

BENEFITS FROM THE EAP LIVE TRIALS

- > EAP increases confidence in the ATFCM process, allowing more STAM to be implemented with better accuracy
- > EAP improves common situation awareness at the controller working position
- > EAP allows reconciliation of dDCB and Time Target of Arrival or ATC constraints
- > By smoothing ATC traffic, EAP increases capacity while maintaining a high level of safety and improving flight efficiency to serve better performance to Airspace Users
- > EAP contributes to European ATM Master Plan performance objectives



DSNA will commission a tool, derived from the prototype that was used for the EAP live trials, for its 5 ACCs and Paris-CDG by the summer 2016. This local dynamic-Demand Capacity Balancing (dDCB) tool is named SALTO, Swift ATFCM/ASM Local Traffic Optimizer.

Then, the communication feature between EAP and control working positions will be implemented on a new multi-service HMI in Reims UAC by the end of 2016.

Further development will take place in the framework of SESAR 2020: industrial research projects and very large-scale demonstrations will integrate User-Driven Prioritization Process through Collaborative Advanced Planning (CAP) for en-route CDM. New exercises will study how EAP can be an enabler for advanced air-space management (ASM) or free route.

The EAP sends STAM requests through Wifi to controller working positions on a tablet set up between Executive and Coordinator controllers' screens.





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EAP, A NEW TACTICAL PHASE ROLE

TO MANAGE TRAFFIC COMPLEXITY AND IMPROVE FLIGHT EFFICIENCY

DSNA has developed a high-degree of expertise to provide real-time, fine-tuned service. This concept is paving the way to the SESAR vision of flow centric operations.



EXTENDED ATC PLANNING

THE OPERATIONAL CONCEPT

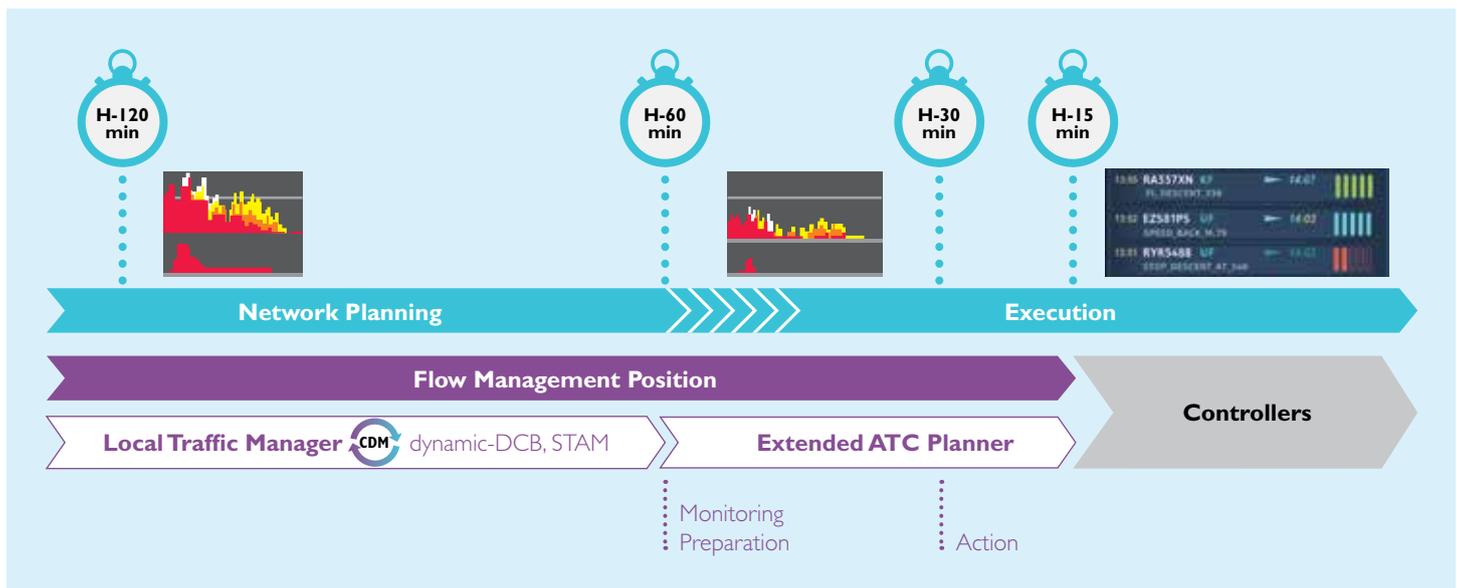
Contributing to the ATM Master Plan Flow Centric Approach for DSN A customers, the Extended ATC Planning (EAP) concept is to deliver capacity improvement at peak hours, while maintaining the highest level of safety, and increase ATCOs confidence in ATFCM processes,

When traffic is both high and complex, classic ATFCM/ATC procedures are not efficient enough to solve ATFCM hotspots. Traditionally, flow management acted on flights before takeoff, while ATC took over about 10 minutes before they entered into the control sector. In the wake of Short Term ATFCM Measures (STAM), which allow cherry picking, came the idea to act on airborne flights in order to achieve continuous fine tuning.

Thus, the objective of the EAP role is to:

- Support the Local Traffic Manager by identifying ATFCM hotspots;
- Identify STAM flight-candidates in order to provide optimum solutions to solve workload imbalances at the local level;
- Coordinate STAM and monitor their implementation by control sectors;
- Assist ATCOs thanks to complexity alleviation measures that are conflict free, compatible with traffic presentation, and synchronization activities.

EAP, a new role linking dynamic-Demand Capacity Balancing (dDCB) and Air Traffic Control



LIVE TRIALS IN 2015

The SESAR live trial took place at Reims UAC in June 2015 where the EAP role is planned within the FMP roster. The objectives of the exercise were to assess the added value of the EAP with its prototype-tools deployed at the FMP and on 10 Control Working Positions.

During the live trial, 55 STAMs were proposed by the EAP and 52 were implemented by controllers. In the reference scenario, 39 STAMs were proposed. Thanks to EAP and implemented solutions, ATFCM regulations generated only 4,500 minutes of delay vs 10,000 minutes in the reference scenario.

"The first feedback on the support tools was very positive and promising. They ensured a complete information and coordination process as well as providing ATC sectors with a better common situation awareness of the ongoing ATFCM situation". Delphine, ATCO at Reims UAC, said.

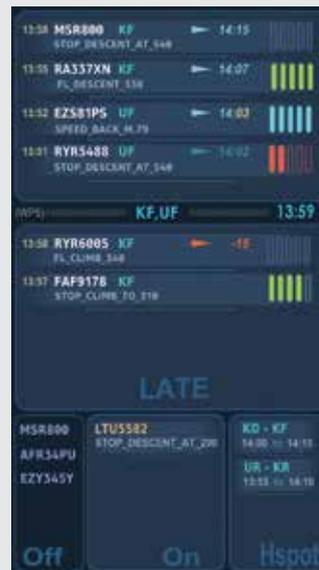
ATC TOOLS

Using SWIM-ready modern technology, the EAP platform prototype is using the Network Manager B2B Webservice to retrieve all relevant data and occupancy counts for all targeted traffic volumes. Two HMIs have been developed:



At EAP working position: the tool is designed to seek autonomy from CHMI (Eurocontrol) or radar screens with:

- Predicted Air Situation Display (ASD)
- Occupancy Counts and associated flight lists;
- Cross highlight features between ASD, occupancies and flight lists
- Hotspots Management
- STAM Management



At the Control Working Position: the tool supports the communication feature with EAP and provides information such as:

- STAM proposed by EAP on airborne flights and their status (approved, rejected or pending). Timeout managing for the sector is also proposed
- ATFCM common situation awareness (display of hotspots and information on STAMed flights that are off-loading or on-loading the sector)