



**STROTHMANN**  
Machines & Handling

R o u n d T r a c k ®



**Vögele**

**Paver production rolls along on  
RoundTracks®**

You may find yourself annoyed if there is construction work on the road you intend to use – but on the other hand, if you see asphalt paving machines, the road will be re-opened soon. While driving by, you might read the name VÖGELE (the world-wide market leader in this field) on these machines. VÖGELE AG employs a staff of some 1,000 and focuses on the development and production of asphalt pavers for road construction.



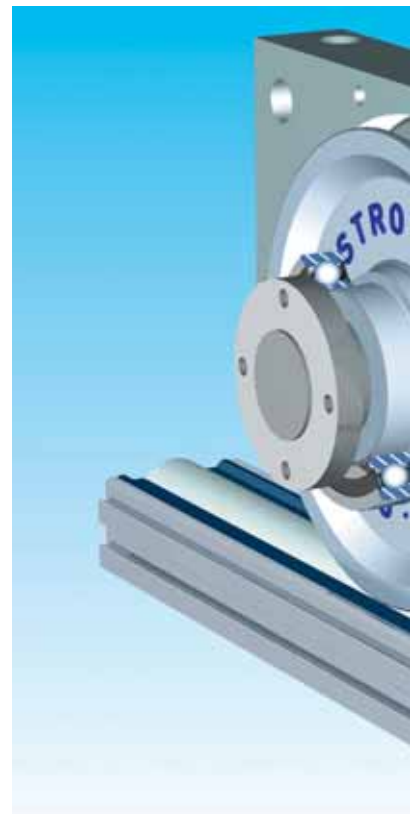
Asphalt laying machines are known as pavers. VÖGELE's pavers are being used worldwide, e.g. in China, where a specially modified paver had to tackle a remarkable 31° slope to seal the bottom of a water reservoir. Precision work was also a priority when it came to rehabilitating the runway at Charleroi Airport in Brussels, Belgium. Machines from the whole WIRTGEN Group, among them 4 SUPER pavers, completed the night job within a tight deadline. The paving work went smoothly, and at 6 o'clock sharp each morning, the first aircraft landed on the newly paved asphalt. Moreover, VÖGELE also provides machines capable of wireless communication: the units are connected to a mmGPS positioning system, which combines satellite-based and laser-based measurements.

### From workstation-based assembly to flow production: Machine assembly on RoundTrack®

An increasing demand for pavers caused VÖGELE to redesign the paver production process, turning a conventional workstation assembly into a flow production line. The company recently moved into a new 144 m assembly hall featuring a new RoundTrack®-based infrastructure. The tracks are recessed into the floor and serve to transport machines on consoles and rollers. They allow for a flow production in which machines move through all subsequent assembly stages, enabling them to pass the pre-assembly station which is situated alongside the main production line. After the final assembly step, the machines leave the assembly hall on the newly laid RoundTrack® system.

### RoundTrack® installation

Precise cut-outs were made in the hall floor, then, the tracks were accurately laid by means of a surveyor's level and a fitting device. After adjusting, the grooves were filled with fast-drying low-shrinkage mortar. Minor track width differences are leveled out by a combination of fixed and floating bearings (with one track leading and the other following). The RoundTrack® floor transport system enables users to move heavy loads with a minimum effort, allowing one person to manually move up to 10 t. VÖGELE machines typically weigh about 15 t. "Putting them into motion requires two or three men, depending on their constitution. Due to their weight, the consoles which carry the pavers do not need to be fixed at each assembly station", explains Christoph Niehaus, assembly manager and deputy production manager at VÖGELE AG. The RoundTrack® system offers a wide range of advantages for many different tasks, i.e. leading users to define the assembly stations in a production process, which facilitates project planning.





## RoundTrack® advantages

- The RoundTrack® system offers flexible installation options, including e.g. directional changes made possible by crossing elements and turntables. Crossing elements are intersections of orthogonal floor tracks. At that meeting point, turntables allow trolleys to easily change tracks. Moreover, the RoundTrack® system enables users to pre-assemble individual modules outside of the production line and then channel them into the line at a suitable place.
- Even single production cells can be easily connected via RoundTracks®.
- In flow production lines with a defined production cycle, the machines on their platforms move forward by one station once an assembly step has been finished.
- RoundTracks® allow for the implementation of user-specific production processes, e.g. by means of several tracks laid next to each other
- The RoundTrack® system has a very low rolling resistance: the platforms move on rollers whose special profile ensures that contact with the rails is limited to two small surface areas. Even heavy loads can therefore easily be moved into the required position for assembly.
- RoundTracks® can be installed within a short time. In existing production facilities, they can be installed within a few days, even during production.
- The wear-free rails pose no tripping hazards, and cleaning machines etc. can pass over them without any risk of accident. The round, grooveless upper edge of the rail protrudes only 3 or 4.5 millimeters from the ground.

## Output increased from 580 to 1,216 units in 2007

The decision implement a flow production line had already been made in 2005. VÖGELE inspected and compared several systems, until a suitable application based on a W. STROTHMANN product was found at Trumpf company. VÖGELE chose STROTHMANN over other competitors mainly because the impressive compactness of the RoundTrack® system (which also includes trolleys) developed by the handling expert from East Westphalia, Germany.

In September 2006, the first machine was completed in the new facility, and in October 2007, the 1000th machine was finished on the RoundTrack® system. "We are very pleased with the results", says Niehaus, who was somewhat surprised when he compared STROTHMANN's offer with the price of conventional railroad tracks. RoundTracks® cost approximately the same as railroad tracks, but are much better suited to VÖGELE's particular application. All in all, VÖGELE AG invested a total of 160,000 Euros into the RoundTrack® system.

The new small paver product lines, which were also switched to flow production, revealed just how much the modernization of the production process has paid off for VÖGELE. The RoundTrack® system has greatly increased production capacities, which prepared VÖGELE for an increasing demand. The introduction of the RoundTrack® system provides many further advantages during production, within each assembly cycle, improving work safety and in-house processes. "Nobody has to search for missing com-

ponents, let alone tools that have been carried all the way through the plant because they were needed elsewhere. Our employees no longer go to the machines – the machines come to them”, reports Niehaus.

### Paver assembly

Approx. 100 employees assemble all types of the new 2.5 m machine generation in the new final assembly hall. “We were able to reduce assembly time by 30% and throughput time by 50%”, says Niehaus. Assembly is divided into twelve cycles, each lasting just under three hours. (These times vary depending on the machine type, making the process a mixed cycle.) As soon as an employee has finished the tasks

of the current cycle, they help one of the two colleagues working directly in front of him or behind him on the production flow. “By now, we regard flow production as an essential standard which enables us to produce enough machines to meet the increasing demand”, says Niehaus.



*A packed paver leaves the plant on RoundTracks®*

## Innovation in Motion

Since the foundation of the company in 1976 STROTHMANN Machines & Handling GmbH has become a synonym for innovations in transportation and material handling equipment. Over the years Strothmann has gained vast experiences in press shop automation and is well known as specialist supplier of press to press transfer systems, blank destackers, sophisticated centring units and highly dynamic loading and unloading feeder; including gripper and tooling systems. Our stationary and linear inductive drives for high speed shuttles show that the linear feeder exceeds the known borders. Many branches of industry, including automotive, machine tool manufacturers and the timber processing, trust our expertise and experience. The RoundTrack® floor rail system allows new approaches in manufacturing system engineering (Flow- and pulse assembly lines). The rails are easy to install, and due to the low rolling resistance heavy loads like aeroplane body sections and big electrical transformers can easily be moved.



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