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HANDLING AND PRODUCTION LOGISTICS
FOCUS ON INTRALOGISTICS

At the Hannover Messe trade fair, the Schmersal Group placed particular focus on automation and safety solutions for intralogistics as well as on packaging and food-processing machinery. With Marcel Bogusch now in place as the first industry manager for intralogistics, it's easy to see the growing importance that the field holds for the Schmersal Group.

Mr Bogusch, which exhibit at the trade fair would you say characterised intralogistics at Schmersal?

We showcased two typical applications – a tubular bag machine for packaging products and a palletising robot, which repalletises the products once they have been packaged.

Using this model, which maps different process steps and technologies, including filling, conveying and palletising technology, plus robotics, we can very clearly demonstrate how Schmersal can use components, systems and solutions to secure different work areas with different requirements, without in any way impairing productivity. One component example is the intelligent solenoid interlock, AZM201, with integral AS-i-SaW interface: our palletising robot is secured with solenoid interlocks which keep the guard doors locked until hazardous movements have stopped.

The benefit: the wide-ranging diagnostic functions offered by this solution help to minimise downtimes.

The position and stacking height of boxes/crates palletised by robots is monitored by a ToF camera. This technology is completely new to us. The Time-of-Flight procedure can be used to create a 3D image of the scene that is available as a point cloud. That can then be used to determine the positions and dimensions of objects.

What makes Time-of-Flight technology appealing for intralogistics?

Our AM-T100 Time-of-Flight camera uses a Sony DepthSense sensor to produce 3D depth images. Its high image rate of up to 60 fps is ideal for industrial manufacturing processes as well as for logistics and robotics. The camera can be used for tasks such as packaging support, box filling, stacking, volume detection and labelling in logistics and packaging as a means of boosting the efficiency and accuracy of processes. The image data are made available over the standardised GenICam data interface and can be edited with common image processing software. In addition, high-performance algorithms allow the data to be pre-filtered so that the camera can be adapted to different ambient conditions.

Is the camera a proprietary development of Schmersal?

The camera came about as part of a cooperation project with a long-term development partner. It gave us the opportunity to incorporate the requirements of our customers straight into the development and at the same time, to benefit from the expertise of our cooperation partner in camera technology.

Fig. 1: Marcel Bogusch is Schmersal's first industry manager for intralogistics.

Will image processing in the company undergo expansion?

Within innovation management, we are constantly monitoring what technological innovations and trends are coming on stream and how we can put them to use in the safety of machinery and automation solutions.

In the future, we anticipate that 3D solutions will gain in importance as automation within industry increases as these solutions enable efficient monitoring with just a single sensor.

The SSB-R sensor box designed for electric monorail systems also enjoyed its first outing at the trade fair – can you quickly outline its features and functionality?

Electric monorail conveyors transport workpieces, tools and other supplied parts. Schmersal's magnetic sensors have proven themselves time and again as suitable for position and speed monitoring. However, some users found that assembling a variety of individual components was unnecessarily time consuming.

Our new sensor box detects the field of suitable actuator magnets on four independent tracks and switches the signal status on pass-by. With just a single M12 connector, it offers almost plug and play installation and makes assembly much more straightforward. In addition, the magnetic signal storage continues to work even in the event of a power failure, thereby allowing operations to be resumed again quickly.

Furthermore, high precision in position monitoring is also a benefit. The sensor box designated SSB-RH is equipped with additional sensors on two tracks and uses a high-level signal (100 ms). This feature helps to increase position accuracy such that you could bring a trolley to a halt at its desired stop position with an accuracy of around 1.5 mm.

Fig. 2: The SSB-R magnetic track sensor box detects the position of electric monorail conveyors in intralogistics.

Questions were asked by Inka Krischke of WEKA Fachmedien.

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