

Zott GmbH

Features and advantages:

- 12 freely navigating low-floor vehicles for 7/24 operation
- Replacement of an existing system; enhanced performance; vehicles adapted to a wider temperature range (incubation chamber and cooling tunnel)
- Automatic recharging of batteries during low-production periods; additional battery changing station in times of high production.

The Zott company is a traditional Bavarian family concern now in the third generation. Their production sites in Mertingen (G), Günzburg (G) and Opole (Poland) have been producing, for over 80 years now, yoghurt and cheese specialities, which are sold in more than 75 countries of the world.

With this contract the challenge lay in replacing an existing track-guided AGV system by a new, free-navigation system designed for a 7/24 production cycle, without causing any noticeable disruptions during the commissioning. Since we achieved perfectly smooth coordination between the customer's maintenance dept. and our electrical design dept., we were able to complete all signal transfer lines to the production machines even while the old system was still operating. This allowed us to get most of the system going during the prescheduled annual production standstill of only two weeks.

The flexibility of our instrumentation and control technology helped us to get the rest of the required optimizations done in the following weeks, without disturbing the ongoing production process.

Objective/Solution

In close cooperation with the operator we had a chance to reserve individual sections of the plant for testing on certain days. Thanks to the integrated simulation package of the EuroTrans I & C technology we were able to identify at an early stage all potential bottlenecks in routing and to initiate the appropriate countermeasures in good time.

Technology

We used gyrostabilized coupled navigation with absolute value referencing by magnets. This allowed us to put the magnets into position while the old plant was still under construction, and to achieve a considerable reduction of the time usually required for commissioning.

The plan was to build a vehicle identical to the old one but with higher end speed and the ability to approach the transfer positions orientation-free.

Moreover, the vehicle had to be suitable for a wide range of temperatures since the route led first through an incubation chamber with over 42° and then through a cooling tunnel with barely 7°.

Resumé

Thanks to the perfect cooperation with, and support of, the operator we managed to have the old system demolished within two weeks as scheduled, and to get the new AGV going. This was partly due to the amount of preparatory work in the project. Another factor not to be forgotten in this context is the integrated simulation package of EuroTrans I & C, which warns the user early on of any errors or bottlenecks.

Advantages of an AGV

Use of an AGV will improve product quality considerably, since confusion between different products, as is sometimes the case when employing a manual truck, is completely ruled out. Likewise, the conveyor elements on the production machinery are no longer at risk of damage through manual devices.