Headquarters Supreme Allied Commander Transformation Norfolk Virginia

REQUEST FOR INFORMATION

RFI-ACT-SACT-18-53

This document contains a Request for Information (RFI) Call for Industry and Academia collaboration regarding the presentation and demonstration in October 2018 of solutions (applications, systems, tools, etc.) based on new technologies (Artificial Intelligence, Machine Learning, Analytics, etc.) that can support the improvement of NATO Lessons Learned Process. Suppliers wishing to respond to this RFI should read this document carefully and follow the guidance for responding.

General Information	
Request For Information No.	18-53
Project Title	New Technologies Event 2018 (NTE 18) *- New technologies in support of Lessons Learned -*
Due date for submission of requested information	**29 June 2018**
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	1. Ms Tonya Bonilla e-mail : tonya.bonilla@act.nato.int Tel : +1 757 747 3575 2. Ms Catherine Giglio e-mail : catherine.giglio@act.nato.int Tel :+1 757 747 3856
Technical Points of Contact	Primary: Mr. Stefan OLARU e-mail: stefan.olaru@jallc.nato.int Tel: +351/217717023; +351/914848306 Alternate: CDR Gabriel TROUVE e-mail: gabriel.trouve@jallc.nato.int Tel: +351/217717049

SECTION I - INTRODUCTION

1.1   **Summary**. HQ SACT is issuing this Request for Information (RFI) announcement in order to facilitate collaboration between NATO's Joint Analysis and Lessons Learned Centre (JALLC), Lisbon, Portugal, and industry/academia regarding solutions[1] based on new technologies[2] that can support the improvement of the NATO Lessons Learned Process (details available at https://nllp.jallc.nato.int/Pages/nte2018.aspx). The purpose of this RFI is to request representatives from both industry and academia to present and demonstrate solutions (either existing and/or under development) based on new technologies at an event to be held in Lisbon area, Portugal in October 2018 (see below). In particular such solutions should address challenges relating to data collection, management, analysis, and information sharing of large amounts of structured and unstructured data in an operational environment and/or headquarters. Such presentations and demonstrations will be given to an audience of NATO and National representatives from the Lessons Learned Community. 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.** This Event (hereinafter referred to as NTE 18) is further described in Section III. It will take place between 02 - 04 October 2018 in Lisbon area (Portugal).

1.3   **Disclaimer**. This is a Request for Information (RFI) 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 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, nor will HQ SACT pay costs associated with participating in NTE 18. The costs for responding to this RFI and participating in NTE 18 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.

---

[1] In this RFI, the term "solutions" refers to applications, tools, systems or devices.
[2] In this RFI, the term "new technologies" refers to artificial intelligence, machine learning, analytics, polyglot tools, big data, smart search engines etc.

SECTION II –BACKGROUND

2.1 ACT Framework for collaborative Interaction (FFCI).

2.1.1 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 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.

2.1.2 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 Declarations of Mutual Collaboration (DOMC).

2.1.3 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.

2.1.4   ACT, as the driving agent of transformation for NATO, supports NTE 18 as an informative and exploratory event on how new technologies can support the improvement of NATO Lessons Learned Process. The collaborative interaction sought is focused on presenting and demonstrating solutions relevant for data collection, management, analysis, and information sharing in an operational environment and/or headquarters. RFI respondents would be willing to share their knowledge, expertise, and products/solutions with NATO and national representatives participating in the NTE 18.

SECTION III - DESCRIPTION OF THE NEW TECHNOLOGIES EVENT 18

3.1 **Background.**

The JALLC is NATO's centre dedicated to support Alliance-wide implementation and sustainment of NATO's Lessons Learned Policy through monitoring and supervising the NATO Lessons Learned Process within the NATO Command Structure and other NATO bodies. The JALLC supports warfare development and warfighting, improving NATO's ability to operate and adapt, through training, advising and assessment activities enabling the establishment and sustainment of effective lessons learned capabilities across NATO. More details about the NATO Lessons Learned Capability are available on the JALLC website (www.jallc.nato.int).

The JALLC is the lead agent for the collection and sharing of lessons, accomplished through active content management of the NATO Lessons Learned Portal, Lessons Learned analysis (as an integral part of the NATO Lessons Learned Process) and outreach to Allied and Partner Nations. A short video explaining the NATO Lessons Learned Portal and the NATO Lessons Learned Process is available on the JALLC's YouTube Channel (https://www.youtube.com/watch?v=RC8SnWgnoYM).

Recent studies identified several factors (threats and opportunities) that may impact the NATO Lessons Learned Process, such as the future of NATO Information Technology (IT) infrastructure and architecture, emergent technologies, the foreseen data-rich operating environment, the complex and unstructured data-sets available for analysts, with different formats, in different languages and with different degrees of reliability.

These factors have already generated, or have the potential to generate, challenges for the NATO Lessons Learned Process, in the areas of: data collection; data management and accessibility; data analysis and visualisation; information tracking and tasking workflows; and reporting and information sharing.

All these current and foreseen challenges, which are further detailed in the scenario presented in Annex 1, has resulted in the JALLC looking for (innovative) solutions based on new technologies that may support the improvement of NATO Lesson Learned Process. The need to address these challenges was emphasized also by the Technical Syndicate of the NATO Lessons Learned Conference, organized by JALLC in March 2018 (details here).

Taking this background into consideration, several activities have been scheduled to identify

potential solutions in support of the improvement of NATO Lessons Learned Process. One of them is NTE 18.

3.2 **Objectives.**

- Identify and explore existing and emerging technologies that could address current and foreseeable challenges to an effective and efficient NATO Lessons Learned Process.

- Share knowledge and experiences with the NATO and National representatives of Lessons Learned Community as potential users of the solutions presented and/or demonstrated.

- Facilitate the exchange of information among industry, academia, and representatives from NATO and nations within a community of interest focused on the development of (innovative) solutions to address the NATO's key lessons learned issues.

- Bring solutions about technologies useful in processing large data sets to formulate recommendations for changes or improvements of NATO Lessons Learned Process

3.3 **Planned activities**.

The core activities during the NTE 18 will consist of:

- Plenary sessions: presentations and demonstrations of the solutions followed by Q&A; and

- Booth sessions: opportunities for demonstrations of solutions. Promotional materials are allowed at booths. Booth spaces will be provided only on request and the setting up of the exhibit, maintenance thereof during the event, and removal of the exhibit, is the responsibility of the exhibitor, including the respective associated costs. Details will be provided to the selected participants who intend to demonstrate solutions during booth sessions.

3.4 **Expected input from industry/academia.** Industry/academia will present and demonstrate solutions based on new technologies in support of the NATO Lessons Learned Process, addressing challenges in one or more of the following areas of interest: data collection; data management and accessibility; data analysis and visualization; information tracking and tasking workflows; reporting and information sharing. Participants will be also expected to share experiences and knowledge with NATO and national representatives to improve their understanding of the presented solutions.

The presentations will need to be given live on stage. Recorded or live online presentations

are not accepted for this event.

3.5   **Expected benefits to industry.** Through this collaboration, ACT, as the driving agent of transformation for NATO, expects that industry / academia will gain awareness about the particularities of the Lessons Learned challenges in NATO and Nations. It will be an opportunity to engage with NATO and national representatives within a framework of a community of interest focused on the development of innovative solutions based on new technologies in support of the NATO Lessons Learned Process.

SECTION IV - REQUESTED INFORMATION

4.1   **Intent**. The intent of this RFI 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 Lessons Learned Process and demonstrate these solutions to the NATO and National representatives of the Lessons Learned community. 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*: data collection; data management and accessibility; data analysis and visualization; information tracking and tasking workflows; reporting and information sharing. The inherent discovery nature of the NTE 18 allows also for novel approaches to these challenges.

4.2   **Responses to the RFI**. The response to this RFI should be submitted by email to the Contracting and Technical Points of Contact (POCs) stated above (page 2) and must contain:
-    the name of the solution proposed and which area(s) of interest it addresses;
-    a proposed agenda (points to be detailed) for the *presentation* of the solution during the event; please consider including any relevant challenges that triggered the development of the solution;

- proposed *demonstration* method - for example:
  - o live - comments and explanations to a video;
  - o live - on the screen using local data sets;
  - o live - connected to cloud and involving other geographically dispersed elements).
- volume and type of datasets used (if applicable);
- other relevant supporting information such as potential existing customers of the presented solution(s); planned incremental updates; technical dossiers (e.g. power autonomy; known security limitations), videos, etc.;
- request for a booth or statement that "no booth is requested";
- intention to attend NTE 18, as part of the audience under general participation conditions, in case the proposed solution is not selected either for plenary or booth sessions. A Calling Letter with all administrative details will be sent in July to the interested respondents.

4.3 **Evaluation of Solutions and Selection Process**. An evaluation team will be set-up in ACT to analyse and evaluate the responses to the RFI and select which solutions will be presented/demonstrated at NTE 18.

This evaluation team will be led by the JALLC in cooperation with personnel from HQ SACT Legal Advisor's Office and the Budget and Finance Office.

The evaluation team will assess each response according to the following criteria:

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

4.3.2. *Priority*: the evaluation team retains the right to prioritize the answers to RFI 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*: the solutions proposed should belong to respondents headquartered only in NATO member countries.

4.3.4. Respondents to this RFI will be given the opportunity, based on their assigned eligibility and priority, to *present* and *demonstrate* solutions in plenary sessions on stage, and/or to *demonstrate* solutions during booth sessions, and to *be part of the audience*.

The evaluation team retains the authority to exclude respondents from consideration in cases where, in the evaluation team's judgment, the respondent's participation in NTE 18 would pose reputational, political, or legal difficulties or consequences to ACT, HQ SACT, JALLC or the Alliance.

4.4 **Communication and Follow-on**. The answers to RFI should be sent by email to the above mentioned POCs – please note that some size limitations for the attachments may apply. Post-submission, RFI respondents may be contacted to provide additional information on their proposals/response. The results of the selection process will be posted on the HQ SACT P&C website at: http://www.act.nato.int/contracting.

4.5 **Handling of Proprietary Information**. Proprietary information, if any, should be minimized and clearly marked as such. Please be advised that all submissions become HQ SACT property and will not be returned. They will be treated as proprietary information with the same due care HQ SACT treats its own proprietary information, including the exercise of due care to prevent unauthorized disclosure to third parties.

4.6 **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 June 29, 2018 will be answered. Answers to the questions will be posted on the HQ SACT P&C website at: http://www.act.nato.int/contracting.

4.7 **Deadline for responding to this RFI**. 29 June 2018

4.8 **Summary**. This is an RFI only. The purpose of this RFI is to request representatives from 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 Lessons Learned Process. HQ SACT has not made a commitment to procure any of the products/solutions 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 again, reemphasised that this document is a RFI, and not a RFP of any kind.

Tonya Bonilla

ACT Contracting Officer - Allied Command Transformation (ACT) NATO/HQ SACT   Tel: (757) 747-3575, **E-mail: tonya.bonilla@act.nato.int**

ANNEX 1 - SCENARIO

Recent studies identified several factors that may impact the NATO Lessons Learned Process, such as the future of NATO's IT infrastructure and architecture, emergent technologies, the foreseen data-rich operating environment, the complex and unstructured data-sets available for analysts, with different formats, in different languages and with different degrees of confidence. Based on these factors, members of the Lessons Learned Community have identified several challenges for an effective and efficient Lessons Learned Process, either at the NATO level or at the National level. Moreover, several opportunities were identified, including the possibility of taking advantage of the new technologies to support the NATO Lessons Learned Process. Such challenges and opportunities that may be supported by new technologies are presented below, grouped by area of interest:

a) Data collection:
- Working in different communication networks (public or classified), with a range of documents (e.g. policies, reports, etc) and with connectivity limitations (e.g. operating on a ship) requires availability of Online and Offline data collection, in all formats (documents, images, video, sound, tables, spreadsheets, log files, internal emails, etc.);
- The value of raw data collected in the field and its immediate availability requires a more mobile data collection in operational environment;
- Data collected in the field should be integrated with data collected in the static environment of a HQ;
- Contributors to a data collection plan have different backgrounds and expertise requiring simple, intuitive, and user tailored data entry templates.
- Providing continuous feedback to contributors is key to encourage their lessons learned mind-set;
- The working and operational environments often present time constraints which can result in incomplete data collection leading in turn to distorted view of facts on the ground. Therefore, the integration of conversational technologies, dictation and speech recognition tools may alleviate these issues by speeding up the data collection process.

b) Data management and accessibility:

- Draft versions of documents have their own value but are not always considered for analysis. Conversely, copies of documents or degraded data that are erroneously included in a database and thereby the analysis, risk affecting the output. Data optimization by integrating intermediate versions into an analysis flow, eliminating duplications, and isolating noise or degraded data is therefore required;
- The data-rich environment requires the integration of all data formats into analysis flow; conversion to text of different data formats will become increasingly important;
- The large amount of unstructured data available requires user-friendly and tailored metadata and tags, locally available for specific projects or reports;
- The different levels of NATO and/or National security clearance and changing the approach from network centric security to data centric security require tailored access to data according to user profile;
- Several databases contain structured data by associating various metadata and tags. Taking into account the ever-changing metadata and tags groups, the searches risk providing unreliable results if the new metadata and tags are not associated to all existing files in the database.

c) Data analysis and visualization:

- The data-rich environment, the analysis resources available, the complexity and variety of the data, and the need for deliverables with very short timelines, require the:
  - o integration of Artificial Intelligence and machine learning to prepare and analyse data, in a single/integrated environment to get insights from data and to generate automated workflows;
  - o integration of descriptive, predictive and prescriptive analytics to support big data analysis, visualize relationships, patterns, and trends;
- The multinational dimension of an operation/mission where NATO is involved, with contingents from different countries, complicates the analysis of valuable resources because they are provided in different languages. This limitation requires availability of polyglot tools to allow exploitation of

resources in various languages.

d) *Tracking and tasking workflows:*

- The complexity of many issues addressed within the NATO Lessons Learned Process requires the availability of integrated project management functionalities and the ability to link output with the organization's strategic management processes;

- The staff workload and tight timelines require the need to track the relevant milestones within the NATO Lessons Learned Process and associated deliverables;

- The evolving security operating environment, decision making process outputs, and resource availability, lead to the need for rapid changes in NATO key documentation, impacting the ongoing implementation of remedial actions as part of the NATO Lessons Learned Process. Keeping up with these changes requires monitoring the internal (NATO) information environment and being alerted when changes impact ongoing workflows;

- The workload of staff and periodic replacement of personnel and leadership, may lead to limited situational awareness on evolving corporate priorities and on the background of the decisions. Therefore, use of Artificial Intelligence and machine learning to emphasize organization's priorities and to contextualize decisions, is required to ensure coherent implementation of leadership vision and unity of effort.

e) *Reporting and Information Sharing:*

- Common understanding in near-real time of the status of observations and potential lessons and their effective exploitation at different levels of the organization require automated reporting and visualization of lessons using pre-defined and adjustable parameters;

- Ad-hoc requirements with local relevance or on a specific topic, require ad-hoc reports based on user tailored templates allowing definition of reporting parameters;

- Users working on various topics need to be able to integrate available lessons. Because of different levels of users' expertise and short timelines for deliverables, there is a need to integrate analytics to provide users pro-

actively with relevant lessons based on individual interest (searches, chronological and geographical relevance, corporate priorities, etc.);

- Informal information sharing supports the learning within an organization so that providing online interaction functionalities are required.