

# Expandium SAS - France

## S2R Pitch Presentation

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R&D

ERTMS MONITORING

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# S2R-OC-IPX-01-2019: ARTIFICIAL INTELLIGENCE (A.I.) FOR THE RAILWAY SECTOR

## Company Profile:

Expandium SAS established in France in 2005

Specialized in ERTMS QoS monitoring with QATS Solution

In 2019:

16 customers in 20 countries in Europe, Africa & Middle East

+ 50 employees – 70% dedicated to R&D

+ 7 M€

<https://www.expandium.com/about-us/>

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Product / Solution

Expandium Solution provided **Machine Learning solution** for:

**Predict Train delay** on ETCS L2 lines with or without Railway Operator Time Table – Target: Improve Capacity / Efficiency & Performance

**Predictive Maintenance** on Railway Telecom elements: OBU, Antennas, BTSs – Target: Reduce Human Errors / Supervision

Train follow up for Invoicing purpose – Target: Improve Capacity / Efficiency & Performance

<https://www.expandium.com/railway-solutions/>

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Research & Development

Collaboration with Infrabel in Belgium to develop GSM-R Simulator

The tool allows Infrabel to simulate the impact on the Railway traffic in changing Telecom specifications like shutting down and antenna (to simulate an elements under maintenance).

Data integration from weather conditions, Traffic Management, Telecommunications, Signalling and Rolling Stock.

Target: Reduced complexity, simplified and interoperable interfaces

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## Project Idea

Integration of different set of data for predictive maintenance purposes with the minimum interaction of Human Resources.

Detect Cybersecurity intrusion from Telecom Department to IP networks