

Press release

The easier way to Industry 4.0

Greater functionality, less complexity – Lenze makes the digital transformation controllable

At this year's Hanover Fair, on Stand H22 in Hall 14, Lenze is presenting its new controller generation, a configurable production line and using a dynamic double-delta robot as an example shows how development projects can be realised in record time through simulation. Lenze proves that digital transformation is not necessarily making mechanical engineering more complicated. With the right tools and suitable concepts, even intuitive automation is possible.

More functions, more flexibility and more intelligence: complexity and the requirements placed in automation are increasing. To make complexity manageable, the machine automation specialist offers a consistent, open automation platform comprising hardware, software and "brainware". The centerpiece of the Lenze automation platform is a scalable control system portfolio, including cabinet controllers and panel PCs for the realisation of small machines up to complex machinery and systems.

In Hanover, Lenze presents the next generation of its cabinet controllers, the c500 series. It uses the most powerful CPU (Central Processing Unit) available for a compact design. This makes the c500 series ideal for tasks that place maximum demands on computing power. One example is the evolution of printing presses: they place high demands on timing for synchronising multiple axis, and they also require maximum pre-

cision. This is no problem for the new generation of controllers – it always delivers sufficient performance, even for existing applications which continue to grow as part of Industry 4.0 and require extra computing power.

Lenze is also presenting a further model of the new controller generation, which divides up the ample computing power available: besides the control component, an installation of the Windows 10 IoT operating system runs in an encapsulated environment. With the aid of the so-called OpenSystem architecture, this controller can execute customer-specific Windows applications, such as the analysis of vision systems, the detection of 2D and 3D code and the running of AI applications. Likewise, data can be processed and compressed for the cloud or managed in a local database, so it can for instance be used for predictive maintenance.

Digital engineering in practice

Lenze shows what it means to develop machinery in the Industry 4.0 era with the aid of a Pick&Place exhibit, a sorting cell with a dynamic double-delta robot. The two delta robots work together transporting workpieces onto a conveyor belt. The development was at first carried out digitally based only on the computer data right up to the programming of the robots. With the aid of simulations, it was possible to eliminate errors in the control logic even before the first screw had been secured. The time to complete and commission the cell was shortened and reducing material wastage – if the first test runs had not taken place during simulation but on the real object. During operation, too, the benefits of digitalisation make themselves felt: it allows the visualisation of the ongoing production process thanks to the machine data, so that the position of the workpieces can be tracked live with no additional sensors.

On the way to Plug & Produce

The idea of a flexible and configurable production system in which modules can easily be exchanged and put into operation with no need for time-consuming reprogramming takes things to another level. Lenze calls this concept Plug & Produce – simply plug in and get started. Open, cross-vendor standards allow the various modules involved to share data automatically, even with complete interaction during the production job. So the production line only needs to be configured, not reprogrammed. This standardised communication is built upon the OPC UA and its PackML companion specification. At the exhibition stand, Lenze is using a modular production line to demonstrate how this concept will be implemented in future – and how OEMs can already lay the foundations for this today.

Conclusion

The digitalisation of automation is about to enter a new phase: not only more and more devices, more options, more complexity – but also greater integration and automation in the development stage, which will result in easier handling. The benefits that Industry 4.0 offer users were sometimes expensive acquisitions within mechanical engineering. Lenze has taken up the cause of reversing this development. With its current systems and products, sophisticated tools and revolutionary concepts, the specialist for machine automation proves that digitalisation – when put to the right use – is of particular benefit to OEMs and system integrators.

Learn more about Lenze's leading automation solutions at www.lenze.com.

About Lenze

Established 50 years ago in Bedford, Lenze Ltd now has 45 employees and achieves sales of about £20M in power transmission equipment from the Lenze factories and other quality suppliers. Services to UK customers include application engineering, software writing, training, commissioning and service

The Lenze Group is controlled via its holding company, Lenze SE, whose headquarters are in Aerzen, near Hamelin in Lower Saxony, Germany. Lenze is a globally active specialist in Motion Centric Automation, offering a comprehensive portfolio of products and services: everything from controllers and visualisation to electric drives and electromechanical applications, plus engineering services and tools, and it all comes from one source. Lenze's experts work together with the customer, designing integrated drive and automation solutions that simplify the realisation, production and servicing of machines. Lenze is one of the few suppliers in the market who support the machine builder in all phases of the machine-building process.

Employing around 3,700 people worldwide, Lenze is represented in 60 countries by its own sales companies, development sites and production plants, backed by a network of service partners. The main headquarters are in Germany, with a large research and development division, two production sites and a logistics centre that supplies customers in north-eastern Europe. The customers are supported by an international network of sales and application engineers.

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