ITA MAA journey through EMAR

Implementation

IMARC 14-15 Nov

Brig. Gen. Giorgio ORSINI

ITA MoD Directorate for
Air Armaments and Airworthiness
To provide Italian Military Airworthiness Authority (ITA MAA) experience, future planned activities and milestones on EMAR implementation in the national framework and in international programs in order to provide useful valuable elements on promotion of EMAR globalization or, more in general, of global convention on airworthiness regulation for military purpose.

- **Impact on existing ITA MAA organization and regulation framework**
- **Challenges while implementing EMAR within a wider military context**
- **Gap/equivalency analysis as EMAR implementation strategies**
- **Proven benefits and driven efficiencies by military airworthiness regulation harmonization within European Military Cooperation programs (EFA, NH90)**
- **EMAR and NATO Airworthiness Policy**
DEFINITIONS

CIVIL AIRCRAFT
Any machine design for the transportation by air of personnel and/or goods that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against of earth’s surface.

MILITARY AIRCRAFT(EMAD-1)
An aircraft (including RPAS – Remote Pilot Aircraft System) designed and/or operated for military use and registered or intended to be registered on the Military Register of a pMS Authority.

ITA MAA, even considering the differences and peculiarities of Military A/C definitions, tends to align with EASA concepts: MTCA, MTCH and Air System Design Organization (Original Equipment Manufacturer).
AGENDA

Background on ITA MAA / DAAA
- Organization
- Regulatory Framework – Current status
- Airworthiness Processes – Current status

Approach to EMAR Implementation
- EMAR and NATO AW Policy
- Gap analysis with existing regulation
- EMAR Implementation Status
- EMAR Challenges/Considerations

AW Harmonization – Case studies
- AW Regulation Harmonization in EFA
- AW Regulation harmonization in NH-90

Conclusion / Final Remarks
The DAAA currently is the: «Italian Military Airworthiness Authority» (MAwA)
The DAAA has been recognized as competent Military AW Authority by:

- US Department of Defense (USAF/USARMY/USNAVY)
- Argentina Ministry of Defense
- Singapore Royal Air Force
- Israeli Air Force
- United Kingdom, Germany, Spain MoD (EF2000)
- France, Germany, Spain MoD (NH90)
- MAA for NATO Global Hawk AGS
BACKGROUND ON ITA MAA/DAAA

**Article 3**
(a) This Convention shall be applicable only to civil aircraft and shall not be applicable to state aircraft; 
(b) Aircraft used in military, customs and police services shall be deemed to be state aircraft ...

**Article 745**
Military Aircraft shall be allowed to air navigation, certified and registered in a specific Registry by the MoD

**Article 748**
This Code shall not be applicable to state aircraft

**Ministerial Decree 22.06.2011**

**Article 14**
The DAAA, as National Military Airworthiness Authority, shall issue regulation for Military Aircraft, allow them to the air navigation, certify and register them in the Military Aircraft Registry (R.A.M.)
BACKGROUND ON ITA MAA/DAAA

REGULATORY FRAMEWORK – CORE PROCESSES

Core Processes

AW Regulation Issuance

Initial AW

Registration of Military Aircraft

Continued AW

Organisations Approval and GQA

Process Owners

2nd OFFICE
AIRWORTHINESS REGULATION
GQA AND AW APPROVALS

1st OFFICE
INITIAL AND CONTINUED AW

1st OFFICE
INITIAL AND CONTINUED AW

1st OFFICE
INITIAL AND CONTINUED AW

2nd OFFICE
AIRWORTHINESS REGULATION
GQA AND AW APPROVALS

ITA MAA journey through EMAR implementation
BACKGROUND ON ITA MAA/DAAA
REGULATORY FRAMEWORK

INITIAL AIRWORTHINESS

CONTINUING AIRWORTHINESS

CONTINUED AIRWORTHINESS

DESIGN DEVELOPMENT
TYPE CERTIFICATE
PRODUCTION
OPERATION
MAINTENANCE
CONFIGURATION CHANGES
PHASE OUT

AER.P.516 AW Basis
AER.P.2 Type Certification and Qualification Process
AER.P.16 TC&Q Instructions
AER.Q.2000 QMS for DOPO MO
AER.P.7 Military Aircraft Registry
AER.P.145 Maintenance Organisation Approval
AER.P.10 MDAO
AER.G.2006 Configuration Management
AER.G.2005 Continuing AW Management
AER.P.2147 Maintenance Training Organisation
AER.S.00-00-5 Configuration Management
AER.S.00-03-0 Tech Pub Configuration Management
AER.S.00-01-6 Occurrence Reporting
AIRWORTHINESS = The ability of an aircraft, or other airborne equipment or system, to operate in flight and on ground without significant hazard to aircrew, ground-crew, passengers (where relevant) or to third party.

**EUROPEAN Level**
- EDA (European Defence Agency) MAWA Forum
  - Development of common regulatory framework, certification process and mutual recognition between members
  - Approval of a complete set of European Military Airworthiness Requirements with the approval of EMAR M, in addition of EMAR 21, EMAR 145, EMAR 66 and EMAR 147

**NATO Level**
- AVC (Aviation Committee) AWAG (Airworthiness Advisory Group)
  - NATO AIRWORTHINESS Policy
  - Development of a robust framework that ensures airworthiness of aeronautical products/parts based on the principles of economy of effort, cooperation and interoperability.
  - It does not replace/interfere with established national airworthiness policies and/or regulations.
EMAR IMPLEMENTATION

AW PROCESSES – CONFIGURATION MANAGEMENT

INITIAL AIRWORTHINESS → CONTINUING AIRWORTHINESS → CONTINUED AIRWORTHINESS

DESIGN DEVELOPMENT ▶ TYPE CERTIFICATION ▶ PRODUCTION ▶ OPERATION ▶ MAINTENANCE ▶ CHANGE MANAGEMENT ▶ PHASE OUT

INITIAL AIRWORTHINESS

DESIGN
- TYPE CERTIFICATION
- PRODUCTION
- CERTIFICATE of AIRWORTHINESS
- REPAIR DESIGN
- MODIF

Standard contents/book
- Section A → Technical Requirements
- Section B → Procedures for Competent Authorities
- Acceptable Means of Compliance (is NOT mandatory but if you follow the AMC than you automatically comply with requirements sections A & B)
- Guidance material

MAINTENANCE
- Who & Where
- How

TRAINING
- Where
- What

EMAR-21
- EMAR-145
- EMAR-M
- EMAR-147
- EMAR-66
The vast majority of EMARs requirements are already covered by the extant Italian regulations.

Some regulations are already named by using EMARs number (e.g. AER(EP).P-145, AER(EP).P-516, ...)

Any gap existing between EMARs and AER regulations system has been investigated by DAAA.

A detailed plan for implementation has been approved to fully (no general exemptions) introduce EMARs into ITA MAA Regulatory framework.

**EMAR vs ITA Regulations gap analysis is a bidirectional process. ITA National Sovereignty Regulation requirements, not included under EMAR umbrella, needs to be maintained and armonized with EMAR implementation (i.e. military aircraft registry).**
<table>
<thead>
<tr>
<th><strong>Target:</strong></th>
<th>Implementation of EMAR 21</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Requirements:</strong></td>
<td>All subparts to be included (TBC)</td>
</tr>
<tr>
<td><strong>Deadline for issuing:</strong></td>
<td>Dec 2016 — So, all and only the new A/C acquisition contracts shall direct EMAR 21 requirements application.</td>
</tr>
<tr>
<td><strong>End of transition period:</strong></td>
<td>Depending on Subpart</td>
</tr>
<tr>
<td><strong>Applicability:</strong></td>
<td>All new programmes + some specific legacy collaborative programmes, case by case</td>
</tr>
<tr>
<td></td>
<td>F-2000 Typhoon, partially</td>
</tr>
<tr>
<td></td>
<td>NH-90, partially</td>
</tr>
<tr>
<td><strong>Criteria:</strong></td>
<td>Adoption of EMAR 21 + National AMC</td>
</tr>
<tr>
<td></td>
<td>Extant regulations will be used as basis for National AMC</td>
</tr>
<tr>
<td></td>
<td>Only specific adjustments and changes to extant regulation to be compliant with EMAR21</td>
</tr>
<tr>
<td><strong>Plan of implementation:</strong></td>
<td>Progressive replacement of extant regulations with related EMAR 21 Subparts</td>
</tr>
</tbody>
</table>
EMAR IMPLEMENTATION

STATUS – CONTINUING AW

Target:
- AER(EU).P-145

Requirements:
- EMAR 145

Issued:
- Dec 2014

End of transition period:
- Dec 2015

Applicability:
- All non-military MO (it will be implemented NLT 4Q2017)

Criteria:
- Adoption of EMAR 145 (English language) + National AMC

Plan of implementation:
- Closed (The first set of certificates of approval has been already issued)

Major impacts and changes needed for Military Organizations

Missing pieces

Related Regulations
Until all continuing airworthiness related regulation will not be fully implemented, AER(EP).P-2005 will remain applicable to all Military Maintenance Organization providing Maintenance Operations and Maintenance Fleet Management on Military Aircrafts.
EMAR IMPLEMENTATION

Target:
- Implementation of EMAR 66 to AER(EP).P-66

Requirements:
- EMAR 66

Deadline for issuing:
- Dec 2016

End of transition period:
- Dec 2018 (TBC)

Applicability:
- All personnel involved in the Maintenance of Military Aircraft

Criteria:
- Adoption of EMAR 66 (English language) + National AMC

Plan of implementation:
- Approved

STATUS – CONTINUING AW

Section A- Technical Requirements
Section B- Procedure for NMAA Subparts A to F
Appendix I – Basic Knowledge Requirements
Module 50
Appendix II – Aircraft Examination Standard
Appendix III – Aircraft Type Training and Examination Standard On Job Training
Appendix IV – Experience requirements
Appendix V – Application Form – EMAR Form 19

RELATED REGULATIONS

AER.P-66
AER.P-2147
AER.P-145
AER.P-2005
AER.P-M

MISSING PIECE

ITA MAA journey through EMAR implementation
MAJOR IMPACTS ON MILITARY SERVICES AND POLICE FORCES

ORGANIZATIONAL CHANGES
- New qualification/training process is required for maintenance personnel
- New maintenance personnel categories/classifications
- Different timelines for maintenance personnel qualification completion
- Potential impact on job/position application process (impact on Laws)
- Potential impact on the present training system framework/structure

TRANSITION / CONVERSION PROCESS
- Definition of the transition process: define hybrid phase with coexistence of maintenance personnel with legacy and new qualifications
- Definition of conversion/recognition process: maintenance personnel qualification recognition based on legacy qualifications and competences/skills assessments process.

SYLLABUS:
- Verification of syllabus conformance to EMAR 66

HUMAN RESOURCE MANAGEMENT IMPACT:
- Identification of Military Aircraft Maintenance License categories to be released for NCO maintenance personnel and for Technical Officer.
- Skills and competences requirements (different categorizations)
EMAR IMPLEMENTATION

STATUS – CONTINUING AW

**Target:**

**Requirements:**
- EMAR 147

**Deadline for issuing:**

**End of transition period:**
- NA

**Applicability:**
- All Maintenance Organizations

**Criteria:**
- Adoption of EMAR 147 (English language) + National AMC

**Target:**
- Implementation of EMAR M to AER(EP).P-M

**Requirements:**
- EMAR M

**Deadline for issuing:**
- TBD (depending on the publication by EDA of EMAR M (Acceptable Means of Compliance/Guid. Materials)

**End of transition period:**
- TBD

**Applicability:**
- Based on identification of roles and responsibilities within each Service

**Criteria:**
- TBD

**Plan of implementation:**
- In progress
ITA has agreed to apply EMAR to EFA and NH90 programs (“legacy programs“) ONLY FOR SPECIFIC SUBPARTS
<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
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<tbody>
<tr>
<td>Impact on EF2000 organizational framework</td>
<td></td>
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<tr>
<td>Possibility of contractual, procedural changes as key enablers</td>
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<tr>
<td>Contractual impact on primary contractors and subcontractors</td>
<td></td>
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<tr>
<td>Mutual recognition among the program MAAs</td>
<td></td>
</tr>
<tr>
<td>About two years implementation timeframe</td>
<td></td>
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<tr>
<td>Privileges to primary companies provide program efficiency in terms of cost and timing reductions on config changes</td>
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</table>

ITA MAA journey through EMAR implementation
### EMAR “level 0” Programme Plan – Programme activities

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<tr>
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<th>2015</th>
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<th>2016</th>
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<td><strong>EUROFIGHTER</strong></td>
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<td>Phase 1</td>
<td>Gamma privileges</td>
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<tr>
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<th>2016</th>
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<td>Jun</td>
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<tr>
<td><strong>EuroJet</strong></td>
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<td>EJ MDOA MDOA certifications</td>
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<td><strong>Eurofighter</strong></td>
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<td></td>
<td>EF “preparatory” activities for Repair</td>
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<td>Phase 4 Inclusion of Repair</td>
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*ITA MAA journey through EMAR implementation*
EMAR “level 0” Programme Plan – EF activities (Ph1 & 2)

AW HARMONIZATION CASE STUDIES
EF2000- Typhoon EMAR 21 – Subpart J Working Group

ITa MAA journey through EMAR implementation
Mutual Recognition

<table>
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<tr>
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<th>2015</th>
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<tr>
<td>Nation Procedures for Q&amp;C</td>
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<td>Agreement</td>
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<td>NNs procedure draft</td>
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<td>NNs procedure Up Issue Phase 1</td>
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<td>NNs procedure Up Issue Phase 2</td>
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<td>Mutual Recognition</td>
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<td>Support doc for clearance (if required)</td>
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</table>

28 or 29 January Proposal for signature ceremony: NNs to agree on

Input to MDOA activities
EMAR “level 0” Programme Plan – EJ activities (Ph3)

Draft programme to be detailed with EJ and EF
EMAR “level 0” Programme Plan – Repair inclusion (Ph4)

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<td>Jun</td>
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<td>Apr</td>
<td>May</td>
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<tr>
<td>June</td>
<td>July</td>
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**EF preparatory activities**

**Draft programme to be detailed with EJ and EF**

Input from Mutual Recognition activities
AW HARMONIZATION CASE STUDIES

NH90 PROGRAM

NH90 Community Programme - Governance

Steering Committee (SC)  Community SC (CSC)

Joint Executive Committee (JEC)  Community JEC (CJEC)

NAHEMA

NHI

AIRBUS HELICOPTERS

AIRBUS HELICOPTERS DEUTSCHLAND

FINMECCANICA HELICOPTER DIVISION

FOKKER

ITA MAA journey through EMAR implementation
AW HARMONIZATION CASE STUDIES

NH90 PROGRAM

JMAAN Lead Nation & Recommendation principle

Applicable rules:
JMAAN Policy Paper (to be superseded by JMAAN Basic Framework) and
JMAAN 21

Applicable rules:
National rules (e.g. national EMAR derivative)

Joint Military Aviation Authorities NH90 (JMAAN)

Primary Authorities (PA)

National Military Aviation Authorities (MAA) of Participating Nations of “Airworthiness” Programme Arrangement under NH90 CMOU

PA level jointly provides recommendations, that need to be validated on MAA level

ITA MAA journey through EMAR implementation
JMAAN subjects

- Continuing Airworthiness relies on data from Supportability Data Exchange and In-house Technical Support
  - Processes involves Primary Authorities
- Type Design changes follow the CM procedures
- DOA is a Primary Authority activity

AW HARMONIZATION CASE STUDIES

NH90 PROGRAM

ITA MAA journey through EMAR implementation
JMAAN documents today

(static slide version, hidden)

MOU relating to the NH90 Community

Programme Arrangement No. 11 Continuing Airworthiness

JMAAN Terms Of Reference

JMAAN Policy Paper

Applicable rules: JMAAN 21

Continuing Airworthiness Handbook
AW HARMONIZATION CASE STUDIES

NH90 PROGRAM

Vision for JMAAN documents
(static slide version, hidden)

MOU relating to the NH90 Community

Programme Arrangement No. 11 Continuing Airworthiness

JMAAN Terms Of Reference

JMAAN Policy Paper

Continuing Airworthiness Handbook

JMAAN Basic Framework

Applicable rules: EMAR

ITA MAA journey through EMAR implementation
Future EMAR Transition: Introduction & background

1. Similar as it has been done with NH90 DOA, a multinational granting process for POA and MOA shall be considered as:
   - A way to solve the issues of Nations that already need an AW controlled environment for production and maintenance
   - A necessary anticipation for the future when some NH90 Nations decide to implement airworthiness regulations
   - An improvement for a better control of industry
   - A benefit in terms of a unique international process

2. For this purpose, use of EMAR appears rightful

3. To consider a step approach for the implementation of EMAR:
   - “adopting EMAR” as airworthiness requirements for contracted activities (industry only) → Program decision based on PAs recommendation
   - “implementing EMAR” on the NH90 activities (at industry & users level) → Nation decision
Generally all Nations NH90 are ambitioned to implement EMAR as future set of military airworthiness requirements

- In Jan 2016 the EMAR-Transition Workshop was performed with Nations and IND participation to clarify objectives, scope and Nations’ ambitions
- In March 2016 (JMAAN WG 26) outcome of EMAR-Transition Workshop was harmonized between JMAAN and IND
- In June 2016 NH90 Primary Authorities agreed to support an assessment for transition to EMAR
**AW HARMONIZATION CASE STUDIES**

**EMAR 21 - DOA**

- Adoption of EMAR 21 (DOA) in the NH90 program allows to implement an European Standard for both, Nations and Industry
- Only marginal differences between JMAAN-21 and EMAR 21 DOA.
- EMAR 21 could be the pilot for the implementation of other EMAR parts
- “Business Case”: formalized “mutual recognition” and privileges will improve today’s cooperation on both Nations and IND side

**EMAR 21 - POA**

- Today, there is no NH90 POA, but a set of procedures for production to cover military airworthiness requirements
- Adoption of EMAR 21 (POA) in the NH90 program would implement a full consistent Airworthiness chain in NH90 production (Spare parts)
- “Business Case”: Benefits are depending on privileges granted and Nations’ ambition to reduce effort for airworthiness checks by NQARs

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**NH90 PROGRAM**

[Image of NH90 program]
Today NHI has a MOA based on EASA145 for SWE and AUS only, for other nations a set of procedures for maintenance and repair exists on PC level, with minor deviations from EMAR145 only.

Adoption of EMAR 145 (MOA) in the NH90 program would implement a consistently regulated system for NH90 and allow mutual usage of maintenance capacities.

“Business Case”: EMAR 145 can generate long term benefits, depending on privileges granted and Nations’ ambition to reduce effort for airworthiness checks by NQARs.

- at Part level (only minor clarification required)
- at Helicopter level, where positive business case is depending on implementation cost vs. ambition to reduce NQAR effort for airworthiness checks, to be evaluated in correlation with GQA activities.
EMAR 147

- All PC training centers are today certified EASA 147. Certification as EMAR 147 training centers for NH90 should be declared by equivalence.
- Adoption of EMAR 147 and 66 in the NH90 program would standardize required qualification levels and allow “interchangeable maintenance and certifying staff” (Nations & IND).
- “Business Case”: EMAR 147 & 66 cause only marginal cost, but enable application of EMAR 145 (to be considered as one package), generating long term benefits.

MAA to decide on national implementation, via recognition beneficial for all Nations.
AW HARMONIZATION CASE STUDIES

NH90 PROGRAM

Future EMAR Transition: Potential IND EMAR deployment plan (04/2016)

- Prerequisites
  - DOA
    - Impl. completed
  - Analyses
    - POA
    - Impl. completed
    - MOA
    - Impl. completed
  - MTOA, Licensing
    - Impl. completed
  - CAMO

Q1/16 Q2/16 Q3/16 Q4/16 Q1/17 Q2/17 Q3/17 Q4/17

ITA MAA journey through EMAR implementation
CONCLUSIONS & REMARKS

DEFINITION FOR CIVILIAN AND MILITARY AIRCRAFT:
- DIFFERENT ORGANIZATION
- DIFFERENT (BUT HARMONIZED) RULES
- DIFFERENT PURPOSE WITH IDENTICAL BASE: SAFE FOR FLIGHT

NATIONAL MILITARY AIRWORTHINESS AUTHORITY

MUTUAL RECOGNITION among NATIONS

FULL NATIONAL IMPLEMENTATION OF EMARs

IMPLEMENTED EMAR CAN BE PARTIALLY APPLIED TO LEGACY PROGRAMS (I.E. NH90, EFA, F35) BALANCING IMPACTS ON CONTRACTUAL AND ORGANIZATIONAL/PROCEDURAL CHANGES VS BENEFITS (TIME, COST)

ITA MAA journey through EMAR implementation
CONCLUSIONS & REMARKS

FULL NATIONAL IMPLEMENTATION OF EMARs AS FUTURE SET OF MILITARY AIRWORTHINESS REQUIREMENTS through a MUTUAL RECOGNITION among NATIONS

- Saving in time, cost and effort if a common approach to airworthiness is applied to multinational programs
- Benefits of a common European military approach to airworthiness for industry
- Benefits in having a coordinated view on military airworthiness complementary to EASA and non-European military authorities
Questions?

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BACK-UP CHARTS
BACKGROUND ON ITA MAA/DAAA

Performance Requirements

AW Requirements

System Technical Specification

Type Certification and Qualification

Design Configuration

Configuration as Designed

Military Type Certificate

Military Qualification Certificate

Performance Requirements

AW Requirements

Type Certification and Qualification

Configuration as Designed

Military Type Certificate

Military Qualification Certificate
BACKGROUND ON ITA MAA/DAAA

AIRWORTHINESS REGISTRATION

Military Aircraft
Prototype Aircraft
X Aircraft

MILITARY AIRCRAFT REGISTRY

Airworthiness Certificate
MRN

Military Registration Number

Configuration
•

Technical Operative Manuals

Type Certificate

AER.P-7

03

04

05

AS BUILT

ITM MAA journey through EMAR implementation
BACKGROUND ON ITA MAA/DAAA

CONFIGURATION MANAGEMENT

OPERATIONS & MAINTENANCE

OCCURRENCE REPORTING

Military Registration Number

Configuration Changes

PTD

PTA

AER.00-00-5

AER.00-01-6
BACKGROUND ON ITA MAA/DAAA

Defines Requirements for Military Continuing AW Management Organisations and Military Maintenance Organizations

DAAA Auditor

CAMO and AMO Organizations

AER.P-2005 Certificate of Approval

ITAS MAA journey through EMAR implementation
BACKGROUND ON ITA MAA/DAAA

AER P-2005

RESPONSIBILITY

OPERATING ORGANISATION COMMANDER

CAMO Accountable Manager

Maintenance Manager

Certifying Staff

Aircraft Commander
BACKGROUND ON ITA MAA/DAAA

As Built Configuration + PTA 01 + PTA 02 + PTA 03 + PTA 04 = Current Configuration
MINISTRY OF DEFENCE
SECRETARIAT GENERAL OF DEFENCE AND NATIONAL ARMAMENTS DIRECTORATE
DIRECTORATE OF AERONAUTICAL ARMAMENTS AND AIRWORTHINESS
3RD DEPARTMENT

POSITION PAPER

Subject: MAWA strategy for a new phase of EMARs implementation.

1. BACKGROUND

Before 2008 all military airworthiness activities in EU were conducted and regulated on a national basis and any harmonisation was only achieved at individual project level and repeated for each new project. It became evident that, in multinational programmes, this generated many shortcomings and was a primary cause for delay and additional cost not only for each single nation but also for the Aeronautical Company who was forced to repeat similar activities for each single nation partner (in the case of consortiums). To solve this problem, there were many airworthiness initiatives and elsewhere, aimed by a general desire of harmonisation but these were largely uncoordinated with the risk that there would be a duplication of effort with limited resources.

Accordingly, the twenty six participating Member States (pMS) as the European Defence Agency (EDA), agreed on the 10th November 2008, to the formation of a Military Airworthiness Authorities (MAWA) Forum under the auspices of the EDA. This MAWA Forum was tasked to harmonize military airworthiness requirements across Europe.

At political level Ministers of Defence of the pMSs expressed their understanding that timely development and implementation of the harmonised European Military Airworthiness Requirements (EMARs) should mitigate the aforementioned deficiencies as well as improve the European Defence Technology and Industrial Base (EDIB) competitiveness (Attachment "A").

They recognized the need to establish a common set of European Military Airworthiness Requirements (EMARs) based on a mutual recognition between the European Airworthiness Authorities (MAAs). They added that to ensure transparency, national deviations should be declared. It should also be noted that the MAAs involved in a particular programme should have been able to define more stringent requirements to meet particular national needs. When MAWA Forum, through Task Forces, was already developing EMARs and authorising EDA for publication, the expected implementation of those requirements within National regulatory frameworks was lying.

Therefore, during the MAWA Executive Level, held in Cyprus on 27th September 2012, it was proposed, on the basis of Italian initiative (DAAA), supported by France (DSAE/IGA) to form the MAAs-EMG (Military Airworthiness Authorities – EMAR Implementation Group, co-chaired by Italy and France and currently also involving Belgium, Germany, Great Britain, Netherlands, Sweden, Spain, ASD), aimed at identifying common key principles for EMAR Implementation to be utilized as a basis for development of an EMAR Implementation Policy Paper agreed among MAAs-EMG nations.

The necessity to form the MAAs-EMG (Attachment "B") comes from a paper issued by DE-FR Ministers of Defence and distributed to all the EDA Defence Ministers during the Ministerial Steering Board held in March 2012 of which delineates a French-German initiative aimed at providing new impetus to the activities undertaken within the MAWA Forum.
2. **THE CURRENT SCENARIO**

The current scenario shows that:
- the entire set of EMARs has been developed by MAWA Forum except for the EMAR M-AMC and GM;
- some pMS have already declared the full or partial implementation of EMARs, many other are still working to overcome their difficulties due to constraints deriving from legislation, operational organisation, lack of resources (in the meantime EFG have provided recommendations on all the Issues Papers raised by pMS);
- the NATO Airworthiness Policy Implementation Plan has been approved by the NAC and the NATO Recognition based on criteria of the compliance with the safety goal identified by the MARQ proving by a USAF process (similar but not equivalent to EMAR).
- the mutual Recognition is being conducted mainly among Nations participating to common programmes (e.g. A400M, EF-...) adopting EMAR R even when the EMAR are only partially implemented.

For these reasons it should be recognised that the first phase of the MAWA Forum Project is terminated. The EMARs need a new impulse and a new challenging task. A new phase must be started for EU MAAs because they are called to this simple question: where is the benefit coming out this common effort (after 4 years of hard work)?

3. **EMAR IMPLEMENTATION AND MUTUAL SUPPORT FOR APPROVAL**

Although many pMS are implementing EMARs in their national regulatory framework, we shall admit that each one is using a different approach. This different approach implies different ways of proceeding in the new contracts for design, production and maintenance on Military Aircraft require Companies to comply with the national related EMARs.

On the other hand DIRECTIVE 2014/24/EU on public procurement, that shall also apply to the awarding of public contracts in the fields of defence and security with the exception of the contracts falling within the scope of Directive 2009/81/EC, that is aimed at establishing a multilateral framework of balanced rights and obligations relating to public contracts, has opened the market with the view to achieving the liberalisation and expansion of world trade.

This means that if, for example, the Italian Services have to contract maintenance for Military Aircraft, for an amount above the thresholds specified in the above mentioned directive 2014/24/EU, they have to use an EU open procedure to allow any interested economic operator to submit a tender in response to a call for competition. These economic operators have also to comply with ARM-145 (national EMAR-145), by being provided with a valid Certificate as Approved Maintenance Organisation. For Italian economic operators DAAM will perform itself the approval activity, but what about the foreign economic operator? Should DAAM approve foreign organisations located in other pMS where EMAR-145 is not yet implemented? And what about pMS with the national EMAR 145? Should they approve economic operators on behalf of Italy?

On the industrial perspective the question is: how many approvals, related to the same EMAR, shall a company apply for, and consequently how many audits, how many oversight at the same time on the same subject?

This Scenario underline the need of an understanding between pMS not only for Mutual Support in the organisations approval but also in the certification of products.
The possible model of pMS agreement could be referred to the one used among NATO Nations for the GQ4, through STANAG 4107 and AQAP 2000. A common understanding of the approval and certification requires a full implementation of common requirements, that means the EMA full implementation, otherwise pMS will not rely each other. DAAA strongly believe that it is fundamental for the success of the entire MAWA Forum Project that pMS shared a common implementation policy and process identifying a roadmap timely acceptable by all. The role of EFG for achieving this goal is fundamental.

4. CONCLUSION AND PROPOSALS

In conclusion DAAA believes that only through the full national implementation of EMARs the pMS and European Industry can achieve the objective that are at the base of MAWA Forum project:
- saving in time, cost and effort if a common approach to airworthiness is applied to multinational programmes and common platforms;
- benefits in having a coordinated view on military airworthiness complementary to EASA and non-European military authorities;
- benefits of a common European military approach to airworthiness for industry.

As above illustrated the second phase of this project is beginning and new challenges are coming out. Considering the current scenario DAAA believes that it is strongly recommended to define a common roadmap including:
- shared and common definition of the term "implementation";
- implementation policy and process, identifying the expected end state and the agreed timeframe,
- ensuring the effort that pMS are already individually producing;
- Common understanding and a shared procedure for the Mutual Support for EMARs Approvals.

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