

The FLEXIBLE FACTORY

Automated production lines moving with intelligence, precision, control and versatility: it's time to meet our Flexible Transport System...and ActiveShuttle, that will deliver the components to the production line.

If the Factory of the Future's benefits are to include speed and efficiency, one of the prerequisites is a sophisticated means of moving products through your machine or production line.

Our Flexible Transport System (FTS) meets that need. The FTS is unlike any conventional conveyor system. With FTS, an infrastructure can be freely defined for your machine or production line. Based on this infrastructure, individual passive carriers, without cables, can be moved and positioned independently in an easy, dynamic and accurate way.

The drive and sensor concepts are contactless, so the intelligent and open system can be adapted to different production conditions. Because the active parts can be kept outside the process environment, the FTS is well-suited to environments that need to be very clean or are very harsh.

This makes it attractive for many fields, ranging from the electronics industry to assembly and handling applications, where the FTS demonstrates its scalability in size and driving force, managing loads from a few grams up to over 1000kg per carrier.

What's more, it has a repeat accuracy of up to 1µm. So, not only is it a flexible and dynamic transport system, but also exceptionally accurate at positioning – and therefore an integral part of the assembly and production process. This often reduces complexity and the overall cost of machines and production lines.

The compact electronics of the FTS can control carriers individually, separating transport time from processing time. This avoids the unnecessary unproductive periods that occur on traditional conveyors, when products have to wait their turn as they reach slower parts of the process.

Batch Size: One

The Factory of the Future is also about the flexibility to manufacture small batches and even individual products in a sustainable and responsible way. Our FTS enables this by providing decentralized intelligence with full transparency. For example, when entering a process, an RFID chip on the carrier identifies the product and all its associated manufacturing steps. The MES system links this information with the configuration that's saved





with the order, enabling the FTS to align each single product according to its individual specification. Set-up times are thereby reduced to zero, even for one-off production runs.

Open standards, such as OPC-UA, ensure smooth machine-to-machine communication and enable the FTS to be integrated into any higher-level industrial control system that schedules, controls or monitors your machines or production lines.

ActiveShuttle

There is, of course, another prerequisite to speed and efficiency – and that's the prompt supply of products to, and collection from, the machine or production line. This is where our ActiveShuttle enters the picture.

ActiveShuttle is an autonomous guided vehicle (AGV) that delivers components in boxes on demand to assembly points on the production line. In our first product version, ActiveShuttle transports lean dollies. It's a flexible solution in which a wide variety of transport concepts can be implemented – cyclical transports as well as demand-oriented material supply. (You can read more about exciting AGV developments in the interview with Mr Fechner, starting on page 12.)

Developments such as our FTS and ActiveShuttle will play a leading role in reducing transport time, optimizing cycle time and increasing manufacturing output. That's why they represent a significant step forward on the road to the Factory of the Future.



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