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Enhanced. Embedded. Eco-friendly.

PrimeControl E automation hardware and software for tissue producers is on display at the *PrimeLine* Tissue Innovation and Applications Center in Graz.

The *PrimeLine* Tissue Innovation and Applications Center (TIAC) in Graz, Austria is built around the world's most flexible pilot machine – capable of being configured in eight different ways for conventional, structured, and premium tissues. In order to be able to accomplish this, there is a very high degree of automation to monitor and control the valving, process flows, and machinery on-the-fly. This automation system is known as *PrimeControl E*.

The "E" in *PrimeControl E* stands for Enhanced operability and maintenance, Embedded drive and quality control systems, and Eco-monitoring for energy and resource efficiency.

Enhanced operability and maintenance. *PrimeControl E* provides the utmost flexibility in monitoring and controlling stock preparation and the machine – including different forming, pressing, and drying configurations for conventional, textured, structured, and premium products.

An important aspect of the flexibility is the use of standard networks and protocols along with the integration of several vendor-specific bus systems in one centralized control system. Also included are simulation capabilities for training purposes; automatic reporting/instant messaging of information; onboard web-based engineering documentation (e.g., circuit diagrams); and a control library of modular, standardized software objects. Alarm management and online configuration of alarm task checklists provide a tool for faster and better service of maintenance activities. The capacity of the system is enlarged by utilizing the Metris Platform foundation, which optimizes performance based on proprietary algorithms with artificial intelligence.

For enhanced maintenance, the system's integrated condition monitoring functionality helps identify impending faults or malfunctions – and then gives access to dedicated online documentation. Interconnectivity with mobile devices (smartphones and tablets) allows maintenance people to monitor overall equipment effectiveness and respond to alarm situations wherever they are. There is even Augmented

Reality (AR) functionality to provide specific information about an asset at the point of service on the mill floor.

Embedded drive system and quality control system. This unique combination in one automation system increases productivity, quality, and stability of production. Integrating drive control and quality control leverages key synergies, which result in shorter start-up times or changeovers after a grade or configuration change.

Eco-monitoring. ANDRITZ integrated a millwide Resource Management System (RMS) that monitors, tracks, and traces the tissue machine's resource demands and energy flows. The system typically monitors 70–80% of the total resource costs in the mill. With energy and resource efficiency integrated into the *PrimeControl E* system, mill personnel gets a detailed overview of costs and energy balances to help optimize energy consumption.

The interconnected data from *PrimeControl E* provides a good foundation for Metris OPP (Optimization of Process Performance) services. OPP has Big Data analysis capabilities to sift through historical process and machine data to detect anomalies and deviations and predict future events – allowing ANDRITZ and mill control experts to create counter-measures to stabilize production.

