

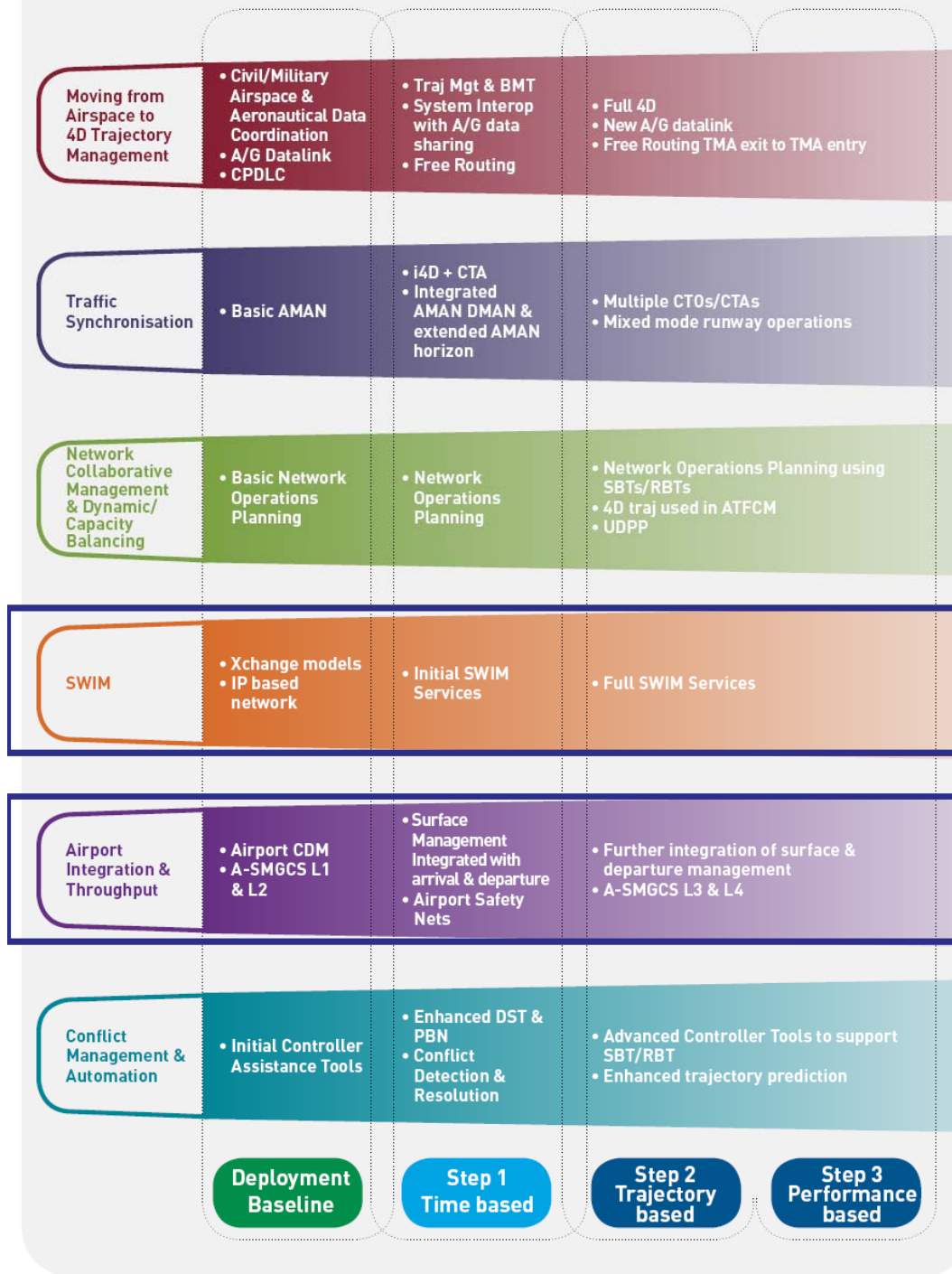
META-CDM Workshop  
Moving towards Total Airport Management and putting  
the passenger at the heart of CDM

# Airport Research in FP7

Rémy Dénos  
DG Research & Innovation  
European Commission

## 6 Key Features

## Essential Operational Changes per Step and Feature



# SESAR: Airside



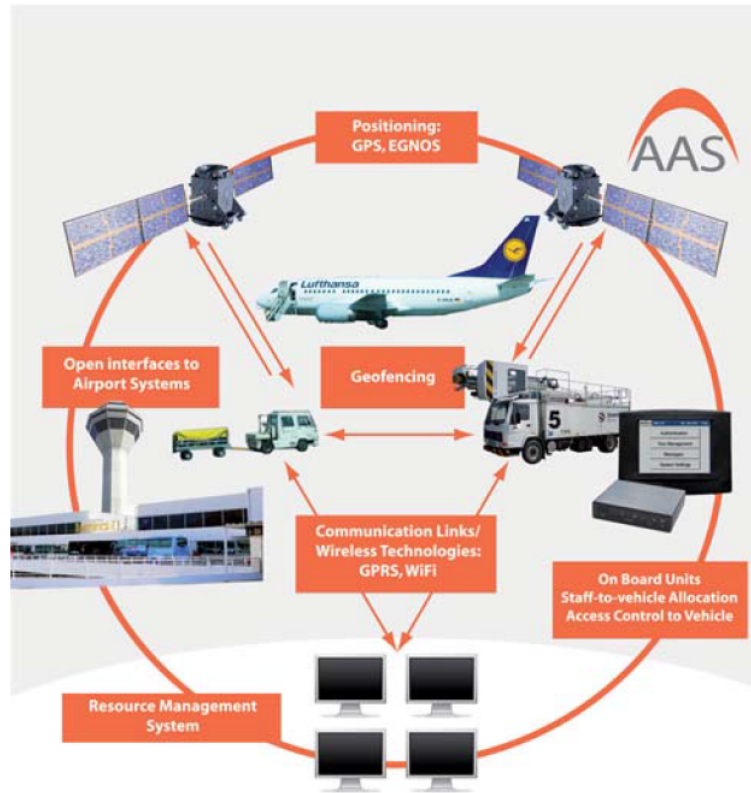
A-CDM

SWIM

2008-2016

## AAS: Integrated Airport Apron Safety Fleet Management (2008-2011, 2.3M€ EU 3.5M€ Total, TSB)

AAS system layout



© TSB Innovation Agency Berlin / FAV – Transport Technology Systems Network Berlin, id praxis GmbH

Monitoring and optimising  
ground vehicle fleets and  
equipment in the apron area

# Landside: Time-Efficiency

**ASSET Aeronautic Study on Seamless Transport**  
(2008-2011, CP-FP, 2.3M€ EU 3.6M€ Total, DLR)



Airport Modelling from passenger entering the airport until aircraft leaving the gate

**TITAN Turnaround Integration in Trajectory and Network**  
(2009-2012, CP-FP 2.8M€ EU, 3.9M€ Total, INECO)



## Accessibility

**ICARUS Innovative Changes in Air transport Research for Universally designed Services**  
(2012-2014, CSA-SA, 0.56M€ EU, 0.75 M€ Total, ONCE)



# Airport Security (AAT)

**BEMOSA Behavioural Modelling for Security in Airports  
(2009-2012, 3.4M€ EU 4.2M€ Total, Israel Institute of  
Technology)**



**ATOM Airport detection and Tracking Of dangerous  
Materials by passive and active sensors arrays  
(2009-2012, 3.5M€ EU 5.2M€ Total, DLR)**





European  
Commission

# Airport Security (SEC)

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**COPRA** / Comprehensive European Approach to the Protection of Civil Aviation

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**EMILI** / Emergency management in large infrastructures

**SAMURAI** / Suspicious and abnormal behaviour monitoring using a network of cameras & sensors for situation awareness enhancement

**TASS** / Total airport security system

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**EFFISEC** / Efficient integrated security checkpoints

**CRISIS** / Critical incident management training system using an interactive simulation environment

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**SIAM** / Security Impact Assessment Measures



**SUBITO** - Surveillance of Unattended Baggage and the Identification and Tracking of the Owner.

Welcome to the **SUBITO project web Site**

SUBITO is a capability project funded by the EU under Security Topic SEC-2007 and designed to research and further develop automated real time detection of abandoned luggage, fast identification of the individual responsible and his/her subsequent path and current location.

The SUBITO consortium is formed by diverse group of technology and implementation experts from six countries.



## **ModAir Co-modal Airport**

(2012-2014, 0.599M€ EU 0.80 M€ Total, EADS)



ICT for Transport: most of research is about surface transport modes

## **ICOA .10. 09 International Conference on Airports**

(2008-2010, 0.056M€ EU 0.126M€ Total, Académie de l'Air et de l'Espace)



**Académie de  
l'Air et de l'Espace**  
Air and Space Academy

# Beyond 2050 ?

**Resilience 2050 New design principles fostering safety, agility and resilience for ATM**  
(2012-2015, 2.2M€ EU 2.8M€ Total, Innaxis)

**2050AP Airport of the future**  
(2011-2014, 2M€ EU 2.6M€ Total, NLR)



**ENDLESS RUNWAY**  
(2012-2013, 0.562M€ EU 0.709M€ Total, NLR )







# The Regulatory Approach

Brussels, 1.12.2011  
COM(2011) 823 final

## The Airport Package

**Airport policy in the European Union - addressing capacity and quality to promote growth, connectivity and sustainable mobility**

### WHAT'S

- If no action is taken, by 2030 19 European airports will be operating at full capacity all day, every day, and an estimated 10% of demand for air travel will go unmet through lack of airport capacity.
- When you add up the minutes and hours of flight delays in Europe, 70% of the total is linked to aircraft turnaround at airports.
- It is not always clear who is responsible for coordinating groundhandling, which is crucial to airport safety, efficiency and good passenger service – particularly during severe weather.
- Where restrictions on airport noise are necessary, they need to be adopted in a more transparent way and should be proportional to the identified problem.

## The ITS Directive

2010/40/EU

Coordinated and coherent deployment and use of Intelligent Transport Systems

# Why Crisis Management ?

The Air Transport System is being optimised in the view of facing the ever increasing capacity problem i.e. to work under optimal conditions under full capacity but what happens if:

## 2010: a volcano erupts

The closure of the airspace between 15 and 21 April caused an unprecedented disruption of air traffic :

- » More than 100.000 flights cancelled
- » Cc. 10M pax unable to travel
- » Airlines' revenue loss estimated at 1.7M USD (IATA)
- » 313 European airports (75% of the network) totally disabled and airports' lost revenue was 250M euros (ACI Europe)



# Why Crisis Management ?

## 12/2012: Heavy snow falls

### [NH closed; Valley witnesses power disruption amid heavy snowfall](#)

[www.statetimes.in/.../nh-closed-valley-witnesses-power-disruption-a...](#)

6 days ago – Chief Engineer EM&RE said that due to **heavy snowfall** in the North and ... The **Air traffic** got **disrupted** due to poor visibility and no flight could ...

### [Valley gets season's first snowfall](#)

[www.deccanherald.com](#) > Region

6 days ago – Due to poor visibility, **air traffic** was also **disrupted** as no flight could operate ... He said due to **heavy snowfall**, there has been power **disruption** ...

### [Heavy snowfall overnight in Metro Vancouver causing disruptions](#)

[www.vancouversun.com/.../Heavy+snowfall+overnight.../story.html](#)

1 day ago – A **heavy snowfall** overnight in Metro Vancouver has caused some school ... At least two **Air Canada** flights are cancelled and WestJet reports several delays ... causing major **traffic** delays, bus **disruptions** and minor accidents.

### [SABC News.com - Croatia chaos after unusually heavy snowfall ...](#)

[www.sabc.co.za/.../Croatia-chaos-after-unusually-heavy-snowfall-20...](#)

9 Dec 2012 – Unusually **heavy snowfall** disrupts Croatia, causing flight delays and traffic chaos around the ... Snow blankets Netherlands, **disrupting air traffic** ...

### [Heavy snowfall causes transport chaos in Germany | Video | Reuters ...](#)

[uk.reuters.com/video/.../heavy-snowfall-causes-transport-chaos-in?...](#)

11 Dec 2012 – **Heavy snowfall** and icy roads cause chaos for commuters across Germany on ... **Air traffic** at Frankfurt airport experienced **disruptions** as well.

### [Heavy snowfall in parts of Kashmir | India Environment Portal](#)

[www.indiaenvironmentportal.org.in](#) > News

5 days ago – Srinagar, Dec 14: **Heavy snowfall** in parts of Kashmir and along the ... has closed the highway for traffic and **disrupted** the **air-traffic** to Kashmir ...

### [NH closed, freak weather till Dec 17 - DAILY EXCELSIOR](#)

[www.dailyexcelsior.com/news/nh-closed-freak-weather-till-dec-17/](#)

6 days ago – Srinagar, Dec 14: **Heavy snowfall** in parts of Kashmir and along the ... has closed the highway for traffic and **disrupted** the **air-traffic** to Kashmir ...

Sunday 9 December 2012 20:00

REUTERS



Snow in Croatia and other Balkan states has been unusually high(REUTERS)

### *Heaviest one-day snowfall the city has seen since 1955*

Freezing temperatures and heavy snowfall have killed at least six people and caused travel chaos across the Balkans according to the AP Press. Blizzards also hit Slovenia and Bosnia.

### **Snow blankets Netherlands, disrupting air traffic**

Heavy snow and strong winds caused more than 100 flight cancellations at Amsterdam's international airport on Friday. The Dutch Meteorological Institute said 10-15 centimetres of snow was expected in the Netherlands.

Flights were cancelled from the Dutch capital to cities in Britain, Germany, France and Denmark and the Czech Republic. Many other flights were delayed because of the bad weather. Train and bus service was also disrupted, but delays were less serious than authorities had predicted.

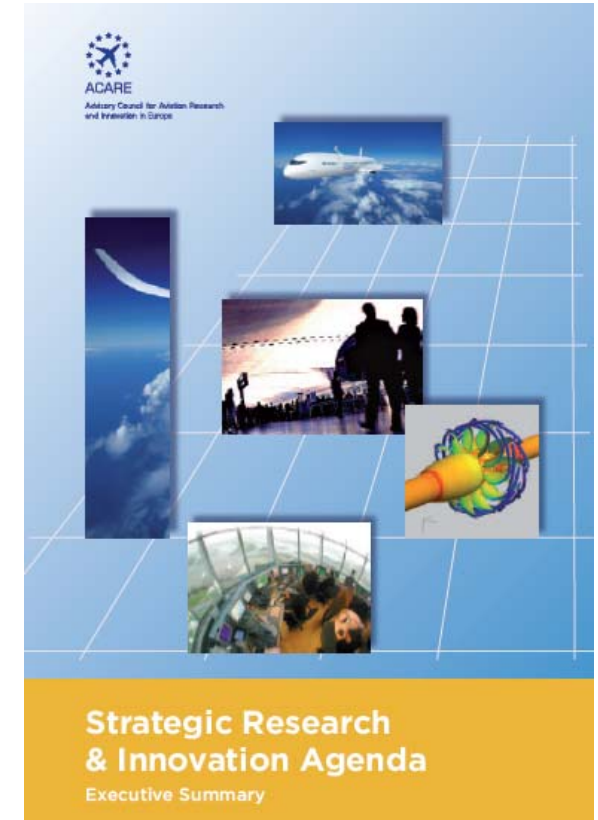
Challenge 1: Meeting Societal and Market Needs

Challenge 2: Maintaining and Extending Industrial Leadership

Challenge 3: Protecting the Environment and the Energy Supply

Challenge 4: Ensuring Safety and Security

Challenge 5: Prioritising Research, Testing Capabilities and Education



# Next Steps ?

- What is the way forward for Airport-CDM ?
- What are the technical solutions to develop ?
- How to connect with other modes ?
- How to set-up projects, in which frame ?
- Are there needs for policy actions (e.g. Communication, Directive, Standards)
- How to finance ?

# Looking forward to META-CDM findings

**META-CDM Crisis Management Airport Collaborative  
Decision Making  
(2012-2014, 0,593M€ EU 0,665M€ Total, ENAC)**

