

Leverage the edge: The benefits of processing data at the edge, not the cloud

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The edge is an essential layer of the manufacturing technology stack. Machines on the factory floor collect vast amounts of raw data from various sources using numerous protocols, which all need to be processed quickly to gain actionable insight.

By processing data as close to its source as possible, the edge enables quicker, more cost-effective data analysis. Here Martin Thunman, co-founder and CEO of [edge analytics platform](#) Crosser, looks at the benefits of processing data at the edge rather than the cloud and how this data can be used to optimize production in manufacturing.

The real-time ability at the edge can leverage automatic changes to production according to a pre-determined algorithm, or be evaluated by equipment operators and facility managers to make informed decisions. For machines that need to act on data in real-time or those that perform critical operations, processing data at the edge results in ultralow latency and allows manufacturers to respond to changes much faster.

Pre-processing data at the edge also contributes to reduced operational costs. Rather than transmitting all data gathered on the edge of the network to the cloud for analysis, through data aggregation and smart filtering, manufacturers can condense the quantity of data that needs to be sent to the cloud by 99 percent, which can result in a reduction in bandwidth and cloud service costs.

Optimizing data use

The rise of 5G will stimulate the next wave of IIoT devices for Industry 4.0, such as machine vision. [McKinsey Global Institute](#) estimates sales of 5G-enabled IIoT devices for Industry 4.0 will be at 22.3 million units by 2030. For data collection and analysis, the rise of 5G will only mean that there is more data to be collected and processed. Choosing to do this at the edge prepares manufacturers for 5G and beyond.

Enabling quicker and cheaper data analysis, edge analytics helps manufacturers to optimize their production lines by enabling machines to make autonomous decisions without human intervention. Analyzing and integrating data locally facilitates closed-loop automation, to act on data collected from one machine to change the settings of another machine to enhance its performance.

Doing this in real-time via the edge allows operators to slow down or speed up production, change the quantities of materials used and alter how the machine operates directly in response to data collected from the factory floor. A [survey conducted by IBM](#) revealed that automating production in this way can increase output by 20 percent.

Enhancing predictive maintenance

Additionally, real-time data analysis at the edge facilitates predictive maintenance. Through anomaly detection and millisecond-by-millisecond analysis, any unexpected or abnormal machine behavior can be identified instantly. Manufacturers can use data collected at the edge as a trigger. If machine data reaches a defined threshold, the maintenance system can be updated in real-time to notify the engineer that a component is running abnormally. This can then initiate a work order in the enterprise resource planning (ERP) system to conduct maintenance before failure occurs.

Conducting maintenance in this way improves operational efficiency by allowing manufacturers to assess data, monitor machine performance, and identify potential causes of equipment failure before they occur, preventing unexpected downtime and [improving operational efficiency by as much as 89 percent](#).

Crosser is a Swedish software company with installations in over 20 different countries. We design and develop a Low-Code software platform for Streaming Analytics, Automation, and Integration for any Edge, On-premise, or Cloud. Our aim is to remove complexity, simplify development, and enable non-programmers to innovate faster with a dramatically lower total cost of ownership. Our vision is that there are enormous business opportunities for companies When Machines Talk™).

The software is ideally suited for Enterprise customers of various Industrial verticals such as Process Industry, Manufacturing, Utilities, and other asset-rich verticals. The modular and flexible solutions enable many different applications, including Industry 4.0, Industrial IoT, and next-generation Hybrid Integration, also called Hyper Automation by Gartner.

Industrial customers include SCA AB, Valmet Corporation, Novo Nordisk, Gebhardt, Clarebout Potatoes, and RubbleMaster.

Crosser was included in the “Cool Vendors in IoT Edge Computing, 2018” report by Gartner, Inc. and was named among the Top 10 Smart Factory Solutions in Europe 2020 by the industry magazine Manufacturing Technology Insights.





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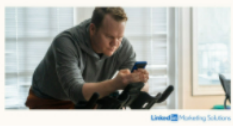
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