

Development of the IIoT ecosystem Netilion

Pilot project in cooperation with the Salzgitter Flachstahl GmbH



Salzgitter Flachstahl is the largest steel subsidiary within the Salzgitter Group. More than 5,580 employees produced about 4.7 million tons of crude steel and generated a turnover of 2.6 billion Euro in 2017.

"I had an inspiring experience right away in the beginning, when the complete bus was scanned. There were PROFIBUS assets showing up, I had completely forgotten about! It is also interesting to see whether measuring instruments are still up-to-date, whether they have already been discontinued and which status they were actually in.

For me the measuring instrument tags are of high interest. The serial numbers don't offer me much, since I'd still have to cross-check them each individually. And this was one thing that I gave the developers to work on. It's important to us – and now it's solved!"

Jan Marten Claus
Salzgitter Flachstahl GmbH
Plant Engineering
Continuous Pickling Line 2



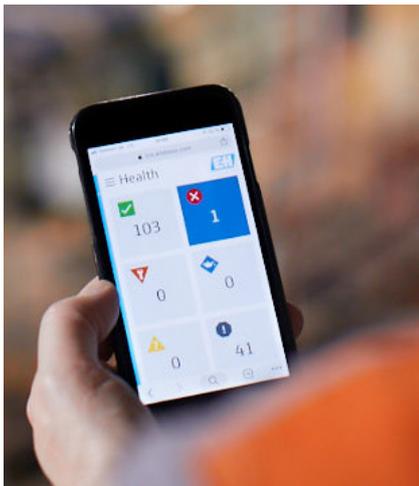
A close cooperation between Endress+Hauser and the Salzgitter Flachstahl GmbH is taking place since March 2017 focusing on the development of the IIoT ecosystem Netilion.

In the Continuous Pickling Line 2 of the cold wide strip rolling mill employees of Endress+Hauser and Salzgitter Flachstahl GmbH installed and tested the required hardware. Since then the installation has been in use and is, in cooperation with the head of maintenance, continuously tested and developed. The aim: increase plant availability!

The challenge Approx. 103 measuring points of Endress+Hauser operate on an approx. 330 m long line of the continuous pickling line No. 2.

The measured parameters are flow rate, level, temperature, pressure, pH and conductivity. The devices are distributed over wide areas and partly difficult to access. The challenge of an IIoT solution here is to enable a quick overview of the installed base, to provide accurate health status and thus ease work for the maintenance staff – wherever they are.

The IIoT solution is designed to be simple and quick to install, data readout is as easy as possible. Ideally the maintenance technician before deployment gets the information: what kind of error, location of this device, what solution is best, which tool or replacement material is needed to fix the problem.



Realization Employees of Salzgitter Flachstahl GmbH installed the Ethernet/PROFIBUS Gateway SFG500 as well as an Edge Device directly connected to the Internet into the PROFIBUS network. Both Gateway and Edge Device provide the connectivity between IT and OT and automatically scan the entire plant for measuring devices, independent whether it is from Endress+Hauser or from other manufacturers.

The Netilion Analytics application as part of the Netilion IIoT ecosystem generates a digital twin of each scanned device. Additionally, the device data of the installed base is complemented with data of approx. 40 million data records, since Endress+Hauser has been in charge for almost 20 years saving the Common Equipment Record of each individually manufactured device.

- Netilion Analytics gives an overview of all the devices in the plant.
- Netilion Health enables the users to see the health status of the assets and also provides direct access to profound knowledge on their maintenance and care.
- Netilion Library allows files and documents to be saved for specific measuring instruments, which are then available for all users in the Netilion IIoT ecosystem.

All applications and services of the Netilion IIoT ecosystem are constantly developed further.

Result The Netilion IIoT ecosystem was successfully implemented in the continuous pickling line 2 at Salzgitter Flachstahl GmbH and has been constantly evolving ever since. The plant engineer does not use the

applications on a daily operative basis yet, but curiously checks all the changes and gives regular feedback for improvements.

In the future, the Netilion IIoT ecosystem shall simplify and ease maintenance tasks for him and his team while increasing plant availability.

Components of the Netilion ecosystem

- Netilion Analytics
- Netilion Health
- Netilion Library
- Edge Device
- Fieldgate SFG500

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