



Ministry of Defence

Multinational Program for the Acquisition, Operation and Support of a Multi Role Tanker and Transport Capability (MRTTC)

The use of EMAR's in an International Program

Military Aviation Authority Netherlands

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Artist impression





Inform you how EMARs with as much as possible benefits will be used in this MRTTC program and what issues have to be solved to be fully successful in this effort.



- **Facts & figures about the MRTTC Program**
- **Initial Airworthiness and Continued Airworthiness**
 - Certification Road Map
 - Starting points for the certification
 - Challenges for the full use of EMAR-21J
 - Starting points for Production
 - Challenge concerning the EMAR-21G Approval
- **Continuing Airworthiness (Maintenance management, Maintenance and licensing of maintenance personnel)**
 - Starting points for the use of EMAR-M, EMAR-145 and EMAR-66
 - Challenges with the use of EMAR-M
- **Conclusions**



Facts & Figures about the MRTTC program





Facts & figures MRTT Program (1)

- **NLD lead nation**
 - Incentive: replacement of current KDC-10 fleet
- **Requirements Participants:**
 - NL; all phases; 2000 hours yearly
 - LU; all phases; 200 hours yearly
- **Requirements possible future participants**
 - PO 1000 Hours yearly
 - BE 600-1000 hours yearly
 - FR; ops phase only; 12 A330 (signed end 2014)
 - GE; 4000-5000 hours yearly (4 aircraft)
- **Agencies**
 - OCCAR: contract managing Organisation on behalf of NSPA
 - NSPA: Acquisition and Support during ops phase



Facts & Figures MRTTC Program (2)

- **Aircraft Type Candidates**
 - 2nd hand solutions were considered
 - Currently no boom option available
 - Lack of OEM support
 - Obsolescence and LCC costs
 - Boeing KC-46
 - **Airbus A330 MRTT; contract already signed on 28-7-2016 with Airbus Defence Systems (ADS)**
- **MAA-NLD oversight**
 - Operational Unit stationed on AB Eindhoven
 - Military registered in the Netherlands
 - MAA-NLD responsible for oversight activities on behalf of Participating Member States
 - Initial Airworthiness: Certification (MTC) and Production
 - Continued Airworthiness (of Type Design)
 - Continuing Airworthiness
 - Maintenance (EMAR145, EMAR 66)
 - Maintenance Management (EMAR M)
 - Operations (MAR OPS 1)



Facts & Figures MRTTC Program (3)

- **Contract Airbus Defence Systems**

- Acquisition of 2 Aircraft
- Additional option for 6 Aircraft

- **Planning Roadmap**

- | | |
|----------------------------------|---------------|
| ✓ Start Phase 1 B (Tendering) | 1st Dec 2014 |
| ✓ MoU preparations end | End sept 2015 |
| ✓ MoU signature between NL en LU | 27 July 2016 |
| ✓ Sign Contract | 28 July 2016 |
| • First delivery | July 2019 |
| • IOC | Summer 2020 |
| • FOC | Summer 2021 |

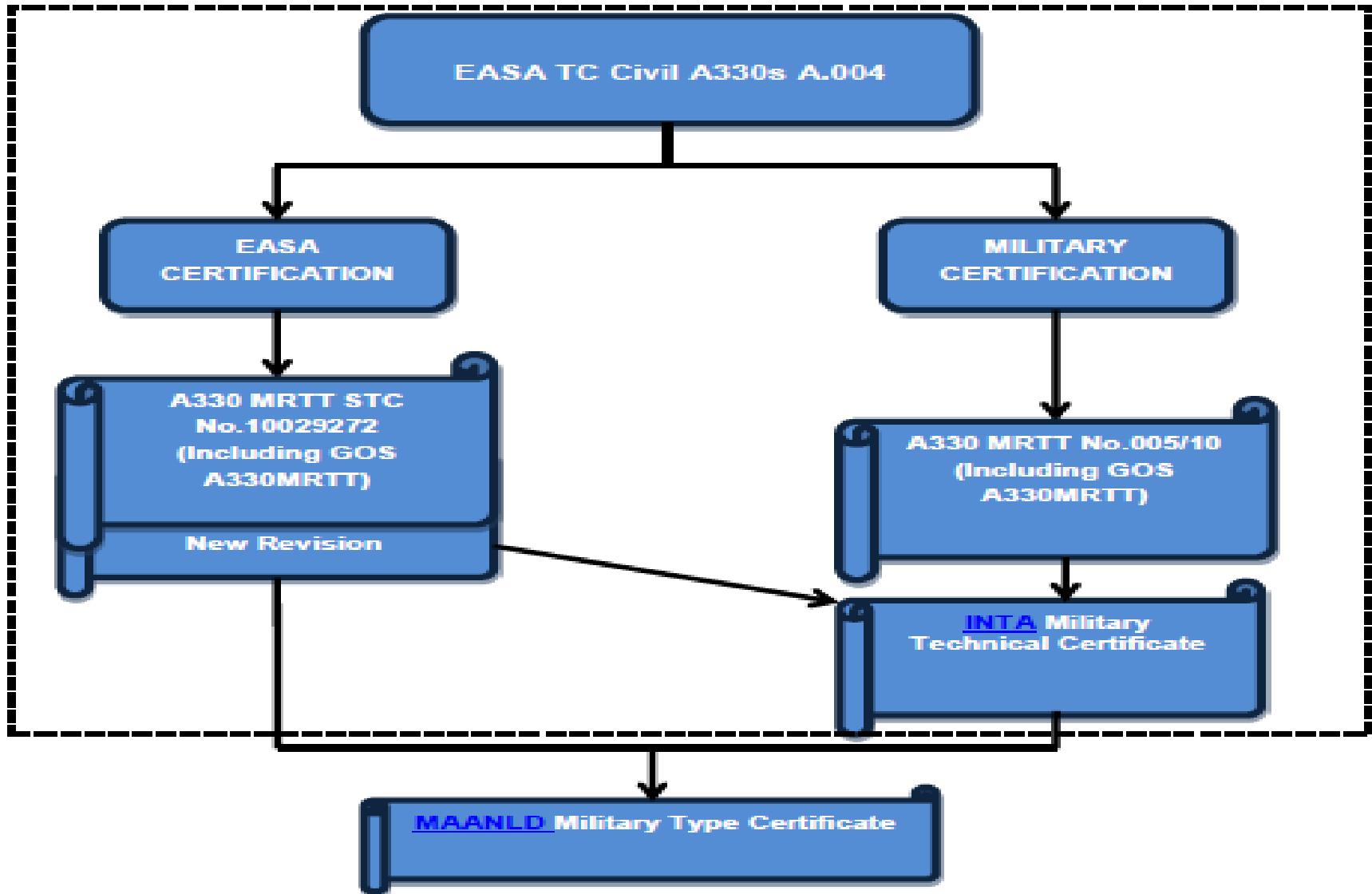


Initial and Continued Airworthiness



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Certification roadmap





Starting points for the certification

- **Certification principles**

- NLD Defence Materiel Organisation / Aviation Branch is the MTC Holder Organisation (MTCHO), approved by MAA-NLD on basis of MAR-21
 - > MTCHO applies for a MTC
 - > MAA-NLD issues MTC
- Certification basis = CS 25 + Military Special Conditions + MCRI's
- Validation of acceptable data related to EASA TC, EASA STC and the Military Technical Certificate leads to the issuance of the NLD MTC

- **Conditional activities before starting the certification Process**

- MAA-NLD recognition of Instituto Nacional de Técnica Aeroespacial (INTA) as National Airworthiness Authority
- INTA to approve ADS as EMAR-21J Military Design Organisation (MDO)
 - > Now ROD (No. INTA/ROD/003), based on Spanish military regulations



Challenge for the full use of EMAR-21J (1)

Current EMAR 21 doesn't reflect the existence and approval of a governmental Military Type Certificate Holder Organisation (MTCHO); a design organisation without having the ownership of the necessary design data but with the obligation to have a contract with a design organisation having access to the necessary type design data.

In EMAR-21 only organisations with an EMAR-21J MDOA are entitled to apply for a MTC, MSTC and/or Major Repair Design Approval



Challenge for the full use of EMAR-21J (2)

- **EMAR-21 based on MTC-holdership within industry.** In many cases not possible in a (closed loop) Military Aviation System (MAS) because of judicial constraints. Furthermore OEM is often not willing to except the role of MTCH. In those cases a Governmental MTCHO is needed:
 - NLD MAR-21 reflects this situation: MAA-NLD to issue an MTCHO Approval (MTCHAO) in accordance with MAR-21J
 - Agreement necessary with a design organisation having access to the type design data.
- **Can be repaired in EMAR-21 on basis of 21.A2:** *undertaking by another organisation than the applicant for, or holder of, a certificate:*
 - Under investigation of TF-2
 - **In edition 1.2 a start is made by amending 21.A.14, 21.A.112B and 21.A432B : Demonstration of capability to be applicant for MTC's, MSTC's and major Repairs**
 - Further amendments needed in future version 1.3 (or maybe version 2.0)
 - › Record Keeping via contracted organisation
 - › Separate subpart C (?) to introduce the MTCHO and the MTCHO Approval



Challenge for the full use of EMAR-21J (3)

– Content of amendment in article 21.A.14 of EMAR-21 edition 1.2
(Demonstration of capability for appliance for MTC)

(c) By way of derogation from paragraph (a) and (b), any government organisation applying for a type-certificate or restricted type-certificate may demonstrate its capability by having an agreement in place, accepted by the Authority, in accordance with EMAR 21.A.2 with a design organisation which has access to the type design data. The agreement shall include detailed statements how the actions and obligations are delegated to enable the government organisation, in cooperation with the contracted organisation, to comply with the requirements of EMAR 21 Subpart J, including demonstration of compliance with EMAR 21.A.44.



Starting points for Production

- **Principles for Production: use of EMAR-21G**
 - ADS to perform production activities with a Military Production Organisation Approval (MPOA) based on EMAR-21G
 - Direccion General De Armamento Y Material (DGAM) to perform oversight activities on behalf of MAA-NLD
- **Conditional activities before starting the production activities**
 - MAA-NLD to recognize DGAM (and INTA) as National Airworthiness Authority
 - ADS to be approved as EMAR-21G Military Production Organisation (MPO)



Discussion about EMAR-21G approval (1)

- Who should approve ADS as MPO in accordance with EMAR-21G?
- DGAM or MAA-NLD?
- DGAM is prepared to perform the approval audit activities and to advice MAA-NLD.



Challenge concerning EMAR-21G Approval (2)

MAA-NLD Suggested Principles

- **Any industrial aviation organisation, delivering products and services to (foreign) military organisations, shall be approved by the Military Airworthiness Authority of the country where the industrial organisation is located.**
 - Advantage: most efficient and effective oversight:
 - > Speaking native language
 - > Most effective by local involvement
 - > Minimal travel expenses
 - By (mutual) recognition in accordance with EMAD-R other authorities can make use of the approval and oversight services of the issuing authority.
- **The use of a Certifying Body for performance of organisation approval audits on behalf of MAWA pMS; to be contracted and financed with EDA budget.**
 - Advantage:
 - > it solves a big capacity problem for many pMS
 - > It standardizes the approval process for industrial partners

Advice

MAWA forum to discuss this issue and to provide implementation guidance

Continuing Airworthiness



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Starting points for Continuing Airworthiness

- **Principles during the operational/sustainment phase**
 - MMF unit performs Base Level Maintenance on basis of EMAR 145
 - > maintenance licenses on basis EMAR 66
 - Maintenance management on basis of EMAR M
 - Industrial level maintenance on basis of EMAR 145

- **Conditional activities before starting operational/sustainment phase**
 - MMF unit to apply for Maintenance Organisation Approval
 - MFF Unit to apply for an EMAR-M Approval
 - Industrial partners to apply for EMAR-145 Approval
 - MAA-NLD to perform approval audits and issue necessary Organisational Approval Certificates within the Netherlands
 - Foreign Military Authorities to perform approval audits and issue necessary Organisational Approval Certificates within their countries



Challenge Continuing Airworthiness

Introduction of EMAR M within the Dutch Military Aviation System (MAS)

- Maintenance Management requirements are now partly incorporated in the MAR-OPS 1 (Subpart M)
- Responsibility for the operator but maintenance management activities divided within MAS
 - Operator for Base level maintenance
 - DMO/MTCHO for the Aircraft Maintenance Program (AMP) and translation of the AMP in our Maintenance information system (SAP application)
 - Air Depot / Program Management (PM) for industrial contracting
- Operator has to arrange Service Level Agreements with DMO/MTCHO and Air Depot/PM
- Fit/gap analysis is ongoing for the introduction of EMAR-M
 - Change MAR-OPS 1 and Introduction MAR-M (adoption EMAR M)
 - Study of the consequences for our management and organisation
- MRTTC Program to use as pilot project to introduce the MAR-M on basis of the EMAR-M?

Conclusions



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Conclusions



- **EMARs will be used as much as possible for the MRTTC project**
- **Preconditional activities**
 - MAA-NLD recognition of INTA and DGAM as National Airworthiness Authority
 - INTA to approve ADS as EMAR-21J MDO
 - DGAM (or MAA-NLD) to approve ADS as EMAR-21G MPO
 - MMF unit to apply for Maintenance Organisation Approval
 - MFF Unit / Air Depot Program Management to apply for CAMO approval
 - Industrial partners to apply for EMAR-145 Approval
 - MAA-NLD to perform approval audits and issue necessary Organisational Approval Certificates within the Netherlands
 - Foreign Military Authorities to perform approval audits and issue necessary Organisational Approval Certificates within their countries
- **Challenges**
 - Current EMAR 21 doesn't reflect the existence of a governmental MTCHO.
 - Hopefully fully implemented in EMAR-21 version 1.3 (or version 2.0?)
 - Arrangements for EMAR-21G Approval for ADS
 - In general:
 - arrangements for organisation approvals for industrial partners are needed
 - Introduction of a European certifying body?
 - Introduction of EMAR-M
 - MRTCC project as pilot project within the NLD Military Aviation System

Questions



Artist impression



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