



November 14th, 2019

# SDM Annual Meeting

A STAR ALLIANCE MEMBER 



Co-financed by the Connecting Europe  
Facility of the European Union

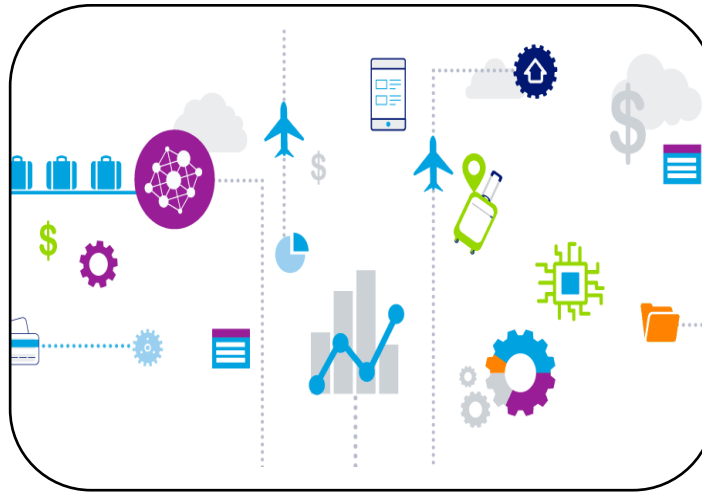


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# Agenda



# TAP Air Portugal



## Impact and Benefits



## Overview of Actions





# TAP Air Portugal



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## About TAP Group:

- Portuguese flag carrier
- Founded in 1945
- Member of Star Alliance
- Integrated MRO



**TAP Air  
Portugal**

~12,000



~3,25B €



**TAP M&E**



# TAP Air Portugal

Some Projects with the European Commission...

## AIRMES (Airline Maintenance Operations implementation of an E2E Maintenance Service Architecture and its enablers)



- *Clean Sky 2 – Horizon 2020*
- Optimisation of end-to-end maintenance activities
- Overall Budget: ~5,2M€

## RISE (RNP Implementation Synchronized in Europe)



- *SESAR Large Scale Demonstration Activities*
- Flight Trials for RNP-AR approaches demonstration
- Overall Budget: ~3,32M€



# TAP Air Portugal

## Connecting Europe Facility

### Coordinated by the SESAR Deployment Manager:

- **CEF2016: Coordinator – SESAR Deployment Manager** (2017-2020)
  - Deployment of ROPS (AF#2 – Airport Safety Nets)
  - Deployment of ATN B1 Capability (AF#6 – Datalink)
  - Path II (AF#6 – Datalink Services)



### Additional Actions (*“other projects”*):

- **CEF2015: Coordinator – EUROCONTROL** (2016-2020)
  - Project SPICE (PBN/RNP-AR)
- **CEF2017: Coordinator – TAP Air Portugal** (2018-2023)
  - Deployment of SESAR Solutions in TAP Fleet



# Impact and Benefits

Importance of EU contribution and SDM to TAP Air Portugal

# SESAR Deployment in TAP Air Portugal

## SESAR airborne systems in TAP fleet

- Airport Safety Nets
- Datalink
- Performance-Based Navigation
- ...

## Expected Benefits

- Increased Safety levels (operations and personnel)
- Reduction of weather-related flight disruptions
- Fuel savings and reduced CO2 emissions
- ...





# SESAR Deployment in TAP Air Portugal

Importance of SDM and EU contribution

SDM's link to the industry is key to the successful deployment of SESAR:

- Promoting **SESAR** for European airspace improvement
- Setting a collaborative environment between different **EU Member States** and **Stakeholders**
- Supporting **Airspace Users** and airborne segment
- Boosting **TAP** modernization



# Overview of Actions

Examples of SESAR Solutions implemented



# Implementation as Airspace User

Typically, implementation Actions consist of:

## 1. Deployment of new functions/capabilities at aircraft level

- Retrofit *(for in-service aircraft)*
- Forward Fit *(for new aircraft deliveries)*

## 2. Flight Crew Training

- Class-Based Training
- Computer-Based Training
- Flight Simulator Hours

## 3. Operational Approval from Aviation Authority

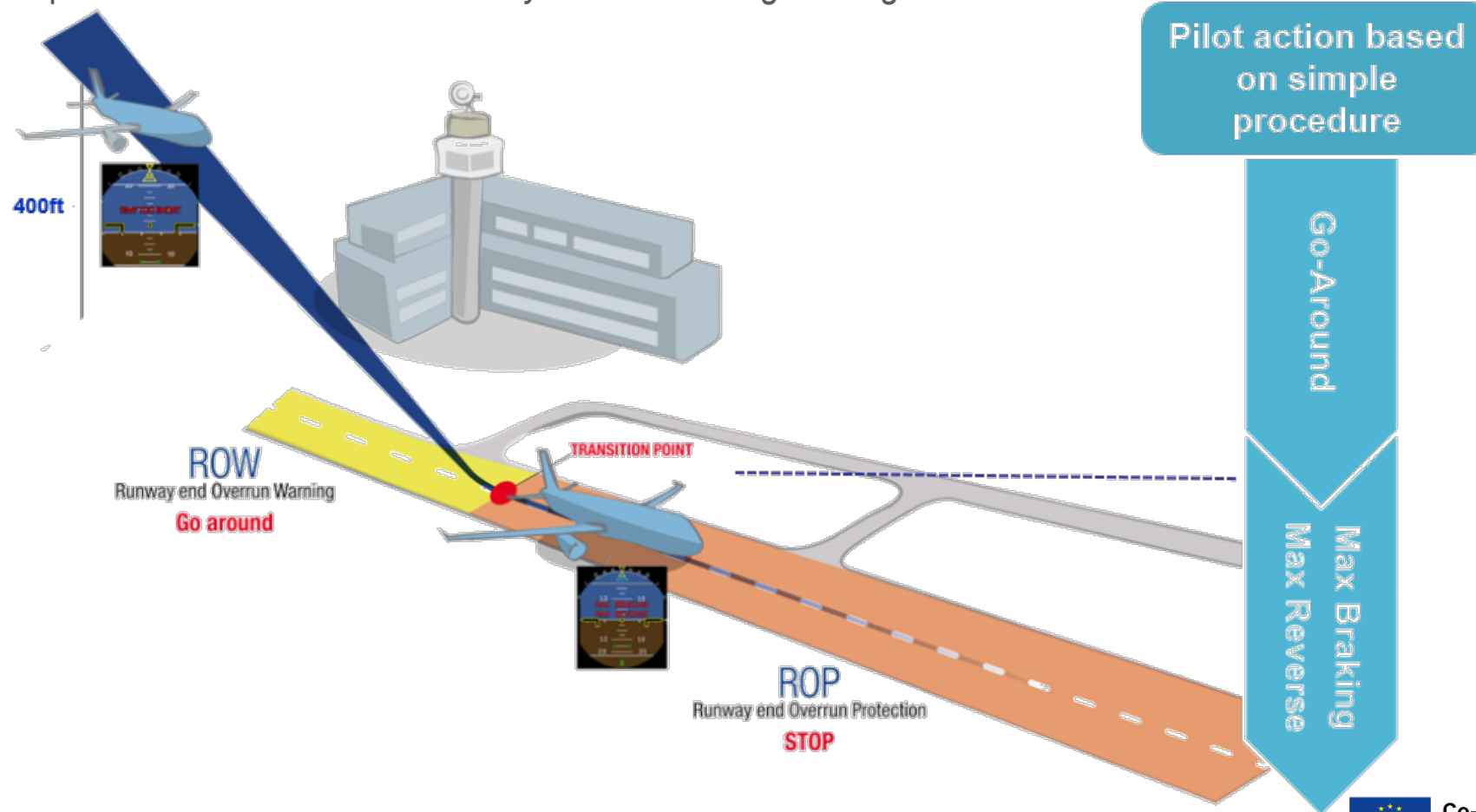




# Systems Description

## ROPS (Runway Overrun Prevention System)

Alerts flight crew to prevent occurrence of a *Runway Overrun* during landing.



Source: Airbus

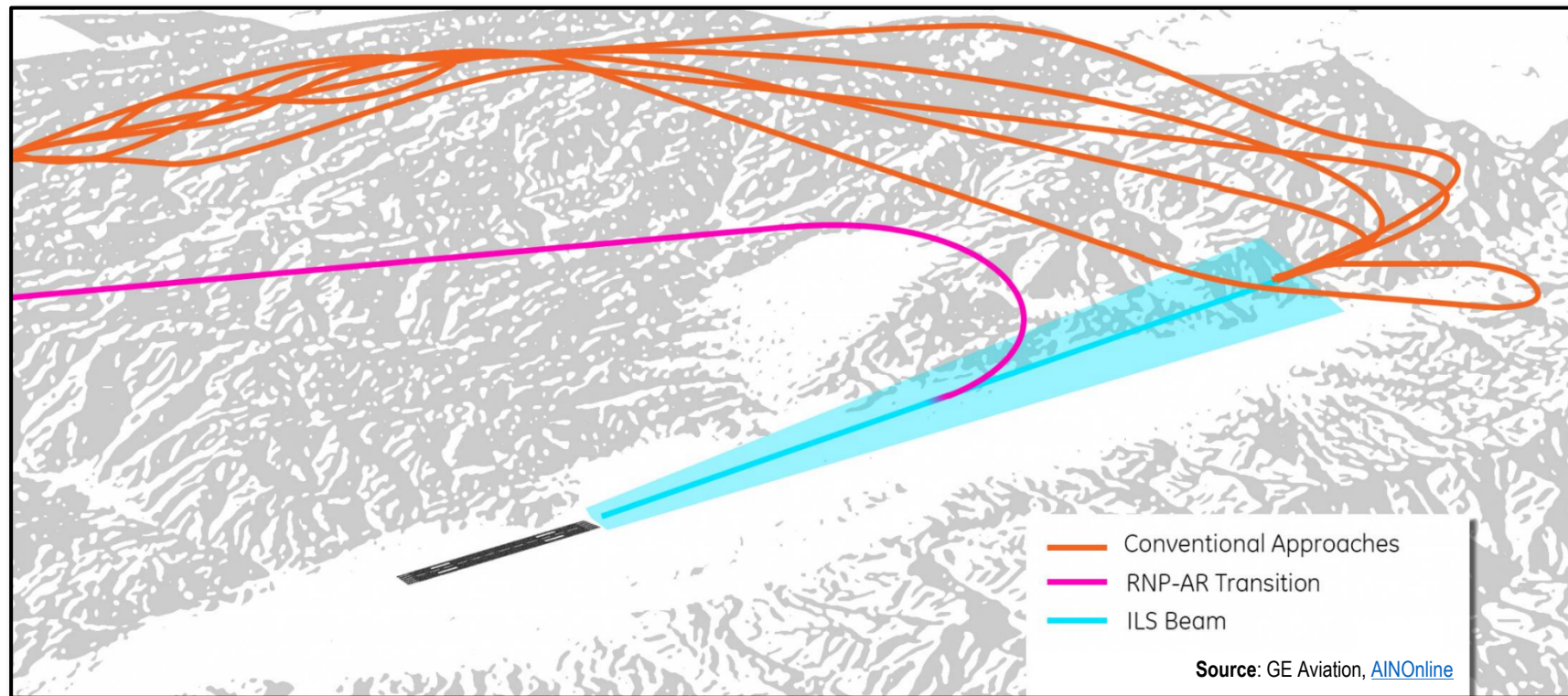


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# Systems Description

## RNP-AR (Required Navigation Performance – Authorisation Required)

Enables optimal approaches in airports with RNP-AR procedures designed and approved (e.g.: LPMA, LPPD, ...).



# Additional Considerations





# Measures to Publicize the Action

Some examples...



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M1

**Title:** First Aircraft delivered with capabilities

**Due date of deliverable:** 19/jun/2018

**Actual date of accomplishment:** 19/jun/2018

**Grant Agreement Number:** INEA/CEF/TRAN/M2017/

**Action Number:** 2017-PT-TM-0091-W

**Action Title (acronym):** Deployment of SESAR Solution

**Funding Scheme:** Connecting Europe Facility – Transport

**Summary of deliverable:**

The present report consists of two documents that display the aircraft delivered to join TAP fleet.

Please refer to the documents provided hereinafter.



21/12/18

## Projeto da Con

A TAP viu aprovado o projeto ao qual se candidatou promovido pela Inovação tem como missão promover o transporte – incluindo

O projeto, intitulado de euros, e visa dotar tripulações:

- RNP-AR (Requisito permite operar aviões;
- GLS (GBAS Landing System), que tem ILS num futuro
- ROPS (Runway, probabilidade de aterragem), aum

Este projeto resulta da Direção de Inovação modernização da frota

Equipando os seus aviões de contribuir para a homogeneidade de todo o espaço aéreo europeu, garante a manutenção dos seus elevados padrões de segurança, bem como uma melhoria da competitividade e capacidade de adaptação às inovações futuras nos aeroportos dos seus diversos destinos.

Este é já o quinto projeto vencedor da TAP no âmbito do SESAR nestes programas. Os cinco projetos, somados, asseguram um financiamento de cerca de 14,5 Milhões de euros à TAP.



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2 de abril de 2019

# Projetos SESAR

(Single European Sky ATM Research)

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# SESAR Deployment in TAP Air Portugal

## Conclusions

SDM and the EC acting as pillars accelerating the deployment of SESAR

There is still a long way to go:

- There is still a gap to close in the PCP
- CP1 is being developed, and more priorities will emerge



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