

PRESS RELEASE

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Material flow system for paint and assembly line for large components

Weld, paint and fit wagons and trailers in one line

The Brazilian manufacturer Randon has built a 500m long combined welding, painting and assembly line for trailers and railway wagons in the state of São Paulo. Vollert has developed a heavy-duty material flow concept consisting of 13 combined rope conveyor drives, two moving distribution transfer platforms and the control system for the individually timed forward feed.

In cooperation with the plant manufacturer Eisenmann, Randon, the largest manufacturer of trailers and freight wagons in Latin America, has built a new production line in Araraquara, some 270 km northwest of São Paulo. Since April 2018, trailers and wagons are being welded, painted and assembled in a combined line over a length of 500 m approximately. Different wagon and trailer lengths of 9 to 22 m are feasible. Randon's product portfolio includes oversized sugarcane double trailers. "The interesting thing about this concept is the combination of welding, painting and assembly processes in a continuous line. It is thus possible to achieve a short clock cycle and a calculated capacity of up to 18 wagons per work shift", explains Jochen Keinath, project manager at Vollert. At full capacity wagons and trailers can be completed every half hour.

13 Rope conveyor drives integrated in a single line

Initially, the frame structures set up on dummy buggies are still fed manually into the system. Vollert's automatic conveying line starts at a weight of 10 tons within the welding range – at the end of the line the total weight of the workpieces can reach up to 25 tons. A total of 13 rope conveyor drives, handle the buggies forward movement after each work step. For this purpose, the drives are arranged one behind the other to allow individual forward feed at the workstations after acknowledgment. At the end of a conveying section, the rope conveyor transfers the workpiece over to the next section. "Rather than using a single rope conveyor for the entire conveyor line, the single drive concept allows for individual dwell times of the workpieces at the respective workstations," explains Jochen Keinath. "In addition to that, five buffers are located before painting area that follows."

Automatic distribution in the painting and assembly zone

The painting area spans over a length of approximately 190m. It starts with the distribution center equipped with five buffer spaces and a heavy-duty transfer platform from Vollert, which handles the distribution of trailers and wagons on demand. The workpieces enter into the robot blasting cabin, and are moved from there by means of the rope conveyors first to the primer station, then to the painting station and finally through the dryer cabin where at the end two more buffer positions are placed and a second transfer platform. From here, the conveyor line continues on two parallel assembly lines, each about 90m long, where the wheelsets are fitted to the trailers and wagons. The extension of a second paint line is in planning, so that also this area can operate as a double-lane line, if needed.

About Vollert Anlagenbau GmbH

As specialists for heavy loads and large parts, Vollert Anlagenbau GmbH develops turnkey intralogistic 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 storage and retrieval machines 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 used in more than 80 countries worldwide. Its subsidiaries in Asia and South America also strengthen the sales activities. Vollert employs 250 people at its company headquarters in Weinsberg. **www.vollert.de**

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Image 1

Since April 2018, the Brazilian manufacturer Randon has been manufacturing trailers and freight cars in Araraquara on a 500 m long combined welding, painting and assembly line with heavy-duty conveyor technology from Vollert.



Image 2

After welding, there are five buffer positions in front of the painting area. A heavy-duty platform from Vollert transports the trailers and wagons weighing up to 25 tons from there to the robot blasting cabin.

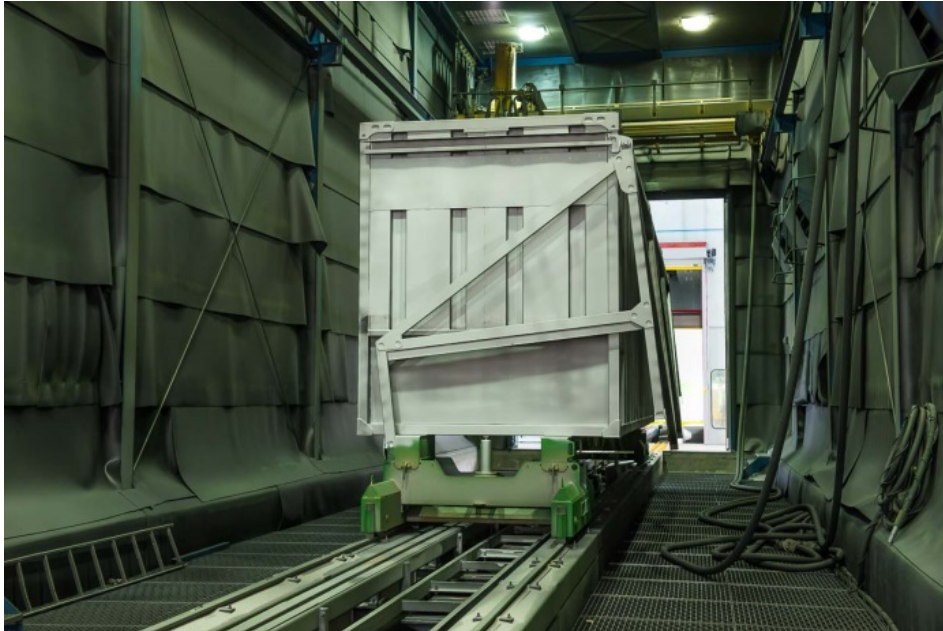


Image 3

The blast cabinet is followed by the passage through the priming, painting and drying cabins.



Image 4

Exit from the dryer takes place on a second heavy-duty transfer table, which distributes the trailers and wagons on two parallel assembly lines for mounting the wheelsets.



Image 5

A total of 13 rope conveyor drives ensure that the buggies are transported further after each work step. The drives are arranged one after the other to enable an individual feed at the workstations after acknowledgement.

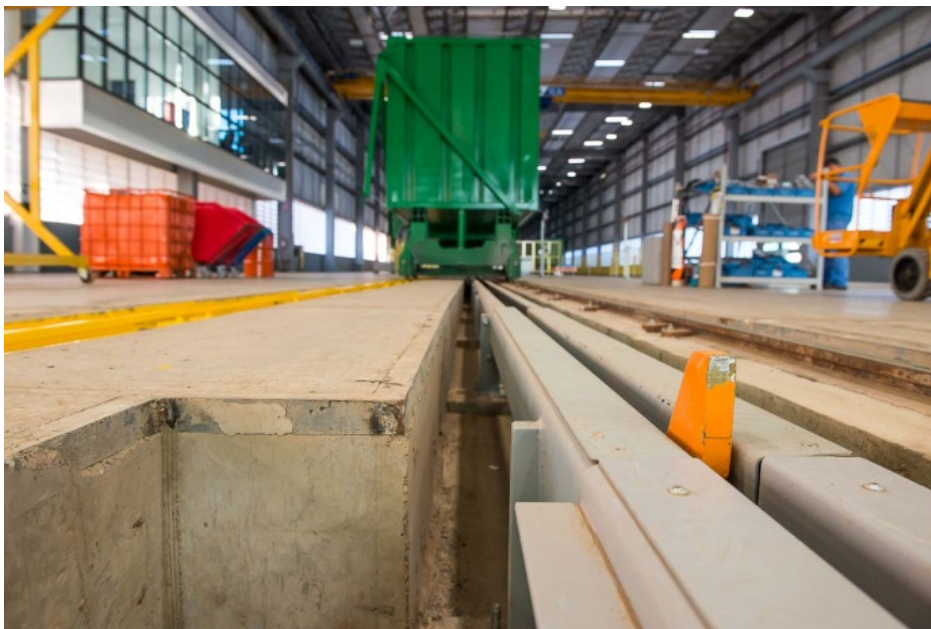


Image 6

At the end of each conveying section, the rope conveyor transfers the workpiece to the next one. In this way, different dwell times at the workstations are possible despite the continuous line.



Image 7

In addition to oversized sugar cane double trailers, so-called sugar cane trains, Randon also manufactures other types of truck trailers and freight and tank wagons for rail transport.