



► Heavy Equipment Manufacturer Accelerates Multi Site IIoT Roll-Out with CloudRail

- Standardized rollout process for the connectivity of industrial machines to AWS
- 20x accelerated IIoT rollout
- Fulfilled IT-security and compliance requirements by a Fortune 500 company
- Faster time to ROI for multiple IIoT projects

The Customer

The customer is one of the largest manufacturers for heavy equipment. The US-based company is listed in the Fortune 500 and operates factories all over the world.

The Challenge

The customer has a clear vision of digitizing both their products as well as factories using technologies like IIoT or Machine Learning. While this strategy turned out to be extremely successful for their products, factories still ran based on many manual processes without much data insights.

Acquiring data at the shop floor turned out to be extremely complex due to heterogeneous technologies and a variety of communication protocols. Every IIoT project required heavy customization by IT and OT-experts leading to enormous costs. Moreover, the individually developed machine connectivity services were not complying with the strict IT security requirements of the customer. These factors prevented a large scale IIoT rollout.

The Approach

Recognizing the needs of a scalable, secure IIoT connectivity solution implementable without heavy customization, the customer started evaluating many technologies on the market.

Since the underlying cloud-strategy is build up on AWS, the IIoT solution is required to be seamlessly integrate to this platform. The customer found that many providers, especially large automation vendors, offer suitable hardware but don't provide answers to their software requirements.

Solutions were either closed OT ecosystems which didn't fit to the AWS-based strategy of a global enterprise or offered edge gateways were basically plain hardware. Those gateways needed effortful project-based development and customization by experts. Further complicating the process, none of these solutions provided answers in regards of scalability and IT-security requirements of a global enterprise.

Eventually they found CloudRail and tested it in a first Proof of Concept in one of their German factories. In less than a day, a planned material flow optimization project based on CloudRail and AWS could be realized. Afterwards they expanded this use case across several lines and factories globally. Additional IIoT use cases like Condition Monitoring or AI-based Predictive Quality followed shortly afterwards.

The Results

Leveraging CloudRail, the customer reduced the realization time of various IIoT use cases from multiple weeks to just hours. This was possible due to CloudRail's Plug&Play functionality ensuring a standardized roll-out process both, retrofitting of legacy brownfield equipment, as well as connecting new machines through OPC-UA. The customer stated that this standardized rollout process for the connectivity of machines to AWS services accelerated the implementation by a factor of 20.

While the equipment is installed by the maintenance staff on shop-floor level, the devices are provisioned centrally by the customer's Tier-2 IT support. All edge devices and sensors are managed and monitored via the cloud based CloudRail Device Management Cloud by a centralized IoT competence center. These factors enabled the customer to quickly introduce a variety of IIoT enabled use cases, as well as scale projects vertically over multiple global production sites.

CloudRail fulfilled the customer's strict security requirements with features like end-to-end encryption, TPM, build-in firewalls or the ability to centrally roll-out remote firmware updates across the entire fleet of edge devices. Moreover, the CloudRail solution integrated well into existing IT-systems like the internal Public Key Infrastructure (PKI). Since CloudRail integrates into all relevant AWS IoT services, the full functionality of AWS is leveraged. With frequent updates, long-term compatibility is ensured.

As the CloudRail technology reduces the effort and implementation time significantly, the Return on Investment (ROI) of many IIoT projects improved considerably. Furthermore, fast rollouts of IIoT ecosystems using the scalable solution enables customers to achieve their digitization objectives.

For more information, visit
<https://cloudrail.com>