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COMMITTEE A

Agenda Item 3: Enhancing the global air navigation system
3.4: Civil/military cooperation

CIVIL-MILITARY COOPERATION

(Presented by Austria on behalf of the European Union and its Member States[1], the other Member States of the European Civil Aviation Conference[2]; and by EUROCONTROL)

EXECUTIVE SUMMARY

This paper promotes the mutual benefits to civil and military aviation of gradually moving from coordination to collaboration, from the air traffic management (ATM) research and development stages to the implementation of the aviation system block upgrades (ASBU) through military involvement in a rulemaking performance-based environment. In order to implement a safe and more interoperable performance-based global network, the involvement of both civil and military stakeholders in a collaborative decision-making process implemented at national, regional and worldwide level is no more an option but a key for success.

The global aim is to enhance the civil-military collaboration in ATM and communication, navigation and surveillance (CNS), notably by sharing best practices and addressing challenges as well as opportunities related to digitalization, security, flexible use of airspace and unmanned aircraft systems (UAS) integration. ICAO plays a vital role to achieve this goal and is encouraged in conjunction with Member States to continue developing mechanisms for collaboration with the military community to further minimize the gap between the civil requirement for predictability and the military need for flexibility.

Action: The Conference is invited to agree to the recommendations in paragraph 4.3

1. INTRODUCTION

1.1 In order for the international aviation market to grow and operate as a safe and harmonious system, States have agreed to collaborate on a common regulatory infrastructure and, among others, have agreed on the air traffic services provided, including access to and use of airspace. As for the military aviation, the objective is to conduct operations and training related to security and defence, it is considered that a safe and efficient use of airspace can be achieved through close cooperation between civil and military stakeholders for the benefit of both of them. It is considered that a safe and efficient use of airspace can be achieved through close cooperation between civil and military stakeholders.

[1] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and United Kingdom.

[2] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

1.2 ICAO should play an important role in enhancing the civil-military cooperation processes. Furthermore, it should develop common principles, reflecting the will of its Member States to promote the best practices identified, bringing about the creation of common concepts in aviation.

2. CIVIL AND MILITARY AVIATION HAVE COMMON INTERESTS

2.1 Civil and military aviation are both using the same airspace, which is a common resource

2.2 While civil aviation regulations do not apply to State aircraft, it is recognized that the global performance of aviation is improved when the needs of both civil and military interests, which are evolving in an airspace considered as a continuum, are met at the regional level through greater cooperative practices.

2.3 The required level of connectivity between civil and military air traffic management (ATM) systems will continue to depend on the level and complexity of the civilian and military traffic operating in the same environment.

2.4 From air traffic management research and development (R&D) to deployment

2.4.1 Although ATM research and development programs objectives are not directly applicable to the military, their impact on them and other operators flying State aircraft are operationally and financially relevant, i.e. because the military may have to adapt their procedures and to upgrade their ground systems to identify all aircraft flying over the territory concerned.

2.4.2 Coordination moving to collaboration is paramount for State aviation authorities to plan the evolution of their fleet, equipage or control systems in view of increasing interoperability and airspace capacity for civil aviation. Furthermore, there is a need to inform military planning mechanisms of the requirements stemming from ASBU deployment and State/regional ATM modernization programmes with the aim to keep at the highest possible level the interoperability between systems. For the military, the principle “as civil as possible-as military as necessary” is enhancing the interoperability at the lowest cost while providing performance benefits for the aviation community as a whole.

2.5 Toward the development of a performance-based environment

2.5.1 Harmonizing civil and military standards to the maximum extent possible is important in the processes to determine compliance/conformity. Standardisation helps the industry in designing systems that will fulfil safety/interoperability requirements. This can lead to important cost reductions and maximize synergies when deploying those systems.

2.5.2 In a performance-based environment for aviation, it is important to have a better understanding on how civil and military operators are working in this domain (principles, procedures, lines of action, etc.). In the process of developing a performance-based environment, it is essential to remember that safety is the key principle to follow. As the market of aviation is growing, it is also important to constantly adjust the civil-military cooperation with the aim to take into account this evolution.

2.5.3 In this regard, as a follow-up to A38-12, ICAO has an important role in promoting common concepts in the enhancement of civil-military cooperation with the main objective to achieve a seamless airspace and a globally harmonised air navigation services (ANS)/ATM system.

2.5.4 At the regional level, solutions have been identified that can inspire best practices, such as ICAO EUR Doc 032. National regulations may have indirect impacts on the military. Therefore, there is a need to find adequate solutions, notably to facilitate safe access to airspace for State aircraft at regional and global level.

3. GRADUALLY MOVING FROM CIVIL-MILITARY COORDINATION TO COLLABORATION

3.1 The global aim of gradually moving from civil-military coordination to collaboration is to involve the military upfront with the aim to enhance the civil-military collaboration in ATM and communication, navigation and surveillance (CNS), notably by sharing best practices and addressing challenges related to digitalization, security, flexible use of airspace and unmanned aircraft systems (UAS) integration in non-segregated areas. Such an evolution is of nature to reinforce the development of civil-military synergies thanks to an effective collaboration starting from research and development to deployment of interoperable systems.

3.2 Involve the military from the outset and develop civil-military synergies could reduce costs

3.2.1 Civil and military aviation share the same objective of reducing costs to the maximum extent possible while improving operation efficiency and safety. Common research and development, eg. on UAS, can develop civil-military synergies and interoperability, can reduce duplication of work and capitalize on existing experiences and expertise. Furthermore, the development of common standards where applicable and possible are considered beneficial to all stakeholders.

3.2.2 Moving to collaboration, means notably that the military should be more involved in the development of ICAO's Global Air Navigation Plan (GANP) and ASBU through an adequate involvement in developing aviation strategies and visions for example recognition of military research and development projects related to medium altitude long endurance drones. Military expertise and experience may be useful added-value for future ICAO activities, especially integration of unmanned aircraft in non-segregated airspace.

3.3 Promote an efficient use of airspace with the aim of optimizing the global performance of aviation

3.3.1 The performance of the global route network can only be achieved in a peaceful and secured environment and the military aviation will continue to provide and further improve, effective security and defence in the changing context of the civil aviation sector, having due regard for the safety of civil air traffic.

3.3.2 Implementing the advanced flexible use of airspace (FUA) concept, trajectory-based operations (TBO) including mission trajectories and UAS traffic management (UTM) implies that States take a balanced consideration of civil and military operational needs. This to achieve the highest possible levels of efficiency to optimize the use of the airspace and resources available to any given State and to maintain safety level at its highest, including for general and military aviation at low level.

3.3.3 Enablers to achieve this objective are the full involvement of the military in State airspace management cells, and the use of automated business to business (B2B) systems. In this context, the military contribution to release training areas for improving the performance of the network, and how the civilian stakeholders use this released airspace shall be measured through relevant indicators, eg. through indicators like CURA (Civil Use of Released Airspace) as used in Europe.

3.3.4 It is also essential for the aviation sector to enhance cooperation in data collection for the optimization of global performance of aviation as well as raising the level of safety, for example when collecting information from the risks arising from conflict zones[3].

3.4 Encourage a performance-based environment is beneficial for both civil and military aviation

3.4.1 Civil aviation laws may have an indirect impact on access to airspace by military flights, as it is the case in the non-Reduced Vertical Separation Minima (RVSM) environment. This can be mitigated thanks to military involvement upfront at the global, regional and State levels, i.e. through implementation of mechanisms done in conjunction with Member States; and by associating the military in relevant groups

[3] Reference European paper on Conflict Zones

to implement interoperable solutions. It is considered as key that recommendations and regulations at global and regional level should request performance target objectives rather than equipage requirements.

3.4.2 Ad hoc technical measures, such as acknowledging that military systems may offer in some specific cases levels of performance that is equivalent to civilian systems, would guarantee a safe access to airspace for manned and unmanned state aircraft and ensure that performance of the global, regional and State levels remain at its highest. Civil and military coordination on certification and standardisation is also improving flight safety and interoperability.

3.5 Facilitate information sharing through a resilient and a robust network

3.5.1 The implementation of a global ATM network, i.e. system-wide information management (SWIM), shall allow data sharing among all relevant civil and military stakeholders ensuring appropriate levels of interoperability, cyber resilience, cyber protection and confidentiality, integrity and availability of mission critical information according to local needs.

3.5.2 Developing an appropriate level of cyber resilience and confidentiality for civil flights and military missions as well as preserving critical systems and infrastructures are deemed necessary, as a cyber-attack may have an indirect impact on safety.

3.5.3 Data sharing shall be through robust means to encourage the establishment of necessary principles of trust and transparency, as well as rules for dissemination of sensitive information and relevant cyber protection and resilience measures. In this domain, capitalizing on existing experiences and expertise could be an added-value for the entire aviation chain.

4. CONCLUSION

4.1 The global evolution of the ATM system as foreseen by the *Global Air Navigation Plan* (Doc 9750) requires global, regional, and national cooperation between civil and military State aviation authorities. Gradually moving from civil-military coordination to greater collaboration upfront is beneficial to both the civil and military aviation.

4.2 In order to implement a safer, more interoperable and performance-based global network, the collaborative involvement of both civil and military stakeholders at State, regional and global levels is no longer an option but a key for success.

4.3 The Conference is invited to agree on the following recommendations:

That the Conference:

a) urge States to agree with the strategic approach developed in paragraph 3 moving from civil-military coordination to collaboration;

b) request ICAO to provide appropriate guidelines on the strategic approach;

c) encourage ICAO to develop together with States mechanisms to collaborate with the military community at global and regional levels;

d) request ICAO to reinforce the development of civil-military synergies thanks to an effective collaboration starting from research and development to deployment of interoperable systems; and

e) encourage ICAO to undertake a proactive role in the promotion of best practices strengthening civil-military cooperation.

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