

SESAR 2020 delivered

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SESAR
2020

7 YEARS

150+ PROJECTS

2 000 BENEFICIARIES

1 000 VALIDATIONS
& TRIALS

95 TEST SITES
ACROSS EUROPE

127
delivered
Solutions



Making Europe the most efficient and
environmentally friendly sky to fly in the world

ATM transformation

Virtual centres and delegating air traffic services

- **unbundling of the services** (flight data, radar, weather information)
- **delegating services** according to demand/needs

Towards higher level of automation

- **Attention guidance** with an algorithm that can fade out potentially non-conflictual aircraft from the controller monitoring
- **Automatic speech recognition** based on machine learning to reduce the additional click time by a factor of 30



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ATM transformation

Trajectory-based operations

- **Flight profile** downlinked from the aircraft to ground system ensuring consistency between flight plan & real trajectory
- **European ADS-C (datalink) common service** to distribute flight profile data downlinked from aircraft to relevant ground users (e.g. air traffic control, Network Manager, airlines, MET providers)



Integration of new entrants

- **U-space services and concept** definition for drone operations & **Extensive flight trials** in urban & non-urban environments
- **Accommodation** of heavy drones in instrument flight rules (IFR) environment
- Development of **concept of operations for higher airspace operations**



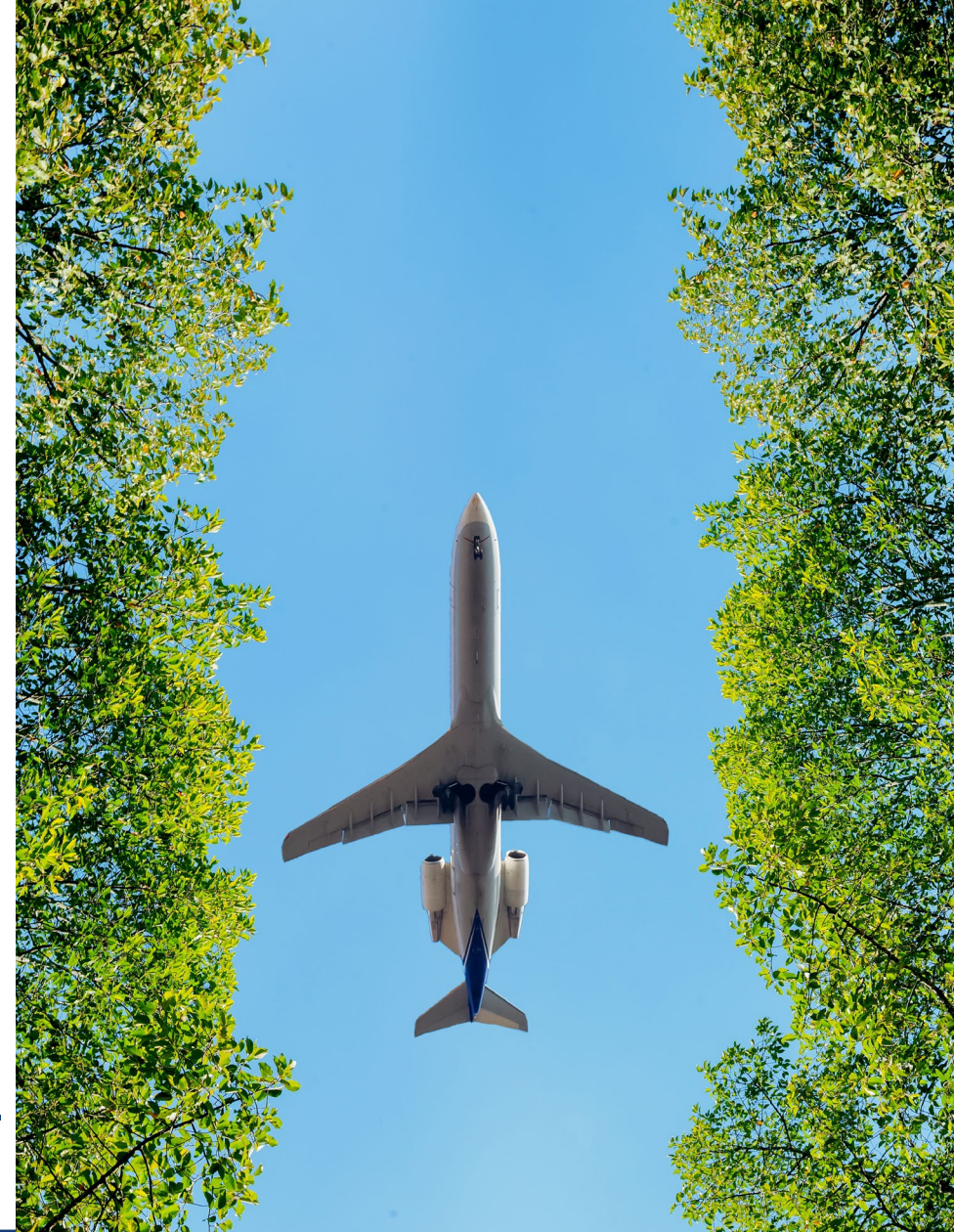
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ATM transformation

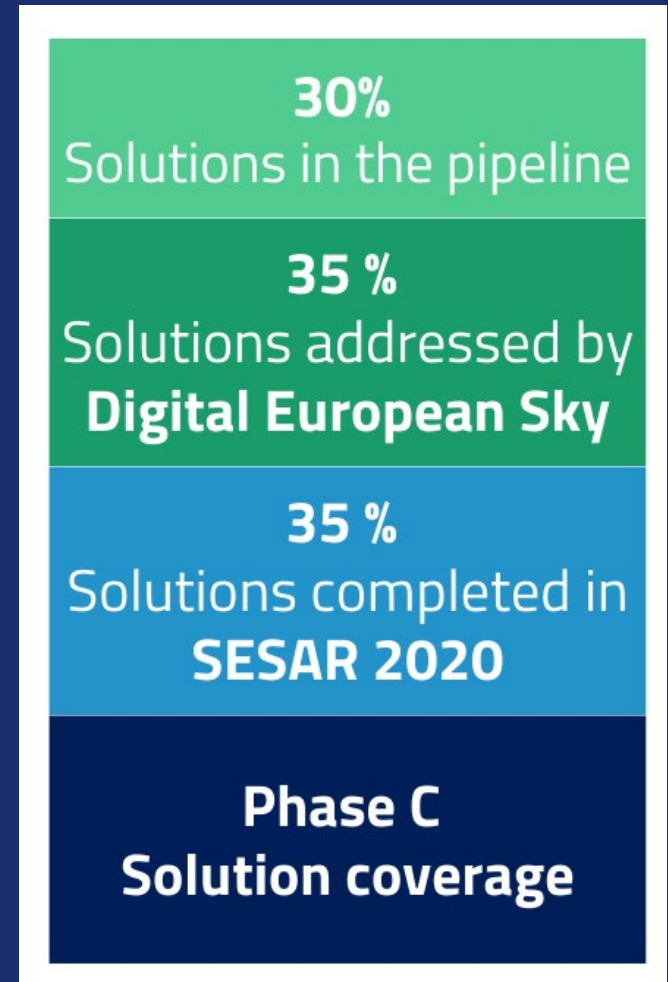
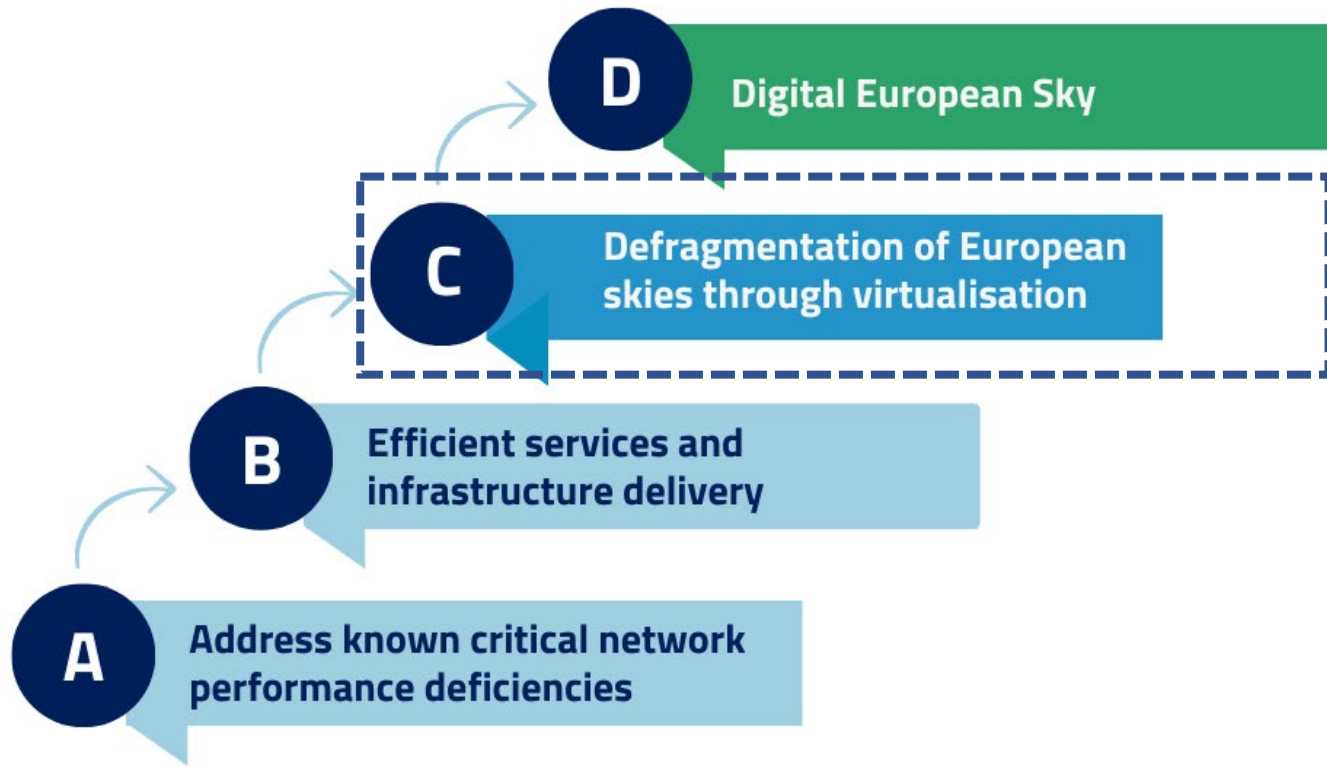
Sustainability of ATM operations

- **Reducing CO2 emission** on airport surface management by using new **taxiing technique** (e.g. taxiBots, WheelTugs, e-taxi, single-engine taxi);
- **Reducing noise impact** around airports with **new satellite-based approach** procedures;
- **Eliminating extra fuel consumption and CO2 emission** through:
 - **Optimised descent operations** to accommodate best flight profile and avoid levelling off;
 - **Extended arrival management** enabling sequencing of arrival traffic in en-route phase to reduce holding patterns.



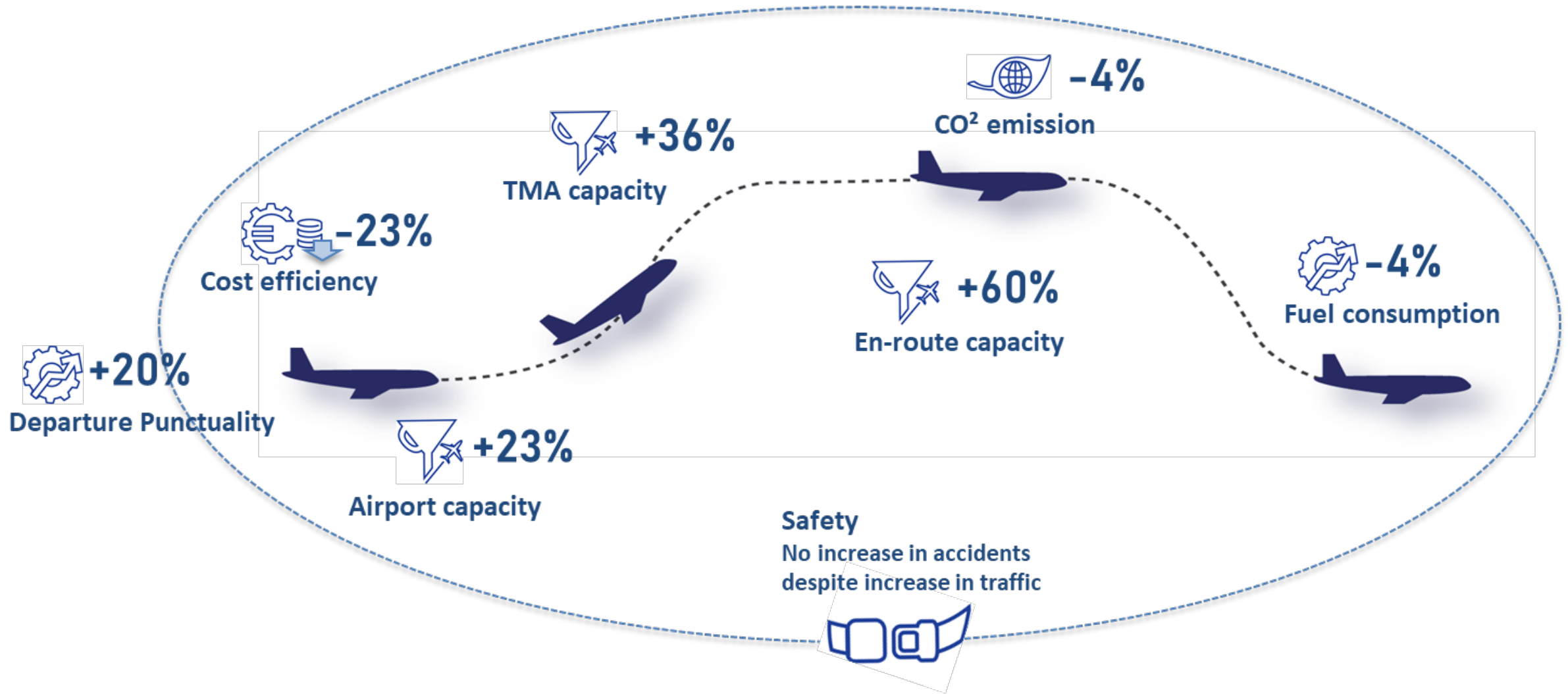
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SESAR 2020 contribution to Master Plan



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SESAR Solutions performance



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SESAR 2020: A collaborative success story



AIRBUS



ENAIRe



Honeywell

indra



NATMIG

NATS



Making Europe the most efficient and environmentally friendly sky to fly in the world

Delivering solutions that yield real and timely benefits

 Connected and automated ATM

 Air-ground integration and autonomy

 Capacity-on-demand and dynamic airspace

 U-space and urban air mobility

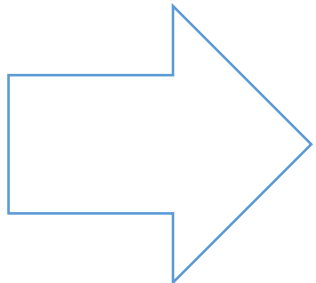
 Virtualisation and cyber-secure data sharing

 Multimodality and passenger experience

 Aviation green deal

 Artificial Intelligence for aviation

 Civil/military interoperability and coordination



**58 projects
in operation**

**EUR 600
million
investment**


Smart


Sustainable


Resilient

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Partnering to succeed!



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 U23

sesar[✦]
JOINT UNDERTAKING

EUROPEAN PARTNERSHIP



Co-funded by
the European Union

