

Civil/Military ATM Cooperation and Flexible Use of Airspace Webinar

Online
20th-21st Nov 2024

This event is jointly organised with



Civil-Military ATM performance measurements

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☐ EUROCONTROL

☐ Civil-Military ATM Cooperation Division &
NM Airspace and Capacity Division

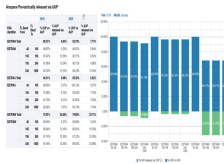
Overview



Civil-military ATM performance approach in European ATM



Flexible Use of Airspace Performance



Military mission ATM effectiveness



PRISMIL-CURA tool

Civil-military ATM performance approach in European ATM

- Contribute to reaching ATM performance ambitions
- Safeguard national security and defence requirements – military mission effectiveness



FUA performance measurement – Regulatory requirements





SES Regulatory framework

- Performance and charging scheme regulation

- ATM Network Functions Implementing Rule

- FUA regulation

(Non-legislative acts)

REGULATIONS

COMMISSION IMPLEMENTING REGULATION (EU) 2019/121

of 24 January 2019

laying down detailed rules for the implementation of air traffic management (ATM) network functions and repealing Commission Regulation (EU) No 677/2011

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 on the regulation and use of the airspace in the single European sky (the 'airspace Regulation') (1), and in particular Articles 6(6) and 6(7) thereof,

Whereas

(1) The network functions should be a service of general interest exercised for the benefit of the European air traffic management network (EATMN), hereinafter referred to as 'the network'. They should contribute to the sustainable development of the air transport system by ensuring the required level of performance, interoperability, compatibility and coordination of activities including those to ensure the optimal use of scarce resources.

(2) The design of the European route network, the management of the network capacity and air traffic flows and the coordination of scarce resources, as provided for in Regulation (EC) No 551/2004, should be without prejudice to Member State sovereignty over their airspace and to their responsibility relating to public order, public security and defence matters as provided for in Regulation (EC) No 549/2004 of the European Parliament and of the Council (2).

(3) The network should include all physical and operational components that determine the performance of aircraft, in particular their punctuality and flight efficiency, operated in the airspace within the International Civil Aviation Organisation (ICAO) EIR region where Member States are responsible for the provision of air traffic services.

(4) The European route network should be designed to improve the efficiency of the routings from a gate-to-gate perspective in all phases of flight taking particular account of flight efficiency and environmental aspects.

L 342/10 EU Official Journal of the European Union 24.12.2013

COMMISSION REGULATION (EC) No 2150/2003

of 23 December 2003

laying down common rules for the flexible use of airspace

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the 'airspace Regulation') (1), and in particular Article 6(2) thereof,

Whereas

(1) Flexible use of airspace is an airspace management concept developed by the International Civil Aviation Organisation (ICAO) and developed by the European Organisation for the Safety of Actual Navigation, according to which airspace should not be designated as either purely civil or purely military airspace, but should rather be considered as one continuous in which all users' requirements have to be accommodated to the maximum extent possible.

(2) Eurocontrol has been mandated in accordance with Article 6(1) of Regulation (EC) No 549/2004 to assist the Commission in the development of implementing rules on flexible use of airspace. This Regulation takes full account of the resulting mandate report of 30 December 2004 issued by Eurocontrol.

(3) The Regulation does not cover military operations and training as referred to in Article 1(2) of Regulation (EC) No 549/2004.

(4) The Member States undertook, in a Statement on Military Issues related to the Single European Sky (2), to cooperate with each other, taking into account national military requirements, in order to ensure that the concept of flexible use of airspace is fully and uniformly applied in all Member States by all users of airspace.

(5) The report issued jointly by the Eurocontrol Performance Review Unit and the Eurocontrol agency in October 2003 states that there is a significant scope for improving the current operation of the flexible use of airspace within Europe. Common rules for giving effect to that improvement should now be adopted.

(6) The flexible use of airspace concept covers also airspace over the high seas. Its application should therefore be without prejudice to the rights and duties of Member States under the Convention on International Civil Aviation (Chicago Convention) of 7 December 1944 and its annexes, or to the 1982 UN Convention on the Law of the Sea.

(7) There are activities which require the reservation of a volume of airspace for their exclusive or specific use for different periods, owing to the characteristics of their flight profile or their hazardous attributes and the need to ensure effective and safe separation from non-participating or traffic.

(8) Efficient and harmonised application of flexible use of airspace throughout the Community needs clear and consistent rules for civil-military coordination which should take into account all users' requirements and the nature of their various activities.

(9) Efficient civil-military coordination procedures should rely on rules and standards to ensure efficient use of airspace by all users.

(10) It is essential to further cooperation between neighbouring Member States and to take into account cross-border operations when applying the concept of flexible use of airspace.

(11) Differences in the organisation of civil-military cooperation in the Community restrict uniform and timely airspace management. It is therefore essential to identify the present and/or organisations which are responsible for the application of the flexible use of airspace concept in every Member State. This information should be made available to the Member States.

Do not apply to military training and operations but fully consider and safeguard them



COMMISSION REGULATION (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace

State obligations:

- assess and review the performance of flexible use of airspace operations
- establish mechanisms to archive data on the requests, allocation and actual use of airspace structures for further analysis and planning activities

L 342/20		Official Journal of the European Union	24.12.2005
COMMISSION REGULATION (EC) No 2150/2005			
of 23 December 2005			
laying down common rules for the flexible use of airspace			
(Text with EEA relevance)			
THE COMMISSION OF THE EUROPEAN COMMUNITIES,		2005, states that there is a significant scope for improving the current application of the flexible use of airspace within Europe. Common rules for giving effect to that improvement should now be adopted.	
Having regard to the Treaty establishing the European Community,		30) The use of the flexible use of airspace concept covers also airspace over the high seas. Its application should therefore be without prejudice to the rights and status of Member States under the Convention on International Civil Aviation (Chicago Convention) of 7 December 1944 and its annexes, or to the 1982 UN Convention on the Law of the Sea.	
Having regard to Regulation (EC) No 553/2004 of the European Parliament and of the Council of 10 March 2004 on the organisation and use of airspace in the single European sky (1) and in particular Article 7(5) thereof,		31) There are activities which require the reservation of a volume of airspace for their exclusive or specific use for designated periods, owing to the characteristics of their flight profile or their functional attributes and the need to ensure effective and safe separation from non-participating air traffic.	
Having regard to Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the Framework Regulation) (2) and in particular Article 8(2) thereof,		32) Efficient and harmonised application of flexible use of airspace throughout the Community results from clear and consistent rules for civil-military coordination which should take into account all user requirements and the nature of their various activities.	
Whereas:		33) Efficient civil-military coordination procedures should rely on rules and standards to ensure efficient use of airspace by all users.	
(1) Flexible use of airspace is an airspace management concept developed by the International Civil Aviation Organisation (ICAO) and developed by the European Organisation for the Safety of Aviation (Eurocontrol), according to which airspace should not be designated as either purely civil or purely military airspace, but should rather be considered as one continuous in which all user requirements have to be accommodated to the maximum extent possible.		34) It is essential to further cooperation between neighbouring Member States and to take into account cross-border operations when applying the concept of flexible use of airspace.	
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(5) The report issued jointly by the Eurocontrol Performance Review Unit and the Eurocontrol agency in October			

Commission Regulation (EC) No 317/2019 laying down a performance and charging scheme in the single European sky'

ANNEX 1 - KEY PERFORMANCE INDICATORS (KPI) AND INDICATORS FOR MONITORING :

- c) **The effective use of reserved or segregated airspace** calculated as the ratio of the initial requested allocated time for reservation or segregation from general air traffic, at the final allocated time used for the activity requiring such segregation or reservation. The indicator is calculated for all airspace allocations notified to the Network Manager.
- (d) **The rate of planning via available airspace structures**, including reserved or segregated airspace and conditional routes, for general air traffic calculated as the ratio of aircraft filing flight plans via such airspace structures and the number of aircraft that could have planned through those airspace structures.
- e) **The rate of using available airspace structures**, including reserved or segregated airspace, conditional routes, by general air traffic calculated as the ratio of aircraft flying via such airspace structures and the number of aircraft that could have planned through these airspace structures.



COMMISSION IMPLEMENTING REGULATION (EU) 2019/123 of 24 January 2019 laying down detailed rules for the implementation of air traffic management (ATM) network functions

The network manager shall contribute to the overall performance of the network, especially regarding the implementation of the performance scheme:

- prepare and implement a Network Performance Plan in accordance with the performance scheme
- establish a process of continuous monitoring of the operational network performance
 - evaluation of airspace utilization aspects from both a civil and military perspective
- Network Operations Plan
 - Network operational performance efficiency
 - Military airspace requirements



Harmonised FUA performance monitoring ERNIP Part 3 “ASM Handbook” – Section 7 FUA Indicators

Set 1: Effectiveness of ASM process in terms of airspace made available

Rate of CDR/Airspace Availability (RoCA/RoAA) represents (in %) the ratio of the total CDR opening, whatever category it may be, or RSA, to the total during a given time period.

Set 2: Indicators on the utilization of the available airspace

Rate of Aircraft Interested (RAI) represents (in %) the ratio of the number of flights planned on an available CDR, or through an RSA to the number of potential users of this CDR or the available RSA.

Rate of Actual Use of CDR/Airspace (RAU) represents (in %) the ratio of the number of flights (AU) having actually used an available CDR or RSA to the number of potential users (PU) of this CDR or RSA.



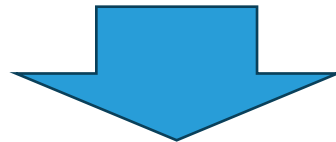
Used for Regulatory requirements

Harmonized FUA performance monitoring ERNIP Part 3 “ASM Handbook” – Section 7 FUA Indicators

Effective Use of **R**eserved or **S**egregated **A**irspace (**ERSA**)

Represents the ratio (in %) between the final allocated time for reservation or segregation from general air traffic, and the initial allocated time used for the activity requiring such segregation or reservation.

The requested allocated time is recorded from the area allocation in the **EAUP**. The final allocated time is recorded from all the subsequent **EUUPs** addressing the concerned area.



Used for Regulatory requirements

Harmonised FUA performance monitoring ERNIP Part 3 “ASM Handbook” – Section 7 FUA Indicators

Flight Economy Indicators (FEI)

Potential Flight Economy represents (in NM), the economy realised by using a CDR or RSA instead of its alternate (ALTN) route.

Flight Economy Realised

Flight Economy Lost

Flight Economy Offered

Actual Flight Economy

Military Mission ATM effectiveness



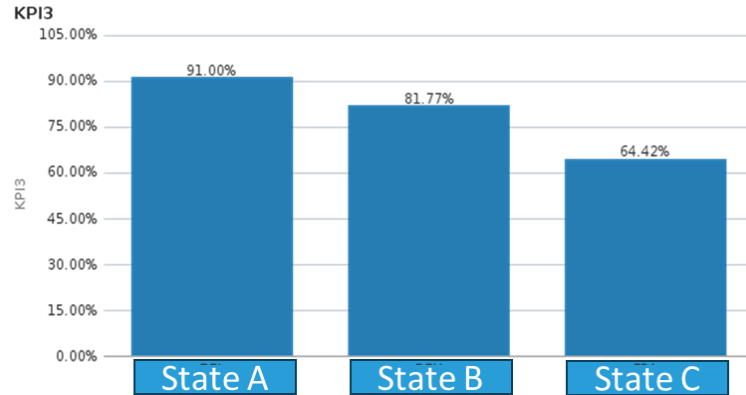
Military mission ATM effectiveness assessment

- Optimal routing
- Airspace volume for training
- Location of training area
- Training time inside airspace reservations



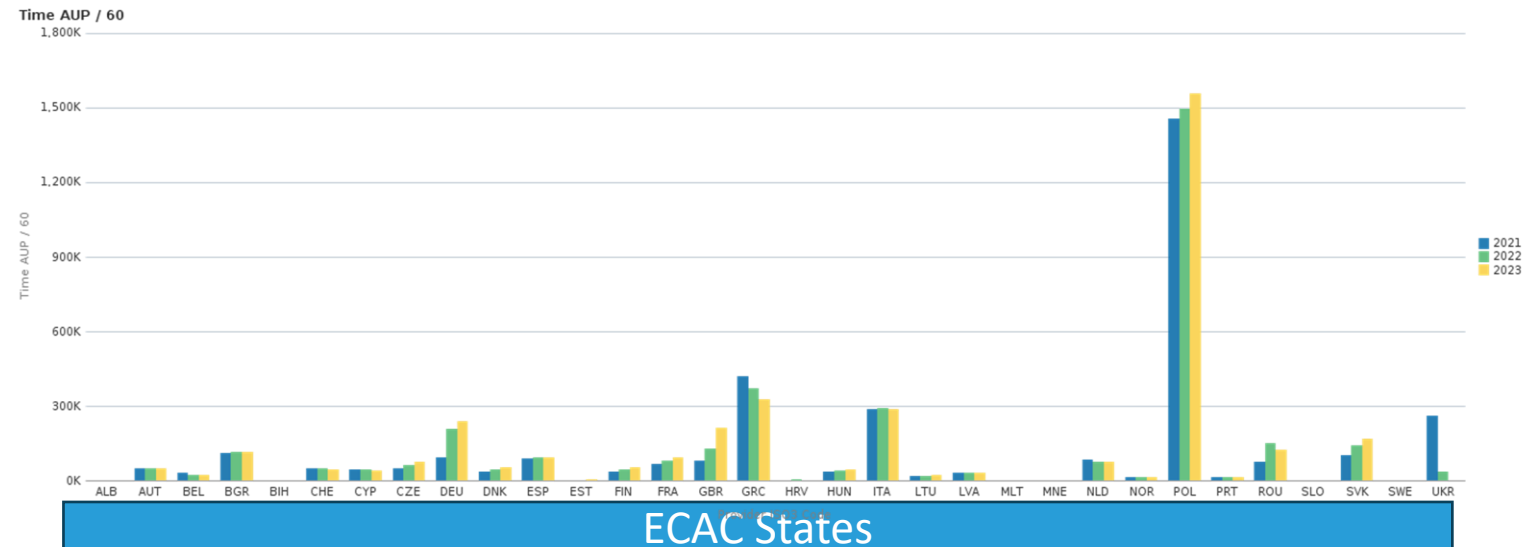
Ensure ATM support to access airspace as required by mission objectives

Military mission ATM effectiveness Performance Indicators



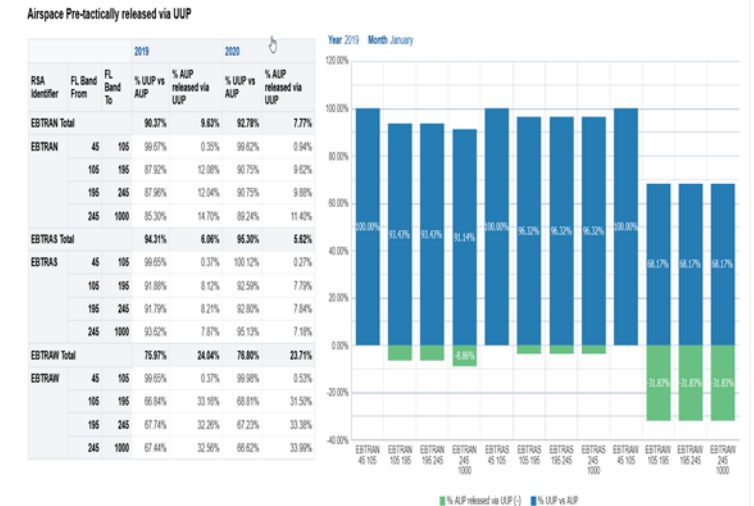
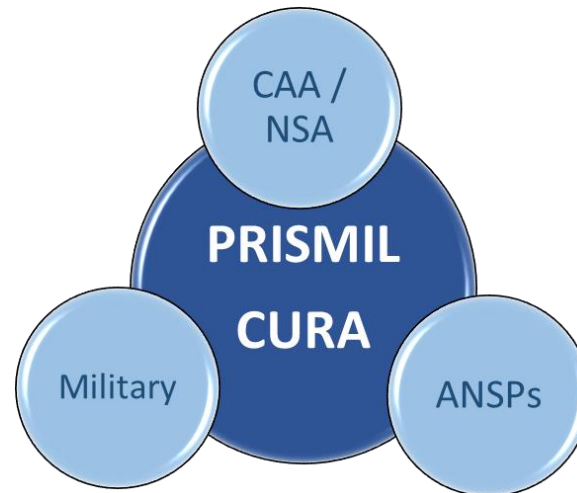
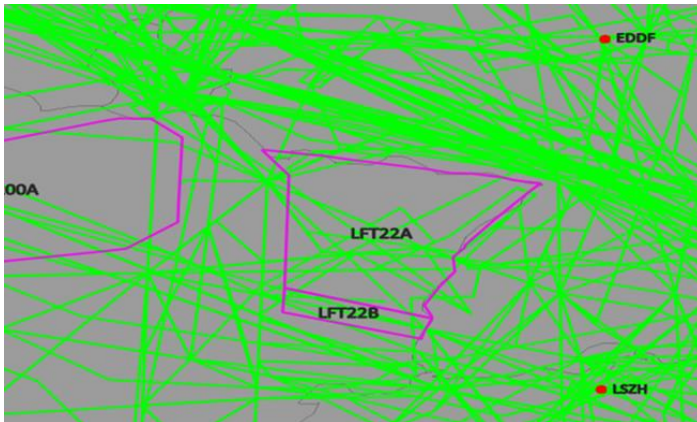
KPI3 = training time vs. total mission duration time

KPI2 = training time allocation



PRISMIL-CURA tool

Civil-Military performance monitoring system
shared between civil and military authorities



Dual use of analytic and big data technologies
- visualized with heatmaps



Thank You