Runway to the Future

4th Call4Startups | The challenges

AEROPORTI DI ROMA

Runway to the Future ADR 2025

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ASSET INTELLIGENCE & PREDICTIVE MAINTENANCE

Solutions to **MONITOR**, **ANALYZE AND OPTIMIZE** the management and maintenance of **CRITICAL ASSETS**, reducing downtime and **IMPROVING OPERATIONAL EFFICIENCY**

OPERATIONS

ROBOTICS & AUTONOMOUS OPERATIONS

Innovative solutions to **AUTOMATE AND OPTIMIZE AIRPORT PROCESSES** through the use of **ROBOTICS** and **AUTONOMOUS SYSTEMS**

OPERATIONS

AUTOMATION AND AI FOR CONSTRUCTION MANAGEMENT

Innovative solutions to **DIGITALIZE THE DESIGN**, development and management of airport infrastructures, **OPTIMIZING PROCESSES**, **SAFETY AND COMPLIANCE**

INFRASTRUCTURES

DATA INTELLIGENCE FOR PAX EXPERIENCE & RETAIL MANAGEMENT

Advanced technologies to **REVOLUTIONIZE THE SHOPPING AND PASSENGER EXPERIENCE** at the airport, through real-time data analysis, personalization, and **NEW MODES OF INTERACTION**

QUALITY & COMMERCIAL

ROAD TO NET ZERO: SUSTAINABILITY SOLUTIONS

Innovative technologies to **ACCELERATE SUSTAINABILITY PERFORMANCE** through **DECARBONIZATION**, **RENEWABLE ENERGY**, and **CIRCULAR ECONOMY**

SUSTAINABILITY

ENTERPRISE AI TRANSFORMATION

AI and GenAI solutions to **OPTIMIZE CORPORATE PROCESSES**, automate tasks, and **SUPPORT DATA-DRIVEN DECISIONS**

ENTERPRISE AI

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Challenge	Short Description
ASSET INTELLIGENCE & PREDICTIVE MAINTENANCE	**Solutions to monitor, analyze, and optimize the management of critical assets, reducing downtime and improving operational efficiency**

Deep dive

We are looking for innovative solutions that address the following areas:

- **IoT & DATA COLLECTION:** Tools for collecting data from currently unmonitored assets (e.g., VUDs, automatic doors, lighting towers, electrical cabins, lighting points, etc.)
- **DATA ANALYSIS:** Data analytics tools to process IoT data and generate insights aimed at improving predictive maintenance and the operational performance of airport assets.
- **BUILDING MANAGEMENT SYSTEM:** Integrated solutions for the digital management of buildings, with functionalities including system monitoring, preventive maintenance, energy control, security, and fire prevention, all within a single interface.
- **AS BUILT DOCUMENTATION DIGITALIZATION:** Technologies for automatically digitizing and tracking technical documentation of systems, to facilitate their management.
- **ASSET OPERATIONAL PERFORMANCE OPTIMIZATION:** Solutions capable of effectively monitoring and analyzing asset performance, with the goal of improving efficiency, reducing downtime, and supporting data-driven maintenance decisions.

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Challenge	Short Description
ROBOTICS & AUTONOMOUS OPERATIONS	**Innovative solutions to automate and optimize airport processes through the use of robotics and autonomous guided systems**

Deep dive

We are looking for innovative solutions that address the following areas:

- **AUTONOMOUS CLEANING SOLUTIONS:** Advanced robotic solutions to automate cleaning activities in the airport, improving operational efficiency, intervention traceability, and centralized asset management
- **AUTONOMOUS AIRSIDE VEHICLES:** Autonomous driving solutions for the transfer of luggage, cargo, and passengers in the airside area
- **ROBOT CONCIERGE OR MOBILE ASSISTANTS:** Voice/multilingual interaction for automated passenger information management
- **AUTONOMOUS CHARGING FOR ELECTRIC VEHICLES:** Mobile robots that automatically connect to parked vehicles for EV charging
- **WORKFORCE MANAGEMENT:** Workforce Management (WFM) solution to efficiently manage the workforce, optimizing staff allocation.

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Challenge	Short Description
AUTOMATION AND AI FOR CONSTRUCTION MANAGEMENT	**Innovative solutions to digitalize the design, development, and management of airport infrastructures, optimizing processes, safety, and compliance**

Deep dive

We are looking for innovative solutions that address the following areas:

- **DATA INTEGRATION AND MANAGEMENT:** Solutions that enable integrated management of the entire workflow, from concept to delivery, unifying the BIM model with cost and time analysis.
- **COST AND DEVIATION CONTROL:** AI and Mixed Reality solutions to detect in real-time deviations and clashes between the digital model of an asset and the actual asset, simplifying the management of complex data and improving cost control and verification.
- **COMPLIANCE:** AI-based digital solutions to support rapid and automated verification of the compliance of design documents with regulations and company procedures, aiming to reduce risks and accelerate approval processes.
- **AI GENERATIVE RENDERING:** Generative AI solutions that, through natural language, enable the development of renderings in line with the company's style, automatically generating realistic visualizations of spaces with branded elements, standardized materials, and layouts.
- **DIGITAL CONSTRUCTION MANAGEMENT:** Digital solutions for the planning, management, authorization, and control of construction sites in terminal and airside areas, with the goal of improving coordination, safety, and activity traceability.

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Challenge	Short Description
DATA INTELLIGENCE FOR PAX EXPERIENCE & RETAIL MANAGEMENT	**Advanced technologies to revolutionize the shopping experience and passenger experience at the airport, through real-time data analysis, personalization, and new modes of interaction.**

Deep dive

We are looking for innovative solutions that address the following areas:

- **GAMIFICATION & ENTERTAINMENT:** Solutions aimed at enhancing the passenger experience by making time spent at the airport more engaging.
- **SMART WAYFINDING:** Advanced asset management solutions to monitor and centrally manage dynamic information and wayfinding systems, including in the event of operational disruptions.
- **DIGITAL SERVICES:** Intelligent solutions to monitor the performance of digital services in real time across multiple channels, using advanced dashboards and proactive alerting systems based on AI and chatbots, enabling rapid intervention in case of anomalies.
- **INTERACTIVE PASSENGER ENGAGEMENT**: Digital and immersive solutions to engage passengers in airport shopping areas, increasing the attractiveness of the retail offer and driving traffic to stores through interactive and engaging experiences.
- **ACCESSIBILITY:** Technologies to improve the accessibility of airport services for people with disabilities or reduced mobility.
- **AI FORECASTING TRAVEL RETAIL:** Predictive solutions for analyzing sales and behaviors in travel retail, aimed at creating a personalized customer journey with real-time offers.
- **PRICING INTELLIGENCE FOR TRAVEL:** Technology for dynamic monitoring and comparison of product prices sold within the airport (retail and F&B), capable of integrating data from other sales channels (e-commerce, external physical stores, large-scale retail).

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Challenge	Short Description
ROAD TO NET ZERO: SUSTAINABILITY SOLUTIONS	**Innovative technologies to accelerate sustainability performance through decarbonization, renewable energy, and circular economy.**

Deep dive

We are looking for innovative solutions that address the following areas:

- **DECARBONIZATION SOLUTIONS:** Solutions to reduce CO_2 emissions from airport operations, focusing on SAF (Sustainable Aviation Fuel), ground process optimization, and technologies for sustainable mobility.
- **ENERGY TECH:** Systems for the production, storage, and intelligent management of energy from renewable sources, including solutions for improving the energy efficiency of airport buildings.
- **SUSTAINABLE MOBILITY:** Solutions to enhance intermodality, promote electric mobility, optimize transport connections, and develop smart parking systems for passengers and employees.
- **CIRCULAR ECONOMY:** Technologies to optimize waste management, implement sustainable packaging, and develop eco-friendly materials for airport construction and infrastructure.
- **EMISSIONS:** Solutions for measuring non-CO_2 pollutant emissions (e.g., NOx, PM, SOx, etc.) in the atmosphere near the airport area.
- **NOISE POLLUTION:** Solutions to measure, monitor, and reduce the environmental impact of airport activities, focusing on air quality and noise abatement.

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Challenge	Short Description
ENTERPRISE AI TRANSFORMATION	**AI and GenAI solutions to optimize internal processes, automate tasks, support data-driven decision-making, and improve operational efficiency.**

Deep dive

We are looking for innovative solutions that address the following areas:

- **GEN AI AUTOMATION:** Solutions to automatically compare SAL (Work Progress Status) data with accounting records, identify discrepancies, and generate payment certificates.
- **FEEDBACK AUTOMATION:** Solutions that enable the automation of passenger feedback collection and analysis activities.
- **AI CONTENT CREATION:** Technologies for automatically generating content, multichannel publishing, media impact analysis, drafting of press releases with GenAI, virtual media assistants, and tools for real-time reputation monitoring.
- **AI-POWERED HR:** Advanced solutions to optimize HR processes such as recruitment, coaching, and employee development.§
- **AI SEO OPTIMIZATION:** AI solutions to optimize SEO content through keyword analysis, competitor research and search intent analysis, personalized content generation and search engine ranking improvement
- **TRAINING & UPSKILLING:** Innovative solutions for staff training (gamification, VR/AR, microlearning).