



IloT- and AR-Solutions from PTC Support the Digital Manufacturing at Lorenz

Digital twin optimizes the production of the new generation of smart water meters

Munich, January 11, 2019 - [Lorenz GmbH & Co. KG](#), the leading German manufacturer of flowmeters, has selected PTC's IIoT platform [ThingWorx](#) as well as the augmented reality solution [Vuforia Studio](#) from [PTC](#) to support its automated, intelligent production facility. The development of the new production plant and the implementation of the control and line system were conducted by the [Software Factory GmbH](#), which Lorenz and the ITQ consultants chose as partners for the extensive Industry 4.0 digitization project.

The project required a redevelopment of the entire production control and management system. The challenge was to design a modern and future-proof IT structure that would harmonize the newly created, almost fully automated assembly with the existing manual production. The varied batch size 1 production made this process even more challenging.

With ThingWorx, Lorenz developed IIoT applications for production control and system monitoring of its production of intelligent radio-controlled water meters. The machine and production data collected via ThingWorx are transformed into AR experiences with the Augmented Reality solution Vuforia Studio by PTC and displayed to the user via Vuforia View. The model simulation and the construction of a digital twin were realized with the PTC Integrity Modeler Suite. The digital twin is used in the production of water meters.

Since June 2018, the digitally controlled production of intelligent wireless water meters has been running in a specially constructed 1,000 square meter production hall. Now, thanks to the availability of IoT functionalities for IT security, process data processing, traceability and visualization via augmented reality and intelligent apps, fast and precise interventions can be made in the control of the existing and new production line. This allows Lorenz to identify potential disruptive factors earlier, to compare process flows, and ultimately to choose the most effective solution.

"I am impressed by our smart production process. By simulating changes to the digital twin, we can now identify and correct sources of error in advance, which is a very innovative way to increase productivity and quality" explained Wilhelm Mauß, CEO of Lorenz.

"The end-to-end digitalization of the factory enables companies to significantly improve their competitive position," said Stephan Ellenrieder, Senior Vice President and CEO of PTC in Germany. "As a medium-sized traditional company, Lorenz proves to be one of the pioneers in the implementation of Industry 4.0 concepts with its intelligent production system. We are pleased that

our solutions, together with the high performance of our partner Software Factory, have contributed to this. "

The Lorenz GmbH has already been awarded by the Baden-Württemberg Ministry of Economic Affairs for its innovative digitized processes as a model company for the production of the future. The new generation of radio-controlled water meters can not only be integrated into common radio systems but can also automatically communicate the consumption to the water supplier for simple and economical cost accounting.

Further Information:

- [PTC as Industry 4.0 mentor](#)
- [ThingWorx platform for industrial innovation](#)
- [SF Internet of Things product world](#)
- [SF Smart Production product world](#)

About Lorenz GmbH & Co. KG

Lorenz is a specialist in flow measurement and a German technology leader in the field of apartment, house and large water meters. Founded in 1963, the medium-sized family business today produces more than 1 million water meters per year with more than 160 employees at the Schelklingen site near Ulm. Lorenz has received numerous awards for research and development, corporate responsibility and sustainability, such as the VR Innovation Award of the Volksbanken-Raiffeisenbanken, the value label "Ethics in Business" from the University of St. Gallen as well as the government initiatives "100 Companies for Resource Efficiency" and "100 Places for Industry 4.0".

Further information about the Lorenz GmbH can be found at www.lorenz-meters.de/en/

About the Software Factory

Founded in 1992, Software Factory GmbH has been a PTC partner for 25 years and has been supporting its customers as well as PTC customers since the beginning of the economic and digital transformation of their processes. Focus is predominantly on the areas of digital product development, software in production and manufacturing execution systems (MES) in discrete manufacturing. In addition, Software Factory holds extensive expertise in the areas of Application Lifecycle Management ALM, Systems Engineering and Augmented Reality, all of which are important topics in the age of virtual product development and intelligently networked production. Software Factory is one of the few partners in the PTC ecosystem that covers nearly all of PTC's product offerings such as Creo, Windchill, Integrity, ThingWorx, Machine Learning and Vuforia, ultimately helping customers drive innovation and implement new business models.

For more information about the Software Factory, visit www.sf.com/?lang=en

About PTC

PTC (NASDAQ: PTC) helps companies worldwide reinvent the way they design, build, operate, and maintain products in and for a smart, connected world. In 1986, the company revolutionized digital

3D development and in 1998 became the first company to market Internet-based Product Lifecycle Management. Today, PTC's industrial innovation platform and proven software solutions combine the physical and digital worlds. With PTC, both manufacturers and a broader set of partners and developers can benefit from the Internet of Things (IoT) and Augmented Reality (AR) opportunities, driving innovation overall.

More information about PTC at www.ptc.com

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