

**Name and date of the exercise:** "OPTIMISATION OF ATFCM MEASURES BY MEANS OF TARGETED CASA AND MCP GROUND DELAY MEASURES USING THE PLANTA TOOL". Q2 2019

**Location:** Shadow Mode involving Madrid (LECM) and Barcelona (LECB) ACCs

**Point of Contact:** Amalia García ([amgalonso@e-crida.enaire.es](mailto:amgalonso@e-crida.enaire.es))



## The validation Platform

The 'Enhanced STAM' Demonstration, under the auspices of the Single European Sky ATM Research Programme (SESAR) and Network Collaborative Management (NCM) Project, has successfully involved two Spanish ACCs (LECM and LECB) and the Network Manager over four exercise execution days with the participation of two FMPs. The objective was twofold:

- Operationally, to demonstrate that the use of new DCB STAM measures contributes to decrease the number of flights affected by a measure and consequently the delay and the knock-on effect generated.
- Technically, to demonstrate that the local tool allows the identification, assessment and resolution of imbalances at the local level, sharing the final results with the NM for its final implementation.

## Significance & Relevance

Shadow Mode exercise using PLANTA connecting LECM and LECB ACCs with the NM. Demonstration pivoted around:

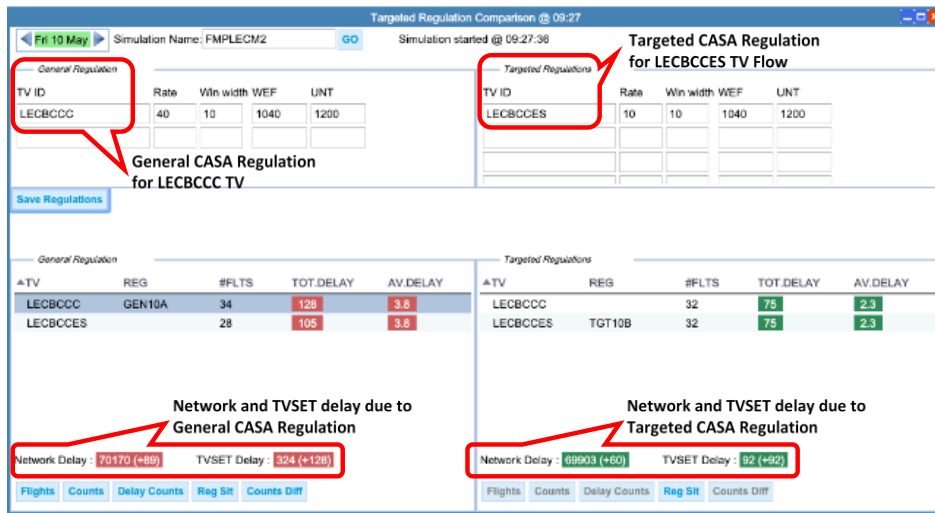
- Collaborative ATFCM
- FMP - NM connection/coordination via B2B

Use Cases successfully covered:

**UC2.2: ACC - NM** Coordination of Flight/Flow ground delay measures.

**UC2.8: ACC - NM** Coordination of Targeted CASA measures.

## Demonstration Activities (UC Example)



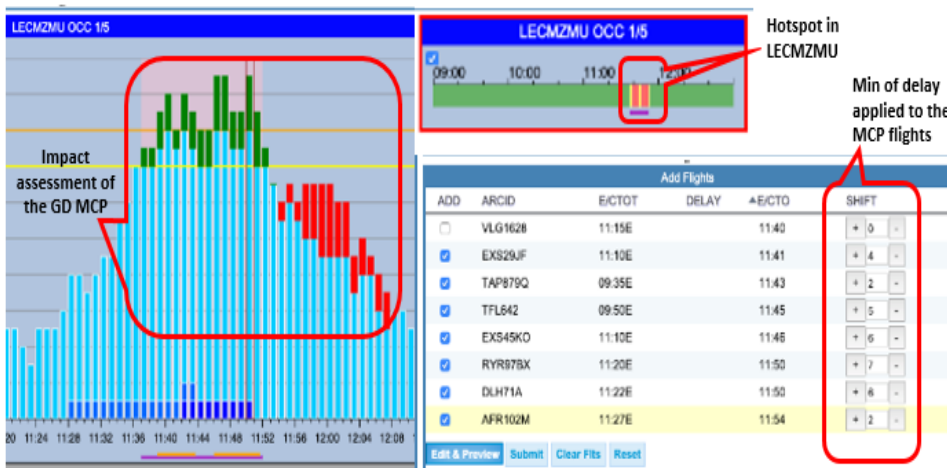
## Operational Involvement

There is a need to co-ordinate an approach to prepare Pre-Tactical Air Traffic Flow Management (ATFM) Measures that could lead to a higher ATM system efficiency (fuel and time), better use of the available Capacity, but also to reduce the workload and pressure on the local FMP. It would also enhance the role of NMOC in the co-ordination and CDM.

SESAR2020 Live and shadow demonstrations go a step further using PLANTA Eurocontrol Prototype. PLANTA can verify and validate the described process. ENAIRE's exercise with PLANTA contributes by implementing new processes such as Ground Delay with MCP and Targeted CASA measure.

## Operational Actors

FMPs from LECB and LECM ACCs  
Network Manager (NM)  
ENAIRE & Eurocontrol Engineering and Management Teams



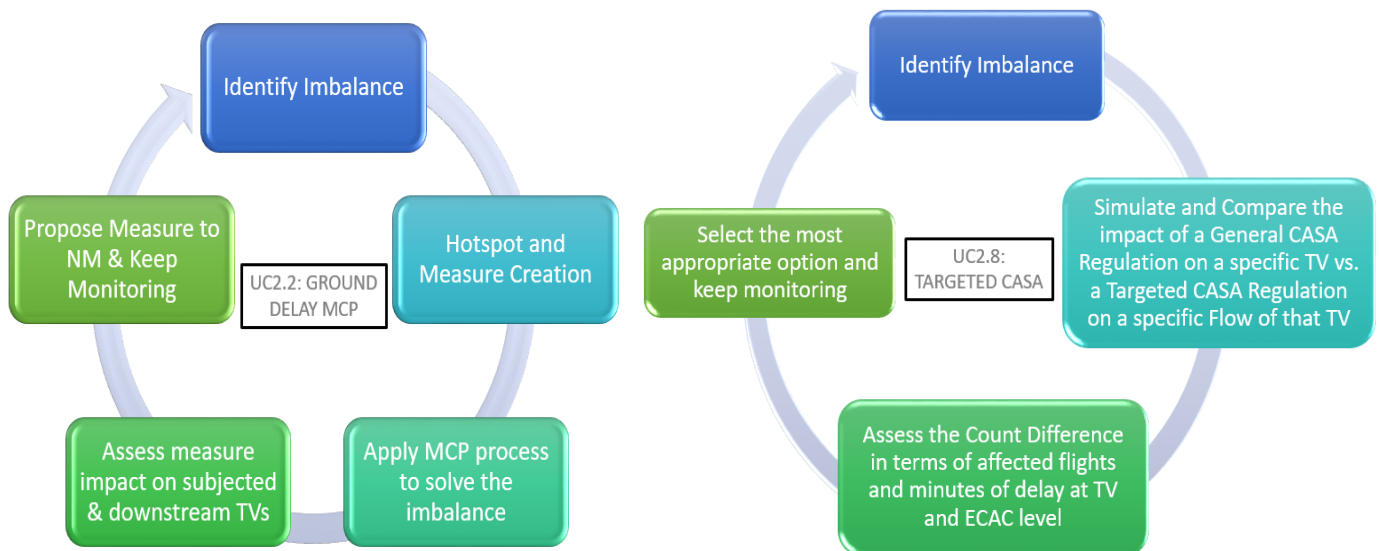
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## The Process



## Validation Objectives / Validation results

The main objectives were to:

1. Demonstrate the added value of using local tools to support the analysis, preparation and coordination of Ground Delays with MCP and Targeted CASA regulations.
2. Demonstrate that the processes & procedures and the roles & responsibilities of human actors related to the integration of local and network Demand and Capacity Balancing (DCB) processes are clear and consistent.
3. Demonstrate an improvement in Predictability and Punctuality thanks to the use of local network performance tools.
4. Demonstrate an improvement in the FMPs Situational Awareness.

After analyzing the results of the different demonstration iterations, we can conclude that results are in line with the expected benefits:

- It improves the situational awareness of the FMPs in the execution of their activities in their AoR
- Communication by B2B services supports a smoother DCB Process facilitating a seamless coordination between Local FMPs with the NM.
- The tool is considered to be easy to use, flexible and customizable to the exercise needs. Roles and Responsibilities as well as Process and Procedures are clear and consistent.
- The Use Cases under study proved to have a positive impact on the reduction of regulations and ATFM delays of the Traffic Volumes and consequently over the network. Results show an average decrease of delay per regulated flight of 9,6%, while a decrease in total delay of 31%. The number of regulated flights also decrease in both use cases.
- What-if assessment facilitates the FMPs decision-making process.
- Workload remains acceptable for the FMPs with no interference on their tasks.

In short, PJ24 ENAIRE PLANTA iterations have brought interesting clues to continue improving the tool and the process, paving the way for the development of local tools oriented to the FMP's requirements complementing and/or adding value to current CHMI.