



**SESAR DEPLOYMENT – COMMON PROJECTS DELIVERING  
AN AIRPORT OPERATOR RETURN OF EXPERIENCE**

**AIRSPACE WORLD GENEVA 09/03/2023**

# OUTLINE

- ◆ THE CONTEXT
- ◆ GENERAL OVERVIEW
- ◆ USE CASE No 1: APOC / AOP
- ◆ USE CASE No 2: AVGDS
- ◆ CONCLUSIONS

# THE CONTEXT

## ◆ Groupe ADP SESAR involvement

- R&D
- Deployment

## ◆ General Context

- COVID 19 crisis
- Post COVID
- Summer 22

## ◆ Renewed Strategy

- Airports & ATM
- Safe, Smart, Green, Flexible
- Pioneers 2025

**Aim for excellence  
and sustainability  
in construction and  
operations**

**Promote  
an innovative  
approach**

## ◆ Make more than 80% of flights depart on time

or within 15 minutes of the scheduled time.

Scope: airports controlled within Groupe ADP.

(Parisian airports (CDG/Orly) and Amman (AMM), Airports managed by TAV: Ankara (ESB), Izmir (ADB), Bodrum (BJV), Gazipaşa (GZP), Monastir (MIR), Enfidha (NBE), Skopje (SKP), Ohrid (ODH), Tbilisi (TBS), Batumi (BUS), Almaty (ALA)).

## ◆ Reduce average taxiing emissions per flight by 10%

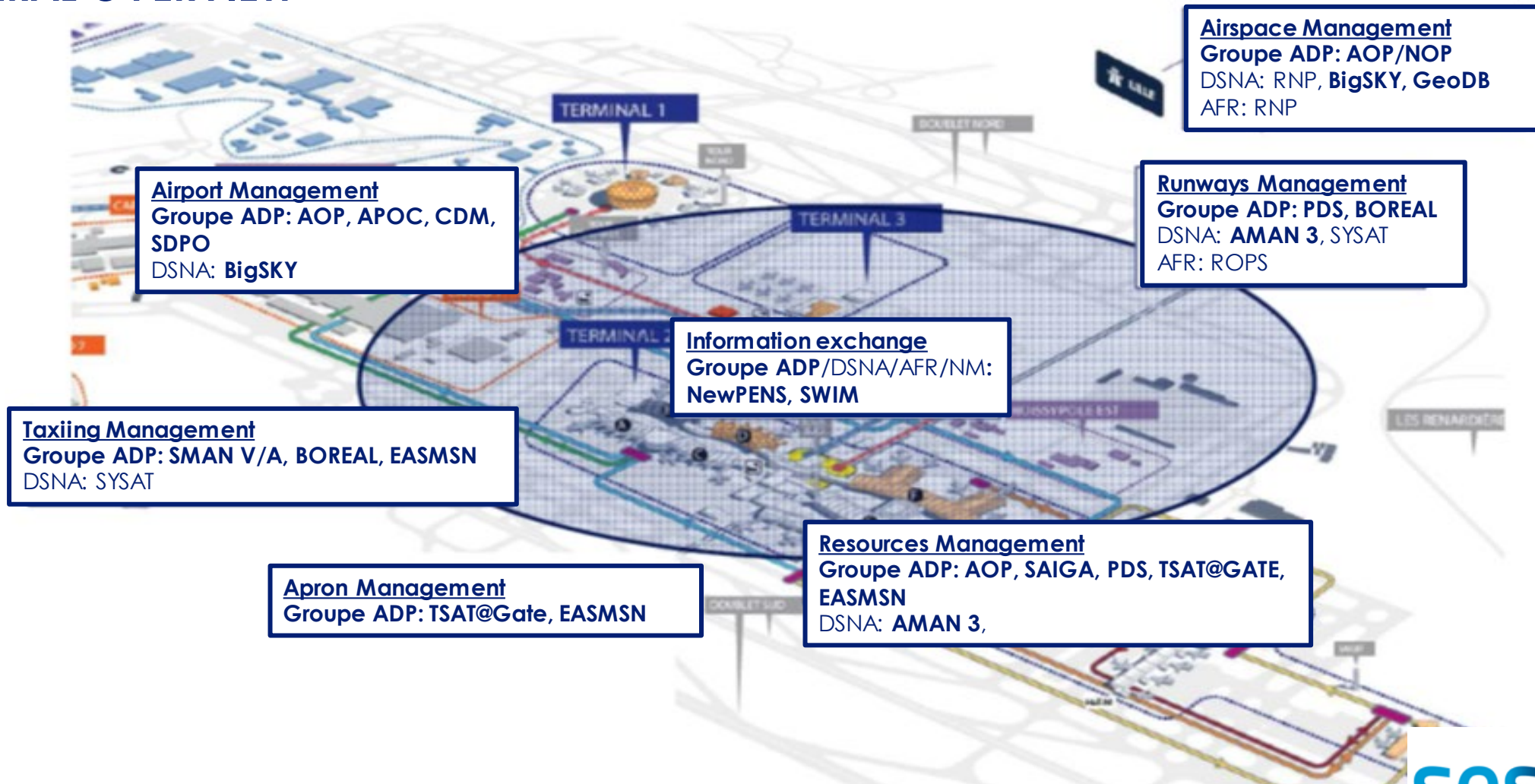
## ◆ Roll out 120 experiments

in societal, environmental and operational innovations before 2025,  
30 of which leading to industrialisation.

Scope: ADP SA, TAV, HubOne.



# GENERAL OVERVIEW



## COLLABORATIVE AND SYNCHRONIZED DEPLOYMENT

# GENERAL OVERVIEW

## ◆ Groupe ADP IPs

- ✓ #023AF2 - SMAN-Vehicle
- ✓ #024AF2 - SAIGA
- ✓ #025AF2 – TASAT@gate
- ✓ #026AF2 – Evolution CDM-CDG
- ✓ #027AF2 – SMAN Airport
- ✓ #129AF2 – CDM-ORLY
- ✓ #130AF2 - BOREAL-Orly



2015\_073\_AF1 - AMAN upgrade for extended horizon at DSNA airports ✓

2015\_133\_AF2 - Initial AirPort Operational Centre (iAPOC) ✓

2015\_135\_AF2 - Initial AirPort Operations Plan (iAOP) ⌚

2015\_113\_AF4 - AOP-NOP Integration ⌚

2015\_139\_AF1 Geographic Database – AIM Tool ⌚

2016\_150\_AF2\_GND/AIR - Enablers for Airport Surface Movement related to Safety Nets ⌚

2017\_022\_AF2 - Synchronised stakeholder decision on process optimisation at airport level ⌚

2017\_038\_AF4 Enablers of Network Collaborative Management for En Route and Airports at DSNA ⌚

## KEY ELEMENTS FOR ADP INVOLVEMENT IN SESAR DEPLOYMENT PROJECTS



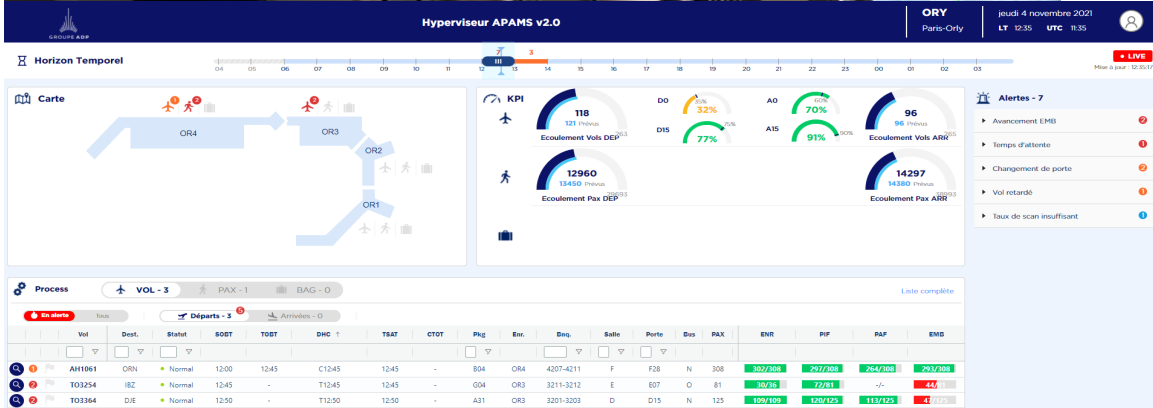
Powered by...

**Digitalisation  
Automation  
Integration**



**Predictability  
Sustainability  
Flexibility  
Resilience  
Defragmentation  
Interoperability**

# CASE STUDY NO 1: AIRPORT MANAGEMENT AIRPORT OPERATIONS CENTRE (2015\_133\_AF2) & AIRPORT OPERATIONS PLAN (2015\_135\_AF2)



## ◆ Results



**+ 3,6 points**  
de passagers ayant  
attendus moins de 10  
min aux PIF



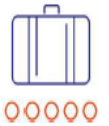
**+ 2,5 points**  
de passagers ayant  
attendus moins de 10  
min aux PAF



**+ 6,2 points** de ponctualité première vague  
**+ 11,2 points** de ponctualité à 0 min au départ  
**+ 8,3 points** de ponctualité à 15 min au départ



**- 5 min** de retard moyen au départ



**+ 1,4 point**  
sur la conformité  
de livraison  
bagages

## CASE STUDY NO 2: SURFACE MANAGEMENT

### ENABLERS FOR AIRPORT SURFACE MOVEMENT RELATED TO SAFETY NETS (2016\_150\_AF2)

#### ◆ Sensors : A-VDGS full deployment – Video detection

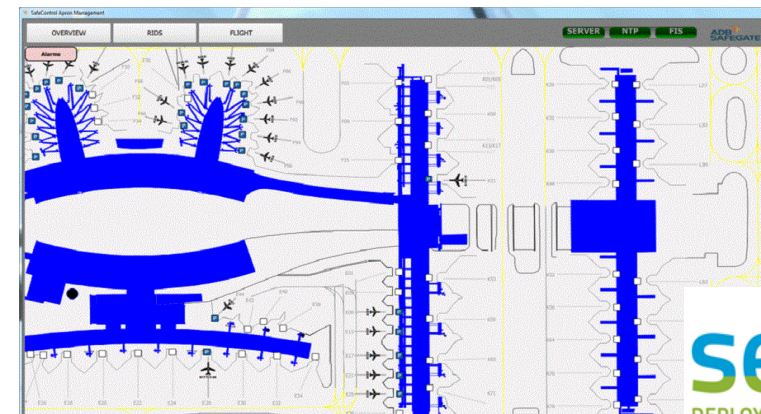
- Accurate aircraft position and speed in apron
- Guidance functionality (azimuth and distance both for pilot and copilot on a unique equipment)
- Cameras
- Virtual fence functionality, Improvement in OBT prediction and departure pressure
- Monitoring tool : apron status, overview and stand view, flight info ...
- Safety functions : aircraft type confirmation, obstacles detection ...
- Interlock functionalities with Passenger Boarding Bridge

#### ◆ Display screens to provide widely information to all stakeholders

- Classical large LED display with 3 colors and high definition - Easy to install
- Information providing : A-CDM information
- Flight information
- Smart and scalable display strategy
- Additional info display (ex. Meteo alerts for safety)
- Contribute to Planning adherence

#### ◆ Intelligence => Apron Management System

- HMI to manage the apron (stand status)
- Provide alerts (CMAC alert, push back alert, docking not launched,...)
- Automatic management of A-VDGS
- Interface for other system (AOP / A-SMGCS / SMAN VEHICULE...)





# BENEFITS

## GAINS IN 2022 WITH REGARD 2016

### SÉCURITÉ

FNE défaut placement

### TEMPS ROULAGE

Temps moyen taxi-in

### COORDINATION AU POSTE

Temps moyen turnaround

GP

MP

GP

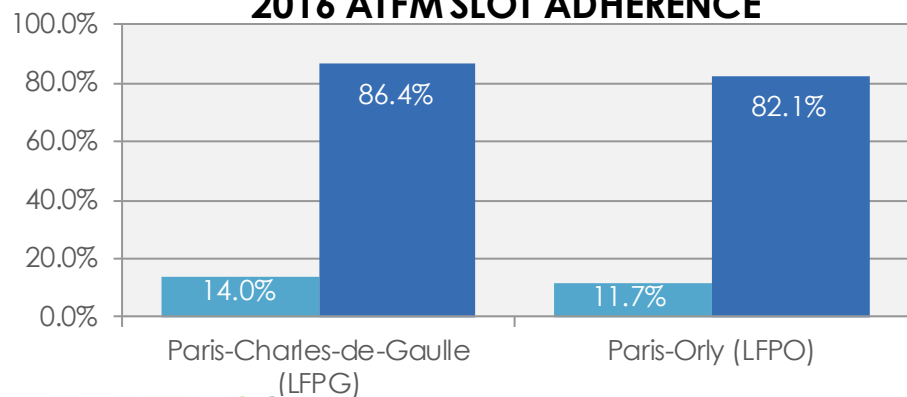
MP

<b>CDG</b>	<b>-40%*</b>	<b>-19%</b>	<b>-10%</b>	<b>-6%</b>	<b>-11%</b>
------------	--------------	-------------	-------------	------------	-------------

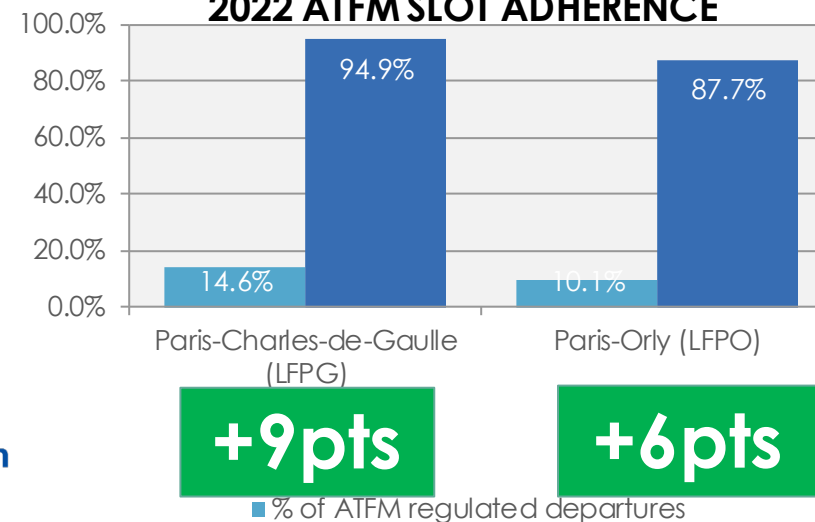
<b>ORY</b>	<b>-71%</b>	<b>-13%</b>	<b>-12%</b>	<b>-19%</b>	<b>-10%</b>
------------	-------------	-------------	-------------	-------------	-------------

\* 2021 vs 2016

### 2016 ATFM SLOT ADHERENCE



### 2022 ATFM SLOT ADHERENCE



# CONCLUSIONS

## ◆ Common Projects: Delivering & Enabling

- Global benefits
- Green CDM
- Green Apron

## ◆ The Future

- European Network
- Efficiency
- Environmental impact and performance



DOCUMENT PUBLIC – Groupe ADP – 09/03/2023

