PRESS RELEASE

Weinsberg, 13 March 2024

Second transformer plant with fully automated cantilever storage system for steel coils in China

For the second time in three years, Vollert's intralogistics specialists have received an order from TBEA to build a fully automated storage and material flow system for steel coils, including a high-bay warehouse. The twin plant for the production of transformer cores in Tianjin, China, is being built in the immediate vicinity of the first production plant. Handling the sensitive steel coils requires sensitive heavy-duty technology and sophisticated storage logic with high structural requirements.

The technology is comparable, but the dimensions and speeds have been increased even further: with a length of over 200 meters and 2,300 cantilever arms, the second order for the construction of a cantilever high-bay warehouse for TBEA exceeds the performance data of the first project. The new warehouse offers space for around 32,000 steel coils. Vollert had already built a fully automated intralogistics system for TBEA in 2020 for the intermediate storage, delivery and removal of steel coils to several cutting lines. A twin plant is now being built at the same location and Vollert was the only supplier from Germany to be commissioned again. The planning, development, production and assembly of the intralogistics will therefore once again bear the "Made in Germany" seal in TBEA's new flagship project. "For us, this is a great vote of confidence, which we are very pleased about. Precise storage technology is required when handling the highly sensitive coils, and the statics of the high-bay warehouse must also be continuously taken into account during storage and retrieval and monitored by the control system. This is a task that really appeals to us," explains Bastian Binnig, Senior Sales Manager at Vollert. Three stacker cranes and four transfer platforms are used to store and retrieve the coils and feed the cutting lines. With around 90 movements per hour, the system has also become even faster.

Well sorted: Up to 14 different strips on one cantilever arm

The challenge for the Vollert team was not the payload of up to 5 tons, but the extremely high variance and sensitivity of the steel coils, also known as strips. A 2 x 2 m raw coil is turned into numerous different slit strips that vary greatly in width, diameter and weight. This places high logical demands on the high-bay warehouse software, as the different weights must be taken into account for static reasons when sorting the strips on the cantilever arms. The load on the high-bay warehouse as a whole and its balancing also play

a role. The stacker cranes can combine the strips in badges on the cantilever arms or separate them again and correct the distances between the reels.

Sensitive heavy-duty technology

"The distances between the coils are kept very small in order to achieve the highest possible number of strips on each cantilever arm. For the stacker crane, however, this means maximum precision when loading and unloading the strips," explains Kevin Dietrich, Project Manager at Vollert. In addition, the reel-free strips change their shape depending on their circumference and weight and are also sensitive to damage. "Handling the coils requires real expertise in planning and implementation. This is where subtleties make the difference and ultimately ensure the high reliability and performance of the entire system." The fact that Vollert was commissioned with the second high-bay warehouse for TBEA is proof of the successful collaboration. Vollert is installing four transfer platforms to connect the 16 cutting lines and the high-bay warehouse. At the same time, the transfer platforms weigh the coils for a continuously updated overview of the material flows in production and quality control.

Turnkey project - planning, steel construction and plant engineering

The structural engineering, planning and plant technology were provided by Vollert in Germany. However, the global player also has its own subsidiary in China, which coordinates with the customer and the long-standing local steel construction partners, as well as local employees for service and retrofitting. This enables short distances and rapid processing: the Weinsberg-based intralogistics experts received the order as general contractor for the new high-bay warehouse at Christmas, with delivery scheduled for spring 2025.

About Vollert Anlagenbau GmbH

As specialists for heavy loads and large parts, Vollert Anlagenbau GmbH develops turnkey intralogistics concepts for the aluminum and metal industry. As a general contractor and full-service provider, the service range encompasses state-of-the-art material flow, storage and packaging technology as a stand-alone solution or integrated into a larger logistics environment.

Whether fully automated mega-high bay systems for aluminum coils, intelligent material flow systems for the leading aluminum extrusion press manufacturers, the world's most efficient stacker cranes for the storage of sheet metal plates, automatic crane systems for 50 tons and more or the most modern surface coating systems – Vollert is everywhere.

Vollert's plant and machine solutions are deployed in more than 80 countries around the world and in Asia, North and South America the company's own subsidiaries strengthen in addition the sales activities. Vollert employs more than 300 people at its company headquarters in Weinsberg. **www.vollert.de**

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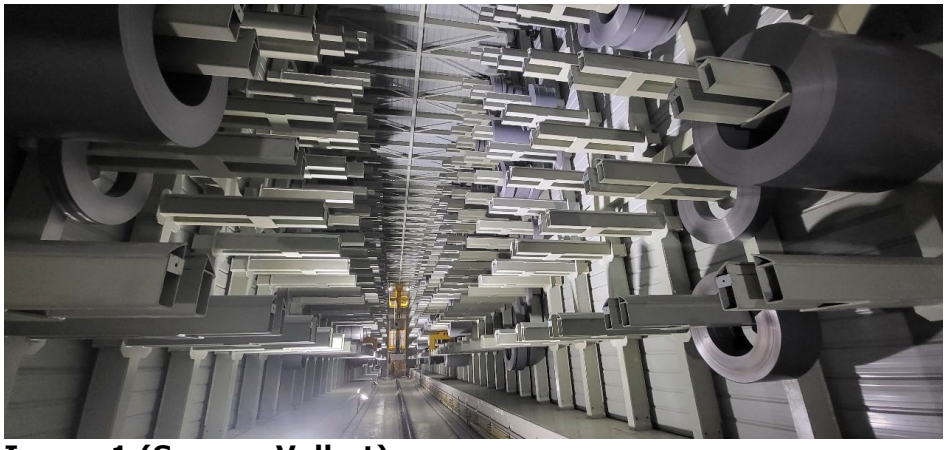

Image 1 (Source: Vollert)
One more, please: For the Chinese transformer core manufacturer TBEA, Vollert is installing a fully automated storage and material flow system for steel coils, including a high-bay warehouse, for the second time in three years. Four rotating transfer platforms on the cutting lines and three stacker cranes in the high-bay warehouse keep things moving.

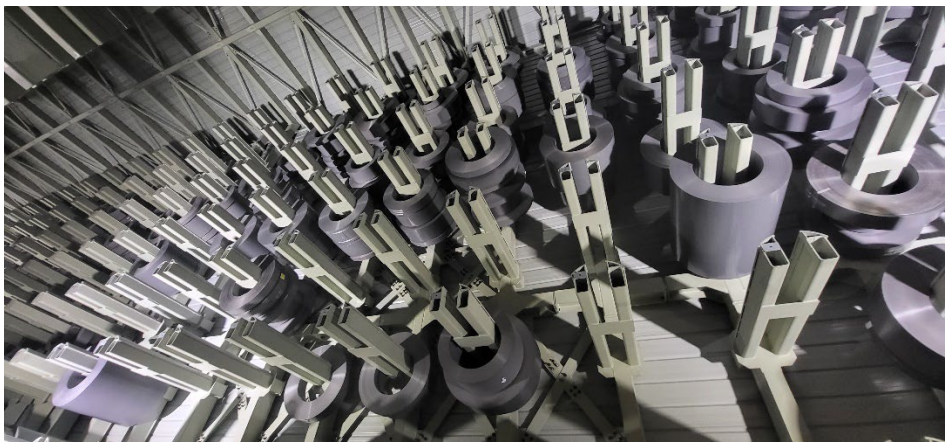

Image 2 - 4 (Source: Vollert)

The high variance of the strips is a challenge for the statics and handling of the stacker cranes. These can store and retrieve up to 14 strips in a badge or individually and thus pre-sort the strips in the correct sequence for transfer to the cutting lines. The high-bay rack offers space for around 32,000 strips on 2,300 cantilever arms.