



MALORCA

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Stakeholder consultation meeting, 11 April 2017



Founding Members



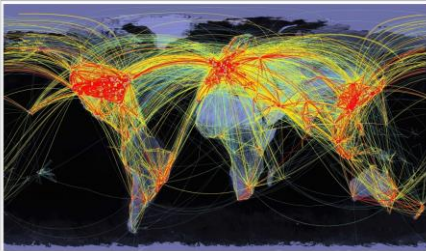
EUROPEAN UNION



EUROCONTROL

THE NEED FOR PERFORMANCE

Air Traffic Flow Chart 2010



Air Traffic Flow Chart 2040



SECURITY

- Ensuring high levels of security



COST EFFICIENCY

- Up to **40%** reduction in air navigation services costs per flight



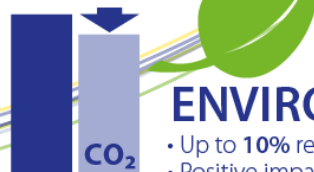
CAPACITY

- Up to **30%** reduction in departure delays
- Up to **10%** additional flights landing at congested airports
- A system capable of handling up to **100%** more traffic



ENVIRONMENT

- Up to **10%** reduction in CO₂ emissions
- Positive impact on noise and air quality



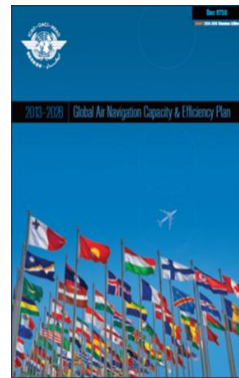
SAFETY

- Improvement by up to a factor of **4**



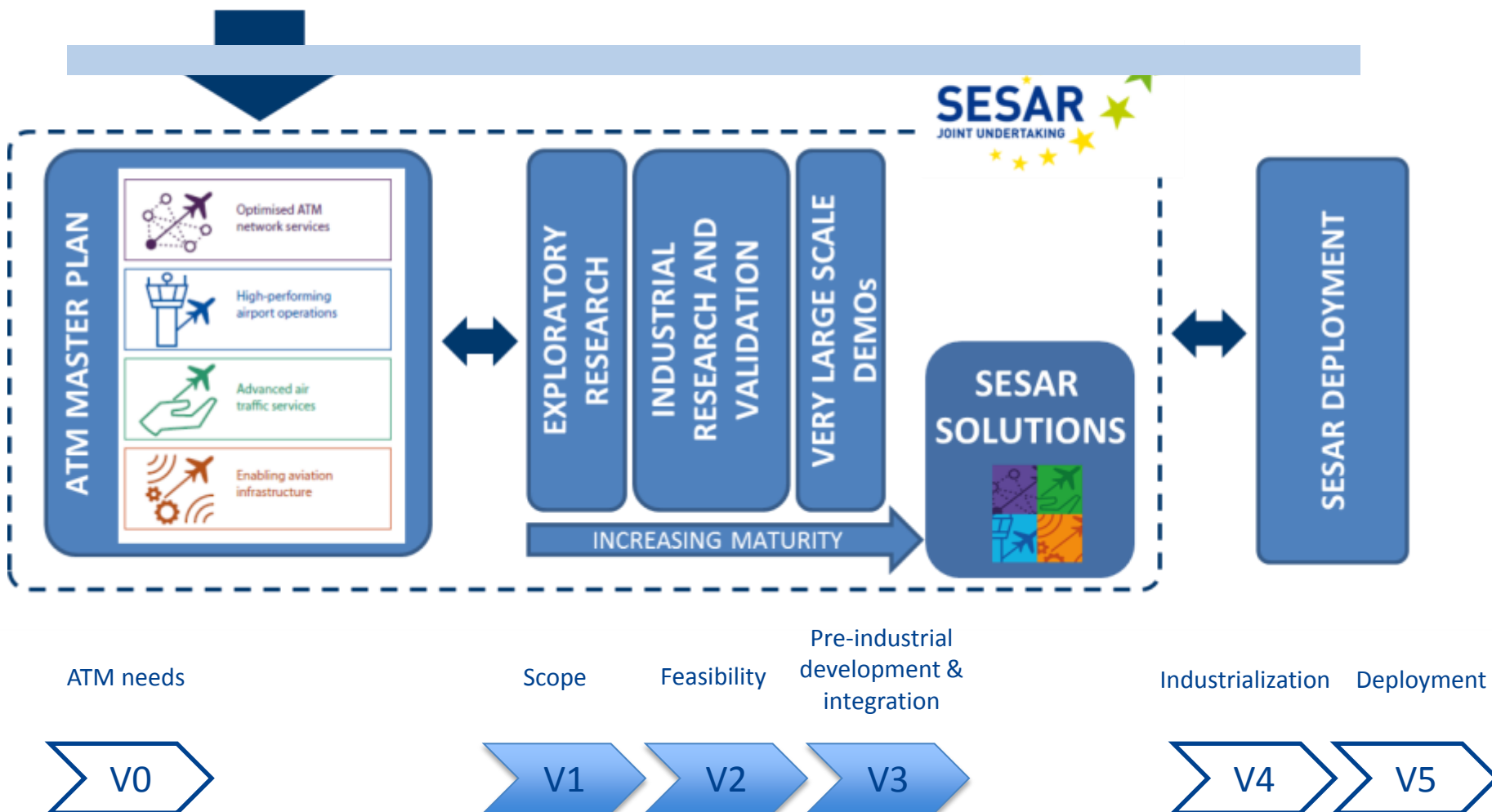
OPERATIONAL EFFICIENCY

- Up to **6%** reduction in flight time
- Up to **10%** reduction in fuel burn

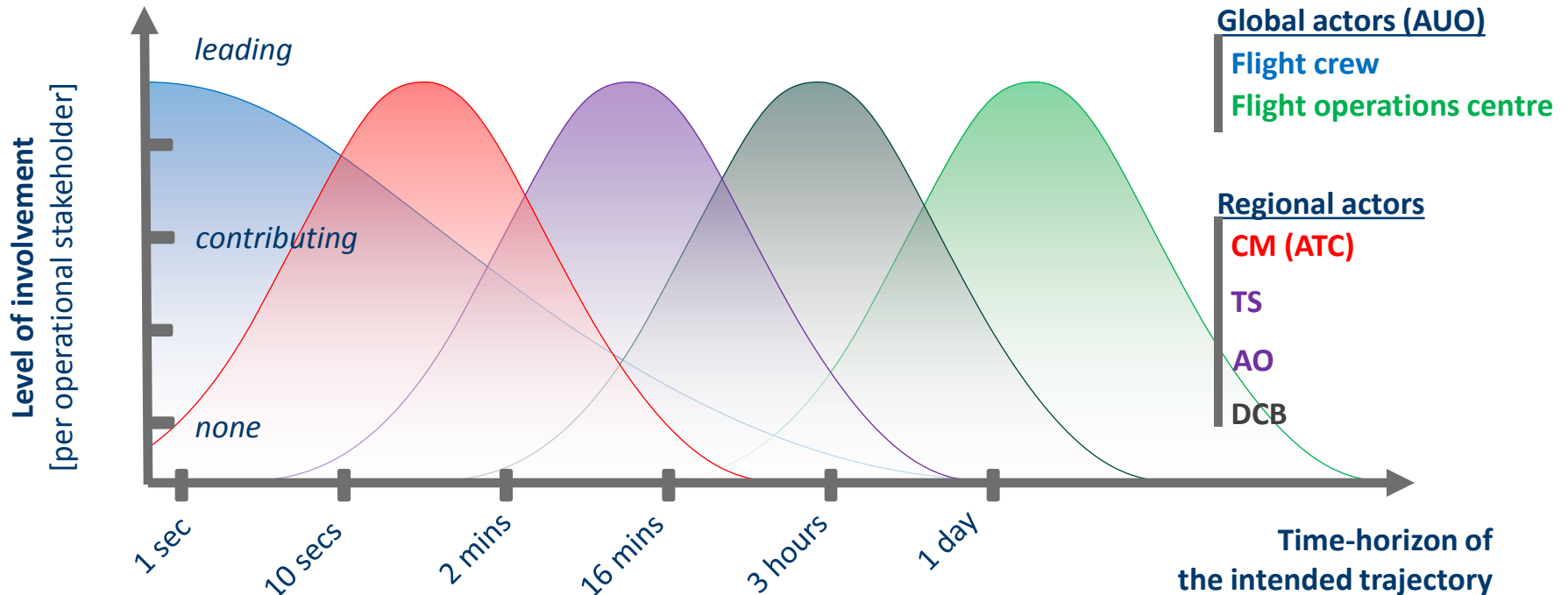


SESAR life cycle

SINGLE EUROPEAN SKY

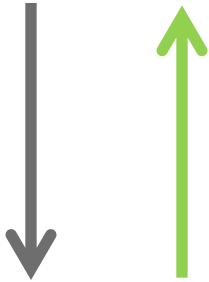


Trajectory based operations



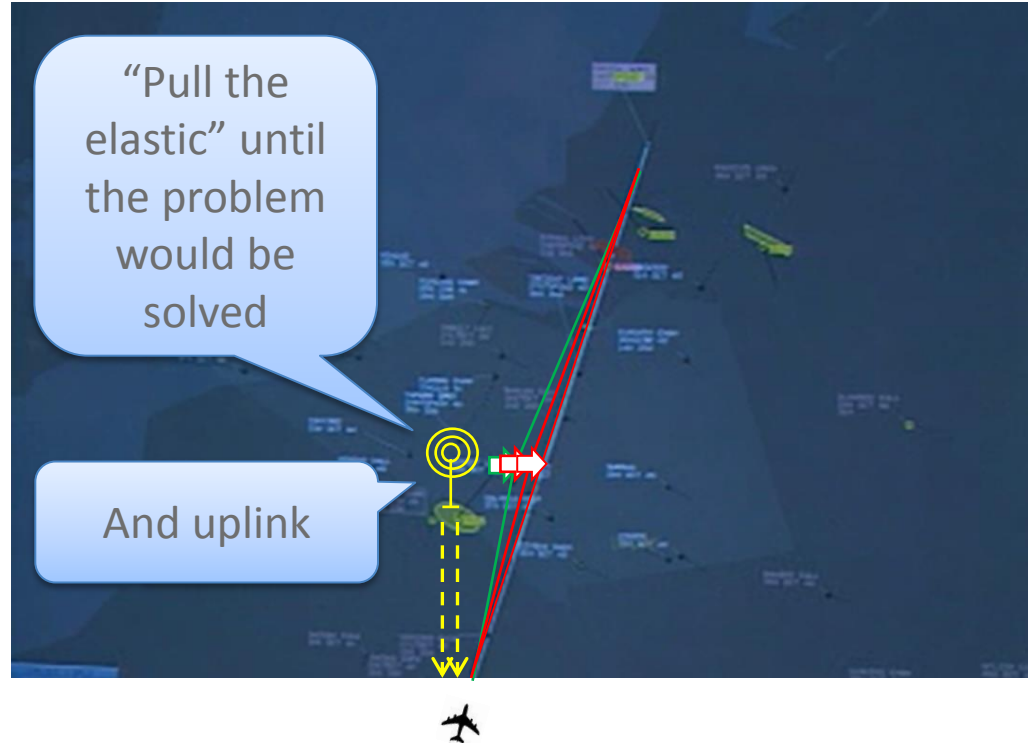
A multi-actor coordination framework
Requires synchronised information

Aircraft Integration (composite clearances)



Beyond CPDLC/ADS-C:

**Develop operational
requirements for
future DATACOM**



An intermediate step may be needed to bridge between current operations and this vision

Data Science in ATM

- Automating the extraction of knowledge
- Raw, heterogeneous and incomplete sources
- Data mining, visualisation, stream processing, learning or scalable analytics
- Understanding interdependence and feedback mechanisms

- DART

surveillance, flight plan, weather, airspace, ATFCM

- MALORCA

voice, radar, flight plan

- BigData4ATM

internet access, twitter, expenditure, transport modes

- BEST

semantic technologies, ontology matching

Machine Learning of Speech Recognition Models for Controller Assistance

SESAR Life Cycle

- Link with SESAR 2020 Industrial Research PJ 16-04

Trajectory Based Operations

- An intermediate step towards higher levels of automation
- Bridge the gap between the human/machine agents processing the same type of situational information

Data Science

- Automate re-learning, adaptation and customization process to new environments
- Taking advantage of the large amount of non-transcribed data available in the ATM world



MALORCA

Thank you very much
for your attention!



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