The Fifth SID:
Report and Observations from Hala!

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ATM Flight Trajectories Management

Automation

Improvement of Processes through the use of Technology

Focus on ATM Invariant Processes

Automation driven by overall system performance

New role assignment based on:
- "best time"
- "decision place"
- "best player"

Loosing the overall system performance as key driver?
Improvement of Processes through the use of Technology

Providing DSTs in the proactive ATM phases

Supporting system operators by reducing WL, alerting them and promoting autonomy at reactive phases

Today, when Humans demand support from automation?:

*Under non-nominal scenarios* (as TCAS)

Paradoxically:
Automation is better than human in processes that can be expressed by rules,
Whereas *Humans are better in pattern recognition*
Automation driven by overall system performance.

Market driven Tech./Ops. driven

Promoting system demand predictability.

Delivering system Efficiency, Flexibility and Equity.

ATM Invariants

Goals
- Safety (Separation Assurance)
- Efficiency (broad sense; user, provider & society)

Limitations
- Airport Capacity
- Atmospheric Behaviour

Delivering system Efficiency, Flexibility and Equity.
Function allocation based on:

- Best time
- Best place
- Best player

Centralised services

Autonomy

To what extent planning DSTs, based on optimization algorithms, produce reliable, useful outcomes and, on the other hand;

To what extent AUs can autonomously operate in a system with nodal constrains and airspace chaotic uncertainties.
Function allocation based on:

- Best time
- Best place
- Best player
Thank you!