

TECH OFFER

Integrated Smart Infrastructure Management Platform



KEY INFORMATION

TECHNOLOGY CATEGORY:

Energy - Sensor, Network, Power Conversion, Power Quality & Energy Management

Environment, Clean Air & Water - Sensor, Network, Monitoring & Quality Control Systems

Green Building - Sensor, Network, Building Control & Optimisation

Infocomm - Smart Cities

Infocomm - Operating Systems

TECHNOLOGY READINESS LEVEL (TRL): **TRL8**

COUNTRY: **CHINA**

ID NUMBER: **TO175462**

OVERVIEW

The Integrated Smart Infrastructure Management Platform is an AI-powered software solution that functions as the digital command center for smart buildings and large-scale facilities. It connects and manages diverse IoT devices and subsystems, including HVAC, lighting, security, and energy, within a unified digital environment.

Through real-time data integration, AI-driven predictive analytics, and cross-system automation, the platform enables seamless

monitoring and intelligent control of infrastructure operations. It addresses key challenges such as data silos, delayed responses, high energy consumption, and inefficient maintenance, helping organizations enhance operational resilience and sustainability. Designed for complex operational environments such as campuses, data centers, hospitals, and industrial parks, the platform transforms fragmented systems into a cohesive, adaptive, and energy-efficient ecosystem that empowers facility managers to make faster, data-driven decisions.

Ideal collaboration partners include property developers, public infrastructure operators, system integrators, and smart building solution providers who are seeking to localize or enhance their digital operations capabilities.

TECHNOLOGY FEATURES & SPECIFICATIONS

Built on a cloud-native microservices architecture, the platform is scalable, secure, and suitable for hybrid or multi-cloud deployment.

Key features include:

- **AI-based Predictive Maintenance:** Detects and resolves equipment anomalies before failures occur.
- **Unified Data Layer:** Collects, fuses, and visualizes real-time data from multiple systems and IoT devices.
- **Open API Ecosystem:** Integrates seamlessly with third-party platforms, sensors, and legacy equipment.
- **Low-Code Automation Tools:** Enables intuitive workflow orchestration without extensive programming.
- **Energy Intelligence Suite:** Monitors and forecasts energy usage while recommending optimization strategies.
- **Secure & Reliable Operation:** Includes fine-grained access control, multi-level alerts, and hot-upgrade capability for continuous service.

By consolidating operational data and control logic, the platform delivers a unified digital environment for intelligent facility management and decision-making.

POTENTIAL APPLICATIONS

The platform is ideal for organizations pursuing digital transformation, energy efficiency, and operational excellence in infrastructure management.

Key application areas include:

- **Green Data Centers:** Optimize power efficiency (PUE) and ensure predictive maintenance.

- Smart Hospitals: Manage environmental safety, equipment reliability, and energy consumption.
- Industrial Facilities: Support production reliability, predictive maintenance, and carbon reduction.
- Urban Infrastructure: Enable city-level collaboration and integrated asset management.
- Retail & Hospitality Chains: Standardize and centralize multi-site operational management.

Across these domains, the solution provides the foundation for sustainable, intelligent, and cost-effective operations.

UNIQUE VALUE PROPOSITION

The Integrated Smart Infrastructure Management Platform transforms facility operations from reactive maintenance to proactive intelligence. Unlike conventional systems that monitor each subsystem independently, it unifies all assets and data under one AI-enabled management layer.

Its unique strengths include:

- Real-Time Situational Awareness: Continuous data collection and visualization across all subsystems.
- Predictive Intelligence: AI algorithms forecast faults and optimize performance.
- Cross-System Collaboration: Automated responses that link previously siloed systems.
- Energy & Cost Optimization: Smart control logic reduces resource waste and operating expenses.
- Open & Scalable Architecture: Supports extensive customization and partner ecosystem growth.

This comprehensive, future-ready solution helps organizations achieve greater reliability, sustainability, and operational efficiency, while creating opportunities for new service and technology partnerships.