Headquarters Supreme Allied Commander Transformation Norfolk Virginia

REQUEST FOR INNOVATIVE PARTICIPATION (RFIP)

RFIP-ACT-SACT-22-20

This document contains a Request for Innovative Participation (RFIP) Call for Industry and Academia collaboration regarding the Innovation Challenge 2022/Fall (IC-22/Fall) 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-22-20
Project Title	Innovation Challenge 2022/Fall: Resilience – Data management and Security in the context of reconstruction efforts
Due date for submission of requested information	**19 September 2022**
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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 solutions[1]. 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 2022/Fall. Submissions must conform to this RFIP.

A Selection Committee composed of representatives from NATO HQ SACT, advisors from the IC-22/Fall Partners[2] 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-22/Fall *Pitch Day* on October 12, 2022. Participation in the *Pitch Day* will be either online or on-site (Bucharest, Romania). An Advisory Panel will be composed of representatives from NATO HQ SACT, the IC-22/Fall 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-22/Fall winners will be performed by a Board, composed by representatives of NATO HQ SACT and advisors from the IC-22/Fall Partners.

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-22/Fall is described in Section III. It will take place between 30 July and 12 October 2022, with the IC-22/Fall *Pitch Day* taking place online and on-site on 12 October 2022. 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

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[1] In this RFIP, the term "solutions" refers to applications, tools, systems concepts or devices.
[2] NCIA, Ministry of Defense of Romania, Old Dominion University (USA), JFC Brunssum.

required or sought. Further, respondents are advised that HQ SACT will not pay for any information or administrative costs incurred in *responding* to this RFIP, nor will HQ SACT pay costs associated with participating in the IC-22/Fall. The costs for responding to this RFIP and participating in the IC-22/Fall 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-22/Fall is focused on (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-22/Fall.

2.1.5 IC-22/Fall winners for HQ SACT will be selected by a board of NATO HQ SACT and other relevant experts invited by NATO HQ SACT, 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-22/Fall *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-22/Fall

3.1 **Background.**
The HQ SACT Innovation Hub is the main organizer of the IC-22/Fall. 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-22/Fall 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-22/Fall will consist of:

a. <u>Initial Selection Phase</u>: The selection will be announced 12 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-22/Fall webpage. The selected submissions will be invited to be presented live online or on-site on the *Pitch Day*. Any cost associated with presenting online or on-site remains the sole responsibility of the industry/academia providing the submission.

b. <u>Final selection phase</u>: On the *Pitch Day*, the winners of the IC-22/Fall winners for HQ SACT will be selected by a board of NATO HQ SACT and other relevant experts invited by NATO HQ SACT 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-22/Fall: 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 (1st/2nd/3rd) place recipients in the HQ SACT Innovation Challenge 2022/Fall. 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.

    3.6.4   The NATO Communications and Information Agency (NCIA) co-organizes this NATO Innovation Challenge edition and will offer the following to the three winners: The three winners will be invited to attend NATO Edge Flagship Conference on 25-27 October 2022, at Lotto Mons Expo, in Mons, Belgium.
The winner's package will include:
- One registration waiver for admission to NATO Edge event;
- Award ceremony on the opening day (announcement and welcome of the winners in a plenary session, including a short pitch per solution);
- Free showcase space at NATO Edge exhibition;

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**:

1. **Common architectures for data management and/or data security**.
2. **Integration with NATO Operations Logistics Chain Management (OLCM)**.
3. **Scalable data models to support the design of interactive dashboards**.

The inherent discovery nature of the IC-22/Fall 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-22/Fall 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://cvent.me/rDWL2V . 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

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-22/Fall. 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:

- o **Usefulness**: Understood as the potential impact of proposed solution on challenge topic.

- o **Innovativeness**: Understood as if it is a genuinely new idea or an already existing solution adapted for this Challenge.

- o **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-22/Fall.

4.4 Terms applicable to this RFIP: The participating industry and academia agree that the IC-22/Fall, 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-22/Fall, HQ SACT, and any associated programs. Further, the participant grants HQ SACT and the IC-22/Fall the right to take photographs and videos of the submission in connection with the challenge and grant the right to the IC-22/Fall 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-22/Fall 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-22/Fall 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-22/Fall (and thus HQ SACT), a non-exclusive, use of the submission as necessary to conduct the IC-22/Fall 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-22/Fall (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 https://cvent.me/rDWL2V , participating industry and academia consent to terms governing utilization of any information or content published on https://cvent.me/rDWL2V .

e. By responding to this RFIP and participating in the IC-22/Fall the participating industry and academia acknowledge and agree that the IC-22/Fall 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-22/Fall 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-22/Fall be liable for incidental, exemplary or punitive damages arising out of or in connection with the IC-22/Fall, industry and academia participation, or the submission. If a participant has a dispute with any participant in the IC-22/Fall or any other third party, the participating industry and academia release HQ SACT and the IC-22/Fall 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-22/Fall, industry and academia agree, on behalf of that participant and the heirs, executors and administrators, to release and hold harmless the IC-22/Fall (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-22/Fall. 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://cvent.me/rDWL2V . 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://cvent.me/rDWL2V .

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 and on the CVENT contact page.

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

4.7 **Deadline for responding to this RFIP**. 19 September 2022 12:00 AM EST

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-22/Fall, please visit https://cvent.me/rDWL2V .

ANNEX I – SCENARIO AND QUESTIONS

Introduction

In today's complex and unpredictable environment, governments and organizations must be resilient in order to withstand shocks like natural disasters, failure of critical infrastructure, and military attacks.

The rise of hybrid warfare, combining multiple types of instruments, including not just conventional forces, but also disinformation, cyber-attacks and the use of proxy forces, has led to a new paradigm of vulnerability on the part of complex, relatively open societies. Among other trends, we find grey zone threats where adversaries deploy measures short of the threshold for armed response or which afford them significant deniability through problems related to attribution. These measures increasingly target civilian critical infrastructures, in domains such as energy, public administration, finance and banking, food distribution, water treatment or healthcare.

While creating resilience is a responsibility of individual institutions, it does not exist in a vacuum and requires coordination and commitment from a wide collection of interested and affected parties. This is especially true in the case of international and collective organizations such as NATO. Enhanced resilience strengthens NATO Alliance capabilities and is a critical component of humanitarian response, credible deterrence, and defense.

This was recognized and reinforced by the commitment made by the Allies in 2016 at the Warsaw Summit, through the agreement of the Seven Baseline Requirements for national resilience and the 2021 Strengthened Resilience Commitment. These requirements reflect the core functions of continuity of government, essential services to the population, and civil support to the military.

In some circumstances, military forces heavily depend on the civilian and commercial sectors for transport, communications, and even basic supplies such as food and water. At other times it is the civilian and commercial sectors which rely upon the military. Establishing, maintaining, and deploying resilient systems is key to both civil preparedness and military capacity.

This challenge addresses Resilience from a whole-of-society approach, combining the civilian, economic, commercial, and military factors. It emphasizes the importance of planned data collection, secure data sharing and effective data management during the crisis.

Scenario

Under a United Nations mandate, NATO conducts an operation to assist a partner nation to recover from an attack by a neighboring power.

In this fictional scenario, NATO forces are deployed to assist the host nation rebuild infrastructure after a few months of conflict. The country is partitioned, a durable cease-fire is observed, but tensions between different factions threaten the reconstruction efforts and the facilitation of reconstruction (logistics, relief, etc.). NATO would be working to help the host nation recover from the damage caused by several months of war and is responsible for Planning Response activities.

NATO is supporting the host nation with supplies and equipment during a potential crisis situation. The majority of supply movement is based on civilian transport assets. As the security situation can deteriorate during the assistance operation, there is a need to develop a good understanding of the complete supply chain, as well as to ensure the effective management and security of sensitive data among military/governmental and civilian/private sector stakeholders.

Besides the infrastructure and logistical aspects, the data environment is much more complex than we usually expect. To get an accurate picture of the entire situation, different data

sources and streams need to be collected and integrated. Among the mentioned stakeholders that can provide reliable data sources, publicly available datasets also play important role in giving us the insights into situational awareness at the ground. Data management and security should enable sharing and exploiting all available information in timely manner.

Challenge
The aim of this challenge is to receive innovative proposals on sub-topics related to data management and security in the context of civil-military cooperation in support of reconstruction efforts, taking into account the relevant data streams. Particularly, NATO is interested in having proposals addressing the following sub-topics:

1. Ingesting data into common architectures for data management and/or data security. This sub-topic focuses on proposing common architectures for data management and/or data security in support of civil-military cooperation, providing an overarching and interoperable information exchange system.

During the support of a crisis, it is necessary to gather, analyze, and take action based upon data coming from a variety of sources. Some of these sources may be well established in advance and structured. Others will be situational, becoming important and available at the time of the crisis or action. This data may not be structured. We are looking for solutions which:

4. Ingest and translate outside data into a common and interoperable architecture for management. Interoperability should be ensured in the three following dimensions: procedures, equipment and human aspects.
5. Ensuring that new data does not impact the security and operations of the management / analysis system.

2. Integration with NATO Operations Logistics Chain Management.
This sub-topic addresses the integration between civil-military Host Nation and NATO Operations Logistics Chain Management systems. We are looking for a solution that:
   - Collects, fuses and analyses data from disparate sources (logistics depots, maintenance facilities, medical facilities, fuel and energy, maintenance facilities, etc.)
   - Identifies, locates and provides status of all logistics resources;
   - Ensures the identification of weaknesses, chokepoints and vulnerabilities in the following areas: C2 (command and Control), authority and legislation, infrastructure, capabilities.
   - Identifies potential future outcomes using predictive analytics techniques.

3. Scalable data models to support the design of interactive dashboards and predictive analytics. Integrated systems will generate massive amounts of data in a multi-domain security environment. In this context, it is essential to be able to design scalable data models displaying interactive dashboards, integrating predictive analytics, to provide commanders and national stakeholders (as appropriate) information awareness tools that facilitate decision making.

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

5. Solutions involving blockchain, augmented reality/virtual reality and artificial intelligence are particularly sought after.