# Italian SME seeks strategic partners for AI-driven IoT solutions in infrastructure monitoring and predictive maintenance across sectors such as transportation, smart cities, and energy

## Summary

| Profile type | Company's country | POD reference |
|---|---|---|
| **Technology offer** | **Italy** | **TOIT20250325008** |

| Profile status | Type of partnership | Targeted countries |
|---|---|---|
| **PUBLISHED** | **Commercial agreement with technical assistance** | • **United Arab Emirates** <br> • **South Korea** <br> • **Saudi Arabia** <br> • **Japan** <br> • **Germany** <br> • **United States** |

| Contact Person | Term of validity | Last update |
|---|---|---|
| **Noriko MITA** | **25 Mar 2025** <br> **25 Mar 2026** | **25 Mar 2025** |

## General Information

### Short summary

Italian SME specializing in AI-driven IoT and Big Data developed a platform that transforms IoT data into actionable insights using advanced AI, ML, and Deep Learning algorithms. Applications include infrastructure monitoring, predictive maintenance, and smart mobility. The main advantage is real-time analytics for improved decision-making. The company seeks strategic partners for technology integration, joint development, and market expansion.

### Full description

The Italian SME specializes in Artificial Intelligence (AI), Internet of Things (IoT), and Big Data solutions. Founded to address the increasing demand for intelligent data-driven decision-making, the company has positioned itself as a leader in AI-powered IoT platforms for critical infrastructure monitoring.

The company has extensive expertise in AI, Machine Learning (ML), and Deep Learning, developing cutting-edge technologies that transform IoT-generated data into actionable insights. It serves key industries such as transportation, smart cities, energy, and structural health monitoring. Its platform is used by major multinational

companies managing essential infrastructure like railways, highways, and urban mobility systems.

It has also expanded its capabilities with an integrated, customized version of Jupyter for advanced analytics, allowing real-time monitoring, diagnostics, and remote management of IoT devices. This solution supports predictive maintenance, anomaly detection, and operational optimization.

With a strong R&D foundation and continuous investment in AI-driven solutions, the company is committed to shaping the future of smart infrastructure and industrial digitalization.

Its technology addresses the critical challenge of real-time monitoring and predictive maintenance in complex infrastructure systems. Traditional monitoring methods rely on periodic inspections and reactive maintenance, which can lead to inefficiencies, increased costs, and potential safety risks. The company's AI-powered IoT platform overcomes these limitations by providing continuous, automated monitoring with predictive analytics.

Main Features and Technical Aspects
• Real-Time Data Processing: the platform collects, processes, and analyzes IoT sensor data from various sources, ensuring real-time insights.

• AI & Machine Learning Algorithms: the system uses predictive models to detect anomalies, forecast failures, and optimize asset performance.

• Customizable & Scalable: the technology integrates with diverse IoT devices, supporting various connectivity protocols and industry standards.

• Cloud & Edge Computing: a hybrid architecture ensures fast data processing both on-premise and in the cloud, enhancing security and reliability.

• User-Friendly Interface: the interactive dashboard, powered by an AI-enhanced Jupyter environment, provides intuitive visualization and analytics.

Innovative Aspects
• AI-Driven Predictive Maintenance: Reduces downtime and operational costs by forecasting potential failures before they occur.

• Multi-Layered Data Integration: Unifies data from different devices and infrastructures into a single intelligent system.

• Automated Decision Support: Assists operators with AI-generated recommendations, enhancing efficiency and response times.

Advantages and innovations

The Italian SME offers an advanced AI-powered IoT platform that significantly improves infrastructure monitoring and predictive maintenance. Unlike traditional solutions, which rely on periodic inspections and manual data analysis, its technology enables real-time monitoring, predictive analytics, and automated decision-making, leading to substantial efficiency gains and cost savings.

4 Key Advantages
AI-Driven Predictive Maintenance
• Traditional systems react to failures after they occur, causing costly downtime. The platform anticipates failures using Machine Learning (ML) models trained on historical and real-time sensor data.
• Reduction of unexpected failures by up to 40%, lowering maintenance costs and improving safety.

Multi-Source Data Integration & Scalability
• Many existing solutions are limited to specific device types or connectivity protocols. The platform supports heterogeneous IoT devices and integrates multiple communication standards (LoRaWAN, NB-IoT, 5G, etc.).
• It is capable of handling millions of data points per second, ensuring scalability for large infrastructure networks.

Hybrid Cloud & Edge Computing Architecture
• Unlike cloud-only solutions that introduce latency, the company uses a hybrid approach, processing critical data on edge devices while leveraging cloud analytics for deeper insights.
• Reduces data transmission costs by 30% and enhances response time in latency-sensitive applications.

Interactive AI-Powered Jupyter Environment
• The company's customized Jupyter integration provides an interactive and flexible AI-based analytics environment.
• It enables domain experts to create custom AI models and dashboards without extensive programming knowledge.

Technical specification or expertise sought

Stage of development

**Already on the market**

IPR Status

**No IPR applied**

IPR Notes

Sustainable Development goals

• **Goal 9: Industry, Innovation and Infrastructure**

# Partner Sought

Expected role of the partner

The company is actively seeking international partnerships to foster innovation, exchange expertise and expand the adoption of AI-powered IoT solutions worldwide. The ideal cooperation models include:

• Technology Integration Partnerships: collaborating with IoT platform providers, industrial automation firms, and smart infrastructure developers to integrate the company's AI-driven analytics into existing solutions.

• Joint Development & Research Projects: engaging with research institutions, universities, and innovation hubs to advance AI applications in predictive maintenance and smart mobility.

• Commercial Agreements & Market Expansion: partnering with companies seeking to deploy this technology in new geographical markets, particularly in the transportation, energy, and smart city sectors.

Type of partnership

**Commercial agreement with technical assistance**

Type and size of the partner

• **SME 11-49**

• **SME 50 - 249**

• **R&D Institution**

• **SME <=10**

• **University**

• **Big company**

# Dissemination

Technology keywords

• **01003025 - Internet of Things**

• **02010003 - System and transportation**

• **02008006 - Traffic Engineering / Control Systems**

• **01003003 - Artificial Intelligence (AI)**

• **02006005 - Construction maintenance and monitoring methods & equipment**

Market keywords

• **02007016 - Artificial intelligence related software**

• **08002007 - Other industrial automation**

• **02006005 - Big data management**

Targeted countries

Sector groups involved

- **United Arab Emirates**
- **South Korea**
- **Saudi Arabia**
- **Japan**
- **Germany**
- **United States**