

Fast rebuild  
and fast acceptance

# A RUSSIAN GAME- CHANGER

The rebuild of the K-28 paper machine for Naberezhnye Chelny in Russia was executed and accepted in record time. From the second reel on, the paper quality was of consistently high quality and very saleable. The General Director of the mill said that the speed with which the rebuild was accomplished was dictated by the changing requirements of Russian customers. Another example of overcoming challenges, working in close collaboration, and achieving record results.

In the heartland of Russia, 800 km east of Moscow, is the Republic of Tatarstan. Located alongside the Kama River is the small yet thriving city of Naberezhnye Chelny, home to Naberezhnye Chelny Board & Paper Mill (KBK).

KBK has two machines – one for the production of tissue and one for the production of packaging grades. In 2012, KBK decided to make an investment to rebuild and upgrade the wet end and press section of its K-28 board machine. “We wanted to increase our quality, machine efficiency, and production throughput,” says KBK’s General Director, Vladimir Bestolkov. “Since this was going to be the largest investment in this mill’s 33-year history, we took the decision regarding the equipment supplier very seriously.”

During the tender period, the KBK management team assessed the various industry players, locally and abroad, to determine who could embrace this challenge and deliver the best payback. “We opted for ANDRITZ based on the company’s experience, reputation, and knowledge,” Bestolkov says.

The benefits and results have been nothing short of remarkable. “I am proud of the work our employees did, working in very close cooperation with ANDRITZ,” says Bestolkov proudly. “The time period from shutting the old machine down to starting up after the rebuild was a quick 45 days, which is truly a game-changer in the Russian pulp and paper industry. Plus, we had saleable paper from the second reel on.”

The rebuilt machine was started in August 28, 2014. Post upgrade, machine speed increased 27% (470 to 600 m/min) and capacity was boosted 21% to 190,000 t/a on this two-ply machine with a working width of 4.25 m.

#### The “usual” pressures: time and money

Making the right investment choices is not an easy task. KBK’s rebuild project had to succeed in order for the company to be well positioned for future market growth. With a growing demand for packaging and tissue, the company is in the right niches (it produces packaging and hygiene products). Our products are sold throughout Russia and demand continues to grow with a current market share for board-based products of 7.5% and hygiene products of 17%,” says Andrey Fomichev, Deputy General Director.

In terms of raw materials, KBK is moving in the green direction. Furnish is virgin pulp for hygiene and kraftliner products; OCC recycled fiber is delivered from various regions of Russia, with 10% coming from Tatarstan.

“After signing the contract in late 2012, the pressure was on all of us to meet the projected deadlines and keep within budget,” notes Fomichev.

#### Strategic and detailed planning

A machine rebuild of any magnitude requires detailed planning to reduce the shutdown

time and close cooperation on-site in order to succeed. Since ANDRITZ was supplying the main technical components as well as supervision of the erection, commissioning, and start-up, detailed handoffs had to be planned for. “For our part, we did detailed planning to ensure that all the components and specialized tooling would be on-site for the shutdown beginning the end of June 2014,” says Klemens Unger, ANDRITZ Project Manager. “Everything had to be in place so that the erection team could carry out its assignments without delay.”

The ANDRITZ delivery included the machine approach system, pumps, two-ply wire section with new headboxes and dilution control



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Vladimir Bestolkov  
KBK’s General Director

and a press section with shoe press in the second nip. In addition, according to Unger, "We also supplied the PrimeFeeder threading system from the press section to the drying section, PrimeRun web stabilizers for the machine's single-tier dryer section, the machine drives, the Quality Control System, the Distributed Control System, and the machine drives, and the Motor Control Center for our scope of supply."

The old wire section of K-28 had seven vacuum formers, but now has two wire tables. "We opted for the PrimeFlow SW headboxes with dilution control since they are technologically state-of-the-art," says Mikhail Nokhrin, Chief Engineer. "The lamella design inside creates excellent formation, fiber distribution, and

paper profiles. The PrimePress X significantly improves dewatering and saves us energy. Because of this, we could get the increased production without rebuilding our drying section."

**Unforeseen challenges**

KBK, with its professional leadership, was meticulous and focused on garnering the best results from the project. "Certainly we faced challenges," says Unger of ANDRITZ. "In any rebuild, you need to be flexible to adapt your technical solutions if required. For example, a detailed study of the existing foundation concluded that it would not be sufficient to carry the static loads created by machine clothing replacement. Together with specialists from a Russian construction company, we developed

a solution to reinforce the existing foundation and adapt the construction of the machinery beams to avoid the expense and time delays for making a completely new foundation."

Language barriers, geographic distances, and the complexity of preparing documents for Russian customs clearance were also challenging at times. "We all entered this project with a team spirit and a common goal," says Unger. "The ANDRITZ and KBK teams united seamlessly on all levels to meet the deadlines and KBK's expectations."

**A conclusion and a new beginning**

K-28 was restarted in its new configuration and saleable paper came quickly. So did the final acceptance.

*By including ANDRITZ's technologically advanced solutions, we have increased speed, increased production, increased quality, and increased machine efficiency."*

Andrei Folmichev  
Deputy Director General



◀ New press section after the rebuild

(l-r) Sergey Gavrilo, Board Production Manager; Ivo Valtchev, ANDRITZ Sales Manager; Klemens Unger, ANDRITZ Project Manager; Andrei Fomichev, Deputy Director General; Sergey Poteryaev, Deputy General Director for Production; Mikhail Nokhrin, Chief Engineer; Vladimir Bestolkov, General Director; and Georg-Michael Sautter, ANDRITZ Senior Sales Director. ▶



▲ Photo shows part of the new top former in the wire section. The original machine had multi-layer forming on seven vacuum formers.



▲ KBK's end product – boxes for Russian production

"By including ANDRITZ's technologically advanced solutions, we have increased speed, increased production, increased quality, and increased machine efficiency," says Fomichev. "Productivity has improved by a large measure due to the sheet formation, web stabilization, and the closed draws between wire and press, and within the press section. Sheet breaks are a rare event now." March 17, 2015 became a noteworthy day when KBK management signed the Final Acceptance Certificate (FAC) with ANDRITZ. "Seven months from the start-up of the new and improved K-28 and we have formal acceptance," says Georg-Michael Sautter, Senior Sales Director for ANDRITZ. "This is a record in itself, being the fastest achieved for such a complex rebuild project in Russia."

Although the project is concluded, it is not intended to be the end. "I have mixed emo-

tions, Sautter says. "The business negotiations were tough, but we have also established strong bonds and solid friendships. The cooperation has been truly remarkable."

With the second stage of KBK's modernization plans now concluded, a third stage is anticipated during 2016 - 2020. "Our goal is to optimize the machine to achieve 800 m/min with stable quality parameters, which will increase production to 250,000 t/a," says Bestolkov. "ANDRITZ delivered what they promised. Any time we faced a technical hurdle, we found a working solution. This is a valuable asset that ANDRITZ people possess. We will strongly consider partnering with them in the future."

**Collectively committed and responsible**

KBK is one of the few employee-owned enterprises in Russia. "We are committed to the 1,717 employees here," Bestolkov ex-

plains. "My predecessor, General Director Titov, had a vision 20 years ago regarding the ownership structure. He had housing built for employees and their families near the mill." KBK has also built two kindergartens and a school, and sponsors sports activities, charity and social events, and other activities.

In September 2014, the mill was visited by the President of Tatarstan, Rustam Minnikhanov, together with various Ministers of the government to witness the ANDRITZ upgraded K-28 in action producing linerboard. President Minnikhanov was impressed by what he saw at the enterprise. "Today we have seen the fruits of modernization," he said. "You are a good example for other companies."

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