:
 - (i) prevent the participant from granting the right of use provided here and/or
 - (ii) prevent the participant from claiming Intellectual Property ownership rights in materials or inventions created by the participant and incorporated into the submission.
- b. Representation and Warranties: The participating industry and academia represent and warrant that:
 - (i) the participant is the original author of the contributions to the submission;

- (ii) to the participant's knowledge, the submission will not infringe on any third party's copyright, patent, trademark, trade secret, right of publicity or property or any other right;
 - (iii) the submission is not the subject of any actual or threatened litigation or claim;
 - (iv) the submission will not be obscene, offensive, libelous, pornographic, threatening, abusive, or otherwise objectionable; and
 - (v) the submission will not contain any content that is illegal, would constitute or encourage a criminal offense, or would otherwise give rise to liability or violate any law.
- c. The participating industry and academia agrees to grant to the IC-21/Spring (and thus HQ SACT), a non-exclusive, use of the submission as necessary to conduct the IC-21/Spring and for internal evaluation purposes by HQ SACT:
 - (i) in any Intellectual Property incorporated into the submission;
 - (ii) in Intellectual Property that is needed to operate or use the submission;
 - (iii) in Intellectual Property covering other materials or inventions that are incorporated into the submission, and/or
 - (iv) in Intellectual Property that is needed to operate or use the submission.
- d. Further, participants acknowledge and agree that the submission is submitted on a non-confidential basis, and that the IC-21/Spring (and thus HQ SACT) shall have no obligation to prevent the disclosure or otherwise treat as confidential such submission. Also, to the extent that the submission includes publication of information or content on innovationhub-act.org, participating industry and academia consent to terms governing utilization of any information or content published on innovationhub-act.org.
- e. By responding to this RFIP and participating in the IC-21/Spring the participating industry and academia acknowledge and agree that the IC-21/Spring may receive many entries and submissions in connection with this and/or other participants, and that such entries and submissions may be similar or identical in theme, idea, format, or other respects to the submission. By responding to this RFIP the participating industry and academia waive any and all past, present or future claims

against HQ SACT and the IC-21/Spring relating to such similarities, or asserting that any compensation is due in connection with the submission.

- f. **Limitation of Liability:** In no event shall the HQ SACT or the IC-21/Spring be liable for incidental, exemplary or punitive damages arising out of or in connection with the IC-21/Spring, industry and academia participation, or the submission. If a participant has a dispute with any participant in the IC-21/Spring or any other third party, the participating industry and academia release HQ SACT and the IC-21/Spring from any and all claims, demands and damages, (actual and consequential) of every kind and nature arising out of or in any way connected with such disputes.
- g. **Release and Indemnification:** By responding to this RFIP and participating in the IC-21/Spring, industry and academia agree, on behalf of that participant and the heirs, executors and administrators, to release and hold harmless the IC-21/Spring (and thus HQ SACT) from any claim, liability, damage, litigation, illness, injury or death that may occur, directly or indirectly, whether caused by negligence or not, from participating in the IC-21/Spring. This includes any entry (submission) submitted by the participating industry and academia.

- **4.5 Communication and Follow-on.** The answers to RFIP should be submitted through the Innovation Hub webform at <https://innovationhub-act.org/eform/submit/nato-innovation-challenge-2021-1>. Post-submission, RFIP respondents may be contacted to provide additional information on their proposals/response. The results of the selection process will be posted on the Innovation Hub webpage: <https://innovationhub-act.org/challenge-intro>

4.6 Questions. Questions of a technical nature about this RFIP announcement shall be submitted solely to the Innovation Challenge Forum:

<https://www.innovationhub-act.org/forums/innovation-challenge>

Accordingly, questions shall not contain proprietary and/or classified information

4.7 Deadline for responding to this RFIP. 23 May 2021

4.9 Summary. This is an RFIP only. The purpose of this RFIP is to request both industry and academia to present and demonstrate solutions (either existing and/or under development) based on new technologies that may support the improvement of NATO Innovation Process. HQ SACT has not made a commitment to procure any of the products/solutions described herein, and release of this RFIP shall not be construed

as such a commitment, nor as authorization to incur cost for which reimbursement will be required or sought. It is again reemphasized that this document is a RFIP, and not a RFP of any kind.

For more information on the Innovation Challenge IC-21/Spring, please visit <https://innovationhub-act.org/nato-innovation-challenge>

ANNEX I – SCENARIO AND QUESTIONS

Background

The Space environment is fundamentally changing as it becomes more contested, congested and competitive, with hundreds, soon thousands, of satellites being launched every year, mostly from the commercial sector.

As daily reliance on satellites increases, concerns about their potential degradation, disruption or even destruction, have grown. Conflicts could happen not only on land, in the air, at sea and on computer networks, but also in Space or even simultaneously across several or all domains. Some countries and non-state actors have the technology to blind, jam, disable or destroy Space capabilities putting at risk users, and in particular military structures or organization relying on Space based services.

Space is essential to NATO's deterrence and defence, including for instance the ability to navigate, track forces, gather intelligence and detect missile launches.

The concept of Space Domain Awareness (SDA) aims to ensure a common understanding of the Space environment, including threats and vulnerabilities that have the potential to affect the Alliance's safety, security and interests.

A relevant and robust SDA will allow NATO commanders and operational communities to be informed about threats that could potentially degrade, limit, disrupt or deny the access and provision of the Space-based services and/or products the organization needs, and support the elaboration of contingency plans..

NATO's use of Space

NATO is a defensive alliance, focusing on deterring conflict and preserving peace.

NATO owned and operated satellites from the 1970's until 2010, but the Alliance now relies on space products and services provided by its members.

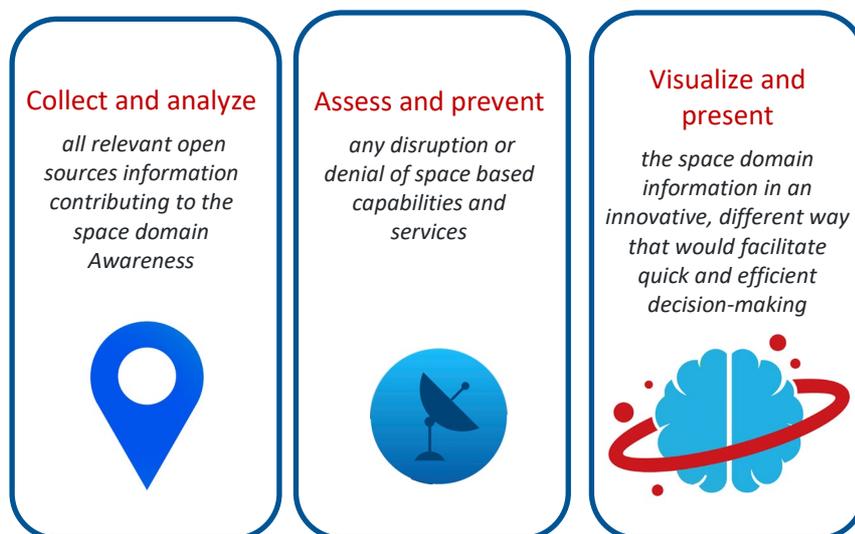
At the end of 2019, NATO declared Space as an Operational Domain alongside Air, Sea, Land and Cyberspace. This was an important milestone of NATO's continued adaptation.

Declaring Space a domain helps improving the sharing of Space services among Allies, increases interoperability, and ensures that our operations can call on the support they need. NATO does not intend to put weapons in Space. NATO's approach to space is defensive and fully in line with the international laws.

In other words, declaring Space an Operational Domain ensures that space considerations are on the agenda when military commanders plan NATO's posture, missions, functions and activities.

The Challenge

The NATO Innovation Challenge is seeking innovative solutions to:



Considering that:

- 1/ NATO does not own satellites (NATO leverages the existing Space capabilities within the Alliance);
- 2/ NATO will not duplicate efforts from Nations.

Solutions can include any combination of methodologies, concepts, techniques and technologies.