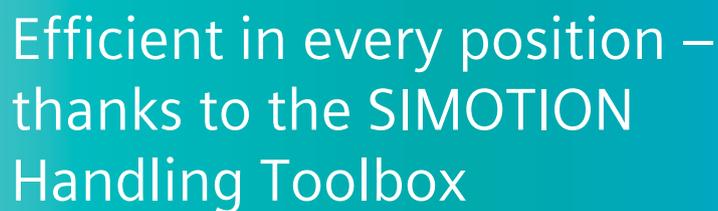


The Siemens logo is displayed in a bold, teal, sans-serif font. It is positioned in the upper left corner of the page, set against a white rectangular background that partially overlaps the main image of the factory floor.

SIEMENS

Ingenuity for life

The main title is centered within a teal-colored rectangular box. The text is white and uses a clean, sans-serif font. The background of the entire page is a photograph of a blue industrial machine in a factory setting, with a stack of yellowish-brown material in the foreground.

Efficient in every position – thanks to the SIMOTION Handling Toolbox

The motion control system SIMOTION drives highly flexible linear robots from Langhammer

[siemens.com/handling](https://www.siemens.com/handling)

The customer is using an open motion control system for its innovative linear robots for high-performance palletizing systems in order to combine the highest efficiency and flexibility with operator friendliness, reliability and global availability. Thanks to the SIMOTION Handling Toolbox, many functions can be simply transferred over to the new kinematics, therefore significantly shortening the new engineering time.

Langhammer is one of the leading suppliers of transport and palletizing systems with production facilities in Eisenberg (Palatinate) und Freiberg (Saxony). Its strengths include modular palletizing, pallet transport and conveyor systems for bulk products to create complete integrated solutions for various sectors.

Automation from a single source

In addition to the well proven layering, articulated arm and gantry robots, this company is now also offering a very rugged and flexible linear robot. It is called the LR03, and is capable of between six and seven handling operations per minute. Here, Siemens was the ideal partner when implementing a state-of-the-art, future-proof control system, i.e. a control system that can be expanded. "We were looking for an open solution with both a high degree of flexibility and performance, which is available worldwide

and accepted in all of the sectors that we address", explained Friedrich Mährlein, Product Manager for Langhammer. For the solution, Siemens supplied the drive-based SIMOTION D435 motion control system, modular SINAMICS S120 drives and SIMOTICS S-1FK7 servomotors.

Quick implementation using the SIMOTION Handling Toolbox

"Just the fact that path motion and the associated axis interdependencies do not have to be manually programmed" explained Karlheinz Stollhof, team leader for the Electrical Engineering Development Department with Langhammer, "saves a huge amount of time." Using Simotion Handling Toolbox, an appropriate model can be generated and implemented for the five axes of the linear robot. This is because this library, which has been specifically designed for handling applications – and also tested and proven in numerous applications – includes preconfigured kinematic modules. These modules can be simply parameterized for the most commonly used robot applications, and together with the "SIMOTION Kinematic Transformation" module, offer an interface to integrate customized kinematics. Based on this, the motion control system can automatically implement the axis motion corresponding to the required movement of the products being palletized. Users no longer have to calculate and program the motion path to control the robot

axes – which was a complex and time-consuming procedure. The standard software blocks of the Handling Toolbox do this automatically. Langhammer is especially interested in the zone management capability. Using this function, three-dimensional work areas, as well as blocked, alarm and product zones, can be very simply defined. These are used, for example, to navigate around fixed obstacles in the path with fast interpolated motion; however, still smoothed and only using a few interpolation points.

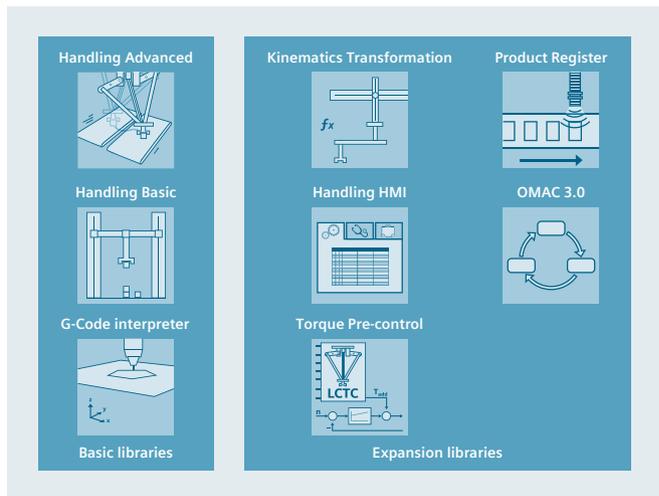
A runnable project is quickly and simply implemented

Langhammer essentially generated the Simotion project automatically using the Project Generator SIMOTION easyProject. The project generator quickly integrates various basic functions, libraries and modules – required in practically every application – into a project in a user-friendly way. The result is a basic project that can be loaded and run with the basic machine functions – without even having to write a single line of code.

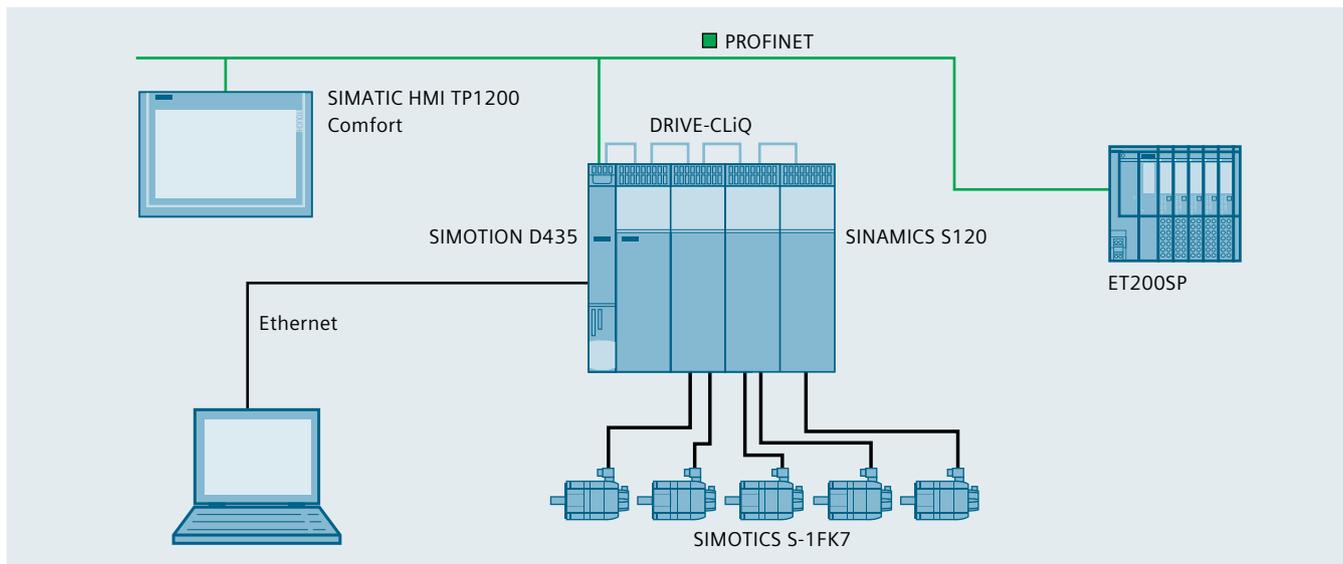
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 Siemensstr. 2
 67304 Eisenberg
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Advantages at a glance

- Work space monitoring using blocked, alarm and product zones
- Integration of customized kinematics using SIMOTION Kinematic Transformation
- Predefined modules to smooth paths
- Lower engineering costs by using the Project Generator SIMOTION easyProject



SIMOTION Handling Toolbox



Automation concept for linear robots from Langhammer

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