



STANDARDS EVOLUTION WORKSHOP

The strategic role of military in
evolving aviation standards

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MILITARY ROLES IN STANDARD EVOLUTION - A STRATEGIC PARTNER

Scope:

Grant the air security of the EU citizens

- User
- Air Navigation Service Provider
- Airport Manager
- Regulator for OAT



Type of assets	Number	Type
Combat Aircraft	3365	23
Helicopters	3000	46
Air Defence systems and Military ACC	67	//
Light Transport Aircraft	1315	67
Heavy Transport Aircraft	425	35
RPAS (All types)	428 10% HALE/MALE	26
Airfield	225	//

The complexity of the military environment where standards are the key

WHAT IS MANDATORY FOR MILITARY IN CIV-MIL COLLABORATION IN SES

Interoperability

Regulation (EU) 2018/1139 «The basic regulation»

- ▶ (9) military Aerodromes and ATM/ANS “...offer a **level of safety and interoperability** with civil systems that is **as effective** as that resulting from the application of the essential requirements for aerodromes and ATM/ANS **set out in this Regulation.**”
- ▶ Art.2-5-b) the ATM/ANS ... **offer a level of safety and interoperability with civil systems that is as effective** as that resulting from the application of the essential requirements **set out in Annexes VII (A/D) and VIII (ATM/ANS and ATCO) to this Regulation.**
- ▶ Art.3-6 ‘**ATM/ANS constituent**’ means tangible objects such as hardware and intangible objects such as software upon which the **interoperability of the EATMN depends;**
- ▶ Annex VIII: EATMN, its systems and their constituents shall support the **timely sharing of correct and consistent information covering all phases of flight, between civil and military parties,** without prejudice to security or defence policy interests, including requirements on confidentiality

Due regard

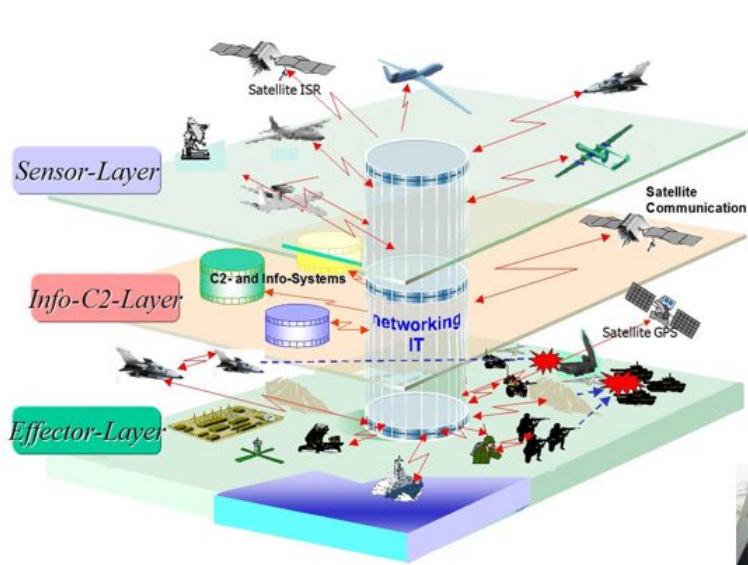
The “due regard for the safety of navigation of civil aircraft”

- ▶ FAAO 7110.65 defines DUE REGARD as – a phase of flight wherein an aircraft commander of State-operated aircraft assumes responsibility to separate his/her aircraft from all other aircraft.
- ▶ Flight operations in accordance with the options of “due regard” or “operational” obligates the authorized state aircraft commander to:
 - ▶ 1. Separate his/her aircraft from all other air traffic; and
 - ▶ 2. Assure that an appropriate monitoring agency assumes responsibility for search and rescue actions; and
 - ▶ 3. Operate under at least one of the following conditions:
 - ▶ (a) In visual meteorological conditions (VMC); or
 - ▶ (b) Within radar surveillance and radio communications of a surface radar facility; or
 - ▶ (c) Be equipped with airborne radar that is sufficient to provide separation between his/her aircraft and any other aircraft he/she may be controlling and other aircraft; or
 - ▶ (d) Operate within Class G airspace.
 - ▶ (e) An understanding between the pilot and controller regarding the intent of the pilot and the status of the flight should be arrived at before the aircraft leaves ATC frequency.

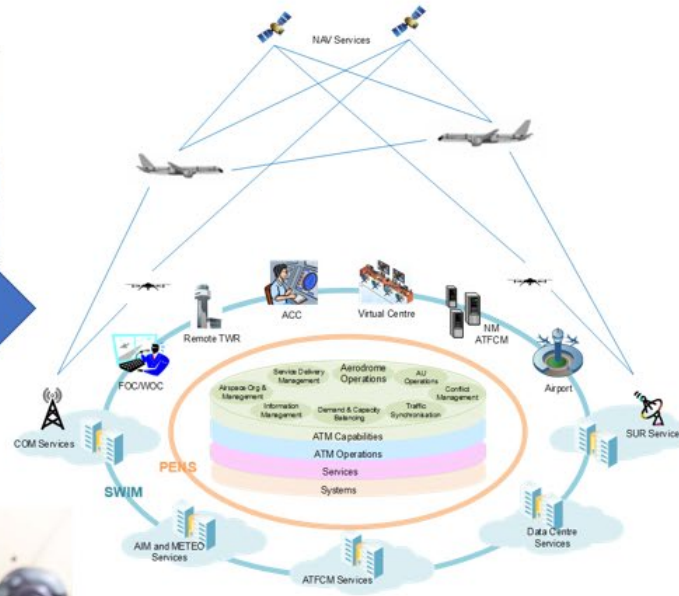
Common standards are the key of success

INTEROPERABILITY: WHAT DOES IT MEAN

The ability of military to operate in conjunction with each other and with civil aviation stakeholders .



Military crisis environment
Core mission



SES environment
Enabler



Ground / Airborne - Equipment and Procedures

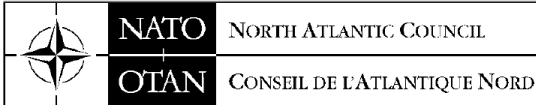
INTEROPERABILITY: WHAT HAS BEEN AGREED AT POLICY LEVEL



EDA documentation for Government use only

MILITARY AVIATION STRATEGY IN THE CONTEXT OF SINGLE EUROPEAN SKY

FINAL - 20 JANUARY 2017



NORTH ATLANTIC COUNCIL

CONSEIL DE L'ATLANTIQUE NORD

NATO UNCLASSIFIED
Releasable to Montenegro

27 January 2017

DOCUMENT
C-M(2017)0006 (INV)
Silence Procedure ends:
3 February 2017 16.00 hrs

MILITARY AVIATION STRATEGY IN THE CONTEXT OF SINGLE EUROPEAN SKY

Note by the Secretary General

Access to Airspace and Use of Air Navigation Services

15. Military aviation in Europe shall have effective and safe access to airspace in order to train for, and conduct, security and defence missions in peacetime, crisis and conflict.
16. Enhanced civil-military coordination should be achieved in order to facilitate and handle the military manned and unmanned missions flexibly, on a 24/7 basis, with no time or space restrictions, in all types of airspace.
17. Military Aviation in Europe shall continue to be granted timely availability of optimal routing and the **necessary support from air navigation services**, to transit from, and into, military operating areas, to navigate at medium and long range and to perform cross-border operations, occasionally with little or very short-notice. Proactive coordination accommodating peacetime military requirements and crisis management responses, will be required if the military are to fully realise the benefits of flexible use of airspace.

Confidentiality and Cybersecurity Objectives

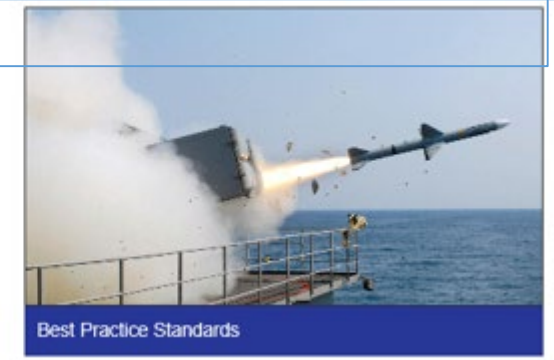
18. Operations in the air domain heavily rely on the effective exchange and sharing of digital data among relevant stakeholders and operators. The military shall maintain the ability to protect confidentiality of mission critical information. **The necessary information shall be shared** by the competent authorities across the Air Traffic Management (ATM) network. A resilient and robust data sharing network, including relevant cyber protection and cyber resilience will be essential.

Interoperability

19. Military will be **as compliant as possible but will need specific arrangements** when deemed necessary as it is equally important to ensure that military-to-military interoperability is maintained to enable the effective contribution to operations in multinational coalitions.
20. The need to safely operate with a high degree of reactivity and flexibility, calls for an appropriate level of **interoperability with civilian aviation structures and procedures**. It is therefore crucial to ensure that any evolution in civil ATM standards take due account of military needs and ability to maintain interoperability to achieve the required levels of readiness postures to respond to the full range of missions.

EUROPEAN DEFENCE STANDARDS REFERENCE SYSTEM EDSTAR

- EDSTAR is the **European Defence Standards Reference system** containing references to “Best Practice” standards and standard-like specifications.
- 75% of civil standards and 25% of military Standards (the military are using civil standards)
- The EDSTAR database is maintained in cooperation with standardization stakeholders
- EDA added value in the defense standardisation domain:
 - Selection of “best practice standards”
 - Production of a report on the selection made
- EDA do not produce any standards, and is able to address identified standardisation gaps to the relevant standardization organization
- “Best Practice” standards are selected by consensus by industry and governmental agencies to be the best applicable standards for :
 - **Procurement**
 - **Capability Development**
 - **Interoperability.**



No need to register

Open Source Public Platform

<http://edstar.eda.europa.eu>

Domain
EMAR
ATM
RPAS
Software Defined Radio
Test and Evaluation /AIR domain
Test and Evaluation /Land domain ongoing
Test and Evaluation /Maritime domain ongoing
Test and Evaluation /Cyber domain ongoing
CBRN SaaS /PESCO
Camouflage ?
Military Mobility ?
Maritime Navigation
Additive Manufacturing / Spare parts for operations
Fight Against CORONA
The list is not exhaustive

INTEROPERABILITY: RISK AND OPPORTUNITY FOR MILITARY

SESII+ amended proposal will undoubtedly imply an additional **shift of prerogatives** from national to EU level increasing the need for harmonization and standardization

RISK:

- ▶ Lack of standards increases **military fragmentation in the SES context**
- ▶ **mitigation measures** (exemption, delays, derogations) might become more restrictive in the future performance driven airspace and could imply additional costs for Defence budgets
- ▶ hamper interoperability if military do not provide security and defence requirements

OPPORTUNITY:

- ▶ enhance **Military-Military** and **Civil-Military collaboration** leading, wherever possible, to
 - ▶ Identify **common standards** notably dual-use (Syria example)
 - ▶ facilitate **interoperability** and technical solutions
 - ▶ **Improve overall cyber resilience e.g. with involvement in the EUROCAE cyber-related standards work**
 - ▶ Accelerate industrialization phase and transition from R/D to implementation

MILITARY ACTIVITIES IN THE STANDARDIZATION FIELD

OBJECTIVE

How the military acts to preserve the interests of military in standard evolution

- Develop cooperation with industry and SES key players (e.g. Eurocontrol SJU, SDM, ICB, etc)
- Involvement of EASA Rulemaking notably in Airworthiness RPAS ATI and U-Space/UTM concept
- Accommodate technical performance based solutions
- Identify military cyber security and confidentiality requirements
- Involvement in EUROCAE and European Standardisation Organisations in all phases of decision-making (notably cyber activities, ATM, UAS)
- Promote cost-effective mitigation measures
- Seek for dual-use standard btw civil and military (common infrastructures)





THANK YOU

