

FROM VISION TO REALITY

The Steyrermühl paper machine PM6 is part of STARKRAFT, a business unit of HEINZEL Pöls, which has significantly expanded its kraft paper production capabilities, thanks to a groundbreaking partnership with ANDRITZ. This ambitious project involved converting the idled supercalendered (SC) PM3 at the Steyrermühl mill in Austria into PM6 to produce kraft papers for sustainable, flexible packaging.

The family-owned HEINZEL GROUP, based in Austria, is one of the most important pulp and paper producers in Central and Eastern Europe, trading in pulp, paper, wastepaper, and packaging solutions worldwide.

TIGHT TIMELINE

The timeline for this project was tight, and the start-up curve correspondingly steep. PM6 reached, and indeed exceeded, its target speed of 1,200 m/min within a few months of start-up.

The ambitious timeline reflected the desire to seize market opportunities, which wait for no one.

"This was a strategic decision within the group, based on the reality of an increasing market for brown and white kraft paper, the decline in graphic grades, and having identified an available asset at Steyrermühl that could meet the future requirements of this market," says Heinz Schnedl, CTO HEINZEL Pöls.

"We had to get ahead with production volumes and quality so as not to miss the round of budget discussions with our customers for 2025, and to ensure that we were a first mover with this innovative technology."

The project was not without its challenges, including the integration of new and existing equipment and the need to ensure that the stock preparation was flexible enough to produce a wide range of end products.

Personnel was also a factor, as Siegfried Gruber, Head of Technical Planning, HEINZEL Pöls points out, "Our team had to switch from one running paper machine to another idled one (newsprint PM4 to the new PM6), coping with enforced downtime, different technology on a narrower machine, and also dealing with a far broader range of product specifications – having previously been operating

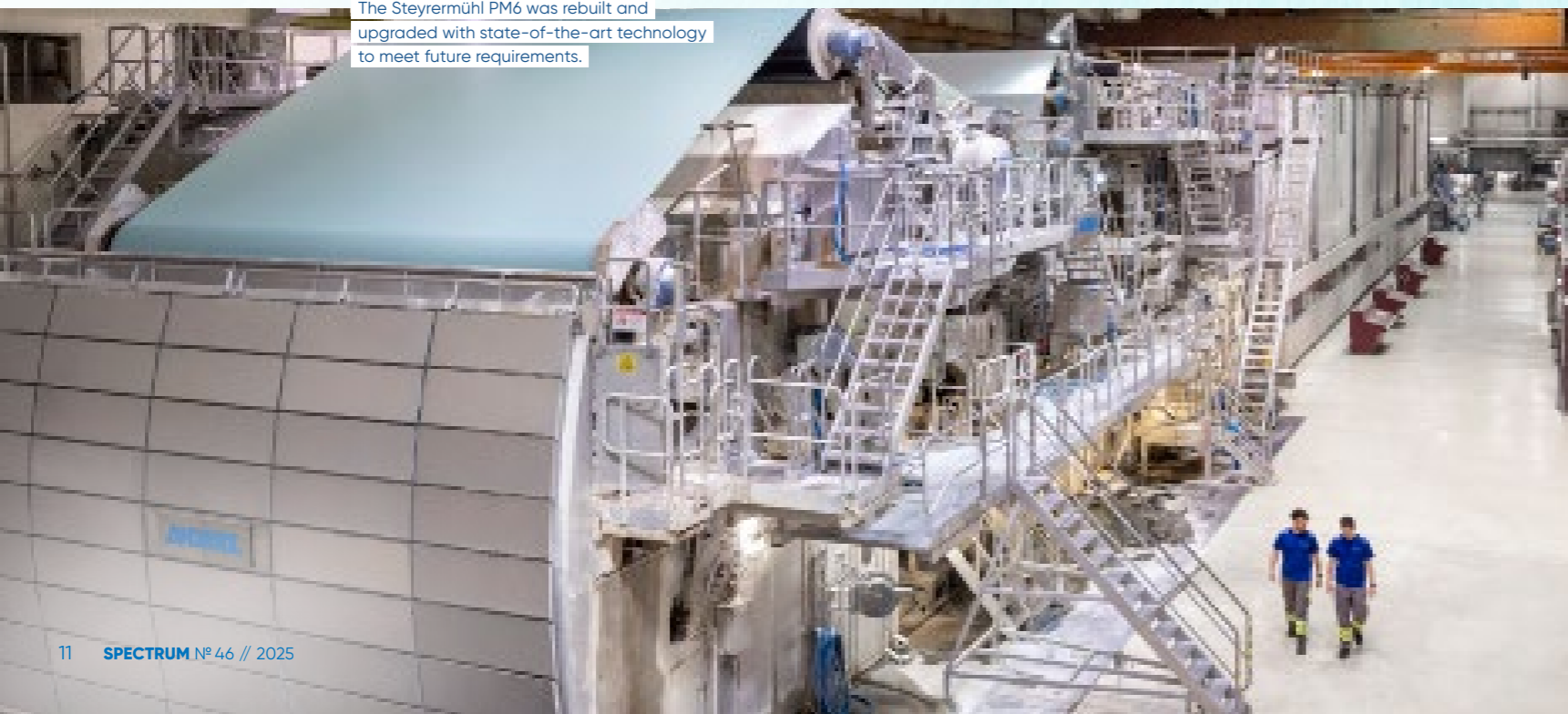
within the narrower specification confines of graphic grades. In the end, we were fortunate to have retained so much expertise in-house alongside the work of the dedicated ANDRITZ team."

In addition to the game-changing PM conversion, the ANDRITZ scope of delivery included upgrades of the stock preparation, approach flow, and broke

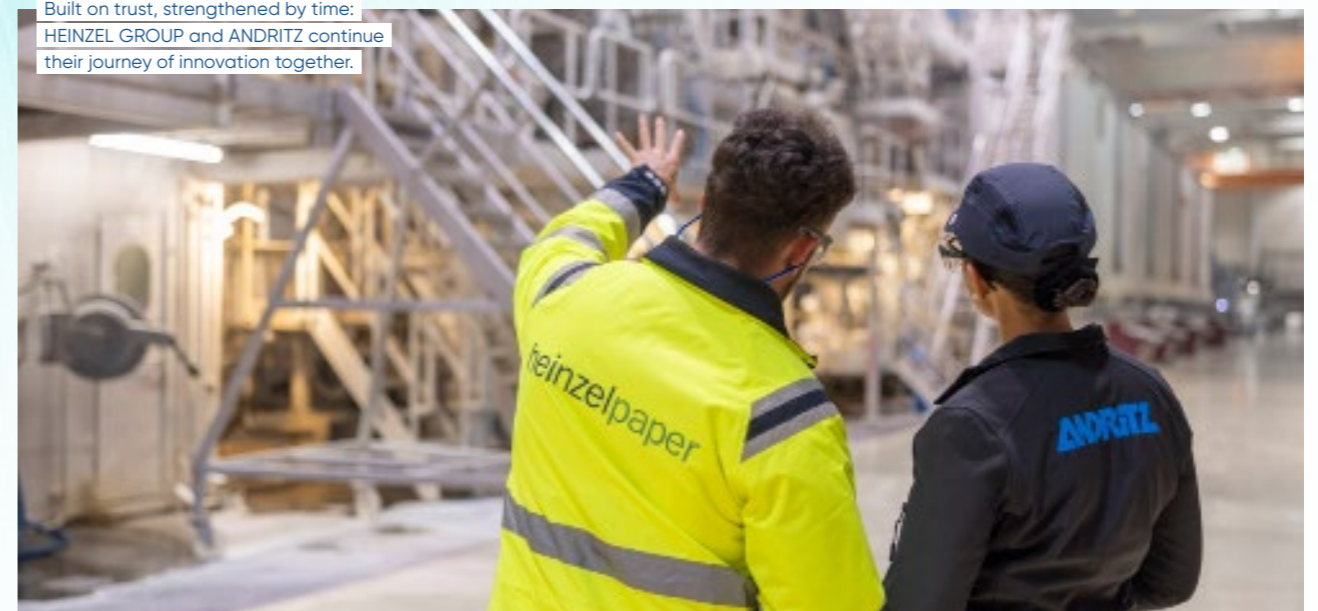
PROJECT FACTS

HEINZEL took over the Steyrermühl site from the Finnish paper group UPM on January 1, 2024. The Steyrermühl paper mill has a long tradition of producing high-quality graphic paper products, but ANDRITZ converted the former PM3 SC paper machine to produce sustainable kraft papers for the growing flexible packaging market. The rebuilt machine, now called PM6, will produce up to 150,000 tons per year of brown and white kraft paper in a range of basis weights, marketed under the established STARKRAFT brand. The new kraft paper grades will be used to manufacture carrier bags and pouches, amongst other flexible packaging products.

The Steyrermühl PM6 was rebuilt and upgraded with state-of-the-art technology to meet future requirements.



Built on trust, strengthened by time: HEINZEL GROUP and ANDRITZ continue their journey of innovation together.





Optimized formation and efficiency with the PrimeForm TW shoe-blade gapformer



existing parts, there will be unforeseen technical aspects to handle. PM6 was no exception, but we were pleased that we managed to adhere to the agreed schedule despite this."

"This project not only enhances HEINZEL GROUP's production capabilities, but also underscores its commitment to sustainability, through energy savings and material optimization, and thanks to technological advancement in general," says ANDRITZ Sales Manager Paper & Board, Christoph Draxler. "ANDRITZ has proven itself to be a dependable, innovative partner through its ability to rise to the challenge of tailor-made solutions, while confirming its leading position in kraft and specialty grades. Despite necessary changes to the scope as the project progressed, ANDRITZ managed to keep to the original schedule. It was a project that required ANDRITZ's highly-flexible team of experts to think out of the box, particularly when recommending which parts of the old machine to retain and rebuild, and which to replace entirely."

STEYRERMÜHL'S FUTURE

With the Steyrermühl mill now producing high-quality kraft papers for packaging under the established STARKRAFT brand, HEINZEL GROUP is poised for continued growth. This project not only enhances its production capabilities, but also underscores its commitment to sustainability and technological advancement. "It has been a privilege to accompany STARKRAFT on this important journey," concludes ANDRITZ's Christoph Draxler. "At ANDRITZ, we further strengthened our leading position in flexible packaging paper technology development, having introduced a world-first technology, and successfully completed a project characterized by daily challenges and rewards."

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handling systems as well as extensive upgrades of the automation systems (DCS, QCS, MMD), detailed engineering packages, mechanical erection, and an upgraded steam and condensate system.

AT ITS HEART, A "FIRST" IN FORMING TECHNOLOGY

One of the standout features of this project is the use of the first gapformer designed specifically for kraft paper production.

The production of kraft paper usually requires a fourdrinier former, but PM6's gapformer rebuild features a new, unique concept, proven in pilot trials, which is based on a pulsation-free impingement shoe of the PrimeForm TW.

This fully adjustable shoe-blade gapformer retains high flexibility in basis weights and grades, thus ensuring robust, yet forgiving operation. At PM6 in Steyrermühl, it enables crucial, grade-specific paper properties with the lowest possible MD/CD ratios for both bleached and unbleached paper grades. This is combined with a PrimeFlow AT headbox with dilution control for excellent cross-direction profiles and overall dimensional stability.

ANDRITZ applied patented technology to give a truly pulsation-free impingement zone and adjustable geometry in the forming zone with variable wrap technology to allow grade-specific optimization and a very wide operating window. At the same time, use of a gapformer offers a step increase in energy efficiency, forgiving operation, and much higher speed potential than fourdrinier technology.

The PrimeCal Soft calender enables safe operation, low maintenance, and maximum machine availability.

The combination of the ANDRITZ PrimePress X shoe press and the upgraded steam and condensate system has resulted in significant energy savings, while maintaining high quality production. The new ANDRITZ VIB SteamTech profiling system and the PrimeCal soft calender technology, which replaces a multinip calender, further enhance the paper's surface quality, making it ideal for flexible packaging applications.

The project team identified the DCS, based on the Damatic Classic control system, for a substantial upgrade. This covered stock preparation, part of the wet end, drying groups, and the steam and condensate system, as mentioned above. In particular, it included the DNA Operator Station, which includes a DNA Backup and AlarmServer, a 20-client DNA Display Server, the GDCAD to DNA software upgrade, and the OPC UA Server. The network was upgraded, while the existing IO cards and application software from the XDi System were reused. ANDRITZ modified 50% of the existing application software, while upgrading the process station hardware and system software to the latest versions.

Last but not least are the pumps – the beating heart of any process industry. ANDRITZ installed 10 new pumps and upgraded approximately 50 existing process pumps to optimized energy performance with modified impellers, base frames, and various additional components to meet the new operating specifications. In addition, ANDRITZ developed a conversion kit for the coupling guard to meet the latest compliance requirements.

Using an adapter disc, the integration of the current coupling guard of the outstanding ACP pump series will be facilitated.

A LONG-STANDING PARTNERSHIP

"This has been a highly challenging project," says Mario Wiltse, Corporate Director, Paper Technology at HEINZEL Holding GmbH. "It was complex and very intense, with a short schedule to meet, a very steep start-up curve, and a lot of discussion about what to retain from the old machine and where new equipment was required. And all this was within an existing environment rather than a greenfield scenario. But thanks to skilled, experienced, and dedicated teams from Steyrermühl and ANDRITZ, we had a great start-up despite the time pressure and technical challenges."

The successful completion of this project is testament to the long-standing and fruitful partnership between HEINZEL GROUP and ANDRITZ. Previous collaborations include the conversion of PM10 at Laakirchen and the delivery of two new MG paper machines for the Pöls mill.

"It's always a more fluid situation when dealing with a rebuild," says ANDRITZ Project Manager Andreas Pfennich. "No matter the level of detail you might include in the project proposal, when the time comes to execute the rebuild or replace



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