



SEPARATION

# MAKE YOUR FILTER PRESSES READY FOR THE FUTURE

METRIS addIQ CONTROL SYSTEM  
FOR FILTER PRESSES

**ANDRITZ**

ENGINEERED SUCCESS

# Intelligence for machine and process control

## Metris addIQ control systems

With Metris addIQ, you have a well-proven, intelligent control solution for industrial processes and machines. Our solid/liquid separation specialists use their in-depth expertise to provide scalable solutions that are individually tailored to regional and application requirements. Whether you're automating new equipment or upgrading to extend the lifecycle of existing systems, we find the ideal solution for you.

Our tailored turnkey systems from a single supplier can improve entire plants or individual machines. By providing state-of-the-art automation technologies and digitalization, we ensure best-in-class performance. Automating machine and plant equipment measurably reduces gaps in many different production process steps. By using automation from ANDRITZ, you can reduce downtime thanks to features such as predictive analysis that allow you to optimize productivity.

Metris addIQ covers all levels of automation, starting at basic automation (machine, process, and plant control), to upgrades, and add-ons for process optimization. Together, you have a full range of optimized solutions that help reduce maintenance efforts and ensure preventive service for your machines and plants. These are all delivered from a single source and always individually tailored to your business demands. addIQ control systems are part of Metris, the ANDRITZ brand for digital solutions.

# Make your filter press ready for the future

Our mission is to enable our customers to achieve their target figures in overall equipment efficiency, minimum production costs, transparency, and short training periods – all of which are required to give our customers peace of mind. This is especially important in the highly competitive markets our customers are dealing with – be it the food, mining and minerals, environment, or chemicals industry. And the industries are facing a new challenge – the fourth industrial revolution, based on the use of cyber-physical systems. That is what drives us in our continuous R&D efforts aimed at developing state-of-the-art filter press technologies.

## **YOUR TRUSTED PARTNER FOR FILTER PRESS TECHNOLOGY IN THE PAST AND IN THE FUTURE**

We can look back on more than 150 years of experience with over 20,000 filter press installations worldwide – a track record that not only underlines our status as a global separation specialist, but also as a strong

partner for a wide range of customers in different industries. Our references underpin our vast experience and the trust our customers put in our know-how. Extensive experience paired with innovation – ANDRITZ is your key to Industry 4.0.



# Metris addIQ portfolio – stages of expansion to meet your needs

Metris addIQ combines all our extensive operation and start-up experience in one tailored automation solution. The Metris addIQ control system is a unique automation product. Its nucleus is a modular, PLC-based control system that supports you in making best use of your filter press. In combination with Metris addIQ add-ons and upgrades, the Metris addIQ control system maximizes your machine performance regardless of whether you are using ANDRITZ filter presses or other makes. Of course, it is also available as an upgrade for existing filter presses.

## STAGES OF EXPANSION TO MEET YOUR NEEDS

The Metris addIQ control system is available in different packages according to individual needs. The packages available include Metris addIQ Dynamic, Metris addIQ Prime, and Metris addIQ Flex.

### METRIS addIQ DYNAMIC

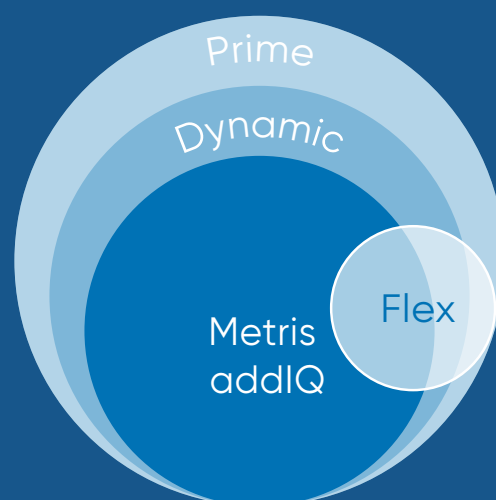
- Monitoring and control of machine and machine auxiliaries
- 10" panel PC touchscreen as standard, upscaling possible
- Advanced control and optimization functions

### METRIS addIQ PRIME

- Full process line control system
- Remote access (Metris addIQ Connect)
- 15" panel PC touchscreen as standard
- Metris addIQ Monitoring
- Metris addIQ Optimizing (optional)
- High-end trending and diagnostic functions

### METRIS addIQ FLEX

The most flexible solution is Metris addIQ Flex. Scope of control and technical specification can be customized to a large extent. Each package has individual specifics that are directly connected to the type of filter press with which it is to be used.

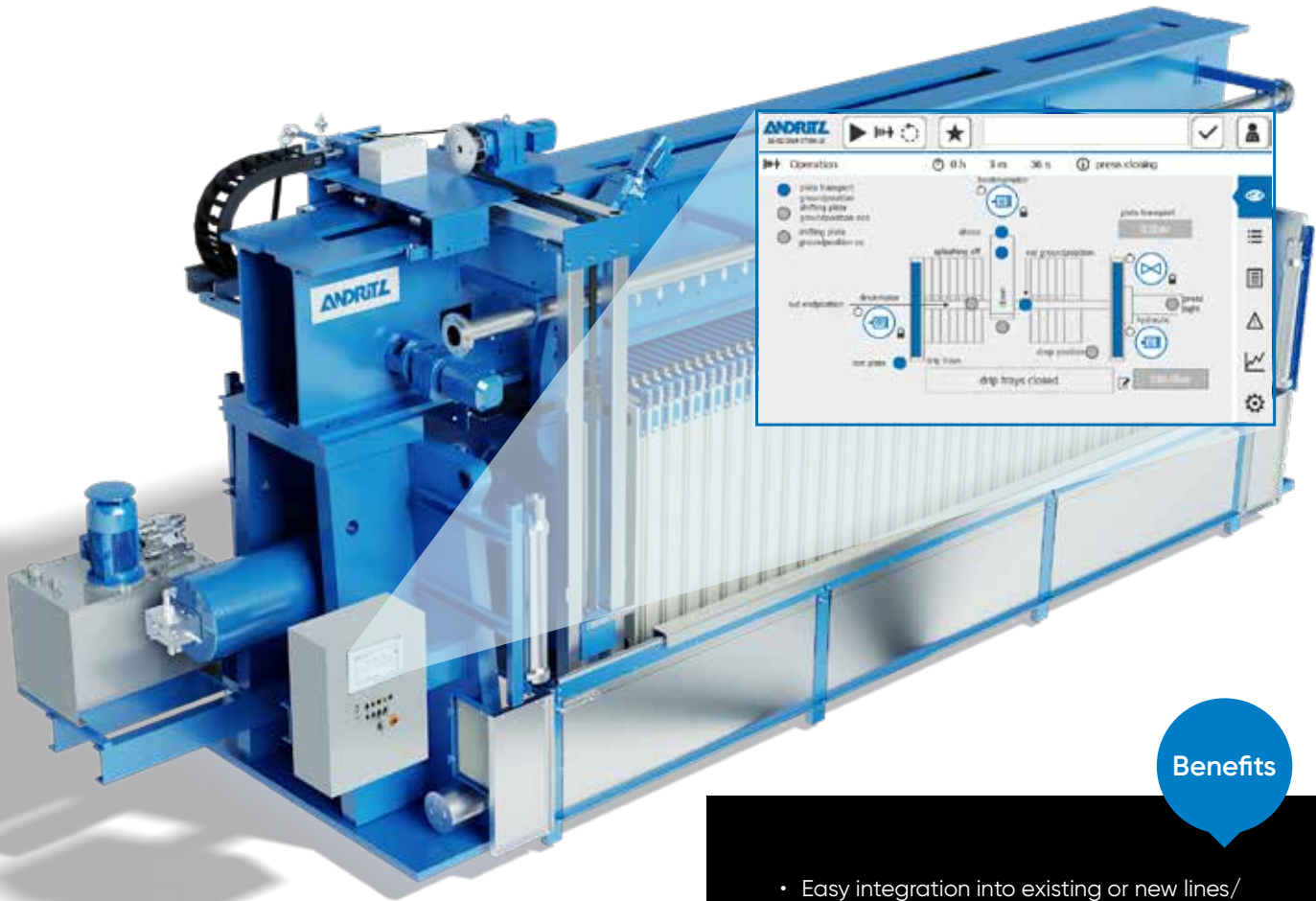


## EX

The Metris addIQ control system is also available in an EX version. The EX automation system is the ideal option for processes meeting hazardous area classification requirements.

# Standard tool set tailored to your specific needs

ENTIRE addIQ  
PORTFOLIO AVAILABLE  
FOR NEW FILTER PRESSES  
OR AS AN UPGRADE.



## Benefits

- Easy integration into existing or new lines/plants, ensuring a short start-up time
- High availability and good performance in operation for all filter press-related functionalities
- Avoids downtime by using preventive maintenance alarms and intuitive machine interface – peace of mind due to machine automation
- Ready for remote support to guarantee short response times (Metris addIQ Connect)
- Process improvements where applicable
- Metris addIQ control systems open the door to all future IIoT solutions

# Metris addIQ options for your filter press

## METRIS addIQ CONNECT

addIQ Connect links your machine to the secure ANDRITZ environment. Besides this, addIQ Connect enables remote support for fast interaction between your machine and the ANDRITZ specialist.

## METRIS addIQ MONITORING

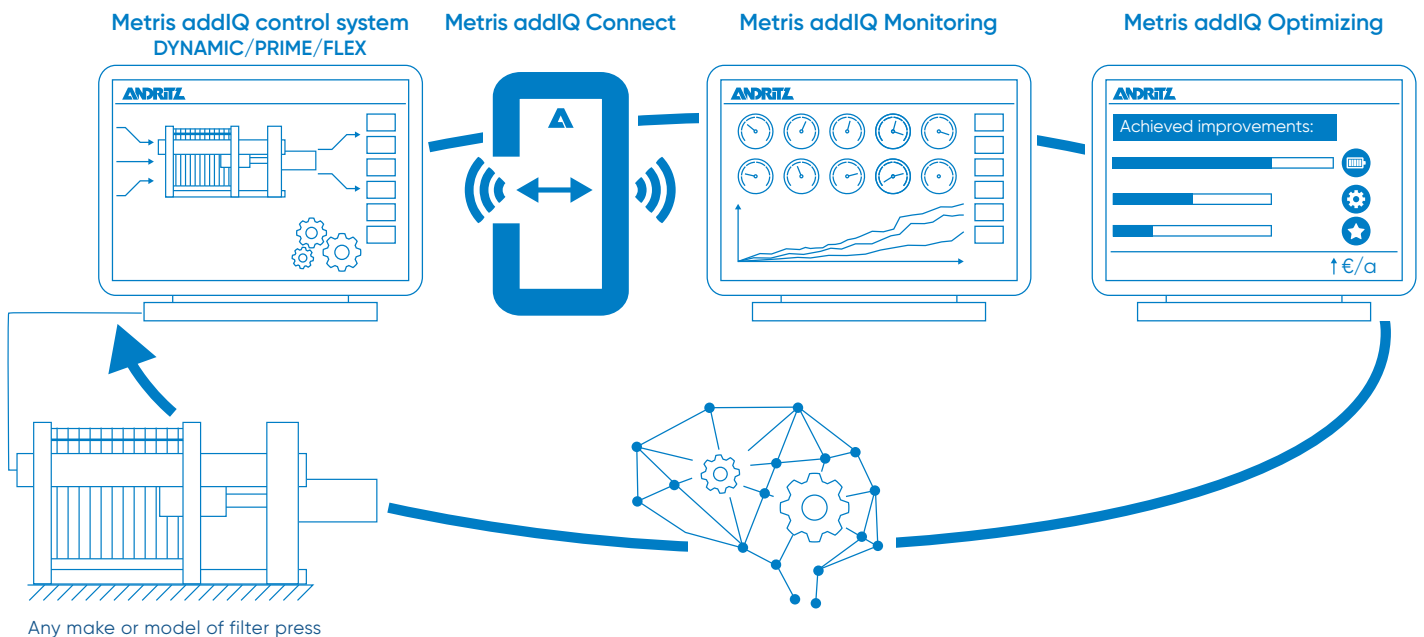
With this monitoring tool, you can monitor the health status of your machine 24/7 from anywhere in the world.

## METRIS addIQ OPTIMIZING

Our analyzing tool Metris addIQ Optimizing and the ANDRITZ specialists seek out ways for you to save money and of stabilizing and increasing production on your equipment.



Metris addIQ Monitoring helps you to monitor your machine 24/7



# Additional functions that can be included in the Metris addIQ control system

Each of the Metris addIQ packages, such as Dynamic, Prime, or Flex, can interact in different operating modes (including maintenance and manual operating modes), bringing undeniable advantages to your process by controlling a broad range of functions.

## Filter press automation solutions

### HYDRAULIC CLOSING PRESSURE CONTROL

More operating safety because the pressure is maintained at a safe, constant level. Metris addIQ automatically measures and controls the hydraulic and feed pressure as well as the feed temperature and adjusts it as needed.

### PLATE SHIFTER

For faster filter cake discharge, the speed of the plate shifter can be adjusted in both overhead and sidebar filter presses.

### DRIP PLATES

The drip plates are moved by means of hydraulic cylinders, which are controlled by Metris addIQ. It ensures that the drip trays are in the open position for cake discharge and in the closed position during filtration so that the filtrate is kept separate from any containers or the conveyor system.

### SCRAPER AND FILTER CLOTH WASHING DEVICE

More operating convenience because sticky filter cakes are discharged automatically and filter cloths are subsequently cleaned.



Sidebar filter press with filter cloth washing device

## Peripheral equipment automation solutions

### FILTER PRESS FEEDING SYSTEM

The filter press feed is controlled continuously by pressure feeding and a flow meter in order to obtain the optimum filling level of the filter press.

### SQUEEZING SYSTEM

Best possible dewatering is achieved by means of an optimized membrane squeezing system.

### CONVEYING SYSTEMS

Controlled, fully automatic conveying systems for efficient filter cake discharge.

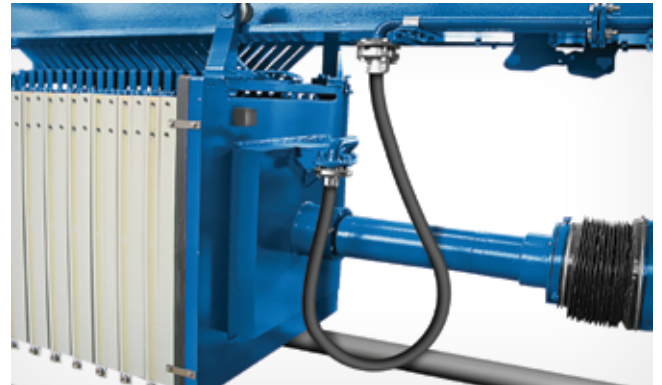
### FILTER CAKE WASHING DEVICES

Sequences preconfigured in order to achieve optimum washing results.

# IIoT solutions for filter presses

## INTELLIGENT PLATE WASHING WITH TILTING SENSOR

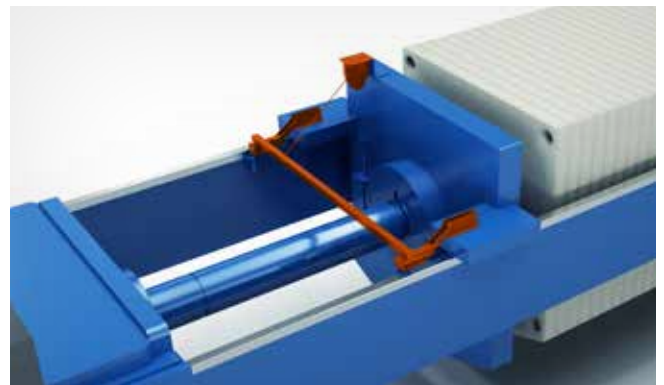
The intelligent plate washing solution measures the deviation of the shifting plate from the vertical and informs the operator as soon as the filter press needs to be washed. This avoids unnecessary washing cycles and leads to longer expected filter cloth and plate lifetimes as well as enhancing operator safety.



Shifting plate with tilting sensor for intelligent plate washing

## METRIS addIQ PISTON STROKE CONTROL

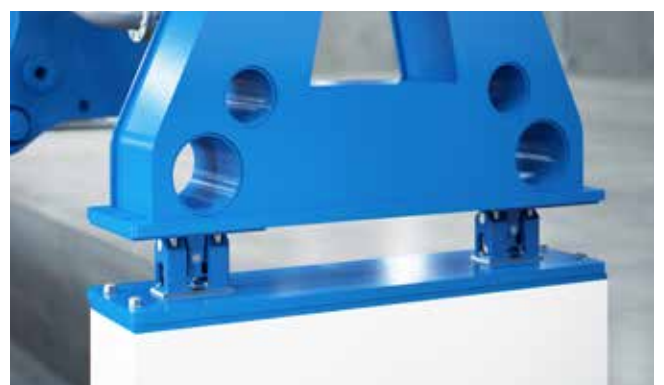
A cycle time reduction of up to 40% can be realized with the Metris addIQ piston stroke control system. The system is available for sidebar and overhead filter presses. Overhead filter presses use an electronic system, while sidebar filter presses have a mechanical piston stroke shortening device.



Mechanical piston stroke shortening device for sidebar filter presses – down position to reduce cycle time and keep shifting plate aligned

## METRIS addIQ LOAD CELLS

Metris addIQ load cells for filter presses measure the initial weight of the filter press and monitor it throughout the entire filtration process. By applying the Metris addIQ control system, the cycle time is optimized for every batch, keeping the overall cycle time to an absolute minimum. And the result? Greater production efficiency from your filter press, time after time.



Metris addIQ load cells optimize the cycle time for your filter press – for every batch





## Track the use of your filter cloth to boost performance

SmartFILTERCLOTH is a tracking system that helps you to monitor the use of your filter cloths. This increased transparency of filter cloth use helps optimize the process and your equipment's availability.

SmartFILTERCLOTH is a system consisting of an RFID chip that is tagged to each cloth and a user-friendly software package. The machine operator can track the use of and document any damage to the cloths on a tablet PC. The data collected by the system and

your operator will allow your ANDRITZ specialist to develop solutions and recommendations to make your machine and process perform better.

### Benefits



RFID chip tagged to each cloth

- Precise monitoring of filter cloth life
- Recording of filter cloth damage for troubleshooting purposes
- Predictive maintenance for optimized planning and maximized uptime
- Solid foundation of data on which to base improvements
- Higher machine availability with better performance



# Metris addIQ control system upgrade for filter presses

## Case study: Chemical plant upgrade

### CHALLENGE

Customer facing the problem that no spare parts are available for his outdated control system hardware, threatening machine performance and availability.

### SOLUTION

ANDRITZ supplies a new, state-of-the-art Metris addIQ control system upgrade with Metris addIQ Connect, which makes remote support possible. The new control system is installed and started up quickly, keeping downtime to a minimum. During installation, all previous modifications are integrated into the new control system.

### CUSTOMER BENEFITS

- Increased machine availability due to remote support capability
- Increased filter press performance and production
- Updated documentation for control cabinets (no handwritten sheets)

## Case study: Wastewater treatment plant upgrade

### CHALLENGE

Unplanned filter press shutdowns due to outdated hardware and a lack of historical trends for analyzing machine performance.

### SOLUTION

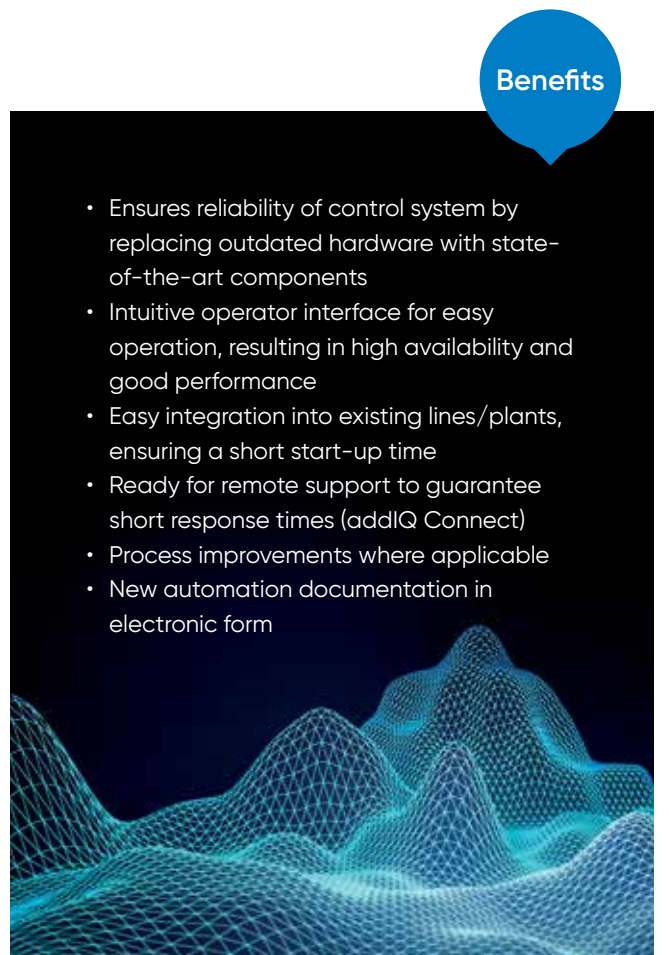
ANDRITZ supplies a Metris addIQ control system upgrade including the intuitive operating interface that enables the customer to analyze machine performance with long-term data trending. With more detailed data available, sustainable availability of the filter press is ensured.

### CUSTOMER BENEFITS

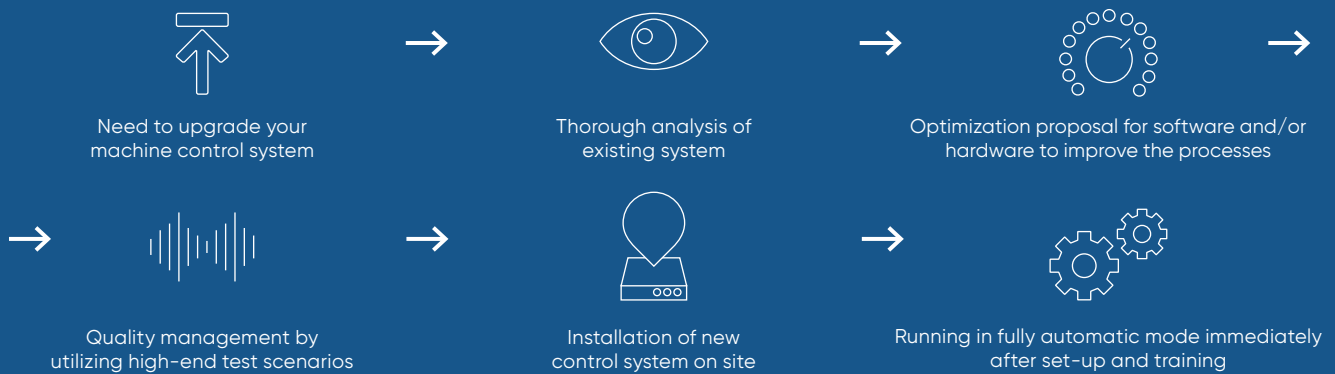
- Increased machine availability
- Production analysis and increased performance due to availability of historical data
- Wastewater treatment plant fulfills its disposal obligation

## Benefits

- Ensures reliability of control system by replacing outdated hardware with state-of-the-art components
- Intuitive operator interface for easy operation, resulting in high availability and good performance
- Easy integration into existing lines/plants, ensuring a short start-up time
- Ready for remote support to guarantee short response times (addIQ Connect)
- Process improvements where applicable
- New automation documentation in electronic form



## Moving to a modern control system under tight time constraints



## Your full-service provider

With ANDRITZ, you gain access to one of the world's largest OEM manufacturers for solid/liquid separation systems, including such well-known brands as 3Sys Technologies, Bird, Delkor Capital Equipment (Pty) Ltd., Escher Wyss dryers, Frautech, Guinard Centrifugation, KHD Humboldt Wedag, Krauss-Maffei centrifuges, dryers, and filters, Lenser, Netzsch Filtration, Rittershaus & Blecher, Royal GMF Gouda, Sprout Bauer, and Vandebroek. Whether you need spare parts, rentals, local service, repairs, upgrades, or modernization of your equipment,

ANDRITZ is your true full-service provider. From initial consulting through to service agreements, process optimization, and training programs, we are always looking for ways to minimize downtime and increase predictability in operations while raising your overall production efficiency. Wherever you operate, our network of 550 service specialists and global service centers ensures we'll always be there to support you for many life cycles to come. Let's sit down and see how we could take your operations to the next level.



## THE METRIS COMPETENCE

ANDRITZ offers a broad and constantly growing range of innovative products and services in the industrial digitalization sector under the brand name Metris, helping customers to

- Enhance plant efficiency and profitability
- Optimize the use of resources
- Achieve constant and highest product quality
- Avoid production downtime
- Maximize user-friendliness

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