



CNS in SESAR and beyond

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SESAR Joint Undertaking

EASA – FAA International Aviation Safety Conference
June 2017



Founding Members



1.Introduction

2.SESAR and NextGen

3.Challenges and opportunities

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SESAR vision

An Aviation Strategy FOR EUROPE



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



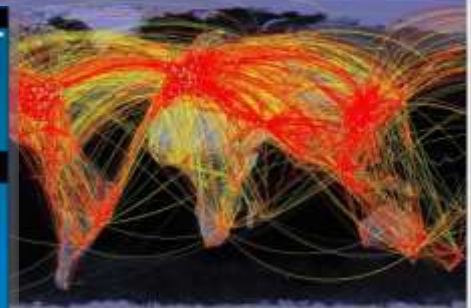
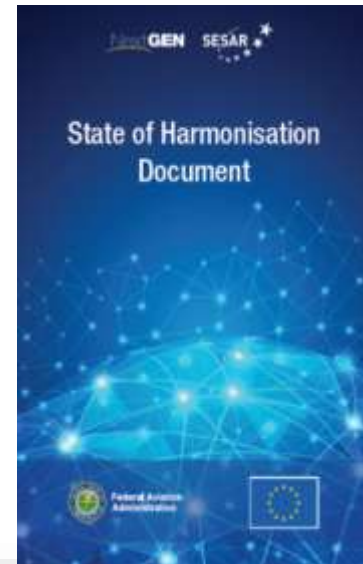
OPERATIONAL EFFICIENCY

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



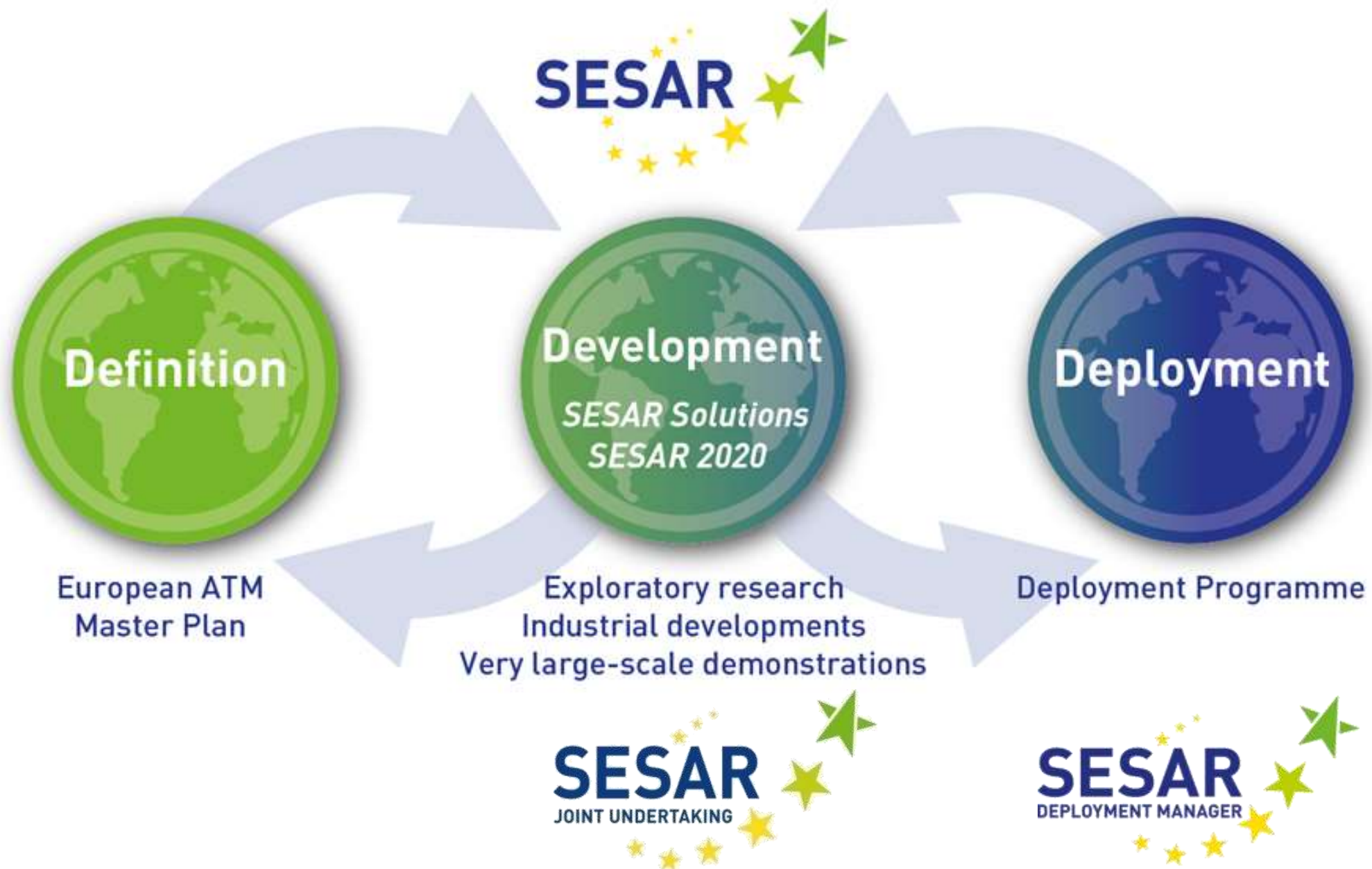
SAFETY

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



The SESAR Vision

“To define, develop and deploy the technology that is needed to increase ATM performance and build Europe’s intelligent air transport system”





The SESAR Operational Concept





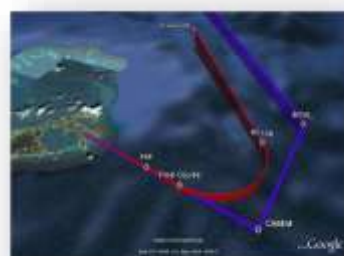
Real Time Simulation



Cockpit Simulation



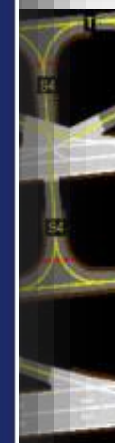
+200 Real Time Simulation - RTS



SESAR SOLUTIONS CATALOGUE



Second Edition



Around 50 Test Flights
+30.000 Flight Trials (revenue flights)



Drone integration into Toulouse traffic



S2020 CNS and Avionics Priorities

Focus Areas:

Datalink primary means of comm

Performance based comm

Next generation high bandwidth comm systems (Transition to IPS)

Multilink approach combining SatCom, terrestrial and Airport based technologies

Spectrum

Communication



Focus Areas:

GNSS prime means of Navigation

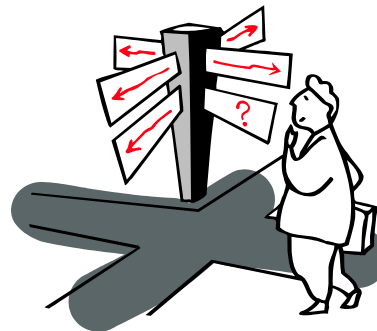
Multi-Constellation

Alternative Position Navigation and Timing

Rationalisation

Spectrum

Navigation



Focus Areas:

Performance based surveillance

Rationalisation

Synergies (composite WAM/ADS-B, SWIM...)

Spectrum

Surveillance



Integrated and Performance Based CNS

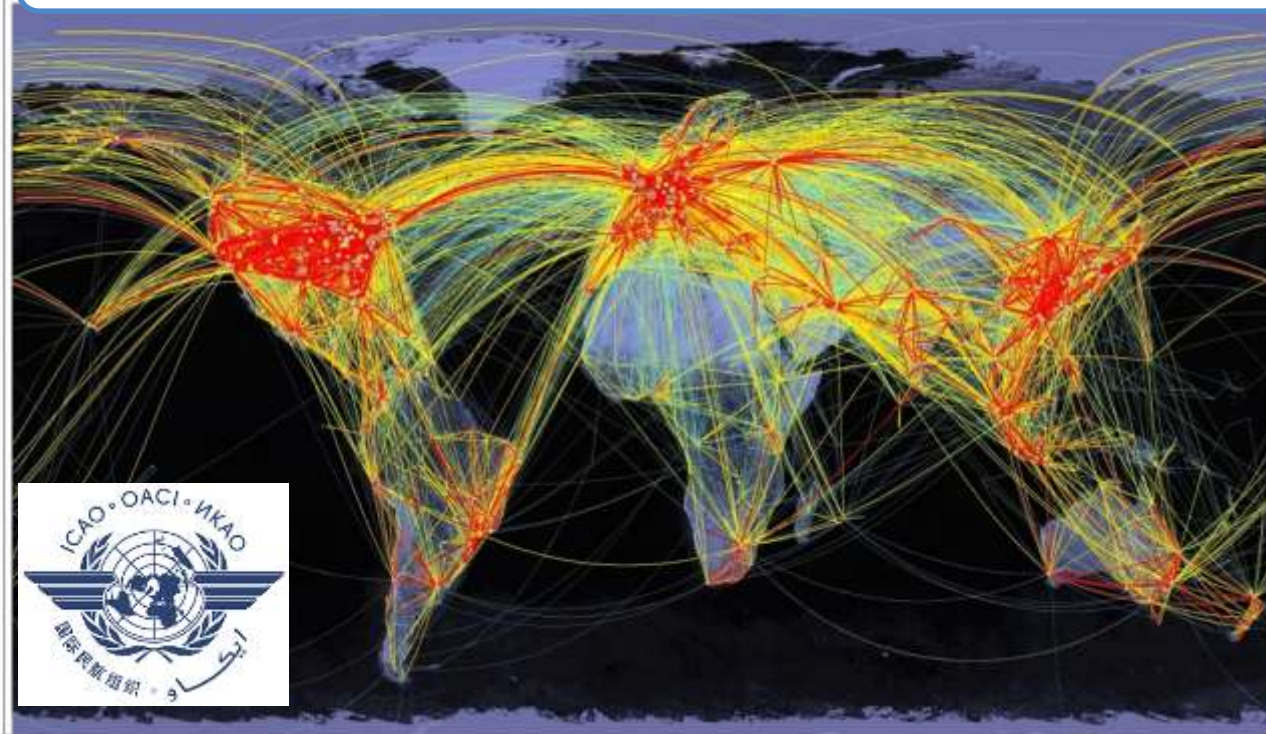
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GLOBAL MOBILITY CHALLENGES AND OPPORTUNITIES

2010



2020



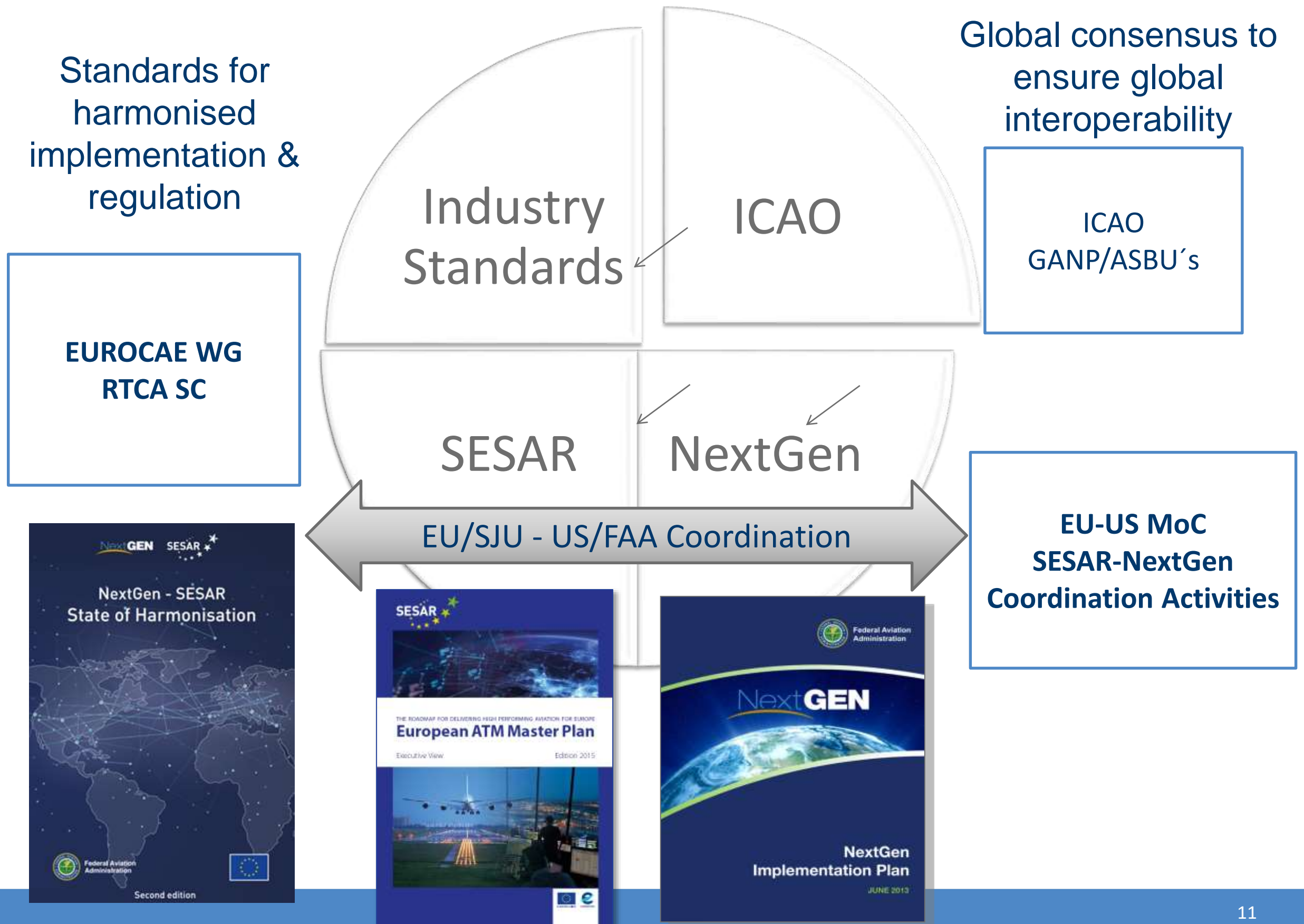
2030



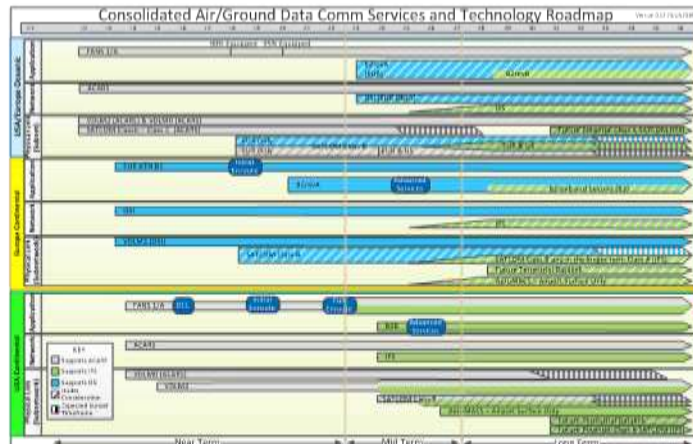
2040



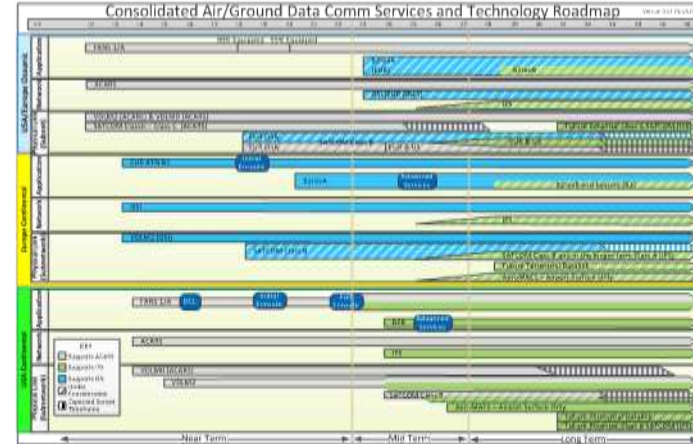
Global cooperation & Interoperability



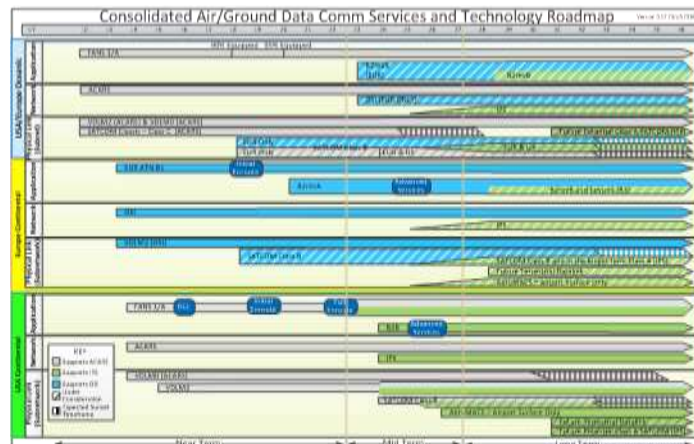
Joint SESAR/NextGEN Strategies



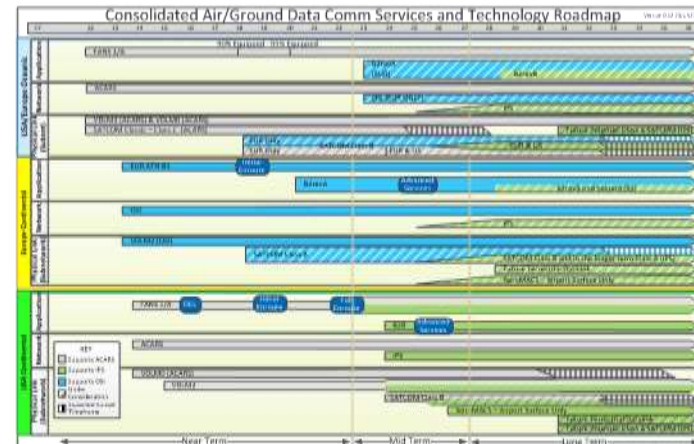
Datacom Strategy



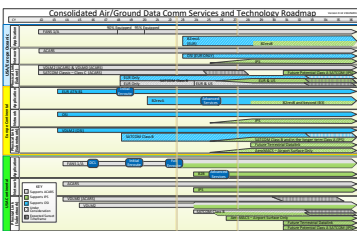
Navigation Strategy



SWIM Strategy



TBO Strategy



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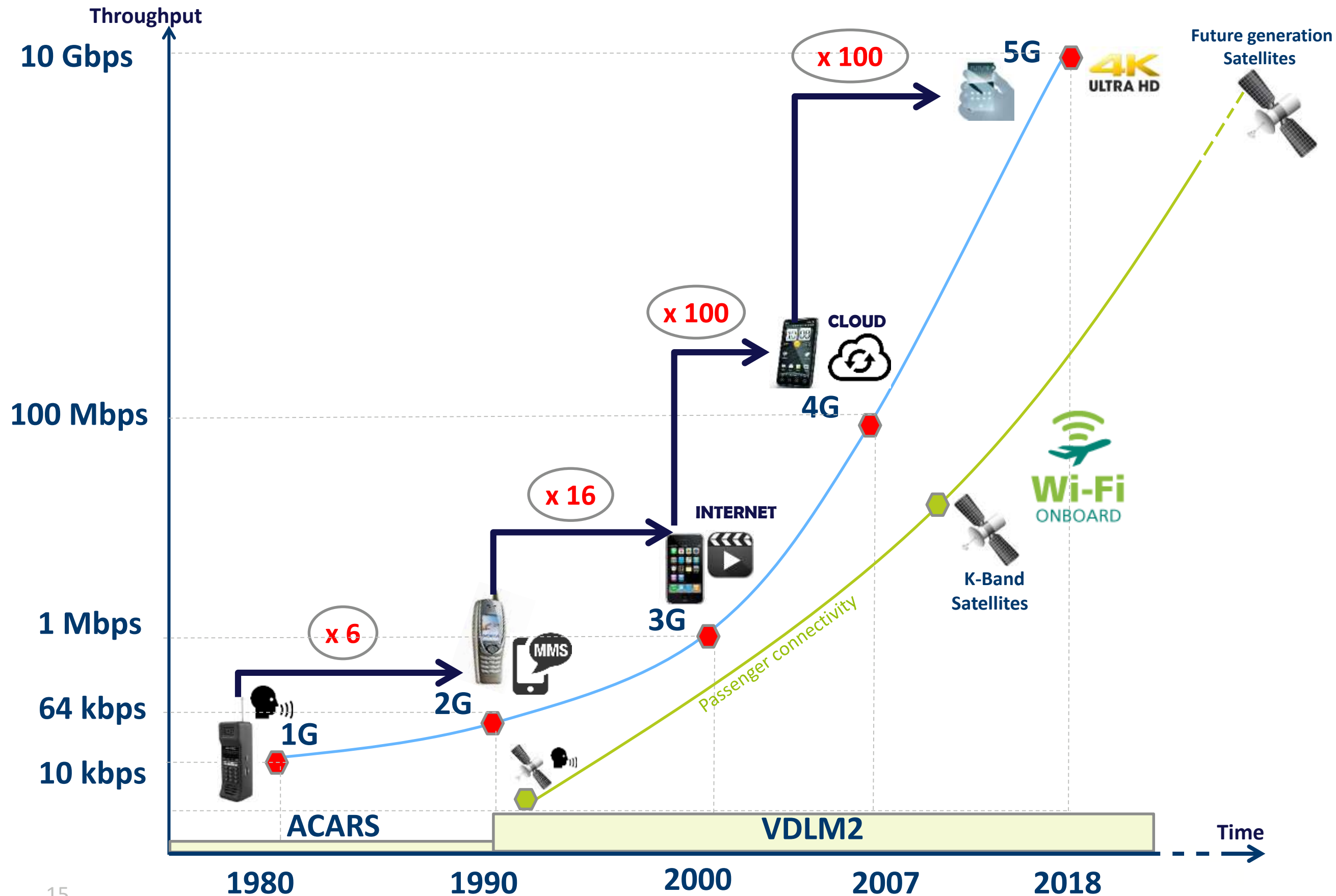
3.Challenges and opportunities

AIR TRAFFIC MANAGEMENT



IS A COMPLEX SYSTEM!!

Where are we ?



Change is happening





can one size fit all?

**We need to be harmonised when and where we need to
be harmonised**

SESAR and NextGen are the major ATM transformation programmes in the world

Standardization and Global Interoperability are key to deliver mature solutions



Thank you for your attention!



Founding Members

