

A wide-angle photograph of an airport tarmac at sunset. The sky is a mix of blue, orange, and yellow, with scattered clouds. In the center, a large white commercial airplane is parked at a gate, with its cabin door open and a mobile staircases positioned nearby. Various ground support equipment, including baggage carts and service vehicles, are visible on the tarmac. A green decorative shape is in the top right corner.

Airport Operations Made Predictable

EMMA Systems Solutions Catalogue

How EMMA helps airports?

EMMA Systems is a built-for-purpose Platform which can easily integrate with any airport system and deliver tangible and timely results. With the easy integration of additional modules including but not limited to weather, maps, and activities in terms of efficiency and reduced resource consumption.

As a leading Aviation Solutions company, we are experienced, agile, passionate and innovative which makes us the perfect partner to help your airport reach the highest level of operational efficiency!

Airport operations made predictable

EMMA Systems brings a unique approach to collaborative airport operations, placing real-time stakeholder coordination at the center of every process. By connecting data across systems, airport operators, airlines, ground handlers, and ATC receive clear, accurate updates at every stage of the turnaround. With partners communicating seamlessly, airports can make faster, better decisions that substantially boost efficiency.

Proven Efficiency Gains: Reduced turnaround times and improved coordination optimizes airside processes

Sweat the Assets: Optimized airport capacity and resource use, better ground handling performance, and reduced turnaround times

Greater predictability: Timely, actionable information streamlines collaboration to boost predictability

Improved Passenger Experience: More reliable arrival and departure times, and fewer gate changes translate into a smoother passenger experience

Enhanced Airport Performance: Real-time monitoring allows everyone to anticipate potential situations, and plan better

Why Choose EMMA Systems?



Flexibility that fits your airport's unique needs



Integration connects with all systems.



Reliability secures data and compliance.



Scalability supports growth with ease.

Airport Collaborative Decision Making (A-CDM)

Timely, Actionable Data-driven Insights

EMMA A-CDM delivers a unified view of airport operations through a real-time web-based dashboard that translates complex airport data across multiple systems. Built-in predictive analytics enhance situational awareness, and help your stakeholders anticipate and mitigate operational disruptions. Additional modules from our portfolio provide the adaptability needed to tackle complexities as your airport grows.

Unique Platform: Eliminate data silos and rely on “a single source of truth”

Real-Time Data Sharing: Ensure smooth coordination between stakeholders

Role-based access control: Secure critical data by authorizing access based on users’ roles

Turnaround Management: Track aircraft turnaround activities for improved efficiency

Easy Scalability: Add data sources as your operations scale with our configurable widgets

Seamless System Integration: We integrate smoothly with your airport’s existing operational systems

AI & Predictive Analytics: Support proactive decision-making by accurately calculating taxi times

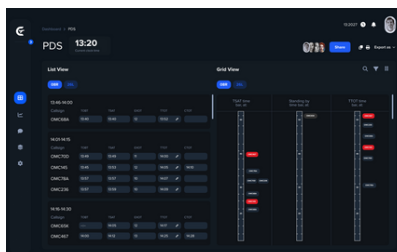
Accurate Forecasting: Use historical data for data-driven insights to improve operational processes

Unmatched Adaptability: Our architecture adapts to your airport’s needs, allowing you scale up to Total Airport Management

Compliance with Global Standards: We comply with EUROCONTROL A-CDM requirements, ICAO, IATA and CANSO guidelines, and industry best practices

Easily configure these modules from our portfolio

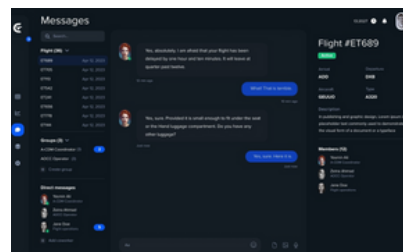
Our modular suite helps tackle inefficiencies



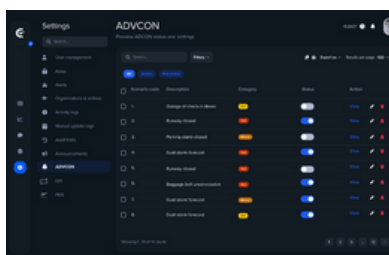
Pre-Departure Sequencer (PDS): Optimize aircraft departure sequencing, and minimize taxiway congestion



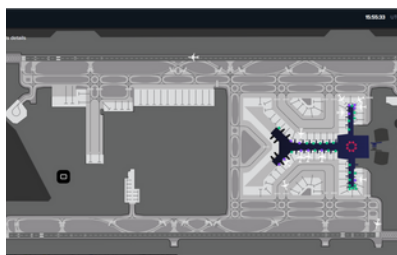
Key Performance Monitoring: Measure KPIs for data-driven decision making and continuous improvement



Role-based Advanced Messaging: Messaging widgets streamline stakeholder communication



Adverse Conditions Management: efficiently manage and quickly recover from disruptions using pre-defined mitigation scenarios



Airport Map Layout: Airport map for real-time, on-ground visibility

Airport Operations Management System (AOMS)

Built on Data Management Platform. Unified, Modular, Open

EMMA AOMS unifies airport operations on one self-managed platform, giving airports full visibility, faster decisions, and greater efficiency. It replaces closed and rigid legacy systems and costly integrations with an open, scalable, and flexible foundation. AOMS eliminates data silos, strengthens collaboration, and supports AI-driven digital transformation. With built-in incident management and real-time responsiveness, it reduces delays, costs, and resource waste while helping airports perform smarter today and grow confidently for tomorrow.

Centralized: Collects, cleans, stores, and distributes airport data across all systems in real time.

Unified Data Model: Ensures consistency, accuracy, and a single version of truth for every stakeholder.

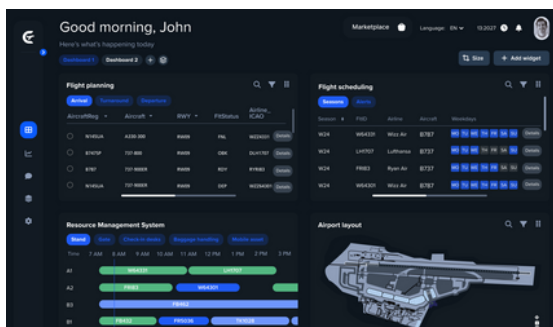
Modular: Choose and integrate only the apps you need, from flight operations and resource allocation to A-CDM and billing.

Open: Provides APIs and SDKs for partners and third parties, fully compliant with global aviation standards.

Governance & Security: Built with access control, audit trails, and full compliance to safeguard critical data.

Marketplace / App Store: Enables third-party developers to build and connect new applications.

Flexible Deployment: Available as SaaS or private cloud to fit every airport's infrastructure strategy.



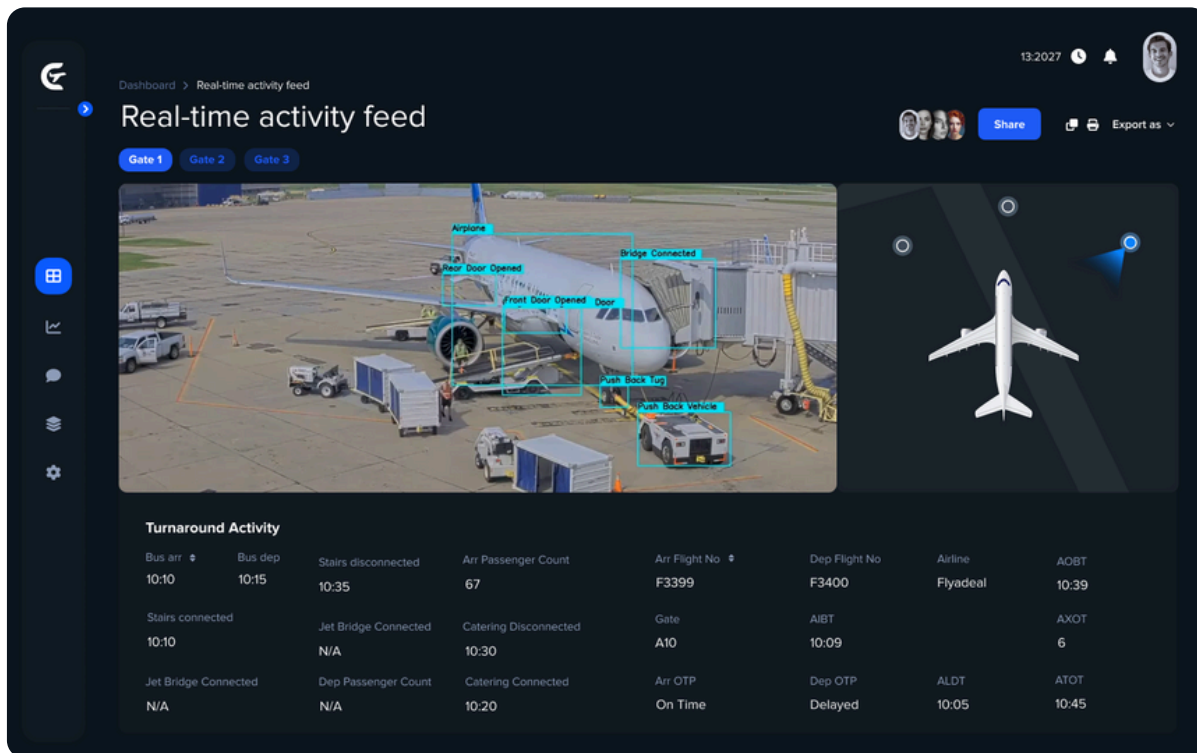
Endless possibilities with our modular, open approach to design

-  **Self-Managed:** Airports have full control to configure, adapt, and operate the system independently.
-  **Flexible:** Easily adjusts to evolving operational and regulatory requirements.
-  **Interoperable:** Connects seamlessly with existing systems and third-party platforms.
-  **Integrated:** Brings all airport functions together under one unified environment.
-  **Intuitive:** Designed with a user-friendly interface for fast adoption and smooth operation.
-  **Cost-Efficient:** Reduces integration costs and resource waste while maximizing performance.
-  **Compliant:** Meets global aviation and data governance standards.
-  **Scalable:** Grows with the airport's needs, from local operations to large-scale hubs.



Turnaround Management System (TMS)

Real-time Tracking. Unmatched Visibility. Smoother Turnarounds.



EMMA Turnaround Management System (TMS) is a real-time, AI-driven solution that gives airports unmatched visibility and control over every turnaround activity, from touchdown to takeoff. Using computer vision and predictive analytics, it tracks all ground operations automatically, providing accurate time-stamps, early alerts, and performance insights. Its modular, scalable design integrates seamlessly with AODB, RMS, and BI platforms, ensuring smooth coordination between airlines, ground handlers, and airport operators. EMMA TMS eliminates manual delays, improves decision-making, and enables continuous operational improvement across the airport ecosystem.

AI-driven Real-time Monitoring:

Use Computer Vision event detection technology to accurately track and get time-stamps of ground events including jet connection, refueling, baggage loading, and pushback tug attachment, in real time.



Faster, Budget-friendly Data Processing:

Lower cloud dependency and total cost of ownership. Minimize video processing delays, and enhance data compliance and privacy with our blended cloud and edge computing.



Predictive Analytics:

Flag potential delays early for proactive decision making. Customized KPIs (Key Performance Indicators) allow every user to pursue their specific goals, while contributing to a shared vision of smoother turnarounds.



Dynamic Decision Making:

Send stakeholders status information on whether a task is completed or delayed. With real-time status updates, stakeholders are empowered to make proactive decisions after evaluating on-time risks.



Why EMMA TMS ?

EMMA TMS eliminates manual delays, improves decision-making, and enables continuous operational improvement across the airport ecosystem.

Information Broker (IB)

Seamless Data Sharing

EMMA Information Broker enables real-time and simultaneous information sharing across airport stakeholders. When disruptions occur, it ensures all partners including ATC, gate management, ground handlers, fueling, catering, and security receive immediate updates to adjust plans dynamically. By synchronizing data instantly, it helps airports allocate resources efficiently, maintain smooth operations, and enhance the overall passenger experience through timely communication and coordination.

How can your airport stay future-ready as systems evolve?

Purpose-built, easy to deploy, flexible to scale as you grow

Easy Integration:

- Unifies disparate airport systems for seamless data flow and consistent communication across platforms
- Connects all operational systems under one unified environment

Future-proof Protocols

- Supports protocols like X25, TCP/IP, and modern message formats like XML to ensure compatibility with legacy and future systems
- Future-proofs airport operations by adapting to evolving technologies

Flexible Configuration

- User-friendly tools simplify integration setup, and adapt quickly to operational needs with minimal disruption
- Dynamic configuration empowers IT teams to adapt seamlessly

Technical feature snapshot

Real-time data processing, incorporates AI



Robust integration bridge gets, analyzes and prioritizes data from various sources



Open-source application stack, free of third-party licensing



Web-based, easy to deploy



Message and queue persistence when failure occurs during message processing



Durable subscription to prevent message loss



Total Airport Management (TAM)

Predictive. Adaptive. Resilient.

EMMA's Total Airport Management solution creates a unified, data-driven view of airport operations. By combining predictive insights with a virtual, dynamic airport model, TAM enables smarter, faster decision-making across all stakeholders. It helps airports optimize runway use, streamline passenger flow, manage irregular operations proactively, and advance sustainability goals. Through KPI-based resource allocation and real-time visibility, TAM minimizes disruptions, reduces congestion, and drives operational and energy efficiency across the entire airport ecosystem.

Why Airports Need Total Airport Management Now



Transformative technologies are driving TAM

- **Digital twin** for predictive analytics
- **Artificial Intelligence (AI) & Machine Learning (ML)** for operational optimization
- **IoT & Smart sensors** for passenger flow and asset tracking
- **Cloud-based platforms** for data integration and decision support

Airport Acumen Portal (AAP)

Shared Knowledge. Smarter Airports.

The Airport Acumen Portal is a central hub for all airport management knowledge and data. It allows users to browse and search glossaries, KPIs, data models, and reports all in one place. Through standardized definitions, benchmarking tools, and performance comparisons, airports can analyze, learn, and enhance their operations. The portal also fosters collaboration by enabling professionals to contribute insights, share best practices, and engage with peers across the aviation community, driving continuous improvement and smarter airport performance.

Because together, we can achieve more

Industry-wide consistency

Standardized terminology for airport management

Seamless data integration

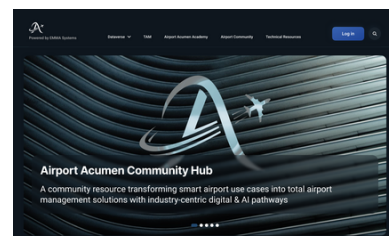
Data models and structures aligned to industry

Universally accepted performance metrics

Defined KPIs, Metrics & Reports

Next-level collaboration

Dynamic space for sharing knowledge and industry best practices





What Sets Us Apart

EMMA Systems is purpose-built for airports. Every part of our platform, every service we offer, and every implementation we deliver is shaped by real operational needs and stakeholder collaboration.

Airport-Specific Expertise: Deep understanding of airport operations, developed through hands-on experience and close collaboration with airports around the world.

Proven Results Across Three Continents: Successful implementations in Europe, Asia, and Africa, with measurable improvements in efficiency, coordination, and predictability.

End-to-End Support: From stakeholder training and CONOPS alignment to deployment and optimization, EMMA delivers full-cycle support tailored to each airport.

Human-Centric, Flexible Platform Design: Modular and intuitive systems designed around users, not just processes, capable to fit local requirements and future growth.

Seamless System Integration: The EMMA Platform ensures smooth integration with existing airport systems, eliminating silos and improving real-time coordination.

Let's transform your airport together

Contact us today for a demonstration
marketing@emma.aero | www.emma.aero | Finland | Qatar | U.S.A
<https://emma.aero/>

The logo for EMMA, featuring a stylized blue 'E' followed by the lowercase letters 'mma' in a bold, sans-serif font.