

THE IMPLEMENTATION OF THE CIVIL AVIATION REGULATIONS IN TERMS OF THE AIR FORCES OF THE SLOVAK REPUBLIC

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Summary. This article contains brief overview the basic civil aviation European standards applicable in condition Slovak Air Force. The article described European military airworthiness requirements EMAR 145 Requirements for maintenance organizations, EMAR 147 Aircraft maintenance training organizations, EMAR 21 Certification of; military aircraft and related products, parts and appliances, and design and production organizations and EMAR 66 Military aircraft maintenance licensing.

Keywords : civil aviation regulations, Slovak Air Force, EMAR 145, EMAR 147, EMAR 21, EMAR 66, EMAR M

1. INTRODUCTION

Yet, since 1944 with the signing of the Convention of International Civil Aviation, more commonly known as the Chicago Convention [1], there has been a global organization with the responsibility for ensuring safe civilian aircraft operations. No such organization exists, or is ever likely to exist, for military safety. ICAO is charged with the responsibility for ensuring safe civilian aircraft operations in a global context; nevertheless no such organization exists, or is ever likely to exist, due to the distinct characteristics of these two aviation domains.

A Military Airworthiness Authority (MAA) is the responsible body for safety of all military aircraft and in some cases state owned and operated aircraft. This requirement is detailed in individual state military airworthiness systems [2-7] but not explicitly in any overarching, directive document, policy or legislation. The Chicago Convention, in Article 3, requires that the operation of military aircraft does not impact civilian safety. This direction does not in itself require a military unique airworthiness system for military aircraft. Civilian systems of airworthiness address a majority of military airworthiness requirements. In fact, a majority of the military frameworks mirror the intent of the underpinning International Civil Aviation Organization (ICAO) framework, the distinction is in the methods of implementation.

Airworthiness is universally underpinned by regulation and standards. Effective regulation, across all spectrums, dictates the behaviors required of a regulated entity (organization, agency or person). A regulated entity subscribes to following the regulations in their business processes (compliance) and the regulator verifies that the processes and displayed behaviors conform (conformance) to the regulations [8, 9]. The regulator should be removed from designing the business processes and methods of conformance to the regulations. This allows unique and specific adoption of the regulations for the creation of the most practical and pragmatic business process [9].

Currently, the literature surrounding military airworthiness is limited to one conference paper [10] on the infant Chinese Military Airworthiness system and the lessons gained from other MAAs, as well as a small number of papers regarding integration standards for Unmanned Aerial Systems (UAS) in civil and military airworthiness systems [11-12]. The lack of publications highlights that military airworthiness thinking is generally insular and contrast to the civilian systems, where decisions and mo-

tivations are expected to be widely communicated. This paper serves to fill some part of the identified literature gap, offering an overview of Military airworthiness and how it differs from its civilian counterpart. A discussion is given on the significant allied and collaborative MAA advancements, highlighting their significance to global defense aviation. Lastly a pressure for a holistic recognition system for military airworthiness is identified, presenting an opportunity for future work in this area [13].

2. EUROPEAN DEFENCE AGENCY AND MILITARY AIRWORTHINESS AUTHORITIES FORUM

The European Defence Agency (EDA) is an agency of the European Union (EU) based in Brussels, Belgium. Set up on 12 July 2004, it is a Common Foreign and Security Policy (CFSP) body reporting to the Council of the European Union. Its primary role is to foster European Defence cooperation.



Figure 1 Logo of the European Defence Agency

The Council established the EDA "to support the Member States and the Council in their effort to improve European Defence capabilities in the field of crisis management and to sustain the European Security and Defence Policy as it stands now and develops in the future". Within that overall mission are four functions [14];

- Development of defence capabilities in the field of crisis management.
- Promotion and enhancement of European armaments cooperation.
- Working to strengthen the Defence Technology and Industrial Base and for the creation of an internationally competitive European Defence Equipment Market.
- Enhancement of the effectiveness of European Defence Research and Technology.

These tasks have been distilled into four strategies [15]:

- The Capability Development Plan (CDP) provides to Member States an auditable picture and assessment of capability trends and requirements, over the short, medium and long term, in order to inform national decisions on defence investments; this includes the identification of areas for cooperation for capability improvement, and the proposal concerning options for collective solutions. The CDP is the overall strategic tool, the 'driver' for R&T investment, for armaments cooperation and for the defence industries.
- The European Defence Research & Technology (EDRT) strategy aims at enhancing more effective R&T in support of military capabilities. The EDRT strategy defines the 'Ends' (in which key technologies to invest), the 'Means' (how to do this) and the 'Ways' to implement the ends and means through roadmaps and action plans.
- The European Armaments Cooperation (EAC) strategy is focused on promoting and enhancing more effective European armaments co-operation in support of CSDP capability needs. The EAC strategy defines how to improve the effectiveness and efficiency of European armaments programmes by a series of actions, applying lessons learned from past experiences through a 'Guide to Armaments Co-operation Best Practice'.

- The European Defence Technological and Industrial Base (EDTIB) strategy describes the future European Defence industrial landscape, based on the three Cs: Capability-driven, Competent and Competitive. The future EDTIB has to be more integrated, less duplicative and more interdependent, with increased specialization, for example by establishing industrial centers of excellence. It refers to action fields for which Governments will be responsible, such as consolidating demand and investment. Logically, the strategy links the work on realizing the future EDTIB to the Agency’s activities on the European Defence Equipment Market. Special attention is paid to the importance of Small- and Medium-sized Enterprises with their typical flexibility and capacity to innovate.



Figure 2 Logo of the Military Airworthiness Authorities Forum

The Defense Ministers of the 26 participating Member States tasked the EDA to prepare for the creation of a formal European Union-wide Forum for Military Airworthiness Authorities (MAWA) and to propose a roadmap for European military airworthiness harmonization and how this could be implemented [16].

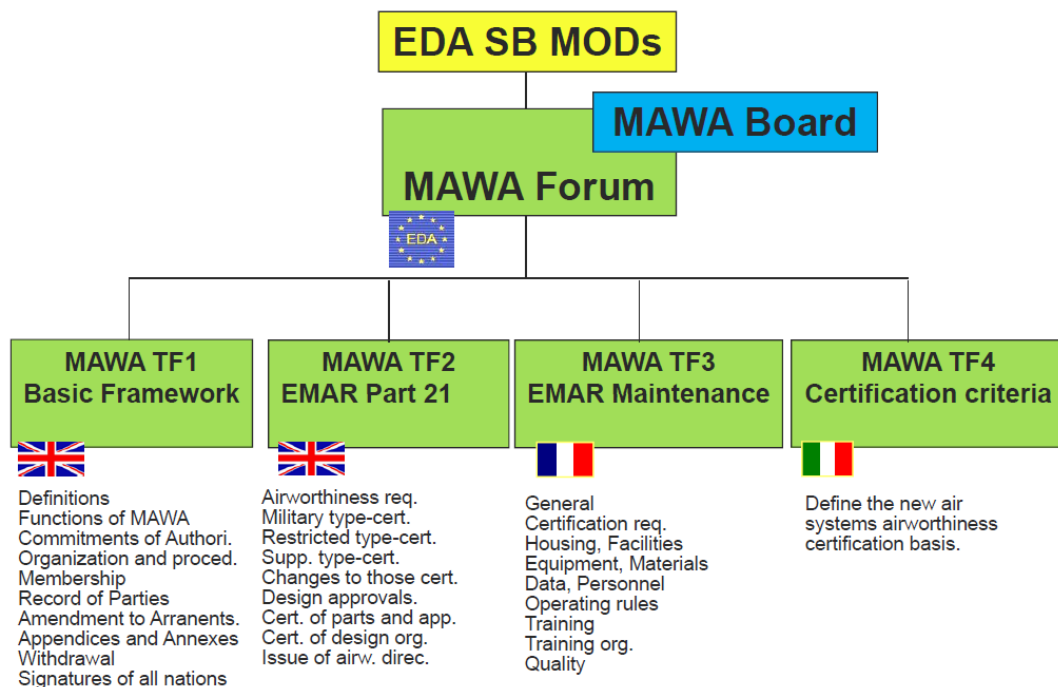


Figure 3 Military Airworthiness Authorities Forum structure [20]

The MAWA forum was established in 2008 under a roadmap with seven ministerially agreed objectives; common regulatory framework, common certification processes, common approach to orga-

nizational approvals, common certification/design codes, common approach to preservation of airworthiness, arrangements for recognition and formation of a European Military Joint Airworthiness Authorities Organization [17]. The primary aim of the MAWA Forum is to harmonize the national military airworthiness regulations of the pMS. It will achieve this by developing a common set of EMARs, Acceptable Means of Compliance (AMC) and Guidance Material (GM) that are acceptable and can be implemented into national regulation by all members of EDA [16].

The MAWA forum has developed key airworthiness policy consistent with the EASA structure. They have recently released European Military Airworthiness Regulations (EMARs) 1, 21, M, 145, 147 and the European Military Airworthiness Document – Recognition (EMAD-R). The EMARs are largely consistent with the EASA framework, allowing for military specific requirements. The EMAD-R details an agreed process for recognition of other MAAs, in terms of certification and approval of products and organizations based on the EMARs [18]. Importantly, it must be recognized that the motivation for the MAWA forum was driven by European Defense industry desire for a common or continentally accepted certification requirement for aeronautical product. This is highlighted in examining the Military Airworthiness Requirement Question (MARQ) set [19]. The principles of the airworthiness system were developed from the requirement for design, production and maintenance processes to be compatible with European Defense Agency requirements. By starting their focus on certification requirements they have established a system that has generated a focus on regulatory requirements, not holistic airworthiness. For instance, agreements have been initiated for in service support of the A400M fleet between the United Kingdom and France. Importantly, this agreement is not for servicing all aircraft types, it has arisen, and is supported for, in service support of a singular aircraft platform. This will be repeated for recognition of further in service support for future servicing of more aircraft. Granted, the assessment for future platforms will be reduced due to the existing arrangement. However, it stands that recognition of the aspects of in service support *in-toto* would allow for future support requirements without any further assessment. This limitation arises from the platform of recognition focusing only on immediately attainable benefits to reduce initial recognition overheads.

3. EUROPEAN MILITARY AIRWORTHINESS REQUIREMENTS

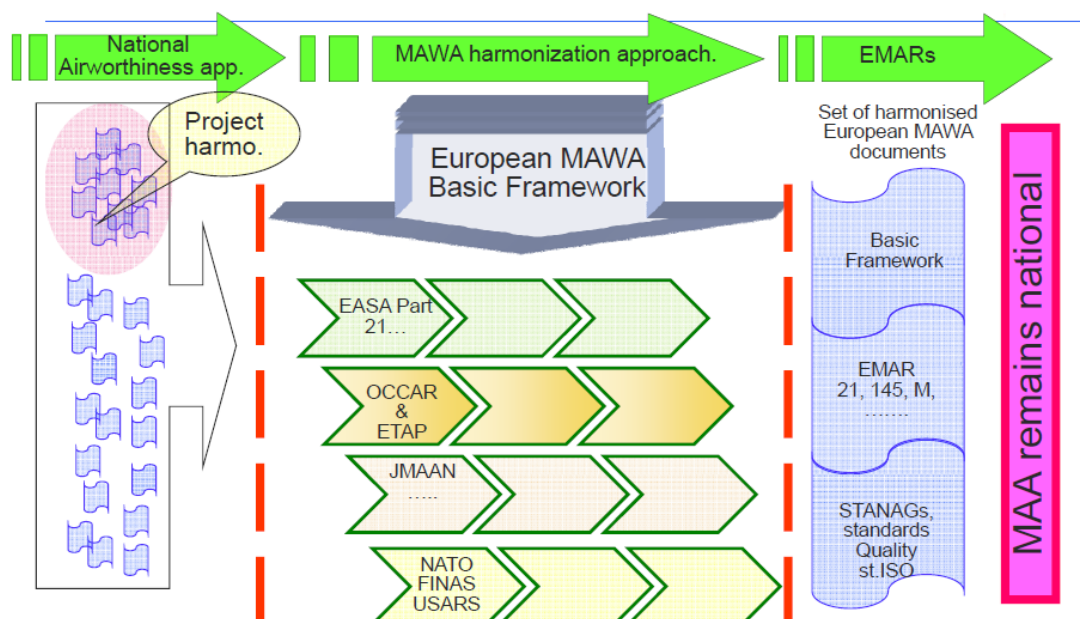


Figure 4 European military airworthiness requirements (EMAR) development [20]

The aim of the EMARs is to provide each National Military Airworthiness Authority (NMAA) with a set of harmonized requirements that can be implemented into their own national regulatory documentation. This could result in that the EMARs become the uniform standard for all European States, thus avoiding national regulatory differences. It should be stressed that the EMARs are not mandatory documents. This means that each European Military Airworthiness Authority can decide if they will deviate from EMARs with specific national requirements. There are many benefits for the Military Authorities and Industry in case of the implementation of standardized airworthiness requirements into national military regulations, particularly when it comes to the certification of products and the approval of organizations across Europe. The adoption of common rules and procedures between the European Military Airworthiness Authorities will facilitate the recognition of certificates and approvals issued by any of the Military Airworthiness Authorities amongst participating Member States. [22]. A good example of the possible positive effects of joint cooperation can be a usage of a diplomatic clearance web portal, which started to work in June 2013. This portal implements a technical arrangement signed by 13 EU countries (Belgium, Bulgaria, Cyprus, Czech Republic, Germany, Greece, Italy, Lithuania, the Netherlands, Romania, Slovakia, Sweden and Norway) for common provisions and harmonized procedures for over-flights and landings. Its main purpose is granting diplomatic clearances for military transport aircrafts [23]. Under a new arrangement, EDA members do not need to submit a diplomatic clearance request for each flight that transits the territory of another member. Instead, annual clearances are issued. The accord also harmonizes the requirements for requests and notifications of clearances and uses a common diplomatic clearance form.

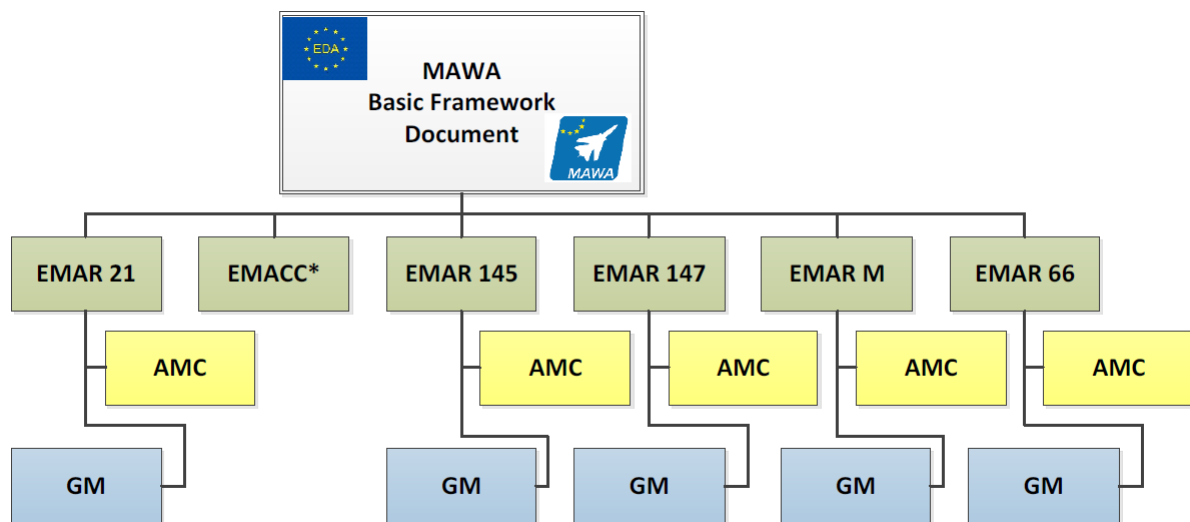


Figure 5 European military airworthiness requirements (EMAR) structure [21]

3.1. EMAR 21

The requirement EMAR 21 is organized in two sections with the subparts and paragraphs numeration corresponding to Implementing Rules Part 21 annex to EC regulation 1702/2003 regarding certification of aircraft and related products, parts and appliances, and of design and production organizations. According to EMAR 21 requirement [24], Section A establishes general provisions governing the obligations and privileges of the applicant for, and holder of, any certificate issued or to be issued in accordance with EMAR 21. Section B establishes the procedures for the Authorities when exercising their tasks and responsibilities concerned with the issuance, maintenance, amendment, suspension and revocation of certificates, approvals and authorizations referred to in this EMAR. This requirement enforces collaboration between the design organization and the production organization as necessary to achieve the proper support of the continued airworthiness of the product, part or appliance and

also to achieve the satisfactory coordination of design and production. Further, it establishes the procedure for issuing Type-Certificates (TCs) for products and Restricted Type-Certificates (RTCs) for aircraft, and establishes the rights and obligations of the applicants for, and holders of, those certificates. EMAR 21 establishes the procedure for the approval of changes to type designs and type-certificates, and establishes the obligations and privileges of the applicants for, and holders of, those approvals. The procedure for the issuance of a military production organization approval (MPOA) is established. Also, procedure for the approval of major changes to the type design under supplemental type-certificate procedures is defined, and the obligations and privileges of the applicants for, and holders of, those certificates are established. This EMAR makes a distinction between continued and continuing airworthiness. In this document, the term „continued (design) airworthiness” means all tasks to be carried out to verify that the conditions under which a type-certificate or a supplemental type-certificate has been granted continue to be fulfilled at any time during its period of validity (Type Design). Term „continuing (preservation of) airworthiness” means all of the processes ensuring that, at any time in its operating life, the aircraft complies with the airworthiness requirements in force and is in a condition for safe operation (Maintenance). Permits to fly shall also be issued in accordance with the EMAR 21 to aircraft that do not meet, or have not been shown to meet, applicable airworthiness requirements but are capable of safe flight under defined conditions.

EMAR 21 was approved by the MAWA Forum in 23.9.2014.

3.3. EMAR M

EMAR M – Continuing airworthiness requirements concerns specifically the continuing airworthiness of aircraft and aeronautical products, parts and appliances together with the approval of organizations and personnel involved in these tasks [25].” Part M is presented as two sections. Section A (called the “Technical Requirements” is applicable to industry). Section B (“Procedure for Competent Authorities” is applicable to the Regulator – Competent authority). Each Part M organization nominates a Continuing Airworthiness Manager (CAM) who is responsible for the Continuing Airworthiness Management Organization (CAMO) following the Regulatory requirements described in Part M as well as the procedures which are contained in the Continuing Airworthiness Management Exposition. The essential business areas reporting to the CAM are Maintenance Planning, Technical Records, Engineering & Reliability. Typical duties include the management of the Maintenance due on the aircraft, as well as Airworthiness Directives AD’s and Repairs. Together with life limited parts and the service bulletin status of the aircraft. Sofema Aviation Services works closely with aviation industry to design and deliver comprehensive online training courses that are relevant and responsive to the expectations of the Organizations, at minimum cost. The focus of Sofema Training is to share the understanding regarding the role of regulatory compliance which is in fact minimum compliance. Our goal is to share that regulatory compliance is not in itself a challenge rather it presents opportunities which allows the organization to successfully optimize and grow the business.

EMAR M was approved by the MAWA Forum in 12.10.2015.

3.4. EMAR 145

The requirements that must be met by the Maintenance Organizations for the maintenance of aircraft and aircraft components are specified in EMAR 145. This requirement contains two sections. Section A establishes the requirements to be met by an organization to qualify for the issue or continuation of an approval for the maintenance of aircraft and components. Section B establishes the administrative procedures which the National Military Airworthiness Authority shall follow when exercising its tasks and responsibilities regarding issuance, continuation, change, suspension or revocation of maintenance organization approvals in accordance with the requirements of EMAR 145. According to EMAR 145 requirement [26], the organization shall appoint an Accountable Manager who has corporate authority for ensuring that all maintenance can be carried out to the standard required by EMAR 145. The Accountable Manager shall appoint a person with responsibility for monitoring the

quality system, including the associated feedback system, and other personnel. In order to ensure the achievement of certain operations of maintenance, such as the maintenance and operations of laying and removal of armaments, the organization must have sufficient staff possessing the class B mil or national equivalent qualification. The organization shall have a maintenance man-hour plan showing that the organization has sufficient staff to plan, perform, supervise, inspect and quality monitor the organization in accordance with the approval. In addition the organization shall have a procedure to reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period. The organization shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard defined through the Maintenance Organization Exposition and approved by the NMAA. Organization maintaining aircraft, shall in the case of aircraft line maintenance, have appropriate aircraft type rated certifying staff, qualified as category B1, B2 and B mil or national equivalent qualification in accordance with EMAR 66 and EMAR 145.A.35. In the case of base maintenance of aircraft, organization shall have appropriate aircraft type rated certifying staff qualified as category C or national equivalent qualification in accordance with EMAR 66 or equivalent and EMAR 145.A.35. Additionally, organization shall ensure that certifying and category B1, B2 and B mil support staffs have an adequate understanding of the relevant aircraft and/or components to be maintained together with the associated organization procedures. In the case of certifying staff, this must be accomplished before the issue or re-issue of the certification authorization. The organization shall maintain records of all certifying staff and support staff containing details of any aircraft maintenance licence held under EMAR 66 or national equivalent requirement, all relevant training completed, the scope of the certification authorizations issued (where relevant) and particulars of staff with limited or one-off certification authorizations. The organization shall retain the record for at least three years after the certifying staff or B1, B2 or B mil or national equivalent qualification or support staffs have ceased employment with the organization or as soon as the authorization has been withdrawn. EMAR 145 also defines a set of requirements related to equipment, tools, material, facilities, workshops, production of spare parts, and certification of maintenance.

EMAR 145 was approved by the MAWA Forum in 25.9.2012.

3.5. EMAR 147

Requirements that must be met by the Maintenance Training Organizations (MTO) seeking approval to conduct training and examination are specified in EMAR 147. This EMAR 147, in a kind of introduction, stressed that the Task Force 3 has tried to maintain a clear link to the principles of EASA Part 147 (amendment M5), making changes where necessary for use within a military air-worthiness context. Also, this document notes that EMAR 147 cannot be adopted/implemented in isolation from EMAR 66 (which is currently being developed by Task Force 3) or by a pMS that does not have a national Military Licensing Scheme for their maintenance personnel. It is pointed out that current form of EMAR 147 Edition 1.0 provides a framework within which pMS can work towards adopting/implementing the harmonized Requirements for Aircraft Maintenance Training Organizations [27]. This requirement contains two sections. Section A establishes the requirements to be met by organizations seeking approval to conduct training and examination as specified in EMAR 66. Special attention in this Section is paid to requirements related to facilities, personnel, and records of all instructors, knowledge examiners and practical assessors. Also, training procedures and quality system are considered. Section B establishes the administrative procedures which the NMAA shall follow when exercising its tasks and responsibilities regarding issuance, continuation, change, suspension or revocation of MTO approvals in accordance with the requirements of EMAR 147.

EMAR 147 was approved by the MAWA Forum in 23.9.2014.

3.5. EMAR 66

EMAR 66 aviation regulations define the conditions under which a maintenance engineer is au-

thorized to release an aircraft into service after a maintenance operation. EMAR 66 is a common European aircraft maintenance licence recognized in all EDA member states [28]. EMAR 66 contains two sections. Section A defines the Military Aircraft Maintenance Licence (MAML) and establishes the requirements for application, issue and continuation of its validity (MAML categories, aircraft groups, application, eligibility, privileges, basic knowledge requirements, basic experience requirements, continued validity of the MAML, military aircraft type ratings, limitations, extensions, evidence of qualification, conversion provisions). Section B establishes the procedures including the administrative requirements to be followed by the NMAA in charge of the implementation and the enforcement of Section A of EMAR 66. The last part of the EMAR 66 are appendixes: Appendix I – Basic knowledge requirements (knowledge levels for category A, B1, B2 and C MAML, modularisation; Appendix II – Basic examination standard; Appendix III – Military aircraft type training and examination standard, and on-the job training (OJT); Appendix IV – Experience requirements for an addition to an EMAR 66 MAML; Appendix V – Application Form – EMAR Form 19.

EMAR 66 was approved by the MAWA Forum in 23.9.2014.

4. EUROPEAN MILITARY AIRWORTHINESS REQUIREMENTS AND SLOVAK AIR FORCES

Ministry of Defence of Slovak Republic actively cooperates and shares cooperation with European Defence Agency - Military Airworthiness Forum (EDA MAWA Forum). On 17th November 2009, the minister of defence of Slovak Republic by signing the Political Declaration No. 2009/36 (EDA MAWA) expressed political support for a national military authority for aviation airworthiness to provide input and implement the European Military Airworthiness Requirements (EMARs). EDA MAWA Forum creates relevant EMARs using the existing requirements of the European Aviation Safety Agency (EASA) while respecting the specificities of operation of military aircrafts in the individual EMARs.

National Military Aviation Authorities – NMAA, a national military authority is a member of the MAWA Forum. The NMAA office covers the topic of evaluation of aviation airworthiness and implements the European requirements of military aviation airworthiness (EMARs) in the frame of Slovak Ministry of Defence. Between 17. - 19. November 2015, under the authority of the NMAA office of the Slovak Ministry of Defense, 42th plenary meeting of the TF3 EDA MAWA (Task Force 3, European Defence Agency, Military Airworthiness Authority) took place at the premises of the Slovak Ministry of Defence. The participants of the working plenary meeting were the representatives of the NMAA office, as well as representatives of 11 participating countries of the EDA MAWA. The objective of the working plenary was to update the European military requirements for aviation airworthiness EMAR 145 Edition 1.2 (European Military Airworthiness Requirements), including the consultation materials AMC (Applicable Means of Compliance) and GM (Guidance Material).

On 14 March 2012 a Slovak Defence Standard EMAR 145 was approved/ endorsed. By implementing of the EMAR 145 (European Military Airworthiness Requirement, Requirements for Maintenance Organisations) into the system of Slovak Defence Standards, the conditions for an organisation to obtain the „Certification of authorization for the organisation to undertake the maintenance of the military equipment "as per approved content, were defined.

On 23rd of January 2013, a Slovak defense standard EMAR 21 was endorsed. Via implementation of the EMAR 21 (Certification of; Military Aircraft and Related Products, Parts and Appliances, and Design and Production Organisations, Edition Number 1.0), the common technical requirements and administrative steps concerning the aviation airworthiness and certification of products, parts and appliances in military aviation, are defined. EMAR 21 Edition Number 1.1 from 23rd September 2014 does not include a „Subpart Z - Alternative Procedures to Military Design Organisation Approval (MDOA)“.

On 26th August 2015, a Slovak Defense Standard EMAR 147 was endorsed. Via implementation of the EMAR 147 (Aircraft Maintenance Training Organisations, Edition Number 1.1), the common requirements are set, which every entity acting as an organization for training of aircraft maintenance (MTO) in order to organize the training and certification (as per Slovak Defense Standard EMAR 66), has to fulfill.

5. CONCLUSION

Recent common European dual-use aircrafts projects forced EDA's participating Member Countries to establish National Military Airworthiness Authorities, with similar tasks like Civil Aviation Authorities. This led to close cooperation between military and civil authorities. An agreement signed in June 2013, between EDA and EASA, enhancing their civil-military cooperation in the harmonization of military aviation safety requirements and airworthiness in areas of „dual use“ aircraft and the remotely Piloted Aircraft Systems (RPAS) can be viewed as a confirmation of this conclusion. Also, three approved EMARs are similar to related EASA documents. Aircraft airworthiness must be considered as a coherent process running from the design of the aircraft to the monitoring of its technical condition in airline service. It should be noted that, in Europe, there is a tendency to harmonize requirements related to the military airworthiness. This harmonization can be viewed as a process with duration similar to the extension of EASA competences during the last decade. All this will result in an increase of safety and compatibility of military aircraft.

With some EMARs already approved, the following next steps are important:

- Implementation into national military airworthiness regulations;
- Recognition between Member States;
- Unlocking the potential opportunities for Pooling & Sharing in military aviation;
- Further momentum towards the creation of a 'European Military Joint Airworthiness Authorities Organization (EMJAAO)', to optimize the 'recognition' process.

4. LITERATURE LIST

- [1] International Civil Aviation Organisation (ICAO). *DOC 7300/9 - International Convention for Civil Aviation - more commonly known as The Chicago Convention*: International Civil Aviation Organisation (ICAO), 2006.
- [2] Defence Aviation Authority, "AAP 7001.053(AM1): Technical Airworthiness Maintenance Manual," 2012.
- [3] Department of National Defense of Canada, "C-05-005-001/AG-001: Technical Airworthiness Manual (TAM)," July 2007.
- [4] Military Aviation Authority. "MAA01: Military Aviation Authority Regulatory Policy," 01 Apr 2010.
- [5] Department of the United States Army, "Army Regulation 70–62: Airworthiness Qualification of Aircraft Systems " 21 June 2007.
- [6] Cuerno-Rejado, C., and Martínez-Val, R. "Unmanned aircraft systems in the civil airworthiness regulatory frame: A case study," *Journal of Aircraft* Vol. 48, No. 4, 2011, pp. 1351-1359.
- [7] INSPECTION GÉNÉRALE DES ARMÉES AIR, "Instruction n°2009-16880/DEF/DGA/DET/CEP/ASA - Essential Requirements and Additional Provisions for Airworthiness of Military Aircraft," 16 Jan 2009.
- [8] Johnstone, R., and Sarre, R. *Regulation: Enforcement and Compliance*: Australian Institute of Criminology, 2004.
- [9] Australian National Audit Office (ANAO), "Administering Regulation: Better Practice Guide," 2007.
- [10] Jilian, G., Kangming, B., and Lintong, J. "Research on airworthiness management system about military aircraft development." Vol. 17, 2011, pp. 375-381.

- [11] Cook, S. P. "Tailored airworthiness standards for unmanned aircraft systems." 2011, pp. 5A51-5A59.
- [12] Ding, S. T., Bao, M. Y., and Du, F. R. "Safety research on unmanned aircraft system for airworthiness," *Hangkong Dongli Xuebao/Journal of Aerospace Power* Vol. 27, No. 1, 2012, pp. 233-240.
- [13] Purton, L., Kourousis, K. "Military airworthiness management frameworks: a critical review." *3 International Symposium on Aircraft Airworthiness, ISAA 2012*. pp. 545-564.
- [14] <http://www.eda.europa.eu/genericitem.aspx?area=Background&id=122>
- [15] <http://www.eda.europa.eu/Strategies/Overview>
- [16] Military Airworthiness Authority (MAWA), "Military Airworthiness Authority Forum Frequently Asked Questions (FAQ)".
- [17] European Defence Agency, "European Military Airworthiness " 2013.
- [18] European Defence Agency. "European Military Airworthiness Document - Recognition (EMADR)."2013.
- [19] ASC/EN, "Airworthiness Certification Criteria - Expanded Version of MIL-HDBK-516B," 26 Sep 2005.
- [20] https://www.sae.org/iaqg/meetings/2009munich/AW_MAWA-IAQG_Plevka_091015.pdf
European Military Airworthiness Requirements (EMAR) – Background. In: *International Military Airworthiness Regulation Conference 2016*. Melbourne, 2016.
- [21] MAWA Forum, Frequently Asked Questions (FAQs), Ed. 1.0., 2011.
- [22] EDA simplifies military air transport clearances, available from:
<http://www.spa.gov.sa/english/print.php?id=1117241>, retrieved May 13, 2014.
- [23] European Military Airworthiness Requirements (EMAR) – Background Introduction to EMAR. May 2016. Australian Government, Defence Aviation Safety Program.
- [24] European Military Airworthiness Requirements (EMAR) – EMAR 21 – Certification of military aircrafts and related products, parts and appliances, and design and product organisations. European Defence Agency (EDA). Military Airworthiness Authorities (MAWA) Forum. Ed. 1.0. 23/01/2013.
- [25] European Military Airworthiness Requirements (EMAR) – EMAR M – Continuing Airworthiness Requirements. European Defence Agency (EDA). Military Airworthiness Authorities (MAWA) Forum. Ed. 1.0. 12/10/2012.
- [26] European Military Airworthiness Requirements (EMAR) – EMAR 145 –Requirements for Maintenance Organisations. European Defence Agency (EDA). Military Airworthiness Authorities (MAWA) Forum. Ed. 1.1. 25/09/2012.
- [27] European Military Airworthiness Requirements (EMAR) – EMAR 147 –Requirements for Maintenance Training Organisations. European Defence Agency (EDA). Military Airworthiness Authorities (MAWA) Forum. Ed. 1.0. 14/06/2012.
- [28] European Military Airworthiness Requirements (EMAR) – EMAR 66 –Military Aircraft Maintenance Licensing. European Defence Agency (EDA). Military Airworthiness Authorities (MAWA) Forum. Ed. 1.0. 23/09/2012.