Logic in networks

Interview with Dr.-Ing. Heinrich Droste, Managing Director at Interroll Automation GmbH

Interview conducted by Uwe Ansorge

As of today, Interroll has already brought more than 120 sorters into use. The characteristic trends for logistics – new distribution channels such as E-commerce or TV shopping or companies that have their own Internet presence and sell through these new media – certainly also influence this business sector?

The effects of this development have been massively felt in conveyor technology since 2005. Suddenly, the flows and routes of goods have changed: The majority of products such as textiles, electronics, etc. are imported from overseas, move into intermediate storage and are distributed, sorted and transported from there using as much automation as possible. At the same time, the delivery times are becoming ever shorter. And there is a simultaneous demand for sorting considerably larger volumes! This requires high sorting performance on the one hand, and very high availability on the other.

> "The key success factors for sorting remain the same: **Availability, sorting accuracy, flexibility.**"

Added to this is a growing product mix. Shoes and clothing are running into the sorting system on the one side, then there are perhaps 25kg sacks of dog food from a feed company to be processed. Do natural limits have to be set for the object dimensions?

When we speak of sorters, we often see the limits as being at the end points. If one is dealing only with cardboard boxes that are stable and have fixed packagings, then it is simple to sort 20, 30 or so different packages. If the entirety is however mixed with lightweight, small parts, then the end points cannot handle them this way. But the end points correspond to about a third of the total investment of a sorting plant. Must I automate everything? With one of our partners we have constructed an interesting plant that involves very small parts that do not lend themselves to sorting and which cannot be ejected at the end position. Large, heavy parts (e.g. sewing machines) are running there at the same time. Here the goods are compacted in the entrance area by means of a so-called put-to-light system and then conveyed later in containers through the sorter to the end positions. This naturally means more manual effort. Nevertheless, one can provide these processes with technical support, i.e. with indicator or counter displays or with special operator guidance.

In other words, the idea is to find the technological compromise, that is just a simple investment calculation.

To what extent do new technologies also have a role to play in the optimisation of the processes?

Special innovations such as ID technologies also exist, of course, with our conveyor technology. It is precisely in this area that there have been decisive innovations in the last three or four years. An example of this is camera solutions for the reading of bar codes in a wide variety of forms. We use these increasingly more often, frequently also in conjunction with bar code readers. Cameras naturally have the advantage here of also being flexibly usable for all future bar codes.

Modern bus technologies are also to be mentioned. The speeds with which data can be transmitted have increased by more than ten-fold, perhaps even hundred-fold.

Nonetheless, the following holds true. When one speaks of the key success factors for sorting, the same ones keep coming up: availability, sorting accuracy, flexibility.

For us as manufacturers, this also means that planning and engineering must be provided within ever-shorter deadlines. The trick here is to develop a solution that is tailored entirely to the customer requirements using largely standardised elements and flexible customisation. This is the secret of success.

To construct everything individually and from scratch is far too expensive. And furthermore it is also too risky, since our customers expect – completely justifiably – very high availability for their entire plant. The possibility of failure for each and every conveyor must be as low as possible. To mention one of our figures: 99.9 per cent functional reliability; for this you must be really good and you must rely on elements that have proven themselves many times over.

How large and how complex does this network need to be? Does it need many feed-in points? Are the points of use also to be simultaneously points of loading? – These are the central questions.

A look into the crystal ball: If one now broadens the topic and considers logistics in the urban context? How far can one go? How much do these plants lend themselves to scaling?

I don't need a fortune-teller for that! The main emphasis here is on a coherent concept and not so much at all on the actual conveying technology. These are primarily questions of logistics: How large and how complex does this network need to be? Does it need many feed-in points? Are the points of use also to be simultaneously points of loading? And if I have so many of these, does an operator need to be on hand?

When I speak of this kind of a network in urban areas, then I must give a great deal of good and very detailed thought to how this is to be implemented. After all, if it is not affordable, then it is dead. If the delivery takes too long, then it is also dead. And if too many ramifications are required, then it also has no future.

Will I then have the branch offices again which are being closed everywhere nowadays?

The question is more about whether I can use the existing "branch offices"? Petrol stations or package shops, for example? The customer himself is completely ready to go along the "last mile". He will pass by the petrol station in any event.

For tailored solutions, you speak with the systems integrators, but do you also speak with their customers?

We have been acting as neutral providers of the subsystems on the market for many years. It is precisely our neutral position on this market that our customers, the systems integrators, appreciate, as we are after all not presenting ourselves as competitors.

We learn a great deal from our customers and end customers. On the other hand, they also learn from us. It is only through this form of cooperation that good constructions arise as a result. In the next phase, at the time of test setup – as a rule, we carry out a test setup for end positions, feeding systems and workstations – all of the participants will be on hand as well. With these kinds of complex projects, the emphasis should always be on confidence.

98.5%
Functional reliability
means relying on proven elements.