



NORTH ATLANTIC COUNCIL
CONSEIL DE L'ATLANTIQUE NORD

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2 November 2022

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AC/225-D(2022)0020-AS1
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NATO ARMY ARMAMENTS GROUP (NAAG)

**Standardization Proposal (SP) for a STANREC on Countering Class
UAS Data Exchange Format**

Action Sheet

References: 1. LAMP NLC-004
2. AC/225(NLW)D(2022)0004-AS1, dated 10 October 2022.

1. On 31 October, the NAAG agreed under silence procedure the JNLWCG ownership and content of the SP developed by the C-UAS WG for a STANREC on Countering Class UAS Data Exchange Format.
2. This Action Sheet should be part of and attached to AC/225-D(2022)0020.

(Signed) Esther Savvidis Toledo

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Original: English

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11 October 2022

DOCUMENT
AC/225-D(2022)0020

Silence procedure ends:
31 October 2022 17:30

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NATO ARMY ARMAMENTS GROUP (NAAG)

**Standardization Proposal (SP) for a STANREC on Countering Class
UAS Data Exchange Format**

Note by the International Staff

References: 1. LAMP NLC-004
2. AC/225(NLW)D(2022)0004-AS1, dated 10 October 2022.

1. The NATO C-UAS Working Group developed a Standardization Proposal (SP) for a STANREC on Countering Class - UAS Data Exchange Format (see annex).
2. The NATO C-UAS Working Group is currently under the Integrated Air and Missile Defence Policy Committee (IAMD PC) but will move relatively soon to one of the CNAD Main Armament Groups (still TBD). The IAMD PC, not being a NATO Standardization Tasking Authority, noted the need for the C-UAS WG standards to be processed in their relevant domains.
3. Based on staff discussions, it was found appropriate to include this SP into the NAAG/JNLWCG portfolio. This future standard falls into the material domain and aims to answer one of the needs identified by several activities sponsored by the JOINT NON-LETHAL WEAPONS CAPABILITY GROUP (JNLWCG) (e.g. NNTEX): the lack of a standard interface for the C-UAS systems. This work can also be linked to the LAMP focus area objective NLC-004.
4. The responsibility for the development and maintenance of this standard will entirely and permanently reside under the NATO C-UAS Working Group.
5. The JNLWCG (NATO Nations) approved under a silence procedure on the ownership and content of this SP (see reference 2).
6. The NAAG is now invited to agree as well on this proposal under a silence procedure ending on 31 October 2022 COB.

(Signed) Esther Savvidis Toledo

Annex 1

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STANDARDIZATION PROPOSAL

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This standardization proposal format is to be filled in by any interested party to initiate the standardization process through the bottom-up approach. If required the NATO Standardization Office (NSO) can assist the originator to ensure the standardization proposal (SP) addresses the required content and meets formatting requirements. Once completed, please submit to the appropriate tasking authority/delegated tasking authority (TA/DTA). In case of any uncertainty concerning the appropriate TA/DTA, please submit to the NSO.	
1. Reference Number: <i>To be provided by TA/DTA staff / NSO.</i>	2. Date*: 27/07/2022
3. Originator*: NATO C-UAS Working Group	
4. Tasking Authority / Delegated Tasking Authority: CNAD / NAAG / JNLWCG	
5. Subject*: Countering Class I UAS Data Exchange Format	
6. Standardization Need and Impact on Interoperability*: <i>The establishment of a data format would support NATO and Allies in the development of capabilities to counter Class I UAS and would facilitate the technical interoperability when conducting operations (to include prevent, situational awareness, respond and post event actions).</i> <i>The need of a Class I UAS data exchange format has been highlighted in several NATO activities including:</i> - <i>The NATO Non Lethal Technical Interoperability Exercise for C-UAS (NNTEX22-C)</i> - <i>The NATO C-UAS Technical Interoperability Exercise (TIE) conducted in 2021</i> - <i>The NIAG study SG-249 on Low Collateral Damage effectors against SUAS</i> - <i>lessons learned from other similar domain such as Air Defense (AD), Force Protection (FP), Command and Control (C2), Non-Lethal Weapons (NLW) and Joint Intelligence Surveillance and Reconnaissance (JISR).</i> <i>This initiative will also support NATO's effort to define and maintain NATO's Automated Information Systems (AIS) Reference Architecture.</i> <i>This work is coordinated by the NATO C-UAS WG and the JNLWCG / C-UAS sub-group to exploit the benefit of civil-military cooperation and experience of the NLW community in the area..</i>	
7. Urgency*: The plan is to have the Data Exchange Format approved by in the course of 2023.	
8. Fast Track Procedure: <i>Urgent need at national and NATO level to develop C-UAS capabilities. Some examples includes the NATO C-UAS procurement for NATO missions and deployment of National assets to NATO operations (e.g. Italy to KFOR).</i>	
9. Proposed Standardization Solution*: <i>The NATO C-UAS WG agreed to establish a tiger team to develop the NATO C-UAS Data Exchange Format, by adopting and adapting, as needed, the UK standard SAPIENT (Sensing for Asset Protection with Integrated Electronic Networked Technology).</i>	

In terms of content, the idea is to focus on specific C-UAS information exchange requirements, while leaving out of the scope the transport layer specifications. The standard will complement the use of other NATO standards in developing automated information systems to cover the full C-UAS protection model from prevent, situational awareness, respond and post event actions.

NATO has adopted a three layer architecture, where sensor and effectors are placed at the bottom layer, the C-UAS command and control (C2) is placed in the middle layer and the external C2 systems (e.g. ground based air defence C2) are placed in the top layer. The intent is to use the SAPIENT standard to communicate between the bottom layer (sensors & effectors) and the middle layer (C-UAS C2). The communication between the middle layer (C-UAS C2) and the top layer (External C2) will use standards already adopted by the external C2 systems. It is important to note that the NATO Data Exchange Format standard will ensure connection and coherence with military standards such as tactical datalink and JISR standards:

- STANAG 5516, ATDLP-5.16, Link 16,
- STANAG 5518, ATDLP-5.18, JREAP,
- STANREC 4777, AEDP-02, Edition 2, NATO ISR Interoperability Architecture – NIIA and civilian standards as applicable, for example:
- ASTERIX - All-purpose structured EUROCONTROL surveillance information exchange

10. Related Capabilities: *The C-UAS Data Exchange Format will support the development of C-UAS capability, aligned with the NDPP.*

11. Level of Standardization: *[If known, please indicate the level of standardization to be achieved through the implementation of the proposed standardization solution.]*

- ☐ Compatibility ☐ Interchangeability ☒ Commonality

Additional information: *Please indicate any limitation.*

12. Covering Document: *[If known, please indicate the intended covering document for the proposed standardization solution.]*

- ☐ STANAG ☒ STANREC

13. Non-NATO Standardization Solutions: *NATO nations have developed C-UAS architectures and identified information exchange protocols and all these elements will be taken into account.*

14. Working Group: *JNLWCG / C-UAS subgroup, with the support of the NATO C-UAS WG*

15. Custodian: *NATO C-UAS WG*

16. Partner Nations' Involvement: *At this stage, the NATO C-UAS WG agreed the participation of 6 partner nations to the work (Australia, Finland, Israel, New Zealand, Sweden and Switzerland). However, it is expected to have this standard at non-classified open level.*

17. NATO Bodies' Involvement: *NATO bodies which will be involved: NATO IS, ACT, ACO, NCIA, JAPCC, NATO COEs, and NATO Schools*

18. Engagement with Other Actors: *Relevant Governmental Authorities and International Agencies and Organizations.*

19. Classification And Release: *The aim is to keep the publication non-classified.*

20. Languages Required: <i>[Please indicate the language in which the proposed standardization solution needs to be available.]</i> ☒ English ☐ French ☐ Both
21. Promulgation Criteria: N/A
22. NATO Effective Date: Q4 2023
23. Relationship to Existing NATO Documents: STANREC 4777, AEDP-02, NATO Intelligence, Surveillance, And Reconnaissance (ISR) Interoperability Architecture (NIIA) - Architecture Description STANAG 5516, ATDLP-5.16, Tactical Data Exchange (LINK 16) STANAG 5518, ATDLP-5.18, Interoperability Standard For The Joint Range Extension Application Protocol (JREAP) STANAG 5535, ADatP-35, Air surveillance And ground based sensors information exchange ASTERIX (All Purpose STructured Eurocontrol suRveillance Information Exchange) - EUROCONTROL
24. Military services affected: <i>[If known, please indicate the military services affected by the proposed standardization solution.]</i> ☒ Joint ☒ Air ☒ Land ☒ Maritime ☒ Other
25. Other information: <i>Please report any other information you consider relevant.</i>
26. Contact Information: __Dr. Claudio Palestini ,Emerging Security Challenges Division (ESCD), T +32 2 707 4150, M +32 474 55 21 51, palestini.claudio@hq.nato.int
27. Name and signature*: Name: Claudio Palestini <i>[please provide your full name]</i> Signature: _____ <i>[please sign]</i>

* These fields are mandatory.