Hannover Messe Digital Edition 2021

Highlight Tour for Media – Script

Our virtual exhibition stand shows multiple various examples of how companies can move forward in the direction of the Smart Factory. Examples shown here include:

* Artificial intelligence when evaluating image data for quality assurance
* The acquisition, evaluation, and presentation of machine data using an intelligent dashboard
* Linking production with IT-based tools such as ServiceNow

# Introduction

Welcome to the virtual Fujitsu booth. I’m Walter Graf, and I am a Fujitsu Distinguished Engineer. I work as a Smart Factory and Industry 4.0 evangelist.

Over the next few minutes, I will show how companies can make their production leaner, more efficient, and more stable. They can also become more resilient, to use one of the buzzwords of the past few months. Companies with better-digitized production are able to react much more flexibly to changing requirements – whether a machine breaks down, there are unexpected peaks in orders or if key components get stuck in the Suez Canal.

With the Fujitsu Integrated Shopfloor, manufacturers can further develop their existing processes, taking an end-to-end approach to services and technologies.

Three concrete examples show how Industry 4.0 methods bring companies closer to the goal of an intelligent factory. At Fujitsu, we focus on one essential aspect: The connection of the machine world to IT. The latest technologies, such as artificial intelligence are also integrated, as are so-called bridging technologies for quantum computing which are already available today.

# Evaluation of image data with AI

Let’s look at the first example:

Since 2015, artificial intelligence has been better than the human eye in **evaluating image data**. We use this in the field of smart inspection, i.e., automated quality assurance of products. In our example, you can see the colorful building blocks.

We position cameras at critical points in the production process, record images, then use AI to examine these images to highlight quality defects. We have a small demo of a solution we have already successfully implemented for our customers in much more demanding environments. These systems are a great counter to the typical challenges when it comes to evaluating image data. Firstly, there are only a few images available showing flaws in production, to train the AI. These images are very complex, and the errors are so tiny, they are barely visible to the naked eye.

The decisive factor here is that a mundane, immensely tiring and therefore error-prone process is systematically improved with AI. Because the AI learns continuously, as it works, then defective parts are better recognized, and the data and experience gained serve as the basis for fundamental improvements in production and products.

Application areas are diverse and range from quality control of small glass vials for vaccines to 70-meter-long rotor blades for wind turbines.

# Intelligent Dashboard

This leads us to the next example: In addition to quality, production is also about higher efficiency and leaner operation. Here, too, IT technologies help create a new quality in identifying potential for improvement. With the Intelligent Dashboard from Fujitsu, machine data can be displayed at different levels, following the comprehensive collection of machine data.

Starting from a global representation of all production sites, it’s possible to zoom further and further into individual production lines on the shop floor, to machine level, and even to inspect individual components. This provides information in real-time, in a standardized form to manage production lines, factories and plants even if they are distributed around the world.

# Connection of IT tools such as ServiceNow

In my final last example, I would like to briefly address another added value of connecting machines to IT systems: This involves improved linkage between classic IT systems such as ERP systems with processes running directly on the production line. In addition to our partnership with SAP, I would like to briefly introduce the integration of the ServiceNow solution. Here you can see how a service tool from the IT world can be used in production: For example, order processes can be linked directly to production without the necessity of manual intermediate steps. This makes it easier, for example, to make products digitally configurable via online platforms. On the other hand, errors that occur at the machine level, by way of example, can be passed on to ServiceNow for faster troubleshooting than ever.

In summary, the connection of three domains are at the heart of consistent digitization of the production line:

1. Machines

2. New technologies, in particular, artificial intelligence

3. Classic IT, such as ERP systems and their data

Only by connecting all three can the quality, efficiency and resilience of the manufacturing processes be so significantly improved. If you would like to learn more, be sure to visit visiting our virtual booth next week.

Further information, images and video materials are in our **Newsroom**:

English: [www.fujitsu.com/emeia/about/resources/news/newsroom.html](http://www.fujitsu.com/emeia/about/resources/news/newsroom.html)

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Further information and blogs by Walter Graf: <https://blog.global.fujitsu.com/fgb/authors/walter-graf/>

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