

ARAMIS AIRPORT PRODUCTS

Airport Performance Management

PRODUCTS, EQUIPMENTS & SERVICES



ARAMIS

AIRPORT PRODUCTS

FROM SPACE LAUNCHERS TO AIRPORTS

ArianeGroup is the prime contractor for the Ariane family of space launchers. A leader in the European space industry, the company builds on its decades-long expertise of complex systems to offer a wide range of products and services to numerous other sectors.

Since 2010, ArianeGroup has developed its Air Traffic Management and Airport Management portfolio as a dedicated activity. Within the SESAR Programme and with the support of Eurocontrol, we have been promoting an integrated and systemic approach to ATM activities through the development of new techniques, procedures and systems tailored to the growing needs of airports.



EMPLOYEES IN
FRANCE AND GERMANY

9,000

50/50

JOINT COMPANY
BETWEEN AIRBUS
AND SAFRAN



10

YEARS OF EXPERIENCE
OF SESAR CONCEPTS

ArianeGroup has first-hand experience with the SESAR programme and its concepts since 2010. We are established as a reference partner for airports to implement SESAR concepts.

Launched in 2005, the Single European Sky Air Traffic Management Research and Development Programme ("SESAR") aims to modernise the Air Traffic Management ("ATM") in Europe and represents the technological pillar of the Single European Sky.

The SESAR Programme comprises three interrelated, continuous and evolving collaborative processes:

- definition of the content and priorities,
- development of new technological systems, components and operational procedures of the SESAR concept,
- and their deployment.

ArianeGroup has been involved in the SESAR Programme since its inception, and continues to be involved in the SESAR2020 programme:

- provision of system engineering and programme management support to the SESAR Joint Undertaking (SJU),
- development of airport software-enabled solutions for operational planning and real-time supervision of airport flows.

WHO WE WORK WITH:

- the SJU,
- ENAC (Ecole Nationale de l'Aviation Civile),
- DSNA (Direction des Services de la Navigation Aérienne),
- EUROCONTROL and EUROCONTROL airport partners for concept validation, including:
 - London-Heathrow (LHR),
 - Roissy-Charles de Gaulle (CDG),
 - Madrid-Barajas (MAD),
 - Bordeaux-Mérignac (BOD),
 - Toulouse-Blagnac (TLS) and
 - Alicante-Elche (ALC)



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ARIANEGROUP AIRPORT SYSTEM:

AN ADAPTABLE TOOL TO ENHANCE OPERATIONAL PERFORMANCE

ARAMIS (AiRport Architecture Management Integrated Solutions) provides a holistic view of an airport and its various operations.

It reinforces information sharing and collaborative processes among airport stakeholders, integrating Airside and landside operations to improve overall airport performance.



ARAMIS screenshots

Developed by ArianeGroup with the support of EUROCONTROL as part of the SESAR programme, ARAMIS is fully consistent with the SESAR Total Airport Management and Operations Management concepts based on common situational awareness and collaborative decision-making Processes.

Able to provide a holistic view of an airport, for the airside and landside part, directly interfaced with the operational databases and airport management systems such as AODB (Airport Operational DataBase) or Network Manager (NM), **ARAMIS has been designed as a flexible framework capable of integrating dedicated modules tailored to the growing needs of individual airports.**

This versatility, supported by user-friendly visual interfaces, allows ARAMIS to be used as:

- a training and simulation framework supporting TAM, APOC, CDM and DCB concepts,
- an airport hypervision tool for real-time monitoring and performance-based predictive management of airport processes.

ARAMIS CAPABILITIES

Common operational view

of landside and airside operations for airport stakeholders, for enhanced Airport Performance Management and Monitoring.

Pro-active supervision and management of the airport operations performance:

- **Visualise** current and short-term performance;
- **Monitor and detect performance** deviations;
- **Warn/alert** involved stakeholders;
- **Assess the impact and determine mitigation measures and/or remedies**;
- **Make actionable proposals** (AOP update, launching ad-hoc collaborative procedures, coordinating with NM, ...)

Collaborative Decision Making

Allows stakeholders to communicate, coordinate and collaboratively make decisions, using live chat function. A simplified version is available for regional airports.



BENEFITS

- **Significant improvement in traffic predictability** through network integration
- **Optimized** operational processes
- Target Off-Block Time **increased accuracy**
- **Improved airport resilience** in degraded situations

ARAMIS SOLUTION

- **Allows a closer integration** of airside and landside performance monitoring and management
- **Supports analysis and optimization** of terminal capacity and processes
- **Supports identification** of the most efficient and cost effective options in short/medium and long terms

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VALIDATION ACTIVITIES

The platform was initially developed for exploring the benefits of the SESAR concept of the Airport Operations Plan (AOP).

More recent simulations have included multi-stakeholder collaborative decision making and airspace user flight prioritisation through the Demand-Capacity Balancing (DCB) approach.

The platform is also being used in support of the APOC deployment with tests performed in Bordeaux, Paris (CDG and Orly), Heathrow, Alicante, Toulouse, Madrid, Oslo and Göteborg.



Monitoring Passenger Throughput in CDG Terminal

// THE ADVANTAGE OF THE TOOL IS HAVING A GLOBAL VIEW //

It provides an indicator airside and landside that allows us to assess the situation of the platform as a whole, to think and see what is affecting different areas of the platform and make the necessary decisions.

I think from the perspective of the « what-if » function it will bring added value to see, with the decisions we are likely to make, what the impact will be on different sectors and it will be a greater aid in decision-taking.

*Senior Manager Operation Unit CDGX,
Paris Airports*



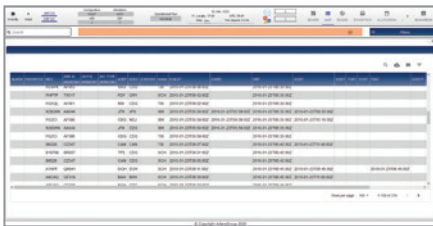
ARAMIS FEATURES

AIRPORT VIEWER

Made up of arrival and departure tables.

In this overview, the airspace user can:

- Cancel or divert flights;
- Close flight boarding;
- Change departure estimates.



SYNTHETIC PROCESS VIEW

Offers a visual overview of the airport with:

- Key process status and related alerts;
- Process inter-dependencies;
- Possibility to drill down for closer monitoring.



SECURITY CONTROL

An overview of the area in the terminal dedicated to either security or immigration checks. It displays:

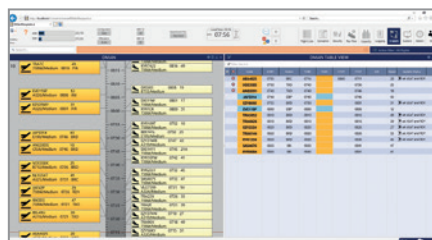
- Status of the gate: open/closed;
- Waiting time;
- Passenger throughput;
- Dynamic resource allocation in the context of Pax flow management.



DEPARTURE MANAGER

Provides the ANSP with the departure sequence.

Flight departure estimates (TOBT) and the resultant pre-departure sequence are displayed.



APOC SUPERVISION

Holistic view of airside and landside operations

- Arrival and departure charts, with planned, actual and estimated traffic, and runway capacity;
- Meteorological view, with TAF/METAR and NOTAM information.



PERFORMANCE MONITORING

Gives the main KPIs:

- Efficiency on arrival, departure, turnaround, taxi time, take-off and landing;
- Predictability on turnaround, departure and arrival.



#spaceenablers

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