

Key Equipment: THE CASE FOR CONVENTIONAL THINKING

ANDRITZ is regarded as an innovator in developing technologies for the manufacture of premium tissue grades that are in high demand today. Yet the majority of the world's tissue is produced using conventional dry-creping techniques. To serve this large market, ANDRITZ continually enhances the reliability and performance of its "standard" technology.

ANDRITZ has long recognized the importance of this foundation and has built upon it. ANDRITZ has invested a great deal of R&D work – with the inauguration of the pilot plant in Graz – in the development of new technologies for the production of texturized and TAD paper grades. Nevertheless, ANDRITZ also recognizes the importance of the conventional tissue machine, which is still a highly engineered machine worthy of respect.

FULL LINE OF DRY-CREPING SOLUTIONS

Today, ANDRITZ is among the top three tissue technology suppliers in the world and the number one supplier in China, where it all began with the first tissue machine at Hengan – the company now operates 13 ANDRITZ machines. Further installations have taken place at almost all major Chinese tissue producers.

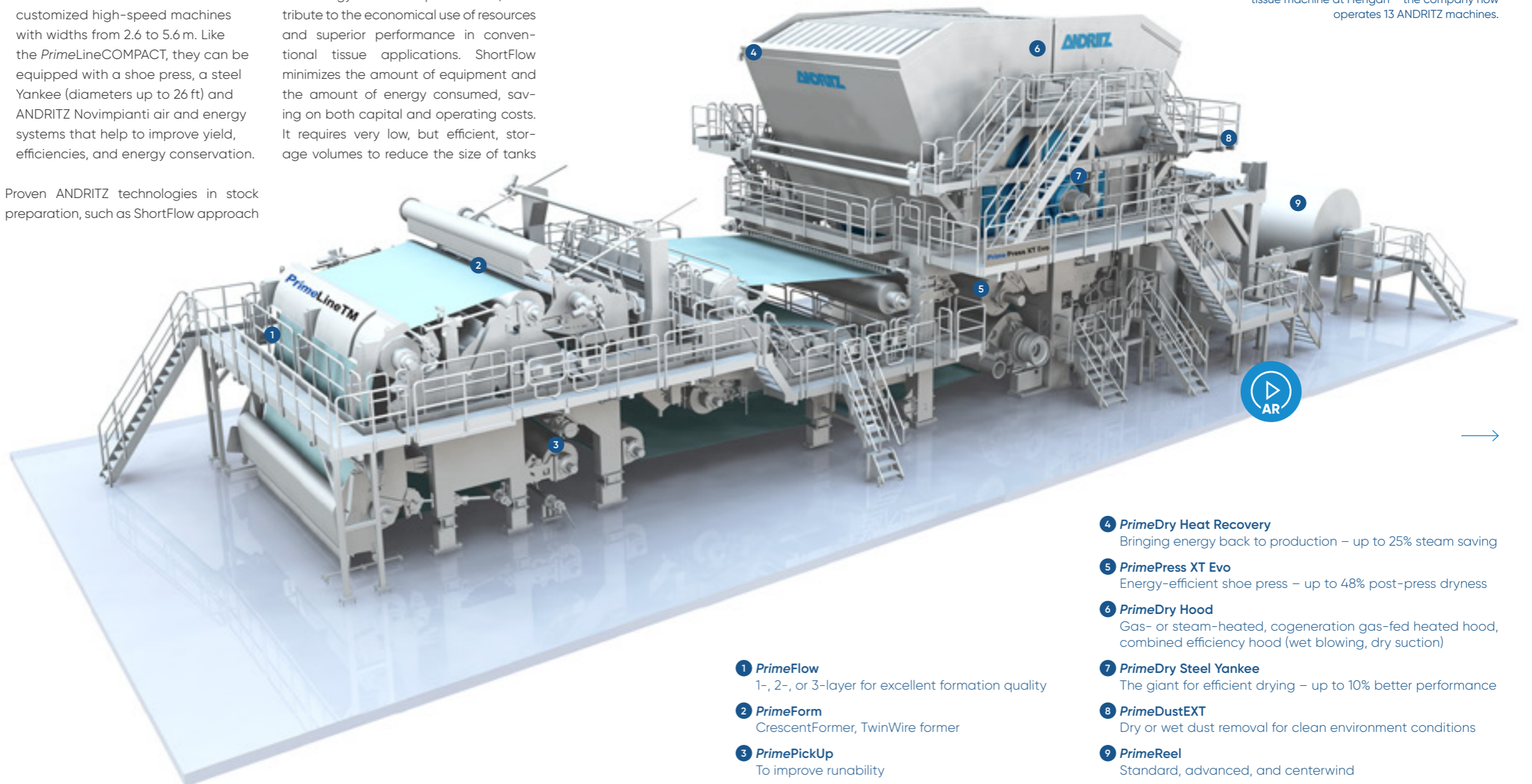
With this solid foundation, the company continues to improve the performance and cost-efficiency of its dry-crepe product technologies *PrimeLineCOMPACT* and *PrimeLineTM* which are available in a variety of widths and capacities:

- *PrimeLineCOMPACT* machines are ideal for producers who appreciate a standardized, modular approach that reduces engineering, transport, infrastructure, installation, and start-up costs. The COMPACT machine ensures a certain throughput and production quality in a streamlined, cost-effective package.

- *PrimeLineTM* machines are customized high-speed machines with widths from 2.6 to 5.6 m. Like the *PrimeLineCOMPACT*, they can be equipped with a shoe press, a steel Yankee (diameters up to 26 ft) and ANDRITZ Novimpianti air and energy systems that help to improve yield, efficiencies, and energy conservation.

Proven ANDRITZ technologies in stock preparation, such as ShortFlow approach

technology and the Papillon refiner, contribute to the economical use of resources and superior performance in conventional tissue applications. ShortFlow minimizes the amount of equipment and the amount of energy consumed, saving on both capital and operating costs. It requires very low, but efficient, storage volumes to reduce the size of tanks



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FOR FURTHER INFORMATION
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ANDRITZ is the number one supplier of tissue machines in China, where it all began with the first tissue machine at Hengan – the company now operates 13 ANDRITZ machines.

- 1 PrimeFlow**
1-, 2-, or 3-layer for excellent formation quality
- 2 PrimeForm**
CrescentFormer, TwinWire former
- 3 PrimePickUp**
To improve runability

- 4 PrimeDry Heat Recovery**
Bringing energy back to production – up to 25% steam saving
- 5 PrimePress XT Evo**
Energy-efficient shoe press – up to 48% post-press dryness
- 6 PrimeDry Hood**
Gas- or steam-heated, cogeneration gas-fed heated hood, combined efficiency hood (wet blowing, dry suction)
- 7 PrimeDry Steel Yankee**
The giant for efficient drying – up to 10% better performance
- 8 PrimeDustEXT**
Dry or wet dust removal for clean environment conditions
- 9 PrimeReel**
Standard, advanced, and centerwind



ANDRITZ Papillon refiner with its compact cylindrical rotor design

and allow for fast grade changes on the machine. For refining, the Papillon refiner has a compact cylindrical rotor design. Energy savings can be quite significant when compared to competitive refiners, and the fiber is properly treated over the entire refining area.

One of the more recent innovations in stock preparation, the PrimeScreen X, improves energy consumption, screening

efficiency, and ease of maintenance. This new screen has a top feed stock inlet and a new PrimeRotor configuration with new rotor foils to offer unique benefits.

Machine and mill automation are addressed through ANDRITZ Automation's Metris technologies for digitalization, simulation, and overall optimization. Smart Solutions for tissue producers include, but are not limited to, automation

technologies for predictive maintenance, the Metris UX Platform, Metris Smart Service including the Metris Spare Parts Catalog and Metris OPP (Optimization of Process Performance).

INNOVATION AND PERFORMANCE

To further develop and support its technologies, ANDRITZ continues to make investments in the PrimeLineTIAC. The tissue pilot plant is available to all tissue producers and suppliers worldwide, and also to partners and institutions within the tissue value chain. For example, the latest machine design, PrimeLineTEX, was developed and tested at the tissue pilot plant. It enables the production of premium textured tissue with a quality very close to TAD. The PrimeLineTEX tissue machine is of utmost flexibility: it can be configured as a "pure" textured machine or as a machine that can produce either dry-crepe or textured tissue.

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ERWIN WALCHER
Senior Sales Manager at ANDRITZ

MEET OUR TISSUE EXPERTS!

Our tissue experts, their know-how, passion, and excitement, are what make the difference for our customers when it comes to best-in-class tissue technology, production equipment, and service.

Get to know Erwin Walcher, ANDRITZ Senior Sales Manager, with more than 40 years of experience in the tissue business.



ANDRITZ high-performance PrimeDry Steel Yankees are made entirely of steel, contributing to enhanced safety and 8 - 10% better machine performance when compared to a cast Yankee.



SAFETY FIRST IN EVERYTHING WE DO

ANDRITZ is always exploring ways to take the ever-important issues of Health & Safety to new levels. We have recently launched the internationally recognized IOSH Managing Safety courses for all employees engaged in responsible positions within our pulp and paper activities around the globe.

The Institution of Occupational Safety and Health (IOSH) is an international chartered professional body for Health & Safety in the workplace. Formed in 1945, the UK based institution acts as a champion, adviser, advocate, and trainer for health and safety professionals working in all organizations, and has over 47,000 members from over 120 countries.

The IOSH has become leader of a profession that has transformed the world of work, making it a safer and healthier place to be. Its vision is very simple: a safe and healthy world of work.

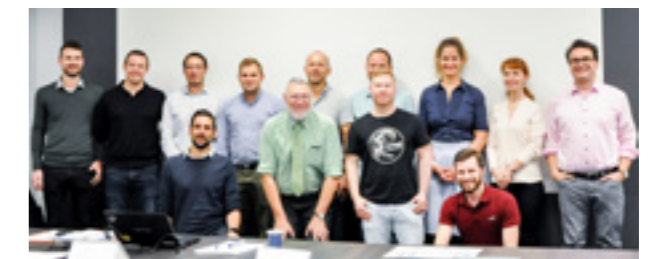
ANDRITZ is now running regular IOSH Managing Safety courses, which are tailor-made for ANDRITZ professionals, in particular project managers, site managers, supervisors, and QHSE. The training consists of a variety of modules, including identifying hazards, assessing and controlling risks, investigating accidents and incidents, and measuring performance. In addition, the course provides relevant information directly related to ANDRITZ common site risks, including working at height, confined spaces, traffic management, permit to work, and use of lifting equipment.

The IOSH Managing Safety courses are an intermediate level, which run for three full days. The courses have a maximum of 20 places - a requirement of the institution - as this allows learning in the most effective manner, and also allows the individual attention needed.

We have challenges when arranging the courses, as the nature of project management means that the people we want to train are spread all over the world. However, such is the importance and interest in the course that we are really pleased to have already trained and certified more than 100 project staff and have planned two more courses this year in Helsinki, Finland and Graz, Austria.

The training itself contains standard material with guidelines that have to be strictly adhered to, and cannot be altered or removed. However, additional information regarding specific ANDRITZ rules, instructions, and operational processes are included to make the training even more relevant for our organization.

One authorized, qualified, and competent IOSH trainer conducts the course with great enthusiasm and excellent communication skills. The same trainer runs all ANDRITZ courses to ensure a uniform and effective teaching approach. The course includes a series of presentations with open discussions, where delegates are constantly involved, relating their own experiences. There are also dedicated workshops in which all delegates take part. The three-day course finishes with a final exam, one hour in length, containing 30 multi-format questions and a practical project. Only successful delegates are awarded an IOSH Managing Safety certificate.



Graduates of recent IOSH training in Germany and Austria.

Our experience of the IOSH Managing Safety course so far has been very revealing; by the second day, it is evident that the delegates have discovered a whole new world of Health & Safety guidelines, and they are keen to go out and put into practice all they have learned. It is our aim at ANDRITZ to make IOSH courses the basic training for all professional staff in roles that involve Health & Safety in our pulp and paper projects, workshops, and offices all around the world.



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HSE Manager
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