



SESAR Showcase

A Conference & Exhibition of SESAR 1 Results

Amsterdam, 14-16 June 2016





Integrated surface management

Herve Drevillon (DSNA)

Airport safety support tools for pilots, vehicle drivers and controllers

Nicolas Leon (DSNA)

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Integrated surface management

Herve Drevillon (DSNA)

Operational issues addressed

Low visibility



Icing conditions



Bottlenecks



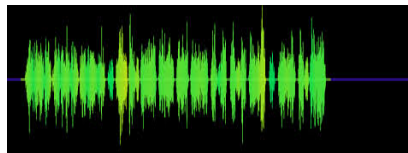
Single engine taxi



Stop and go



Radio occupancy



Route deviations



Taxi time estimate



airport capacity



environment



safety



flight time variability



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Improvements under investigation

Virtual stop bars in low visibility

Improved guidance means

Departure sequencing at runway

Surface routing

De-icing manager

SESAR

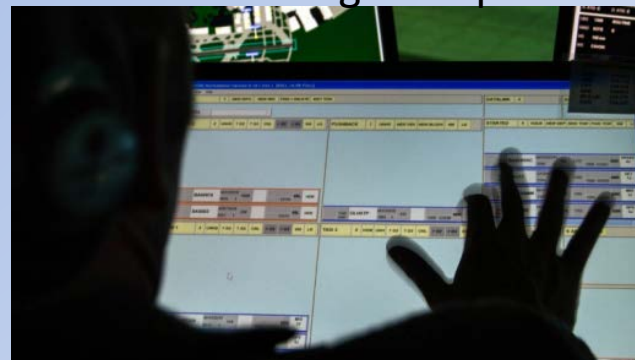
A-SMGCS



Datalink comm.



Electronic flight strips



DMAN

Departures					
Time	To	Flight no.	Gate	Remarks	
09:35	NEW YORK	DF2753	A1	ON TIME	
09:40	FRANKFURT	LN3211	C3	ON TIME	
09:45	TORONTO	GT4638	A2	ON TIME	
09:45	LONDON	KV3323	B4	DELAYED	
09:50	MIAMI	LX3100	A2	DELAYED	
09:55	SYDNEY	LV2317	A5	ON TIME	
10:00	PARIS	BD9032	B1	ON TIME	
10:00	OSLO	FB5610	C4	ON TIME	
10:05	HONG KONG	EN4267	A4	DELAYED	
10:10	BARCELONA	GC5433	C1	ON TIME	
10:15	TOKYO	LY4488	B2	ON TIME	
10:20	MOSCOW	KF3280	B4	CANCELLED	
10:25	ZURICH	TK7252	A4	ON TIME	
10:30	LOS ANGELES	TK3946	A1	ON TIME	
10:35	ROME	RZ1408	B3	DELAYED	
10:40	HONOLULU	EK4319	A1	ON TIME	

NOW

All airport stakeholders involved

Airport operators



ANSPs



ENAIRe



Airframers



Industry



THALES

Institutions



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New ATCO tools – routing

- Taxiways
- Runways
- Preferred routes

Taxi route generator

- Identifier
- Aircraft type
- Destination point

Taxi routes and times

Proposed taxi routes

Modification requests

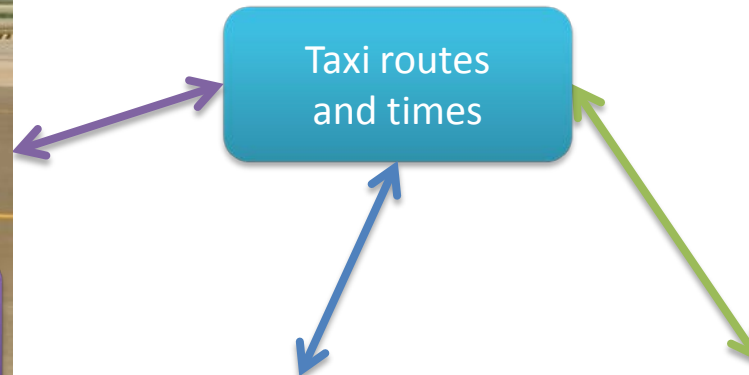
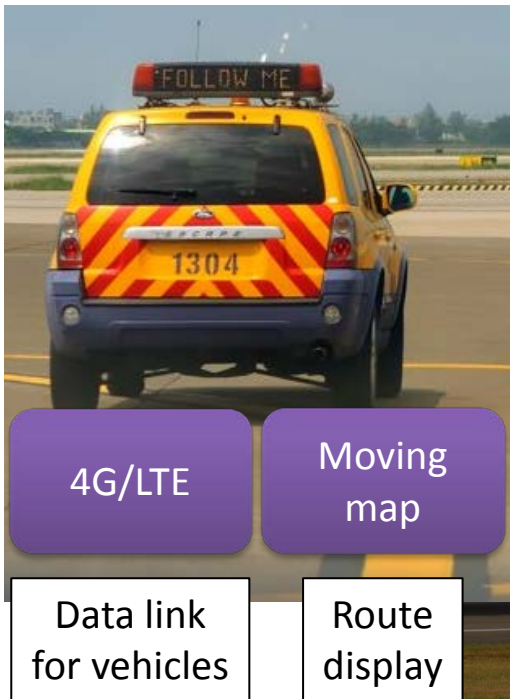
- Stand
- Milestones
- De-icing bay
- De-icing time

Controller working position

ase

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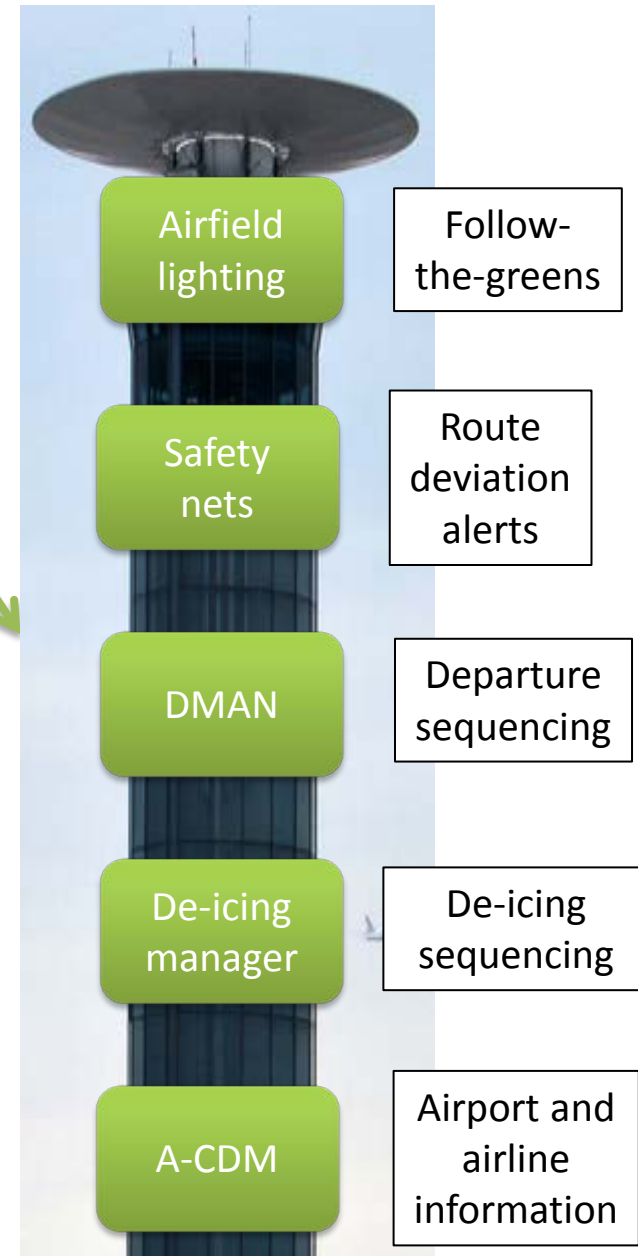
New ATCO tools – routing



D-TAXI

Route display

Enhanced braking system



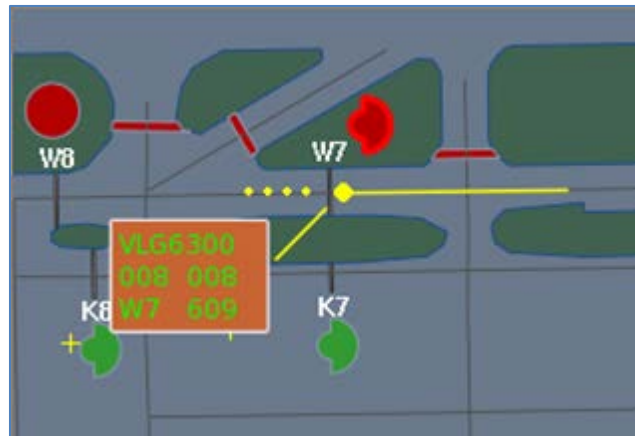
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New ATCO tools – Virtual stop bars

Complement physical stop bars with digital ones at selected airport locations

- Used in low visibility to perform virtual block control
- Potentially uplinked to the aircraft
- Alert triggered in case of stop bar violation



New pilot aids – Follow the greens

Coupling A-SMGCS with airfield ground lighting to automatically activate lights along cleared route



New pilot tools – D-TAXI and AMM

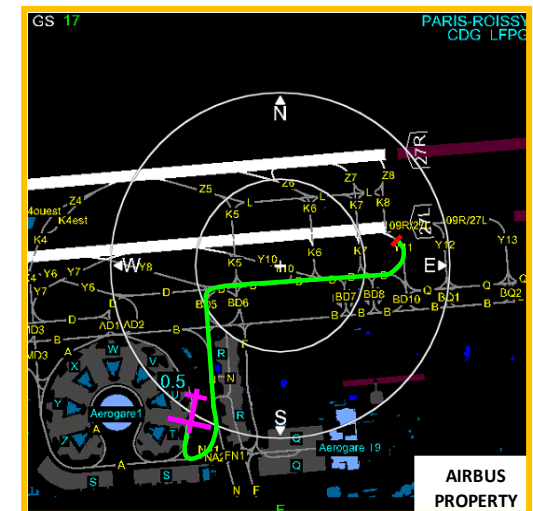
Provision of routes via data link (D-TAXI)

- Taxi routes uplinked before movement (planning)
- Clearances and revisions provided throughout taxi phase



Taxi route display on airport map

- Through coupling with data link
- Or entered by the flight crew (voice clearance)



Key achievements

Real-time simulation, shadow mode and live trial validations performed on pre-industrial prototypes

- Barcelona, Frankfurt, Hamburg, Madrid, Milan, Munich, Paris, Riga
- Complete chains from ATC system to airfield ground lighting and cockpit systems

5 SESAR Solutions in the pipeline for end 2016



Significant contribution to standardisation

- ATS Data Communications
- Terrain and obstacle databases



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What's next? Routing deployment



Routing retained in PCP



Standardisation by WG41



Coordinated deployment
at 24 major airports by
2024



Follow-up in SESAR2020

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Thank you for your attention

More information:

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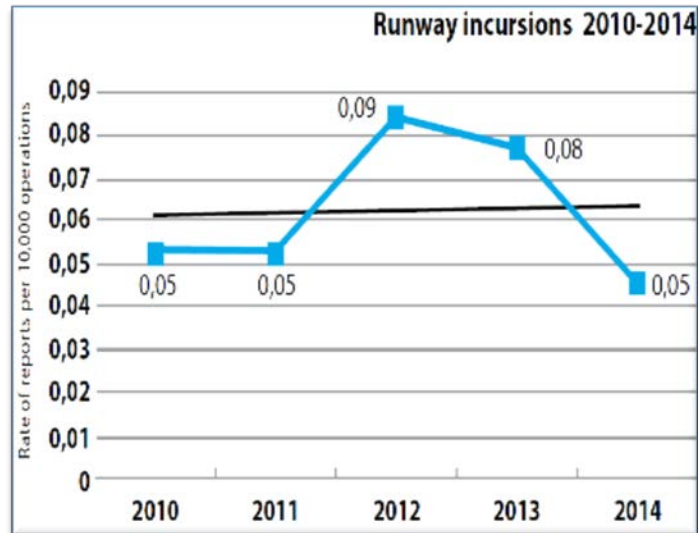
Airport safety support tools for pilots, vehicle drivers and controllers

Nicolas Leon (DSNA)

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Airport safety issues



CONDUCTEURS, CONTRÔLEURS, PILOTES,
PRÉSERVONS LA PISTE DE TOUTE INCURSION.

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Airport safety support tools

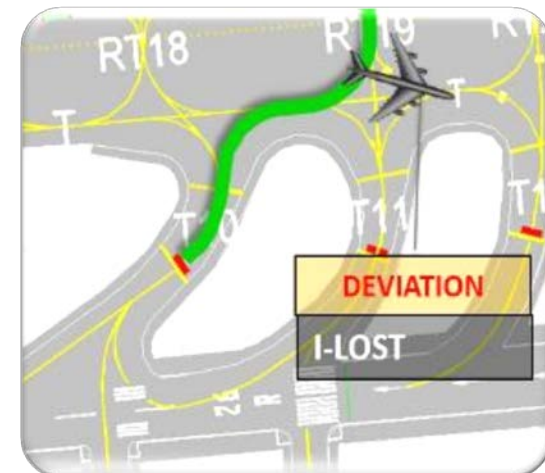


FOR

PILOT

DRIVER

CONTROLLER



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A collaborative work



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Airport safety support tools - Pilot



Traffic Alerts

RUNWAY and TAXIWAY Operations

• Conformance Monitoring

e.g. Usuitable runway,
taxi route deviation

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Honeywell



THALES

Airport safety support tools – **Vehicle driver**



Moving map view of the traffic



Area infringement Alerts

Traffic conflict Alerts

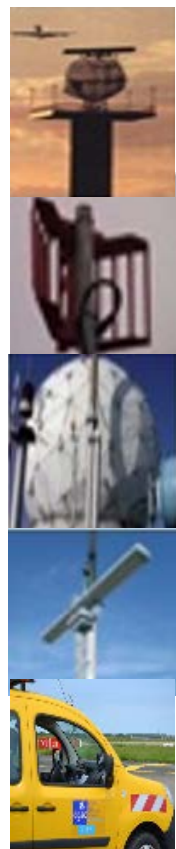
Stockholm-Arlanda (Simulation)

Paris-CDG (live trials 2015)

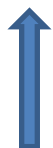
Dublin (live trials 2015)



RunWay Status Lights (RWSL)



Lights Control Computer



RWSL Processor



Airport
Core Surveillance System



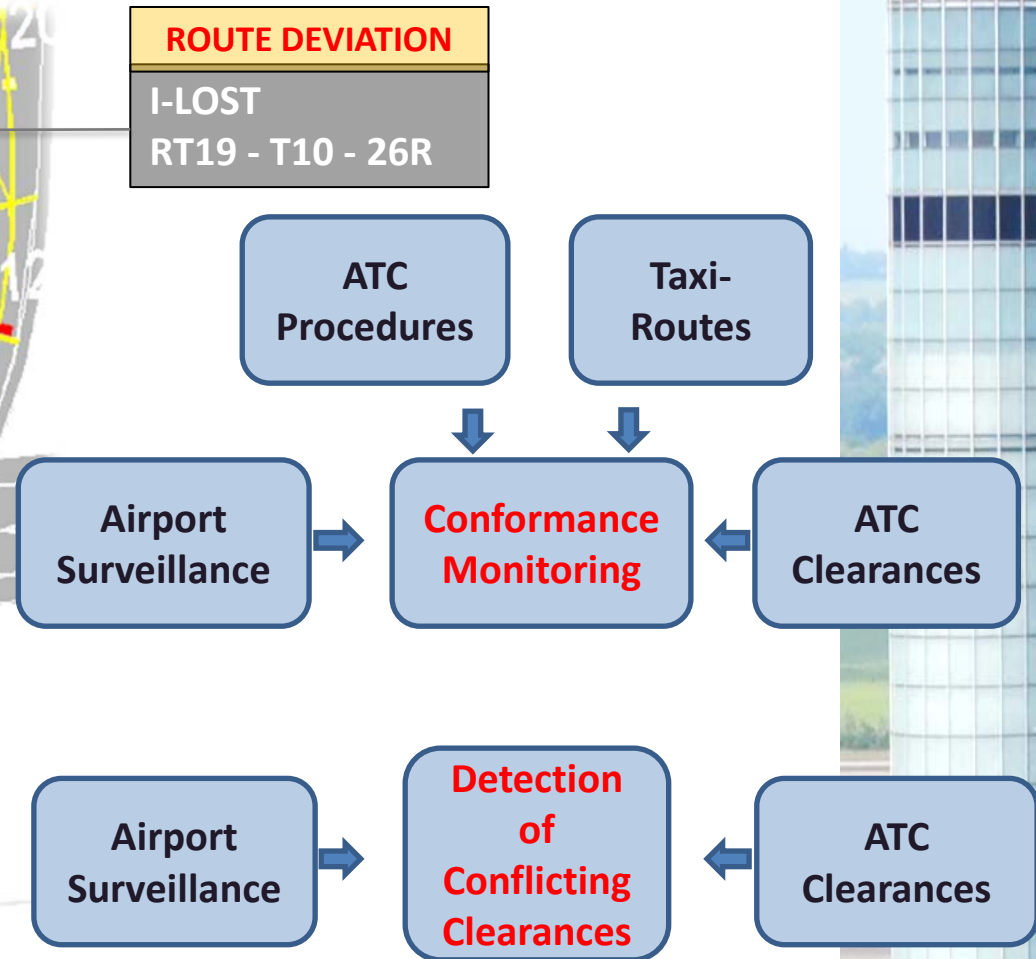
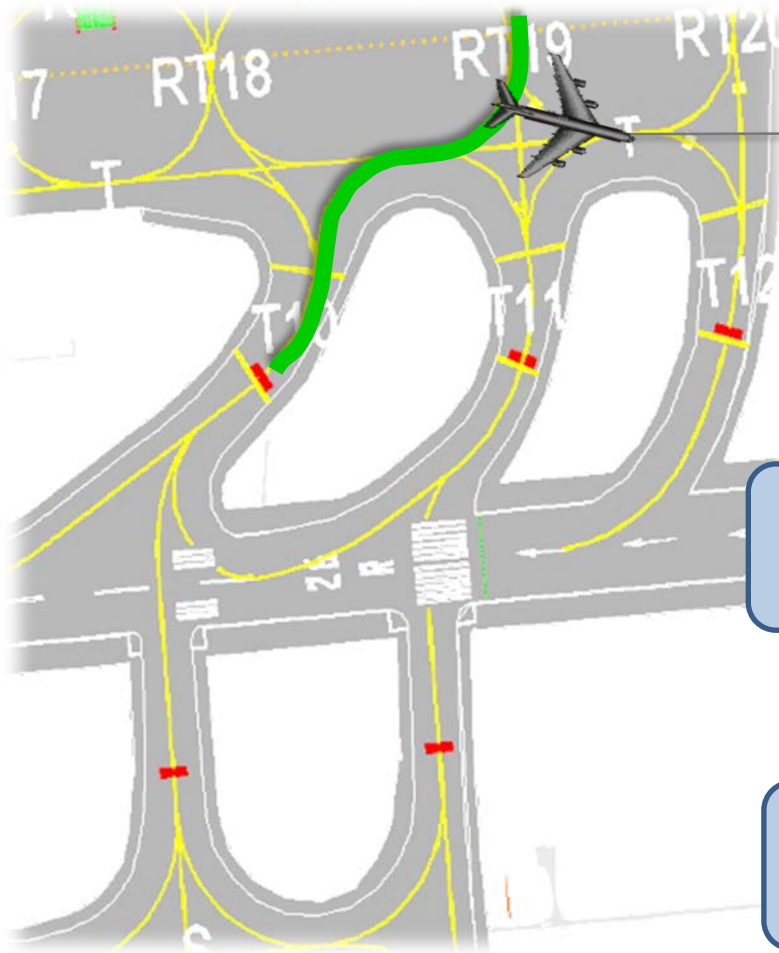
REL - Runway Entrance Lights

THL - Take-off Hold Lights



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Airport safety support tools - Controller



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ENAIRe



Airport Safety support tools



Key achievements

- ➔ **Validation Exercises**
with integration of pre-industrial prototypes
- ➔ **Operational Interoperability of Airport Safety Support Tools**
- ➔ **SESAR Solutions** in the pipeline for end 2016
 - ➔ **RunWay Status Lights**
 - ➔ **Airport Safety Support Tools for Controllers**
 - ➔ **Moving Map and Alerts for Vehicle Drivers**
- ➔ **Standardisation** contributions



What's next?



- **RWSL deployment at Paris-CDG**
- **Moving map and Alerts for Vehicles Drivers ready**

- **New Safety Nets for Controllers**
Standardization by Eurocae WG-41
PCP Pilot Common Project – IR (EU) 716/2014

SESAR 2020 – SAFE - Safer Airports and Flights for Europe

Enhanced Airport Safety Tools for Controllers
Conformance Monitoring Alerts for Pilots
Traffic Alerts for Pilots for Airport Operations
Safety Support Tools for Avoiding Runway Excursions

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A stylized graphic on the left side of the slide. It features a small green airplane flying upwards and to the right. Below the airplane is a series of colorful, upward-pointing bars in shades of green, blue, and yellow, resembling a bar chart or a stylized landscape.

Thank you for your attention

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