FASTNet

ABOUT THE PROJECT

FASTNet ("Future dAta Services and applicaTions for airports and Network") is a fast-track project of the SESAR 3 JU Digital European Sky research and innovation programme. It brings together key stakeholders (Airport Operators, Network Manager (NM) and airspace Users) for Demand Capacity Balancing (DCB) in planning and execution with the aim of enhancing collaborative data exchange at the local airport level and simultaneously improving the communication links between airports and the European Air Traffic Management Network (EATMN). FASTNet is structured around two solutions:

FASTNet - Enhancing airports' contribution to ATM network performance

> FASTNet solution 1 introduces the collaboration and coordination between airports directly, in the tactical phase of operations, improving airports' coordination where tactical imbalances are caused by flights connecting regional airports or between major pair airports, ensuring an optimal traffic DCB prior to coordination with the Network Manager. The aim is to ensure that airport pairs (origin-destination airports) play an active role in the overall Air Traffic Flow and Capacity Management (ATFCM) process.

> FASTNet Solution 2 reinforces the information sharing between airports and the Network Manager in the strategic and pre-tactical phase of operations. The aim is to ensure that the right information is shared as early as possible between the key stakeholders to ensure that tactical operations have been planned in an optimal way.

Both Solutions 1 and 2 involve the extension of state-of-the-art technologies and the use of Artificial Intelligence to integrate new datasets available at local level, such as local restrictions, pre-tactical flight information and strategic local information in order to enrich the DCB process and ensure efficient planning from the strategic phase.

EXPECTED OUTCOMES

The outcomes of the FASTNet project are linked to 4 demonstrations across the two Solutions.

For airports, the proposed solutions are expected to enhance the stability and predictability of operations from strategic planning up to the tactical phase. The use of information provided by Airport, Airspace Users and Network, supported by Artificial Intelligence/Machine Learning (AI/ML), will allow better planning predictions for all operational actors.

At the level of the EATMN, the enhanced traffic predictability provided through the FASTNet project will lead to reduced, as well as more stable, ATFM measures by ensuring that sector count predictions are better aligned to the real traffic flows. The time horizon at which pertinent data and information is shared bi-directionally between airports and the Network Manager will be improved and enriched in the pre-tactical and strategic phases of operations (more than 7 days before the day of operations), using existing B2B services and data sharing protocols, ensuring that all actors are able to plan their operations and resource allocation based on the most accurate information available.

The proposed FASTNet solutions are expected to:

- Increase predictability on airport resources and overall operations (Airport Operators, Ground Handlers, etc),

- Maximise operational efficiency and resilience through a reduction in the number of adjustments in the strategic and pre-tactical phases, leading to better adequation of airport resources on the day of operations and positively impacting the passenger experience.

- Reduce ATFM regulations for the benefit of ANSPs, Network Manager, Airspace Users and passengers. In addition, the prediction of regulations with their likelihood and possible quantification in delays will also provide clear benefits to airspace users.

- Improve the Network DCB process, through the reinforced integration of Airports within the Network, by adjusting the Network capacity to Airspace Users' needs.

- Open the possibility for new market opportunities in the areas of AI/ML through Big Data in the design of customised Airport Operations Plan (AOP) modules.

FASTNet PARTNERS

Acknowledgement

Disclaimer: