

Responsible energy
from garbage bags 14

Reliability at the heart of
a long-term agreement 38

Remote service tools
from the future 56

Forward

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A shared journey forward with

Whakatane

board mill in New
Zealand

Remote service tools from the future are already here

Smart eyewear, augmented reality and predictive maintenance will revolutionize the way Valmet serves its customers. “The technology is already there, we just need to apply it to our vision,” says Mika Karaila, Research Program Manager from Automation R&D. TEXT Minea Hara

As a trailblazer in developing novel ideas and innovative techniques, Valmet’s ambition is to fix machine-related problems quickly and reliably. By using the many benefits offered by digitalization, big data and the Industrial Internet, mill maintenance can soon be carried out remotely using smart phones, tablets and smart glasses. From easier and more accurate measuring to predictive maintenance, Valmet is working on several pilot projects developing high-tech remote support tools.

Augmented reality means instant troubleshooting

At the moment, smart tablet applications are being tested for remote problem solving. One of these technology pilots is implemented with Pointr – a mobile app that utilizes augmented reality, a technology that instantly integrates digital information with a user’s physical environment. In addition, Pointr provides users with live video streaming, voice chat and real time remote pointing for comments.

“It’s easy to see the benefits of this kind of technology,” says **Marko Heino**, Director of Field Services in Valmet. “Augmented reality will have a huge impact on how we

communicate with our customers. We can respond to service needs faster and ensure the quality of our service is consistent. What’s great is that no extra hardware is needed, just a smartphone, tablet or laptop”.

Problematic situations at the mill can be shown on the tablet to a remote support person who can then share drawings and other material back to the mill. First, the customer shares a picture or a video of the machine on-site using the tablet. The remote support person can instantly pinpoint and draw relevant items and corrective actions to the screen and talk through the needed maintenance suggestions. “We are currently piloting Pointr technology with a maintenance agreement customer and the feedback has been encouraging,” Marko Heino goes on to say. Next, the pilot will be expanded to other selected agreement customers.

Johan Pensar, Director of Industrial Internet at Valmet, sees great possibilities in utilizing Industrial Internet technology. “Access to process information enables remote troubleshooting and problem identification. When we combine this with augmented reality, Valmet will be able to provide expert support to anyone who needs it, regardless of their geographical location.”

Safety glasses transformed into smart glasses

Pointr has also been successfully tested on smart glasses. The revolutionary optical technology merges remote support into safety glasses and brings instant visual information into the user's vision field – creating an augmented reality with hands-on diagnostics.

“The HUD (Head Up Display) is similar to those used on some of the world's finest fighter planes and cars,” **Mika Karaila** explains. Displays on the market now are already able to offer a virtual image equal to a 60-inch TV screen.

The new high-tech eyewear shows diagnoses right in front of a person's eyes, right next to the process equipment being serviced. Smart glasses will not only transform remote maintenance to on-demand support with less information outage, but also allows mill personnel to use both their hands while working in difficult conditions as well as improving their skills together with Valmet experts.

From fixing to predicting

Videos and mobile control tools are already remotely solving our customers' technical problems. At the moment, mobile tools are perfect for simple projects but in the future, they will be used for all kinds of field service and maintenance applications.

“By analyzing process information with advanced technologies like Big Data, predicting future behavior of the machinery will become easier than before. This opens up opportunities for new and more efficient predictive maintenance models, where maintenance is optimized to minimize maintenance costs while allowing high asset availability,” says Pensar.

Exciting times lie ahead

Big data and augmented reality will be utilized in accordance to Valmet's vision – to become number one in serving our customers. Global customer training will be needed in order to utilize the new gadgets and tools in an optimal manner.

When the remote field service tools are in full operation, they will have a huge impact on improving customers' mill reliability and production uptime. In the near future, Valmet will not only fix, but also predict problems – before trouble even starts. ■

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