

Manufacturing / Industrial Automation: Cloud Connected Assets




Challenges

Digitalization of Heterogenous Assets in Manufacturing

Companies that rely on system integration capabilities to built end-to-end solutions, independent whether they are enterprises that have these capabilities internally or organizations offering such capabilities (System Integrators), manufacturing assets (machines) that typically perform tasks as part of a production process, like NC milling systems, packaging machines, robots or industrial printers, are required to be easily integrated with cloud services, to enable Industry 4.0 and digital transformation benefits. These benefits include improving product reliability, extending service levels and enabling new, “as a service” business models. Assets need to be monitored closely to ensure highest availability and optimum performance. For example: production machines status and performance data is essential to ensure effective operation and optimized service schedules. Historical and real-time data from sensors, field buses, PLC's and logs are the basis for applying analytics on a cloud level for predictive and preventive maintenance. Integration of existing applications with cloud services and cloud migration of applications and infrastructure often requires skilled staff not readily available.



The Solution

Seamless Integrating of Industrial & Energy Assets with AWS IoT

IoT-based edge systems, collect, compute and communicate constantly vital data from assets in the field to the cloud. Eurotech's ReliaGATE IoT Gateways offer the capability to operate assets using their native protocols, maintaining a consistent structure across various hardware providers, simplifying operations, and enhancing efficiency. It ingest and aggregate data from as different sources as energy field buses (i.e. Modbus, OPC-UA, Siemens S7, DNP3, etc.), smart systems and sensors. ESF and Everyware Cloud facilitate and speed up deployment and configuration of the edge, with full device management and powerful health monitoring, enabled by EC installed in the customers AWS account.

The offering combined with ACP Engineering's ACP-M (Advanced Cloud Platform for Manufacturing) and their system integration capabilities leads to fast integration of industrial and energy assets, powerful edge data processing and asset management, simplifying workflows and providing intelligence and connectivity in the field and on the manufacturing floor.



Benefits

Substantially improved operational excellence, with further positive safety and customer satisfaction effects.

Overall Equipment Effectiveness OEE

Being able to react in real-time on asset status and performance values, ensuring optimum asset performance. Optimize service schedules. Predict and ensure that supplies are offered / delivered when and where needed.

Improved Service Levels & Reliability

Advanced logging is providing vital data for detailed audit trails as part of continuously ensuring service quality and compliance. Leveraging real-time data from the field, including predictive maintenance.

Enabling New Business Models

Machines getting connected and remotely managed form the basis for new revenue streams and business models, e.g. “Asset as a Service”.

Eurotech on AWS

Eurotech is a multinational company that designs, develops and supplies ruggedized Edge Computers and Internet of Things (IoT) solutions to system integrators and enterprises. The portfolio ranges from IoT software stacks to Edge Gateways and Edge Servers to High Performance Edge Computers and Edge AI Systems. Eurotech complements the AWS offerings by enabling customers with application optimized Edge / IoT building blocks for demanding verticals like manufacturing, transportation, agriculture, energy, utilities and medical. Eurotech is part of a global AWS ecosystem that allows to create and leverage "best in class" solutions for the Industrial IoT, without compromising operational technology (OT) requirements.



Features



Effective Development and Reduced Time-to-Market

The Eurotech offering marries certified hardware with a full software stack, including a managed Linux OS and a powerful IoT device middleware ESF (Everyware Software Framework). ESF comes with a low-code/no-code development solution, a wide range of supported field protocols and ready to use AWS IoT Core and AWS IoT Greengrass integrations. The IoT Management Platform EC (Everyware Cloud), enables remote and full lifecycle management, advanced logging and health monitoring features.



Clear Focus on Low TCO and Risk Mitigation

The offering addresses major aspects that add to the total ownership costs of an IoT solution, like security, device software lifecycle management, health monitoring and logging. Security, a major challenge in critical infrastructure is ensured by successfully achieved PSA Level 1 and IEC 62443-4-2 certifications. Risk aspects are further mitigated by long product life support, extended warranty options and a broad professional services offering.

Case Study:

Blueprint to Integrate Smart Connected Industrial Assets



Challenges



ACP Engineering is a leading, modern consulting and engineering firm providing turn-key solutions including their ACP-M (Advanced Cloud Platform for Manufacturing). For Industrial IoT and Edge Computing, ACP Engineering needed to extend its digital transformation blueprint to include IoT and Edge Computing hardware. Important was an edge application framework with extensive field protocol support and a proven strong edge security implementation – all to seamlessly work with AWS IoT services.

Solution



The ReliaGATE IoT Gateways and ReliaCOR Edge Servers enable continuous monitoring of machine performance and the implementation of adaptive diagnostic, control and supply strategies. EC in AWS and industrial-grade IoT gateways with ESF and AWS IoT integrations to enable seamless access to AWS services to get data easily into the customer's / asset owner's applications & cloud services. ACP Engineering's new blueprint for industrial customers journey to a successful digital transformation and cloud migration ensures a fast time to implementation leveraging a strong edge security foundation, supplementing the ACP Engineering offering.

Results



Data is made available on the AWS cloud side for analytics, business logic and visualization, increasing situational awareness & operational efficiency.

Fast & efficient remote asset integration and seamlessly integrated applications: fast track to digitalization of industrial assets. On average a 50% reduction of integration time per type of assets because of readily available field buses and digital twin (device shadow) concept.

Risk Mitigation & reduced risk: edge lifecycle management and security designed in. Much reduced time and cost because of pre-certified integrated HW & SW products. (IEC 62443-4-2)

Get started with Eurotech solutions on AWS

Visit eurotech.com to learn more about Eurotech's offering for Energy & Utilities.
Visit AWS Certified Device Catalog for information on [ReliaGATE](#) and [ReliaCOR](#) edge devices.
Visit [ACP Engineering](#) for more information on 56K.Cloud's IoT and Edge approach.

