NATO Recognition of Airworthiness Authorities: Return of experience

Briefing to EDA’s MILITARY AIRWORTHINESS CONFERENCE
Vilnius, 09-10 Oct 2019
- NATO Airworthiness Policy (NAWP)
- NAWP Implementation Plan
  - NATO Recognition Process (NRP)
  - AWAG Action Plan: Assessment of AAs
- Return of experience
- Conclusion
Main principles:

- **Applicability (para 7):**
  - all aeronautical products, parts and appliances
  - owned, leased, rented or chartered
    - by NATO
    - by Member, non-Member, or Partner Nations and operated on behalf of NATO

  🔴 Out of the scope: all aspects of flight operations, such as operational procedures, flight standards, operator training, aircrew qualification and licensing, and aerospace control operations (para 8)

- **Aircraft certification is a sovereign responsibility (para 3):**
  🔴 The NATO Airworthiness Executive (NAE) required by the NAWP is not an Airworthiness Authority
Main principles:

- All aeronautical products, parts and appliances provided on behalf of NATO shall be (para 9):
  - certified as airworthy by a NATO Recognized Airworthiness Authority;
  - properly controlled in accordance with approved continued airworthiness provisions;
  - operated and maintained in accordance with approved continuing airworthiness provisions.

- Ensure airworthiness related materiel risk process exists (para 12)

- All work associated with the airworthiness process shall be performed by authorized individuals employing approved processes within organizations accredited/approved by a NATO Recognized Airworthiness Authority (para 10)
- **NAWP**: approved by the NAC on 18 JUL 2013
  - The NAE shall provide an Implementation Plan (IP) to be approved by the NAC before the policy takes effect
- **NAWP IP**: approved by the NAC on 01 JUL 2016
NAWP IP ⇒ develop and implement a NATO Recognition Process (NRP)

- **Draft NRP** approved by AVC on 12 APR 2017
  - experimental phase: validation against a Pilot Project
- **NRP** approved by AVC on 20 DEC 2017
  - Purpose: launch NRP with MAAs
- **Refined NRP** approved by AVC on 25 OCT 2018
  - Together with **NRP Manual** approved by the AWAG on 10 Oct 2018 comprising:
    - Guidance for the NRP
    - Templates
      - NATO Assessment Team (NAT) nomination package + Guidance
      - NATO Recognition Plan (RP)
      - NATO Assessment Report (NAR)
      - NATO Recognition Certificate (NRC)
NATO Recognition Process (NRP)

1. Assemble a NATO Assessment Team (NAT)
2. NATO Nominees
3. NAT Nominees

NAT Requests for clarification

Clarifications

Yes

No

确认需要

F2F访问

On-desk评估

一般NAT领导

NRC

NATO Assessment Report (NAR)
- 总结评估
- 符合MARQ结构
- 确认MARQ安全目标未由航空适航系统满足
- 推荐
  - Nato认可
  - 条件NATO认可

NAT verification

AWAG批准NAR

NAE issues

AVC批准

NAE verification

AW Specialist (Generally NAT Lead)

MAA

Recognition Plan (RP)

NRP to be conducted every 4 years or earlier if significant change

NATO Recognition Survey (NRS)
1. Airworthiness System Overview
2. MARQ (from EMAD R)
3. Additional information (e.g. extent recognitions by NMAAs)
## AWAG Action Plan (APR 2017, updated annually on MAY 2018 and MAY 2019)

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<th>Status</th>
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<tr>
<td>🇳🇱 MAA-NLD</td>
<td>• NATO Recognition on 10 JAN 2018 (NRC-0001)</td>
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<td>🇮🇹 DAAA</td>
<td>• NATO Recognition on 31 OCT 2018 (NRC-0002)</td>
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<td>🇫🇷 DSAÉ + DGA</td>
<td>• NATO Recognition on 31 OCT 2018 (NRC-0003)</td>
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<td>🇨🇦 CA MAA</td>
<td>• NATO Recognition on 01 MAR 2019 (NRC-0004)</td>
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<td>🇳🇴 NMAA</td>
<td>• NATO Recognition on 03 MAY 2019 (NRC-0005)</td>
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<td>🇭🇺 HUN MoD SAD</td>
<td>• NATO Recognition on 18 JUL 2019 (NRC-0006)</td>
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<td>🇪🇸 DGAM</td>
<td>• NATO Recognition on 24 SEP 2019 (NRC-0008)</td>
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<td>🇧🇪 BMAA</td>
<td>• NATO Recognition on 23 AUG 2019 (NRC-0007)</td>
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<td>🇺🇸 3 TAAs (USN, USA &amp; USAF)</td>
<td>• Face-to-face visit on 05-08 AUG 2019</td>
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<td>🇷🇺 SN VLO</td>
<td>• Face-to-face visit in 2020/Q1 (if deemed necessary)</td>
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<td>🇬🇧 UK MAA</td>
<td>• Face-to-face visit in 2020/Q1 (if deemed necessary)</td>
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| 🇪🇺 FAA, TCCA, EASA (+ CAAs of EASA MS which are NATO Allies) | • NRP provisions for NATO Recognition without further assessment  
• Allows to cover Third Country Operators operated into, within or out one of these States  
• NATO Recognition expected before late 2019 |
A proper balance is needed to achieve NAWP Implementation.
Airworthiness System Overview

- Official exposition document (e.g. NL: Organisation Manual)
- Overview document specifically developed for the NRS (e.g. IT)
- Some regulations published in several languages, incl. English (e.g. CA, BE)
- Official or courtesy translation when regulation not published in English

MARQ

- The lighter the responses, the more requests for clarification
  - BE developed a MARQ companion book for more comprehensive responses with organisation charts and process charts

Additional information

- Recognition Certificates without Recognition Reports are useless
- MAA-to-MAA Recognitions are project driven and often EMAR based
One MAA or several MAAs?

- One MAA per service (e.g. US 🇺🇸 🇫🇷 🇪🇸), each with its own regulation
- Two complementary MAAs (e.g. FR 🇫🇷 🇪🇸) under a single regulation
- MAA duties spread over different branches with close coordination and decisions taken by a joint Executive Board (e.g. BE 🇧🇪)
- MAA decisions taken by an Airworthiness Board with members from the organic regulated community (e.g. ES 🇪🇸)
- MAA under a Steering Board with the organic regulated community taking decisions on regulation and work plan (e.g. FR 🇫🇷 🇪🇸 🇪🇸)

⚠️ There is no single universal solution: the NRP is able to assess any airworthiness system, globally
Assess the level of independence of the MAA within the MoD

- Independence from operator influence
- Independence from programme management and procurement

Question: is there sufficient independence?

- Some MAAs are directly under the Minister of Defence or report directly to the Minister of Defence
- There is a decision making process ensuring the independence
- The appointed authority is aware of the legal implications of duty of care
On-desk assessment with the information provided with the NRS (airworthiness system overview, MARQ, additional information):

👍 from the outside, it looks quite standard

✔️ But sometimes inside the regulation, it is like...

feeling like Champollion:
EMAR or not EMAR: is that a question?

- No EMAR implemented (e.g. CA, US)
- EMAR implementation is still in planning phase
- EMAR anticipated implementation pending official regulation (e.g. BE)
- EMAR implementation in force, but limited to future and recent aircraft types
  - Living in parallel with a legacy regulation more (e.g. FR) or less (e.g. HU) EMAR compliant
  - A transition period for EMAR implementation has been defined
  - Progressive publication: EMAR by EMAR
- Legacy regulation only, but more (e.g. NL) or less EMAR compliant
- EMAR fully implemented as sole regulation

👍 It does not matter: the NRP is EMAR agnostic
Except a few,

most of us speak a lingua franca called Globish:

but it does not mean that we understand each other
Champollion had the Rosetta stone

We have:

- National Military Airworthiness Requirements
- ICAO Document 9760 ed.3 Airworthiness Manual (basis of MARQ Safety Goals)
- European Military Airworthiness Requirements (EMAR)
Is staff manning commensurate?

- MAAs of nations procuring foreign aircraft types only may need less staff by relying on the MAA of the country/countries of origin
  
  - A formal recognition of the MAA of the country/countries of origin will help secure the use of substantiation documents and artefacts without further verification

- Civil type certified aircraft benefitting from CAA artefacts
  
  - Civil type derivatives also, if provisions in the regulation

- MAA manning permanent or temporary shortfalls can be mitigated by:
  
  - Organic outsourcing: GQAR, entitled personnel, AR Personnel
  
  - Contracted outsourcing: qualified consultants
Continuing Airworthiness Management functions

- The MARQ contains Safety Goals about CAMOs
  - But some regulations do not contain requirements to set up CAMOs
- In fact, ICAO Doc 9760 AW Manual speaks of Continuing Airworthiness
  - The NRP has to make sure that essential Continuing Airworthiness Management functions are carried out i.a.w. ICAO Doc 9760
  - But sometimes they are scattered under the responsibility of several entities within the same service

Airworthiness approval of products in Production and release certificate in Maintenance

- EMAR or EASA Form 1 and Form 52 or equivalent
- Sometimes, Certificates of Conformity (CoC) without any airworthiness statement from an authorized individual are the sole documents
In the frame of the implementation of the NATO Airworthiness Policy, the NATO Recognition Process (NRP):

- is applicable to any national airworthiness system,
- is EMAR agnostic,
- allows NATO to have good insight of national airworthiness systems
  - through a standardized NATO Assessment Report (NAR), providing a detailed synthesis of the NRS

One challenge lies in the recommendation:

“NATO Recognition” or “Conditional NATO Recognition”

- It is based on the experience and the common sense of the each NAT;
  and
- controlled by AWAG concurrence
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