

# GIG

## A-SMGCS A3000 PLATFORM



RLA/06/901 - Eighteenth Workshop Meeting on the ICAO SAM implementation Meeting (SAM/IG/18)



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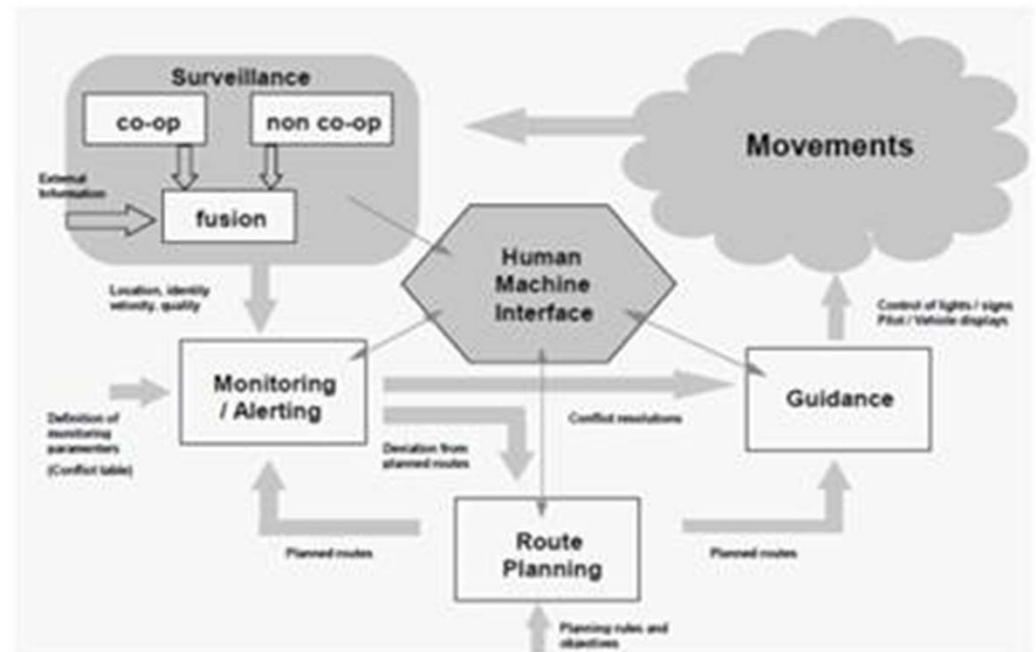
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# A-SMGCS PLATFORM

- A-SMGCS has been defined by ICAO, EUROCONTROL and EUROCAE and has well established standards
- EUROCAE ED-87C defines four A-SMGCS levels
  - Level 1: Surveillance
  - Level 2: Monitoring/Alerting (Surface Safety Nets)
  - Level 3: Route Planning
  - Level 4: Guidance

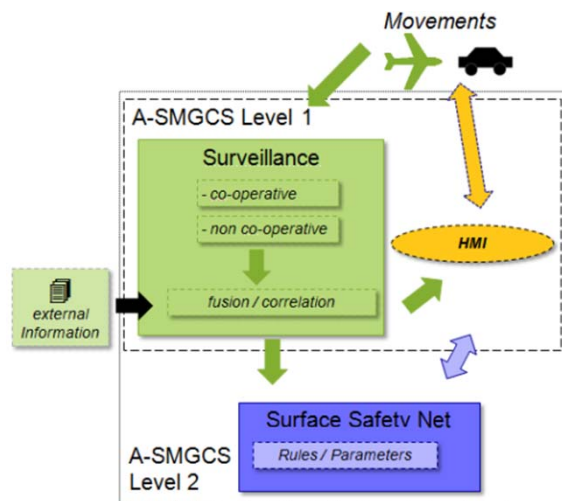
## Surface Surveillance Platform A-SMGCS ICAO 9830



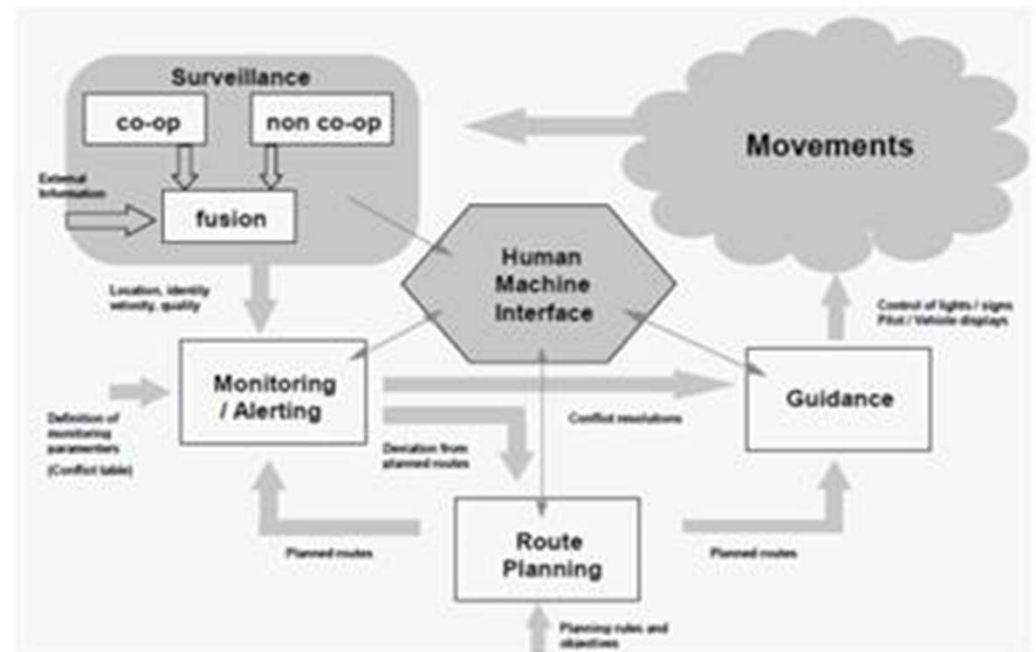
# A-SMGCS PLATFORM

- ED-87C, released in 2014 only includes Levels 1 and 2

**A-SMGCS Conceptual Diagram (ED-87C)**



## Surface Surveillance Platform A-SMGCS ICAO 9830

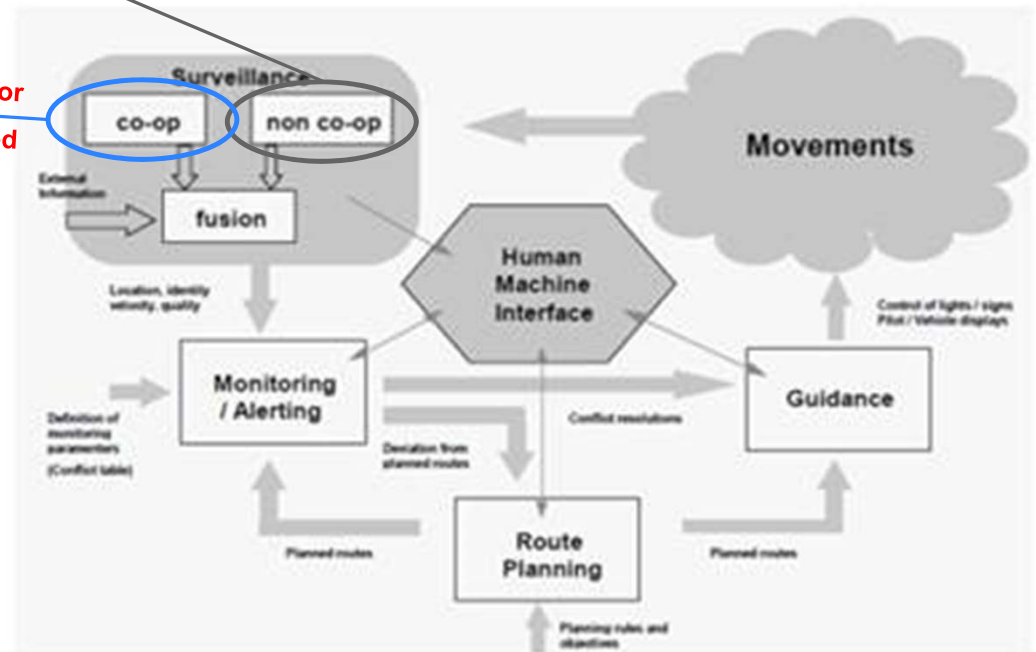


# A-SMGCS PLATFORM

- Primary Sensor - Surface Movement Radar
  - NO Cooperative Surveillance
  - NO Positive Identification
  - Focus on Safety
- Secondary Sensor - Multilateration
  - Cooperative Surveillance
  - Positive Identification
  - Focus on Efficiency

## Surface Surveillance Platform A-SMGCS ICAO 9830

By Airport Operator  
yet to be integrated



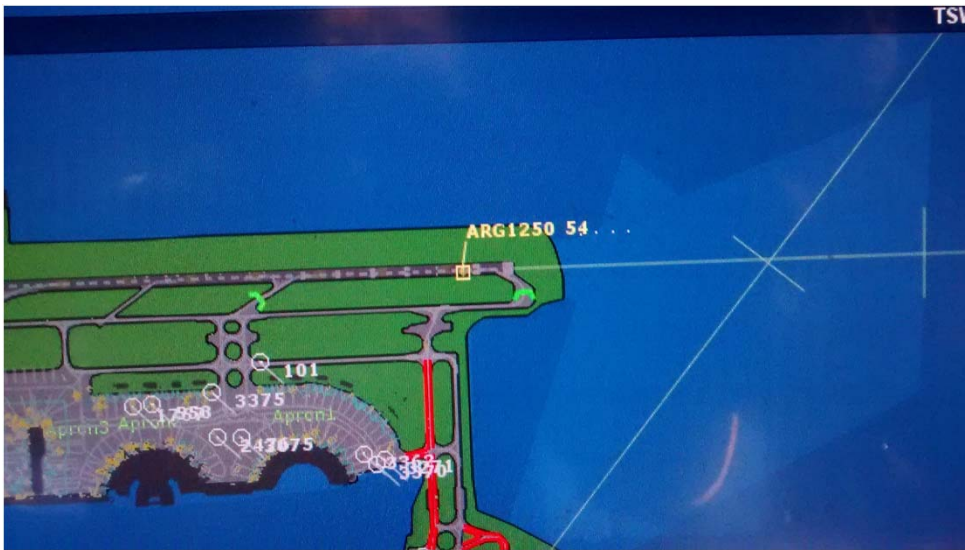
# GIG A-SMGCS PLATFORM

- **A3000 A-SMGCS Platform**
  - Fed by 2 x SMR Antennas



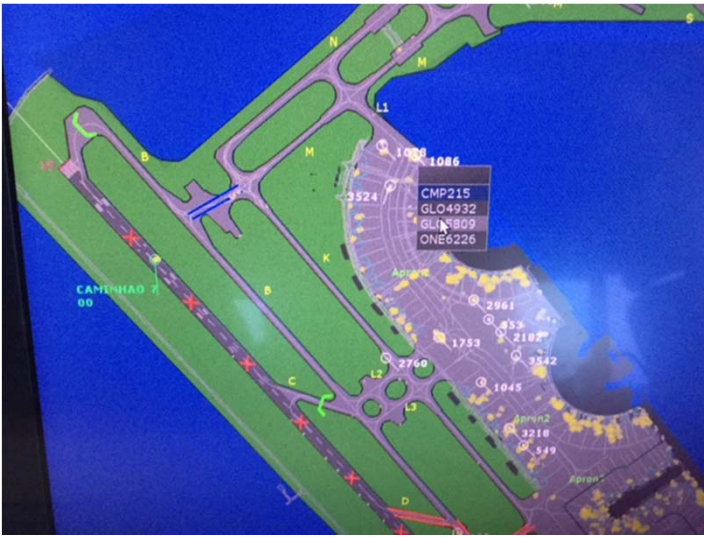
# GIG A-SMGCS PLATFORM

- Automatic Identification ( Arrival Flights )



# GIG A-SMGCS PLATFORM

- Manual Identification ( Departing Flights )



# GIG A-SMGCS PLATFORM

- Departure Sequence ( RWY 10 )



# GIG A-SMGCS PLATFORM

- Departure Sequence ( RWY 33 )



# GIG A-SMGCS PLATFORM

- Runway Crossing ( RWY 33 )



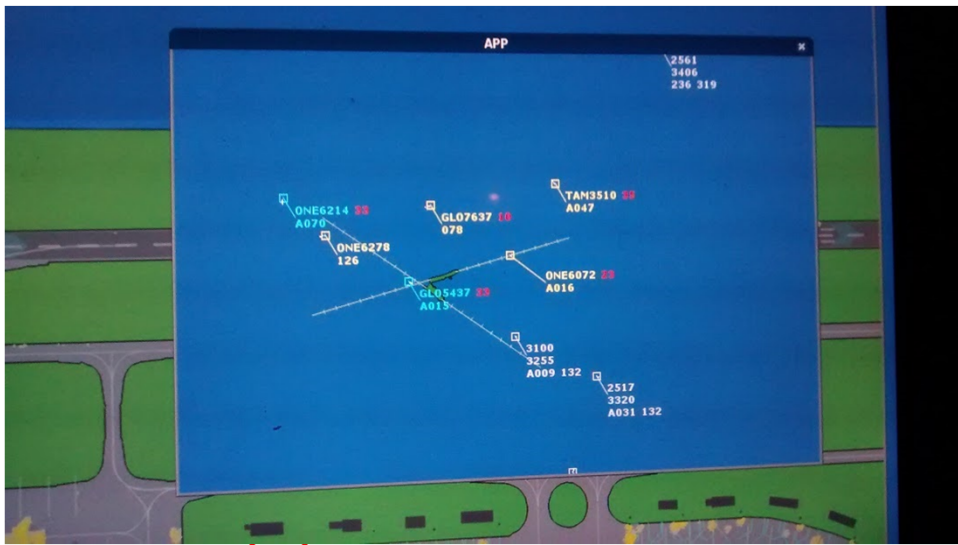
# GIG A-SMGCS PLATFORM

- Vehicle Handling



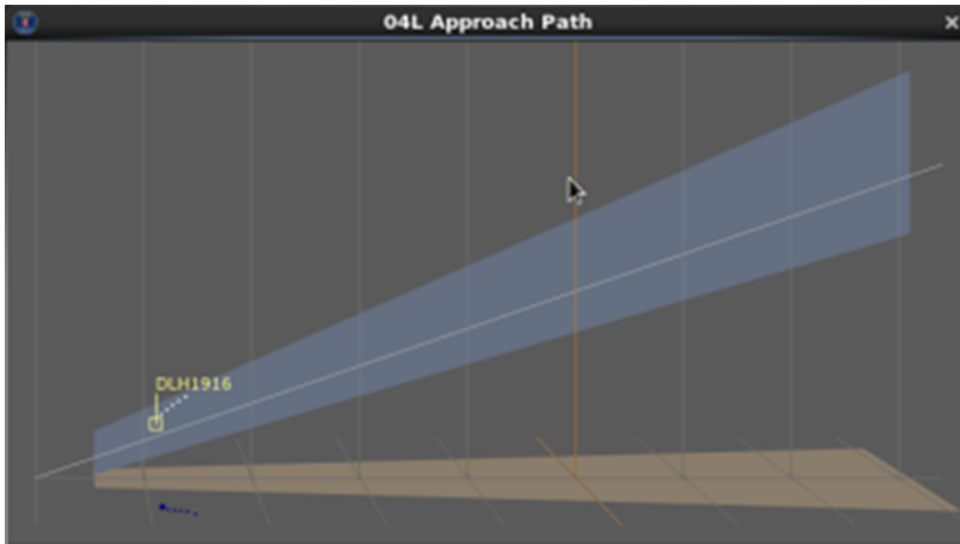
# GIG A-SMGCS PLATFORM

- Approach Surveillance Display



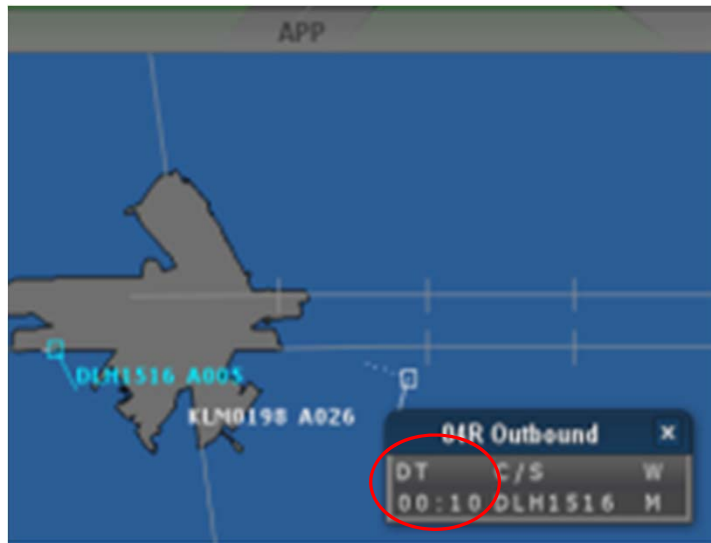
# GIG A-SMGCS PLATFORM

- Approach Path Window



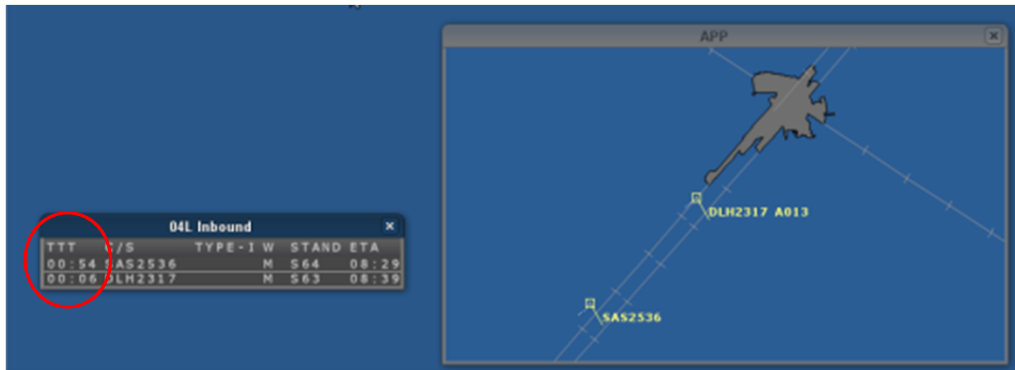
# GIG A-SMGCS PLATFORM

- Departure Timer Window



# GIG A-SMGCS PLATFORM

- Time to Threshold Window



# GIG A-SMGCS PLATFORM

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- CCTV Integration



# LEVEL 2 SAFETY NET

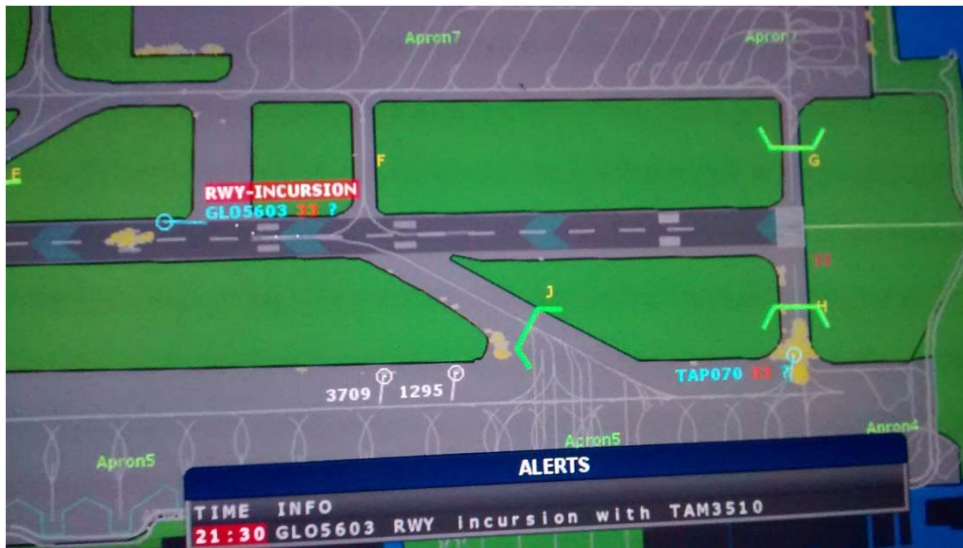
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- A3000 incorporates a comprehensive, highly configurable set of surface safety nets:
  - A3000 alerts can be adapted to the local operational procedures
- Different parameters sets for normal and low visibility operations
- Configurable audible alerts
- Alert parameters are configurable
  - Rules based
- Alerts can also be received from external systems



# LEVEL 2 SAFETY NET

- RWY Incursion Monitoring



# LEVEL 2 SAFETY NET

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- Restriction Violation Monitoring



# LEVEL 2 SAFETY NET

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- Stop Bar Violation Monitoring



# LEVEL 2 SAFETY NET

- **Alert Presentation**

- Alerts are presented:
  - In alarm list
  - In track label
  - In flight data lists
  - On electronic flight strip
- Most alerts have a warning state and an alarm state

DEP	C/S	TYPE-I	TYPE	W	ETD	STAND
	DLH2439		A180	H	11:11	S142
	BAW0124		B737	M	10:57	S143
	KLM0198		B747	H	10:56	S145
	DLH1516		B737	M	10:56	S143



ALERTS	
TIME	INFO
10:52	BAW0124 departure aborted
10:52	DLH1022 RWY incursion with DLH2439



# GIG A-SMGCS PLATFORM

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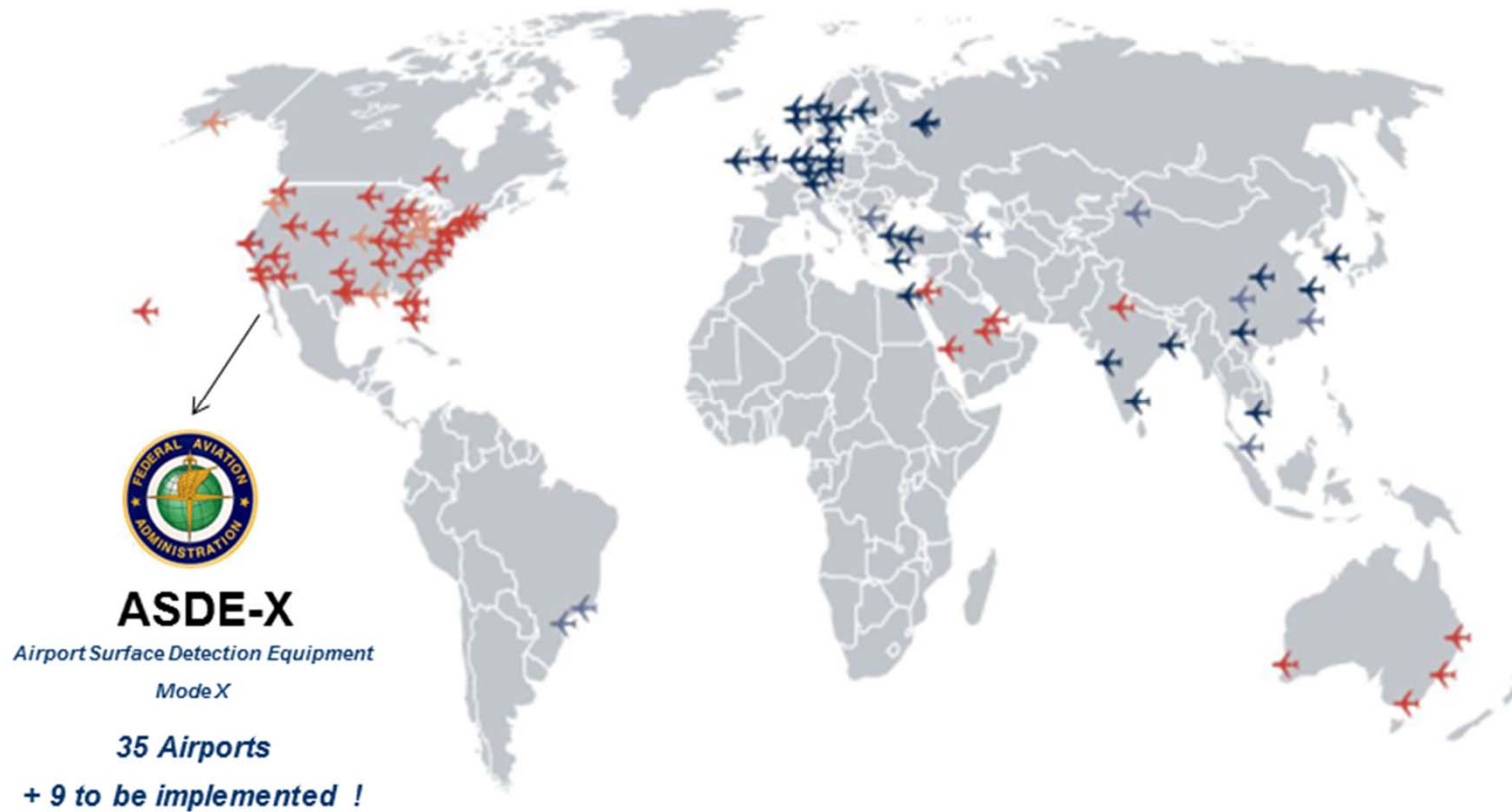
- **Recording and Replay**
  - **Data Recorded:**
    - Internal data
    - External Interfaces
    - Voice
  - **Workstation Replay Traffic Display**
    - Local Display settings
    - Synchronized replay of tracks, Radar Video, Flight Data, V
  - **Replay Commands**
    - Start
    - Freeze
    - Speed up/down - forward & backward
    - Stop
  - **System Replay (Test & Evaluation)**
  - **Cyclical Recording**



# SAAB A-SMGCS PLATFORM, WORLDWIDE

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## A3000 A-SMGCS Platform ( > 90 Airports )



# GIG

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