

Industrial  
Handling

ePLAN<sup>®</sup>  
electric<sup>8</sup>

ePLAN<sup>®</sup>  
cabinet

# LÖDIGE Machine

raises speed and quality of schematics

## Making heavy lifting lighter

If the application calls for lifting something big and heavy in an indoor setting, such as a car, an air cargo container, or full pallets to be stacked in a warehouse racking system, Lödige Industries probably has something to do the job. Its Lödige Machine division in Warburg, Germany, builds various load-lifting equipment like scissor lifts, stacker cranes and cargo lifting systems for warehousing and logistics, including even vertical car parks and lifts for making buildings wheelchair-accessible. For electrical engineering, the company depends on EPLAN Electric P8 and EPLAN Cabinet to benefit from a common database across the entire design to production process. Of special importance in this context is the standardized and automated creation of schematics.

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“The company’s designers handle a lot of simpler jobs, especially for the air freight and logistics applications, but also undertake complex projects comprising literally hundreds of machines functioning as one integrated system. Many of these machines are custom-designed.”

# FOCUS

on  
standardization



## Costs and time pressure necessitate modularization

As the head of electrical design, engineer Burkhard Pöhler has made it his goal to expedite the modularization of machines and systems. "Approximately 25% of what we produce are standard machines and 75% are custom designs," he says. "Over the medium term, this should be reversed. The cost pressure and the scope of individual projects demand this: For example, we are currently working on an air freight system with around 1,000 individual machines." Another degree of complexity is being introduced by the trend to decentralize the control systems. This allows the designer to break down a large equipment into modular units, but also requires more complex network structures than centralized, enclosure-based control systems.

## Multiple disciplines share a common data platform

It is important that Lödige Machine has a uniform data and user interface platform that can support manufacturing in Warburg and other company locations around the world, as well as at subcontractors. In electrical design, the company was an early adopter of EPLAN Electric P8 after it was introduced in 2006, ushering in the era of the EPLAN Platform, or database, with its ability to support EPLAN products for multiple engineering disciplines. "The principle of a uniform database for various disciplines convinced us immediately," says Burkhard Pöhler. "It offers considerable advantages in terms of quality and speed, especially in the case of complex projects."

## Software tool generates schematics automatically

Lödige's electrical designers create 50-100 projects, each containing as many as 500-600 schematic pages. The EPLAN Schematic Generator module vastly accelerates this process. For AS-i modules, which Lödige mainly uses for sensor control, the software shows designers which I/O address is free and can automatically set location designations. For address assignment, designers use a tool that generates a tabular PLC card overview. EPLAN is also furthering the company's goals for standardization. All references as well as assignments for main and auxiliary elements remain consistent even when changes are made, saving time and preventing errors.

## Web-based component data import tool saves time, ensures accuracy

Migrating to EPLAN Electric P8 enabled Lödige to launch two other beneficial EPLAN products: The EPLAN Data Portal for incorporating component data into EPLAN projects and EPLAN Cabinet for designing enclosures. Lödige designers either create the 3D views of individual components or import them from the Data Portal, a link to major manufacturers' catalogues with up-to-date component data certified by EPLAN. "We prefer parts whose data, including connection points, can be imported



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# AUTOMATING enclosure design

directly from the portal right into a project," says Burkhard Pöhler. "This saves us a great deal of work and we always have the latest version of drawings and data." The product information from Data Portal also contains mechanical content such as dimensions and drilling data relevant to enclosure manufacturing.

### 3D views prove instrumental in preventing build delays

EPLAN Cabinet allows Lödige designers to place cable ducts, mounting rails, terminals, guards and other enclosure content with the click of a mouse. The software takes minimum clearances and blocked-off areas into consideration. Online collision control prevents placement errors, a feature also used for error-free design of operator control panels. Automatic routing, which facilitates cable preparation, is also supported. EPLAN Cabinet makes even more automation possible: 3D versions of Rittal RiCAD enclosure housings used by Lödige can be imported and used as templates for faster build-outs.

### Subcontractors get complete bid package

With the switchover to EPLAN Electric P8, it was decided to outsource enclosure manufacturing. When enclosures were manufactured in-house, components with a long lead time were pre-ordered, even before the schematics took shape. Now that the enclosure manufacturing is sub-contracted on a competitive basis, this process is more structured as the entire schematic set must be completed before projects are tendered. "This means we have to be able to replace individual parts in the diagrams," says Burkhard Pöhler. "This generally applies to last-minute changes so the schematics have to be up-to-date and match the mechanical engineering data."

The bid package generated using EPLAN Electric P8, EPLAN Cabinet and component data downloaded from the Data Portal provides the enclosure subcontractor with exact specifications conforming to Lödige standards, along with the bill of materials, cable overviews, terminal diagrams and files for labeling. That way, the finished product will look identical in all respects, no matter who manufactures it.

**"We not only benefit from standardized enclosure layouts in EPLAN Cabinet, but also get additional data such as wire lengths and drilling data for 3D design practically without any additional work,"** says Burkhard Pöhler. "Furthermore, automating many functions with scripts also has sped up our work considerably. Even though outsourcing enclosure production makes more demands on the designer, design time has not increased and we've been able to save over 20% in manufacturing costs."



## Lödige Machine achieves standardization with EPLAN

# SUMMARY

Lödige Machine develops and builds complex lifting, conveying and cargo handling systems. For electrical design, the company uses EPLAN Electric P8 because of its many automation benefits and powerful database. The latter supports two other EPLAN products used at Lödige: EPLAN Cabinet, for enclosure design and manufacturing, and EPLAN Data Portal, which provides access to manufacturers' EPLAN-certified component data that can be imported directly into a project or archived for future use. The three products have largely automated the creation of schematics for tremendous time savings while allowing designers to standardize more project content. Similarly, the combination of EPLAN Electric P8 and EPLAN Cabinet enables designers to give enclosure subcontractors a comprehensive bid package that results in a uniform product built and cost savings of 20% compared to what Lödige would spend manufacturing enclosures in-house.

Find out more about Lödige on [www.loedige.com](http://www.loedige.com)

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Published in 2009