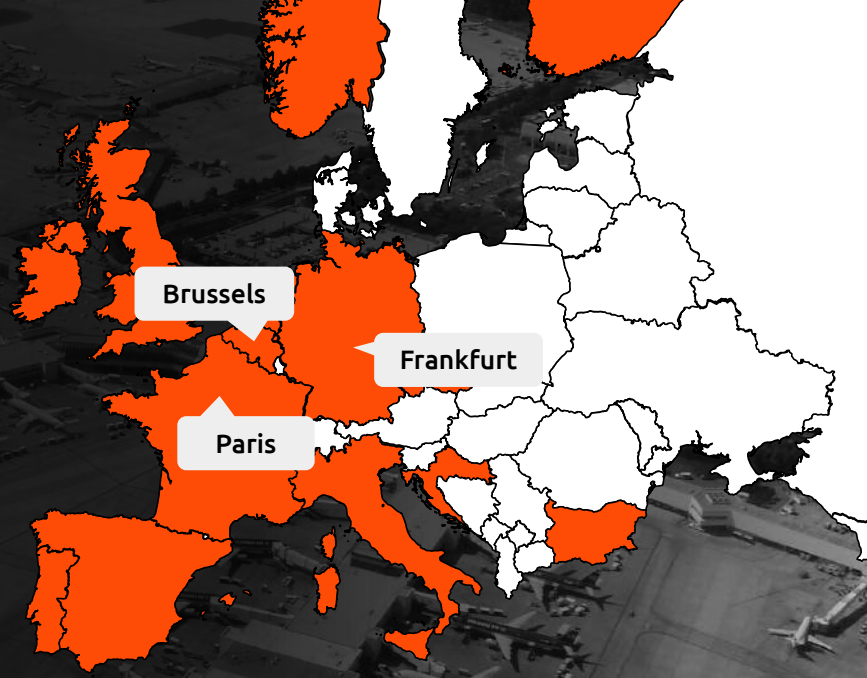

firecell
PADERBORN
LIPPSTADT
AIRPORT
Automating ground traffic
at Paderborn Airport.
36,999 flights
818,378 passengers

Airports 5G Deployments & Results



Frankfurt Airport

Use Cases : Autonomous apron vehicles, live video inspections, IoT-enabled runway lighting.
Impact : 25% faster aircraft turnaround, 15% reduction in ground incidents.

Brussels Airport

Use Cases : Automated luggage tracking, drone-based perimeter security, connected staff radios.
Impact : 20% reduction in lost baggage claims, €600k annual savings on security ops.

Paris Airports (France – CDG, Orly, Le Bourget)

Use Cases: Real-time staff comms, baggage tracking, smart maintenance alerts.
Impact : 12% faster boarding processes, improved on-time departure rates by 8%.

AEM-Speedport project

Greener, faster & more effective airport operations

AEM SPEEDPORT
AUTONOMOUS EFFICIENT MOBILITY IN AVIATION

Goal: move aircrafts autonomously, without their own engines, from the gate to the runway and back again after landing.

- avoid unnecessary engine running to reduce fuel consumption & reduce CO_2 emissions
- increase safety
- reducing handling times

Airports
Operational Challenges Today

Fragmented connectivity between terminals, tarmacs and remote stands (Wi-Fi dead zones).

Unreliable communications for core operations (pushback, baggage handling, fuel trucks).

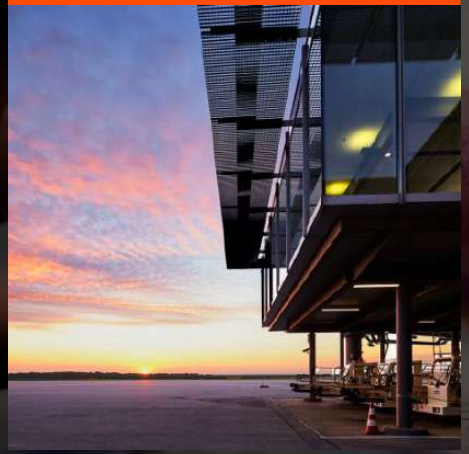
Inefficient asset tracking causing delays and lost equipment.

High OPEX from cabling, network maintenance, and downtime.

Automation

To gain efficiency

Automated boarding bridges



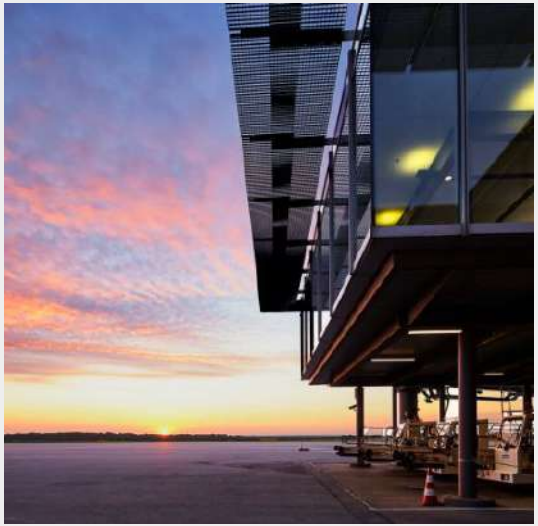
Automated Airplane Towing

Advanced Visual Docking

FastGate: automation of passenger boarding bridges for smarter apron

Use case - Automated passenger boarding bridge that recognises where it needs to dock efficiently, safely and in a resource-saving manner thanks to AI + sensors.

Benefits - reduce embarking delays, operating costs, and carbon & noise emissions



Automated Airplane Towing

Use case - Self-driving vehicle takes control of aircraft pushback, so engines remain off, avoiding jet blast, reducing fuel use & emissions.

Remotely guided or fully autonomous at the apron.

Benefits - increase airport's efficiency & reduce environmental impact.

Advanced Visual Docking Guidance System, towards automated aircraft docking

Use case - 3D laser scanning & visual displays guide aircrafts to the gate, replacing manual marshallers and automating tasks like steering cues, crew alerts, and boarding bridge alignment.

Benefits - optimize taxiing, docking & pushback procedures.

Powered by Firecell 5G network

Ultra low latency

For the tug's sensors & video feeds, ensuring safe & precise aircraft movements, while guaranteeing uninterrupted data exchange for the docking guidance system.

✅

5G Core Network redundancy

To ensure fault-tolerant operation and high availability for fast, secure, and uninterrupted connectivity against potential disruptions.

✅

Traffic slicing

Ensuring critical control signals for pushback and docking always take priority over less urgent data.

✅

Secure connectivity

Based in certificates for high grade authentication and encryption of all communications

✅

Experts in industrial 5G

Secure Industrial Connectivity

to manufacturing & logistics companies throughout Europe.

120 clients in Europe, US, Japan

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Thank you.