



Disruptive Technologies in Air Traffic Management

8th Florence Air Forum

Florence, 21 October 2016

Frank Brenner
Director General EUROCONTROL

Disruptive Innovation

« An innovation that created a new market and eventually disrupts an existing market and value network displacing established market leaders and alliances ».

Wikipedia

Ryanair's CEO Michael O'Leary



Potential reasons why we don't see big technology jumps in ATM:

- *Safety*
- *41 States and their national ANSP monopolies*

Cockpit Lufthansa vs. Pan Am



A320 Cockpit



Potential reasons why we don't see big technology jumps in ATM:

- *Safety*
- *41 States and their national ANSP monopolies*
- *ATM Manufacturers*

Remote Tower



TWR Kutaisi Airport, Georgia



SESAR Master Plan



THE ROADMAP FOR DELIVERING HIGH PERFORMING AVIATION FOR EUROPE

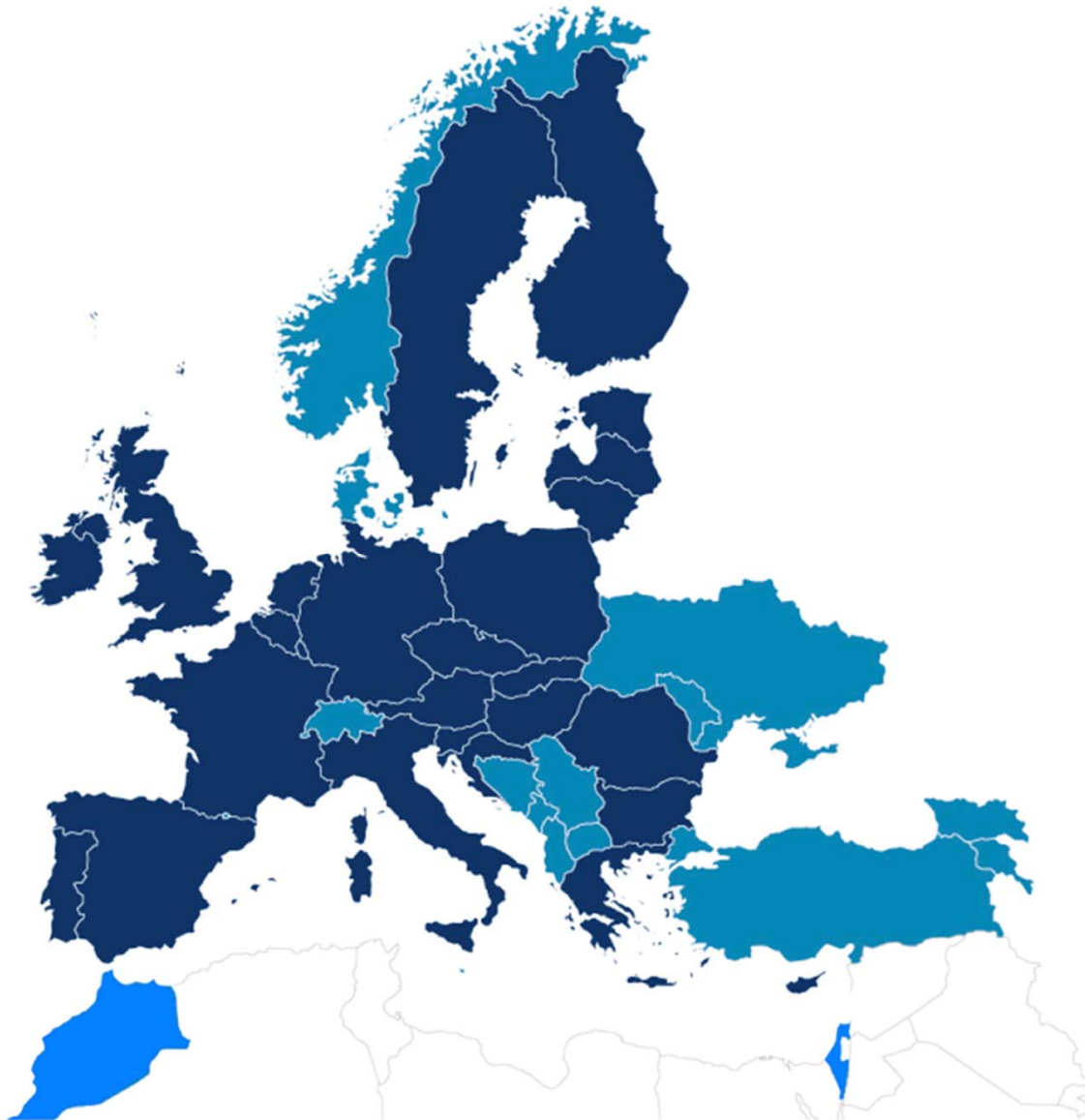
European ATM Master Plan

Executive View

Edition 2015



EUROCONTROL members



- EUROCONTROL & EU
- EUROCONTROL but not EU
- 2 Comprehensive Agreement States Israel and Morocco

ATM DATA as a service



ATM DATA AS A SERVICE

EUROCONTROL'S MAASTRICHT UPPER AREA CONTROL CENTRE (MUAC) & SLOVENIA CONTROL

Slovenia Control has recently successfully conducted shadow operations using the remote data provided by the operational air traffic management system at MUAC.

OBJECTIVE

To set up a state-of-the-art data centre from which an ATM data service provider can deliver services to other air traffic service units with proper contingency and disaster recovery

An essential step towards the concept of data centres developed in support of the **Single European Sky**

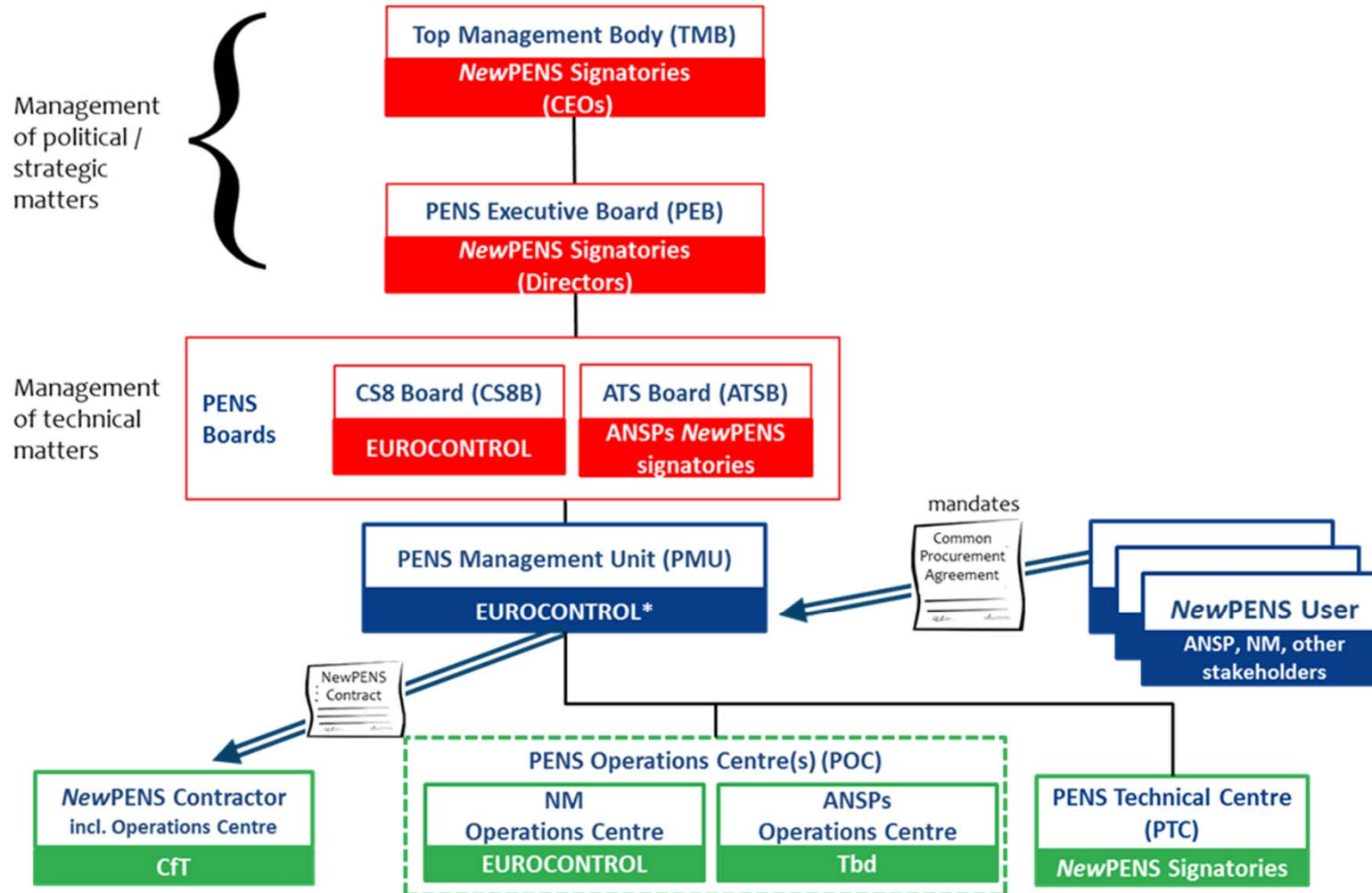
CONTRIBUTING TO
the Aviation Strategy for Europe



- INNOVATION & DIGITAL TECHNOLOGIES
- BOOSTING EUROPEAN COMPETITIVENESS

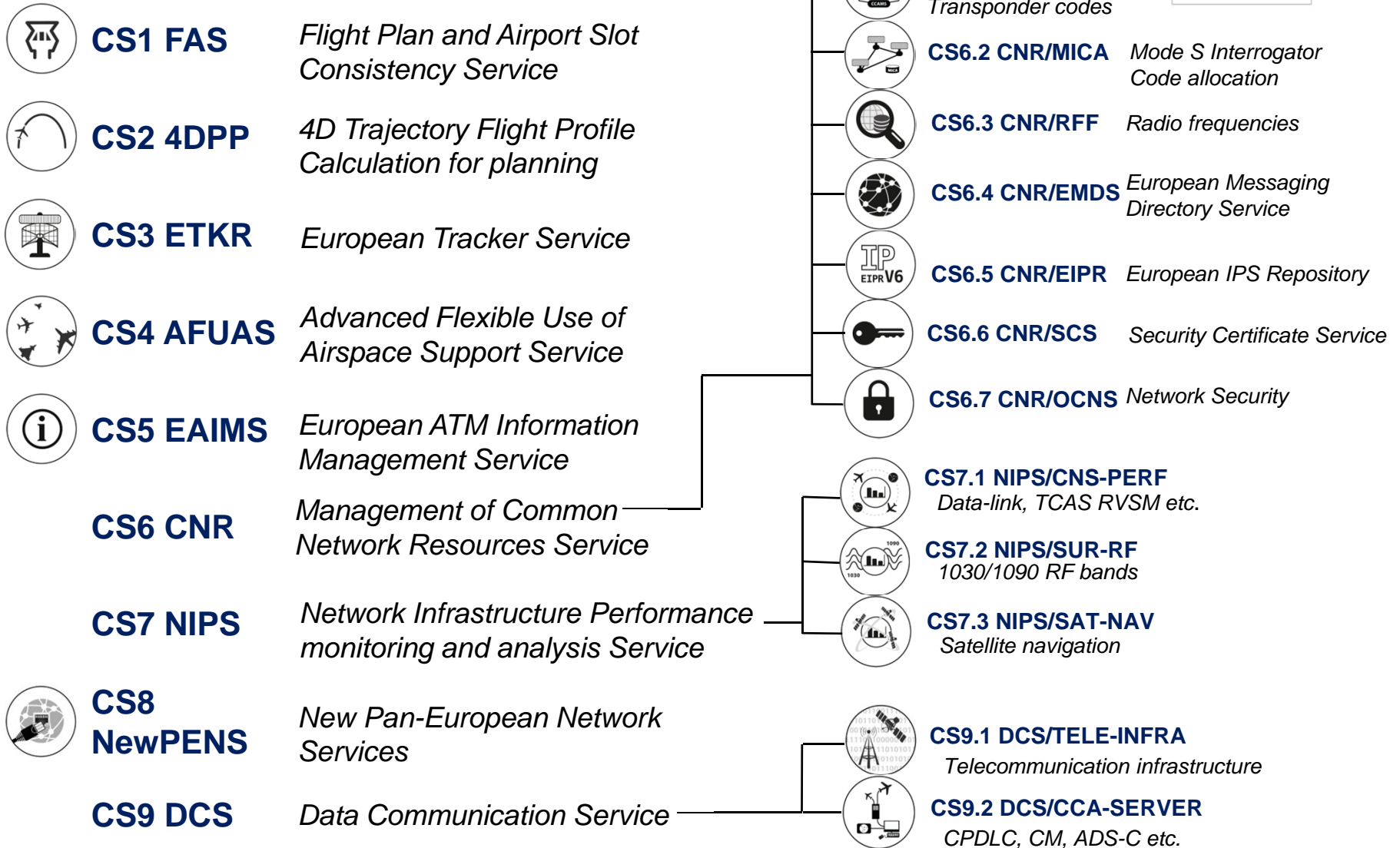


New PENS Governance



* Parties to the NewPENS Contract are entitled to provide support

Centralised services





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