

2D and 3D Position Detection for Synchronized Robotic Picking

Our Conveyor Tracking Smart solution enables the automated position detection of randomly arranged components moving on conveyor belts. While the conveyor is in motion, the system determines the exact position and orientation of each component in real time and calculates optimal picking points in 2D or 3D.

Robots or FlexPickers pick the components directly from the moving conveyor and transfer them seamlessly to the downstream process: fully automated, precise, and without manual sorting or singulation. Even at high conveyor speeds, the process remains stable and reliable.

The solution offers a high degree of flexibility when handling changing component geometries and batch sizes and can be easily adapted to new products. Companies benefit from a significant reduction in manual tasks, sustainable relief for personnel, and scalable automation for single- or multi-shift operations.



From randomly arranged components on the conveyor directly into the process, automatically and synchronously.

Customer Testimonial:

"With AIT's Conveyor Tracking Smart solution, we were able to fully automate our manual sorting processes. The process now runs reliably and without manual intervention. This enables us to safeguard our competitiveness and the future of our site in Germany."

Technical Highlights & Benefits

- **Automated Feeding:** Randomly arranged components are picked directly from the conveyor
- **2D/3D Image Acquisition:** 2D or 3D sensors can be used depending on the component geometry
- **Conveyor Tracking:** Continuous position tracking while the conveyor is running
- **Real-Time Picking Point Calculation:** Optimal picking positions provided as 2D or 3D coordinates
- **Robot and FlexPicker Integration:** Direct transfer of coordinates to downstream handling systems
- **Product and Component Variety:** Suitable for plastic and metal components in a wide range of shapes
- **Increased Productivity:** Higher throughput without manual intervention
- **Efficient Use of Personnel:** Reduces manual sorting and orientation tasks, particularly in multi-shift operations