Metco™ IIoT
You can only manage what you can measure

Create more value from your thermal spray systems with Metco™ IIoT. Connect your thermal spray systems to an Industry 4.0 platform and build the foundation for data analysis and monitoring.

1 General Description

Oerlikon Metco IIoT enables you to improve your production process and enables an easier, faster and more efficient operation. Your company benefits from access to machine data improving availability, reducing scrap rate and increasing throughput.

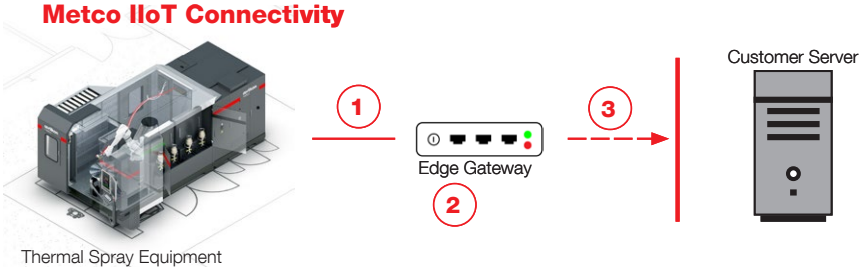
- Possibility to consolidate process related machine data from one or multiple systems for easy access
- Access to raw data for further analysis in case of quality issues
- No need to physically access one or multiple machines
- Enables customers to locally store and centralize data to extract raw data for historical analysis and quality control purposes, or optionally in the Metco IIoT cloud service.

Metco IIoT allows transmission of relevant process data using OPC UA protocol.
The following data [a] is transmitted in one second intervals:

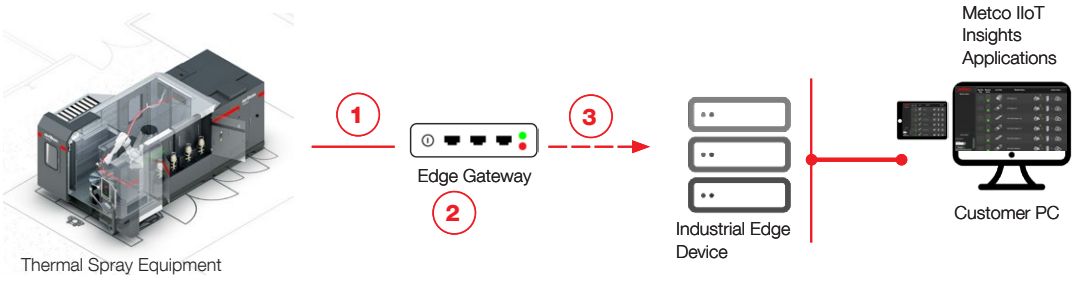
- Current
- Voltage at power supply
- Voltage at gun
- Power (net)
- Primary process gas flow
- Secondary process gas flow
- Shroud gas flow
- Cooling gas flow
- Cooling water flow
- Cooling water conductivity
- Kerosene back pressure
- Air jet
- Silvent air knife
- Feeder carrier gas
- Feeder hopper pressure
- Feeder vibrator pressure
- Feeder disk speed
- Feeder stirrer speed
- Feeder powder flow
- Machine status
- Info, warning and alarm messages, machine statuses

[a] available data dependent on actual system configuration

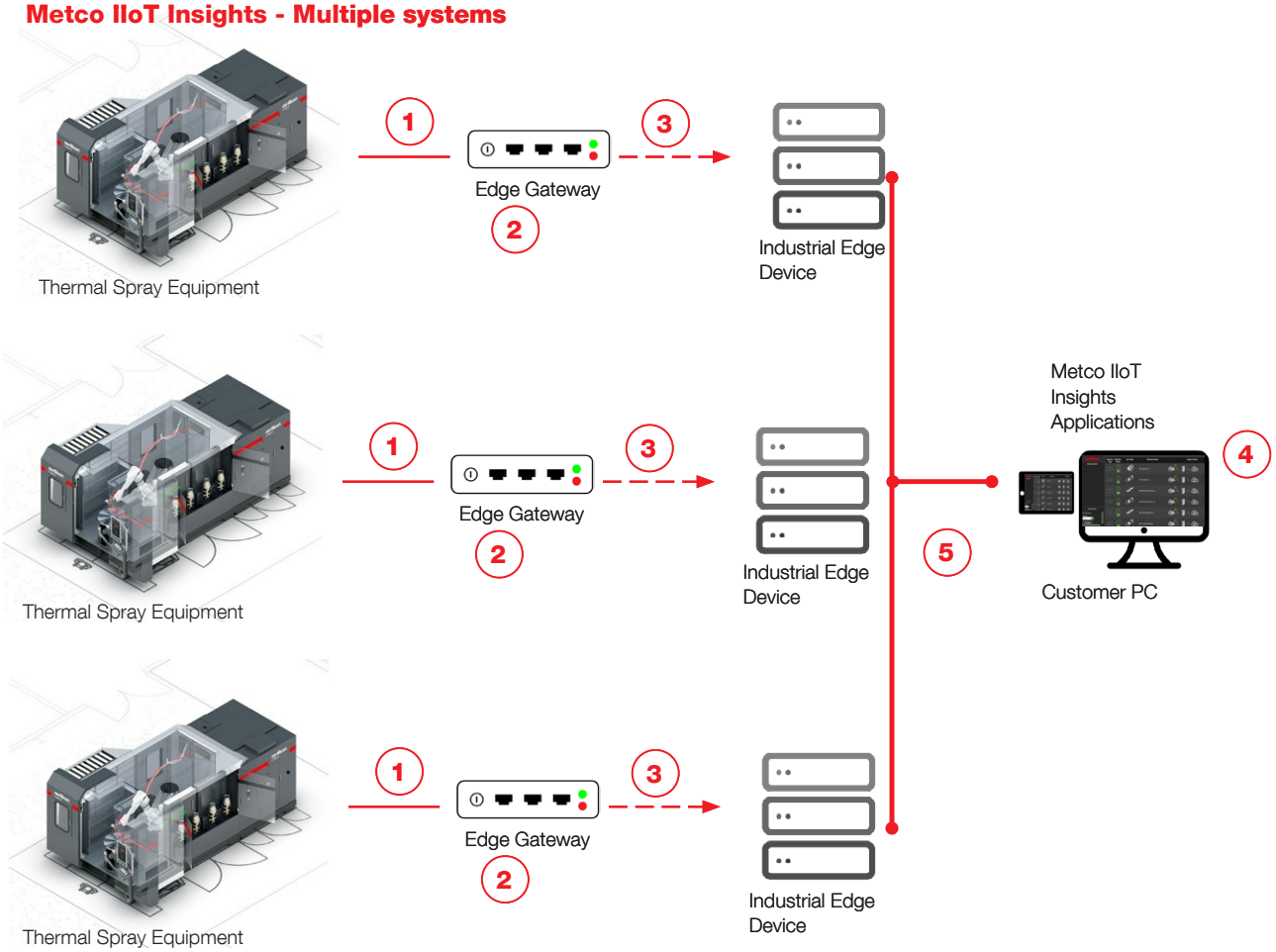
Metco IIoT Connectivity



Metco IIoT Insights - Single system



Metco IIoT Insights - Multiple systems



1. HTTPS protocol is used to secure communication between the Metco IIoT device installed installed inside the PCC cabinet and the cloud platform.
2. Secured and patched Operating System, running Oerlikon custom software.
3. Internal machine connection. The IED is installed inside the PCC cabinet alongside the Edge Gateway. All in-bound ports blocked. (except OPC-UA Server port for raw data collection).
4. Desktop application to connect and visualize On-premises data and analytics.
5. Local intranet / OT network managed by end-user. HTTP(s) used as communication protocols

2 Features and Benefits

Efficient
- Data at your hands
- Data generated and accessible in real time
- Improve performance of maintenance and service

Economical
- Plug and play solution
- Directly embedded into existing equipment
- Remote monitoring and maintenance of the Metco IIoT Edge Gateway (Internet connection required)
- Increase uptime, decrease downtime

Effective
- Quickly identify downtimes
- Identify irregularities
- Continuous recording of your production process

Environmental
- Reduce your scrap rate
- Improve quality
- Understand consumption of resources to optimize their use

3 System Options

3.1 Metco IIoT Connectivity

Metco IIoT Connectivity enables seamless, real-time access to all available machine data through an industrial edge gateway embedded in the process control center. Acting as an OPC-UA server, it transmits data at 1-second intervals to any OPC-UA client within the customer's network. This plug-and-play solution is available both as a retrofit and with new equipment, providing a robust foundation for data-driven improvements in productivity, efficiency, and quality.

3.2 Metco IIoT Insights

Metco IIoT Insights is our proprietary on-premise platform for local storage, analysis, and visualization of machine data. It aggregates raw data and computes higher-level metrics such as parts produced, coating runs per part, and contextual links to machine messages. A Windows-based application—easily installed via executable file—connects to the industrial PC inside the thermal spray system, providing secure access from any PC within the customer's network. In parallel, both raw and enriched data can be streamed to the customer's data lake, enabling deeper integration into enterprise-level analytics. With Insights, customers benefit from our domain expertise in thermal spray and gain access to specialized analytics tools while maintaining full ownership and flexibility over their data.

4 Retrofits

4.1 Connectivity

Upgrade Kit[a]		Order Number
UniCoatPro	Edge Gateway Hardware Activation Fee	2362914 2429584
MultiCoat[b]	Edge Gateway Hardware Activation Fee	2367648 2429584
MultiCoatPro[c]	Edge Gateway Hardware Activation Fee	2367649 2429584

[a] Any associated costs to upgrade existing equipment to reach minimum requirements (See section 5.1 Platform Compatibility) are excluded and must be purchased separately. Consult with MCH-product-support@oerlikon.com to assess total cost of retrofit.
[b] Limited to Atmospheric thermal spray Consultation with MCH-product-support@oerlikon.com for Controlled Atmosphere Systems (LPPS, VPS, LVPS)
[c] Consultation with MCH-product-support@oerlikon.com to determine location installation prior to ordering.

4.2 Insights

To use Metco IIoT Insights, customers must purchase the Industrial Edge Device (IED)—a compact, industrial-grade computer equipped with an Intel® Core™ i7 1.8 GHz processor, 16 GB DDR4 RAM, and a 640 GB 3D-Flash SSD. A time limited activation key is used to enable the device. The end-user can freely select the start day of the activation key, after purchasing the annual software license.

Ongoing Value Through the Annual License

The annual license fee for Metco IIoT Insights goes far beyond a typical service model—it ensures the platform remains continuously updated, secure, and future-ready. Customers benefit from regular software patches, compatibility updates aligned with our thermal spray controller roadmap, and access to newly developed features. Our development focus includes intelligent alerts and machine health diagnostics that support predictive maintenance and reduce unplanned downtime. By keeping the platform up to date and continuously adding capabilities, we help customers maximize productivity, efficiency, and coating quality over time.

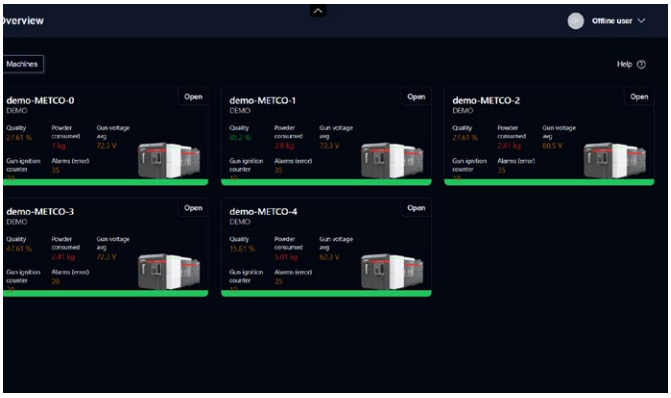
Upgrade Kit[a]	Order Number
Industrial Edge Device[b]	2456952
1year On-Premise License[c]	2457397
1year Cloud License[d]	2457398

[a] Prerequisite installation of Metco Connectivity
[b] retrofittable in existing Process Control Centers
[c] license ships with a USB stick
[d] does not require industrial edge device. Internet only and Metco IIoT connectivity required

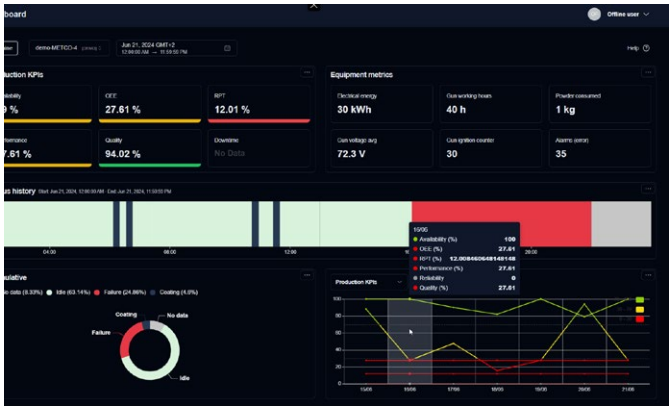
4.3 Metco IIoT Insights User Interface

An optional graphical user interface allows the user with proper permissions to globally access the data of one or multiple systems from their workstation computer or a tablet with a compatible web browser.

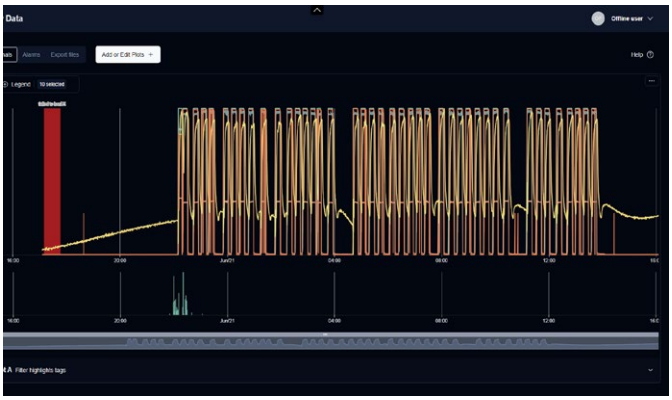
- Dashboard
- Raw Data
- Analytics
- Live Data



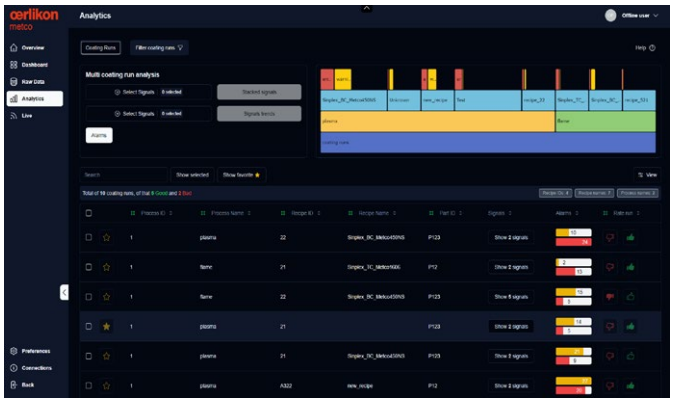
Overview



Dashboard



Raw Data



Analytics

5 Technical Data

5.1 Specifications

	Connectivity	Insights
Power Requirements		
Input Voltage	24 VDC [a]	
Device Connectors		
Wired	USB 2.0, RS232, RS485, 2 Ethernet ports	3 Ethernet ports, 4x USB 2.0, 1 Display Port
Wireless	N/A	
Software		
Operating System	netFIELD OS	Linux
Application	Metco IIoT Edge	IIoT Core
Communication Protocol	OPC-UA standard protocol	Rest-API
Data		
Type	time series data	
Resolution	1 second	
Storage	none	+20 years
Protocol		
	OPC-UA for data connectivity, HTTPS for cloud connectivity	
Environment		
Temperature	0 to 50 °C	32 to 122 °F
Humidity	< 90%, non-condensing	
Metco IIoT Connectivity Compatibility		
UniCoat3 / MultiCoat5		
HMI Version	2.6	
MultiCoat		
HMI Version	V10_14a_3970	
UniCoatPro		
HMI Version	A5.1.1	
MultiCoatPro		
HMI Version	V1.20.1	
Metco IIoT Insights Compatibility	1.19	

[a] Supplied through the existing controller - installed inside your existing thermal spray controller

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