

## Interdependencies within ATM Performance in the Context of a Dynamic Environment

Research workshop  
21–23 October 2020

- BLUE MED FAB and FAB Europe Central organised the research workshop on 21–23 October 2020. The virtual conference was held in partnership with the FSR Florence School of Regulation and the German Aviation Research Society (GARS).
- Workshop context provided by European Commission Director for Aviation DG MOVE Filip Cornelis; ENAV CEO Paolo Simioni, and FABEC Chairman CEO Board Prof Klaus-Dieter Scheurle.

### Key Messages

- There is a need to reconsider parts of the performance scheme to make it flexible, adaptive, robust and resilient based on modern technologies and methods.
- The framework (traffic volatility, traffic predictability, airline priorities) has a huge impact. There is a need to govern the wider system based on external requirements (needs from airspace users, passengers, citizens and European economy) and not – as today – from an intrinsic, production-oriented perspective (e.g. current use of capacity metrics instead of punctuality metrics, current use of a deviation from the great circle distance metric instead of emissions metrics).
- Current regulation does not provide enough flexibility to act or react in a rapidly changing environment. Volatility in terms of time and space strongly influences the performance. Consequently, there is a need to reconcile the need for a stable regulatory framework (certainty in planning) with more flexible tools and targets and adapt them continuously in the light of overall developments.
- Little is known about interdependencies of Key Performance Areas - and even less about specific performance areas. More research based on modern methodologies (big data, AI, multidimensional methods etc.) is urgently needed to boost performance management in the Age of Digitisation and to create a state-of-the-art ATM performance regulatory scheme.



- Optimisation in one area may lead to deterioration in the performance of the overall system. A system-of-systems approach is needed.
- Cost-efficiency is used as a basis for charges and can be measured with some precision. Safety, environment and capacity are currently measured using indicators developed before the performance scheme regulations, and which are either not defined precisely or even negatively (delay or risks). This is a root cause why the links and trade-offs are not adequately considered.
- It seems that most of the available information relates to the trade-off between cost-efficiency and capacity.
- Although safety is the mission of ANS and the Green Deal is at the top of the political agenda, there is a substantial lack of knowledge concerning metrics, methodologies and subsequently trade-offs with other key performance areas.
- The overall costs of performance related activities have to be duly considered, both in terms of transaction cost and the cost of the regulatory system as such.
- The decision on which indicators are used is of huge importance as it identifies the focus areas being addressed and determines the behaviour of ANSPs and might either lead to a positive or a negative result.
- The wider SES regulatory framework (i.e. the implementation of Common Projects) influences the outputs and has an impact on final performance of the system. Consequently, it is important to evaluate trade-offs early in the development of new “solutions”.
- Quick-wins may lie in smaller technical achievements and have to be duly considered together with the large scale investment programmes which sometimes do not provide expected benefits.
- Controversial results in benchmarking may be due to insufficiently robust modelling and unclear relationships between different indicators used.
- The performance scheme and its supporting detailed analysis should not lead to micromanagement, which would be in contradiction with the performance-based principles.
- The topic of Interdependencies has to be addressed to deliver results in preparation for the RP4.

