On Key Connect

Empowering smarter asset management
with realtime data and seamless integration

verdantix
Green Quadrant
Enterprise Asset
Management Software
Leader
2024

The key component for an asset management system

On Key Connect is a flexible Industrial Internet of Things (IIoT) platform that connects physical assets with digital twins, allowing organisations to optimise their asset management strategies.

Integrating seamlessly with our core Enterprise Asset Management System (EAMS), On Key Connect facilitates realtime data collection, tracking, and condition monitoring.

This all-encompassing solution is tailored for asset management, leveraging sensors, EDGE devices, and technologies like IIoT gateways, data lakes, and Business Intelligence (BI) systems to enhance asset visibility and decision-making.

With On Key Connect, your asset management strategy becomes smarter, safer, and more efficient, leveraging the power of IIoT for optimal asset performance and long-term success.

Key features

► **Standard protocol support:** On Key Connect supports a wide range of device protocols, including Modbus, MQTT, and LoRa, ensuring compatibility with various industrial devices.

► **IIoT software deployment:** The software can be deployed on Linux servers or physical gateways, with cloud intelligence at the edge, such as AI or custom business logic.

► **Cloud hosting flexibility:** Host the solution on your Azure subscription or let On Key Software Solutions manage it. We offer a single-tenant architecture to ensure exceptional security, performance, and customisation ability.

► **Realtime dashboards:** Access a dynamic dashboard that visualises IIoT and EAMS data, offering deep insights into asset conditions and performance metrics.

► **Data lake access:** Use sensor data stored in a data lake to conduct your analytics and enhance your asset management strategies with data-driven insights.

► **Customisable service options:** Choose between managing the solution independently or subscribing to our application service, where our experts assist with software configuration, device provisioning, and entity mapping for EAMS integration.

Reaping the benefits

► **Realtime monitoring**: Continuously gather live data on asset performance, including critical metrics like temperature, pressure, vibration, and usage. Immediate identification of anomalies or potential issues enhances response times.

► **Condition-based maintenance**: Our Industrial Internet of Things (IIoT) solution enhances condition-based maintenance by continuously monitoring equipment health through sensors. These sensors collect realtime data on critical parameters. When sensor readings exceed predefined thresholds, our system triggers immediate alarms to alert maintenance teams. This approach ensures timely intervention, minimises downtime and maintains optimal operational efficiency without the need for complex data analysis.

► **Optimised resource allocation**: Use actual usage data to better allocate resources, including energy consumption and labour, improving asset productivity and reducing waste.

► **Enhanced safety and compliance**: Continuous monitoring of safety-critical parameters triggers alerts for unsafe conditions, helping you ensure compliance with safety regulations and minimise risks to personnel and assets.

► **Data-driven decision making:** With vast amounts of data at your fingertips, you can optimise asset performance, allocate budgets efficiently, and plan future investments with better precision.

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Unlock the power of IIoT for proactive maintenance and optimised performance

Addressing your concerns

- **Integration complexity:** On Key Connect seamlessly integrates with your On Key EAMS, providing a unified solution that enhances tracking, monitoring, and condition-based maintenance without disrupting current operations.

- **Realtime data accessibility:** Realtime data analysis is key to improving asset management. On Key Connect bridges the gap by delivering instant access to sensor data, empowering better decision-making.

- **Unplanned downtime:** On Key Connect helps anticipate equipment failure, significantly reducing unplanned downtime and enhancing asset lifespan.

- **Data overload:** On Key Connect stores data following good unified namespace practices, which means all data from various sources is integrated into a single, cohesive namespace. This approach ensures that data is easily accessible, consistent, and organised, regardless of origin.

- **Customisation and flexibility:** With customisable deployment options and tailored services, On Key Connect ensures the solution is adaptable to your unique operational needs, whether managed independently or through our expert application service.

Application example | Generator monitoring

Application

Remotely monitor generator health by gathering realtime data from existing sensors. This allows for automatic notifications regarding refuelling, maintenance, and alarm responses. Additionally, the data is analysed to produce monthly reports for clients.

Sensor and gateway technology

- Teltonika gateway device used for data collection and transfer to cloud
- GSM / Wi-Fi used for connectivity
- Interfaced to generator controllers via RS485/RS232/ ethernet port using the Modbus RTU or Modbus TCP protocol
- MQTT protocol used for edge-to-cloud
- Supported controller brands: DeepSea, InteliLite, SmartGen
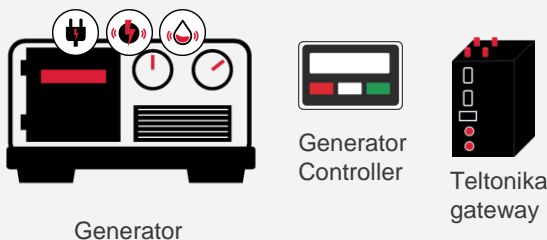
Generator

Generator Controller

Teltonika gateway

Work management

- Data ingested into Monitoring Points and Meters
- Triggers configured for alarms
- Alarm notifications – SMS / email / Telegram

Connect portal

- Standard generator template
- Selective telemetry
- On Key entity mapping

Connect edge

- Virtual Gateway installed on Cloud server (Linux)
- MQTT Module - data translation
- Drivers for Generator controllers

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Application example | Smart water meter reading

Application
Remotely read water metering data from existing traditional water meters to manage and increase the efficiency of water usage.

Sensor and gateway technology
- Milesight EM300-DI wireless and battery-operated sensors using the LoRaWAN protocol
- Milesight UG65 LoRaWAN Gateway used for data collection and transfer to LoRa Network Server (LNS) using GSM / wifi / ethernet

Other applications
- Agriculture irrigation
- Industrial water usage

Facility   Wireless pulse counter sensor   LoRaWAN Gateway

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Work management
- Data ingested into monitoring points and meters
- Triggers configured for alarms
- Alarm notifications – SMS / email / Telegram

Connect portal
- Standard device template
- Temperature and humidity telemetry
- On Key entity mapping

LoRa network server
- Connectivity and security management
- Device management
- Data decoding
- Data routing to "Connect portal"
- Scalability

Application example | Condition monitoring of electrical assets

Application
Remotely monitor the condition of medium voltage (MV) assets such as switchgear boards, transformers, motors, reactors, and generators by measuring partial discharge (PD) levels on the asset's components.

Sensor and gateway technology
- PD equipment and sensors
- Modbus TCP protocol over ethernet network
- Virtual gateway software installed on a Linux server on the same network

MV Assets   Partial Sischarge sensors   Data acquisition unit

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Work management
- Data ingested into Monitoring Points and Meters
- Triggers configured for alarms
- Alarm notifications – SMS / email / Telegram

Connect portal
- Standard device template
- Temperature and humidity telemetry
- On Key entity mapping

Connect edge
- Virtual Gateway installed on a cloud server (Linux)
- Modbus module - data translation
- Multiple slave devices on one gateway

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