



MUAC CONOPS 2030

With customer preferences and the impact on the environment moving up the agenda, MUAC is redefining its ambitions. This is reflected in MUAC's new concept of operations, as **Robert Parys** and **Peter Hendrickx** report.

In the last year, in the midst of the COVID-19 pandemic, MUAC has spent time defining its ambition with regard to the concept of operations planned for development over next decade: CONOPS 2030. This initiative expands and replaces MUAC's previous flagship programme called ATC2ATM.

The CONOPS 2030 major objective is to have built-in flexibility to plan staff and the airspace more efficiently while optimising performance. Alongside traditional metrics like safety, cost, capacity, productivity, and delays, we will consider our customers' preferences and the impact of our operations on the environment.

Data-driven decision-making

The CONOPS 2030 ambition is based on a high degree of automated support assisting users in data-driven decision-making. The systems will utilise predictive and machine-learned models

to provide solution advisories, based on historical data augmented by real-time events. All relevant data from a variety of MUAC systems, as well as external sources (i.e., ANSPs, airports, Network Manager, military units, and airframes), will be better integrated to improve Ops room situational awareness.

MUAC's revamped Central Supervisory Suite will drive sectorisation plans, which will include more flexible sector staffing concepts than today. They will do that in coordination with other actors based on workload metrics, derived from mixing traffic demand with its complexity.

Supporting the controller in the hot seat

In MUAC, we believe that the Executive Controller (EC) role, as known today, will handle the traffic in 'the hot seat' for years to come, but they will receive support, as and when needed, by:

- A Coordinating Controller (CC) whose role will evolve to better share the workload in the sector.
- A third controller for short overload situations, to avoid opening a fully staffed sector for sometimes a few extra flights.
- Automated control systems assisting upon request, able to control autonomously non-complex CPDLC flights, working under full control and supervision of controllers.
- Traffic complexity reduction collaborative processes involving the Network Manager, neighbouring ANSPs, airline operators, and taking into account the impact on the environment.

With CONOPS 2030, the Executive Controller will be executing and supervising the execution of plans prepared by the complexity reduction processes, and fine-tuned by the Coordinating Controller, with CPDLC being the norm for communication



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with the aircraft. Using ADS-C data will close the loop ensuring air-ground consistency. The Executive Controller will be expected to intervene when the plans made earlier need a tactical adjustment, or upon an unforeseen tactical event. The system will help them in spotting anomalies.

A new level of operational performance

In the future, our customers' and partners' preferences will drive MUAC operations, communicated digitally and in real time, along with environmental goals and internal performance targets (minimising complexity and maximising throughput). We hope that our network value-adding services will be appreciated and in return will bring us flexibility from our customers and partners.

By 2030, we also plan to implement modern training methods, including competency-based training supported by self-training simulator capabilities. This should shorten the time needed for controllers to cross-train from one sector group to the other.

CONOPS 2030 will bring MUAC into a new level of operational performance required to cope with challenges of the future. This journey starts today. **S**



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Peter Hendrickx joined MUAC in 2000, and after different positions in the Operational and Technical domains, he is now Head of the ATM Development Unit responsible for the Future Operational Concept. He is innovation co-champion at MUAC, and Project Manager of the ARGOS Project, concerning automation of routine ATCO tasks and automated ATC for basic flights.

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