

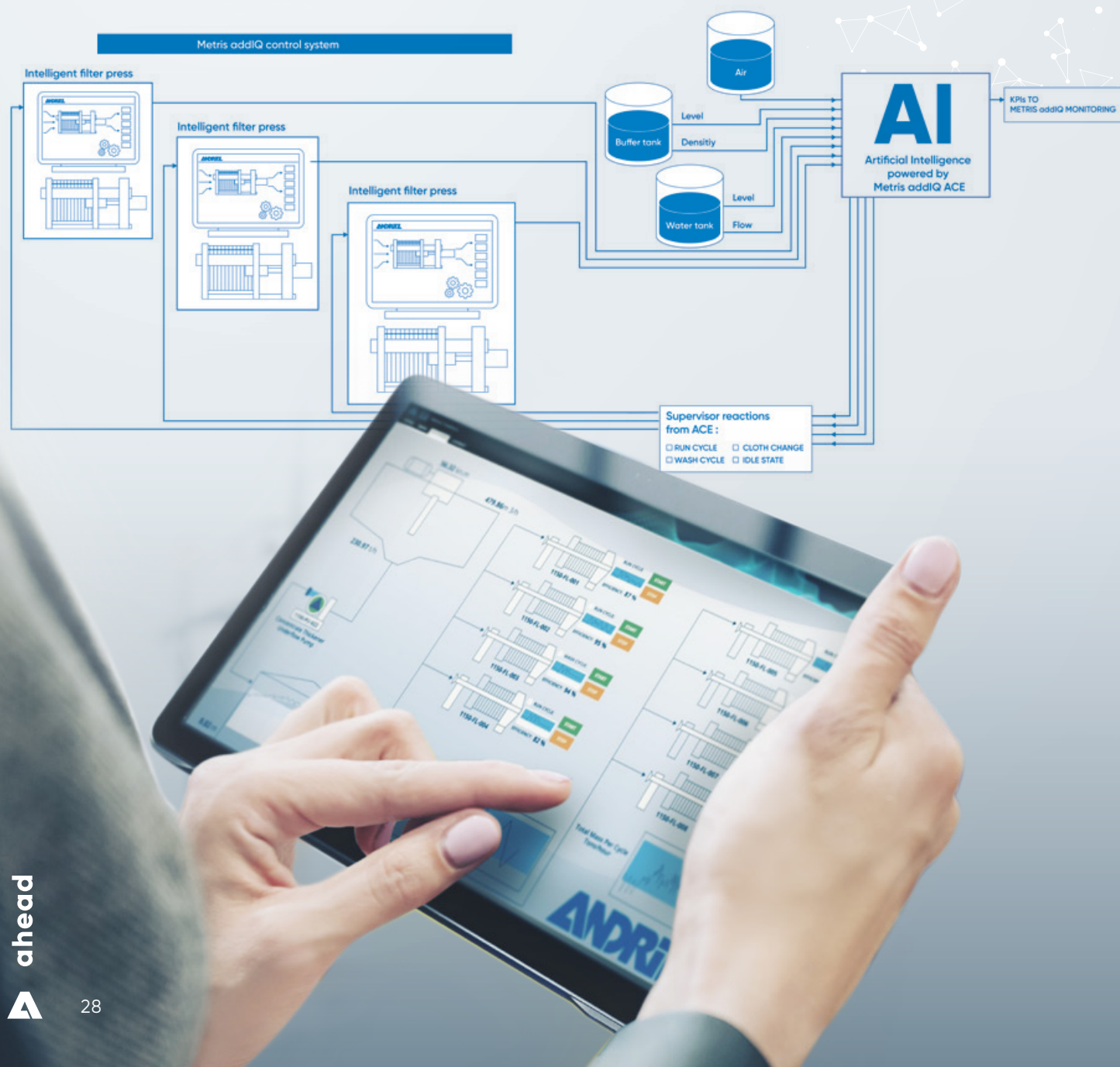
## HIGHEST PERFORMANCE – ALSO FOR MULTIPLE FILTER PRESS LINES

Maintaining an overview of the entire operation becomes a complex task when there are more than four filter presses in a plant. Metris addIQ ACE for filter presses is powered by artificial intelligence (AI) technology so that each machine in the plant is aware of what is happening throughout the entire operation. Metris addIQ ACE looks at operational management of the filter presses as a complete system and is thereby able to optimize ancillary equipment like feed pumps in order to avoid excess power consumption. It is also smart enough to make intelligent trade-offs between availability, filtration efficiency, and throughput. The efficiency of each fil-

ter press is taken into account, information from upstream and downstream operations are collected, and intelligent decisions are made automatically to maximize production throughput, minimize water consumption, and increase overall filtration efficiency. •

### METRIS addIQ ACE BENEFITS

- Automated filter operation for several filter presses
- Maximized filtration throughput and plant efficiency
- Intelligent decision-making for water and power consumption
- Intelligent trade-offs between availability, filtration efficiency, and throughput



## IDEAS Intelligent Control: prize-winning innovation

Following several rounds of intense assessment, including a "shark-tank"-style judgment panel, ANDRITZ's **IDEAS Intelligent Control** was named winner of the Newmont Goldcorp #DisruptMining competition in March 2019, earning a \$1 million contract with the Canadian company. This came several months after ANDRITZ Automation's Director of Innovation, Arthur Gooch, won ANDRITZ's internal entrepreneurial Ventures competition with the innovative technology. ANDRITZ Ventures helps to fast-track and fund the development and commercialization of industry-leading innovations.

IDEAS Intelligent Control was developed with the assistance of entrepreneurial consultants, the ANDRITZ board, and CEO Wolfgang Leitner. It is engineered to create tangible value for ANDRITZ customers using reinforcement-learning artificial intelligence technology. The backbone of its success are three industry-proven components:

The \$1 million prize from the #DisruptMining competition is being used to fund two proof-of-concept projects for IDEAS Intelligent Control: one at a (currently confidential) pulp mill and the other at Newmont Goldcorp's Pensaquito mine in Mexico. •



Left to right: David Garofalo, President and CEO, Goldcorp; Arthur Gooch, Director of Innovation, ANDRITZ; Sohail Nazari, Director of Digital Transformation, ANDRITZ; Rick Mercer, Master of Ceremonies

- 1. Artificial intelligence (AI) controller.** As used in many business and consumer applications such as Google, stock exchange trading, and inventory management. ANDRITZ partners with AI specialist PSIORI for this technology.
- 2. Reinforcement Learning.** The AI controller is trained by being rewarded for the right action or penalized for heading in the wrong direction.
- 3. IDEAS simulation models.** Pulp and paper and mineral processing companies have been using the IDEAS high-fidelity dynamic process simulation models for over 15 years in various applications, including piping and instrumentation validation, dynamic control system check-out, and operator training simulators.