But there are many more advantages to the catalog than simply identifying parts more easily. These include a comprehensive, transparent view of the history and status at any time, from enquiry to purchase order; the ability to select customized spare part packages for regular service work; and access to operating manuals and other useful documents.

SPEED IS CRUCIAL

Above all else, it is important to submit a quotation promptly – speed is one of the main success factors in spare parts business. The future goal is to submit an approved offer for standard components by e-mail within a maximum of 24 hours – and even include the services of a technician in accordance with schedules and availability. This factor should enable ANDRITZ to predict and better target the personnel resources and meet the service slots available at customers' machines.

Constant improvements to the Metris Spare Parts Catalog enhance the usability and flow of information between partners. The link between ANDRITZ's SAP system and the customer's ERP system enables the online catalog to be fully integrated into customers' standard purchasing processes.

WHAT IS NEXT?

For ANDRITZ, the next steps include the coordination of all other digital service modules. Having a single point of entry for the customers will support and enhance services both internally and for the customers. Join ANDRITZ on this exciting journey into the digital future. •

METRIS SPARE PARTS CATALOG AT A GLANCE

- Easy access to customer-specific spare and wear parts
- Customer-specific dashboard with customers' own plants and equipment
- Interactive identification of parts via 2D drawings or 3D models linked to parts list
- Customized spare part kits and maintenance packages
- Viewing of machine manuals and as-built documentation
- History of orders for fast repeat purchases
- Shopping cart with "add" and "remove" function
- Tracking of quotation and order status
- ANDRITZ stock information and material number
- Integration into customer's ERP system possible
- ANDRITZ key contact with call-back function to answer any queries

UPCOMING HIGHLIGHTS

- Checklists of parts required for next planned maintenance
- Offline part selection as well as preparation of requests and orders via mobile app
- Part identification based on P&I diagrams on equipment and plant level
- Generic ANDRITZ wear parts offered for non-ANDRITZ machines
- Purchase-and-pay function to speed up the delivery of standard spare parts

BY 2022, OVER TWO-THIRDS OF COMPANIES THAT HAVE IMPLEMENTED IOT WILL HAVE DEPLOYED AT LEAST ONE DIGITAL TWIN IN PRODUCTION.

DIGITAL Twin

WHAT IS A DIGITAL TWIN?

A precise digital replica of something in the real world – a process, machine, factory or even an entire city. Internet of Things (IoT) sensors gather data from the physical world and send it to computers to reconstruct. The digital twin is continuously updated to mirror the state of its physical counterpart.

WHAT ARE THE BENEFITS?

Creating a digital twin gives a deeper understanding of real-time processes. It offers valuable insights into how to improve efficiency and product quality or reduce maintenance and waste. Digital twins also enable virtual support, without an engineer having to be on site. Experiments can be carried out with much less risk and a lot more return on investment.

WHERE DOES THE CONCEPT COME FROM?

The concept of 'pairing' goes back to early space travel, when NASA built analogue models on the ground to monitor and modify spacecraft that were thousands of miles above the earth. As computer power increased, these models became digital. The term digital twin was attributed to University of Michigan's Michael Grieves in 2002, but didn't become more commonly used until the widespread adoption of IoT technology.

DIGITAL TWIN FACTS AND FIGURES

- 13% of organizations implementing IoT projects already use digital twins, while 62% are either in the process of establishing digital twin use or plan to do so.
- By 2022, over two-thirds of companies that have implemented IoT will have deployed at least one digital twin in production.

DIGITAL TWIN EXAMPLES

Digital twin technology is being applied in a wide variety of uses:

- In Formula One racing, every millisecond counts. Digital twins offer valuable insights into how to maximize a car's performance.
- IoT sensors and digital twin technology are enabling farmers to improve crop yield, reduce wastage and cut fertilizer use.
- 3DEXPERIENCity is a digital twin of Singapore. It has enabled the city-state to improve energy consumption, fine-tune traffic flows and advise shops on opening hours.
- The UK wants to create a digital twin of the entire country's infrastructure to help it handle issues like climate change, population changes and energy consumption. This mammoth task could take decades to complete.