

Press release

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Intuitive user interfaces for smooth human-machine interaction

Lenze's new web-based solution for machine visualization combines user and OEM requirements

Today, the functional diversity of a machine is important for sales success. But more important is the question of whether the user can master the increasing complexity. A user-friendly visualization is crucial for customer satisfaction - but to create it, the machine builder needs the right tool.

The requirements for a modern user interface have changed considerably in recent years. Experts speak of "consumerisation" and mean that users in the business context increasingly expect a similar functionality as in the private sphere. The daily experience of using smartphones or tablets is decisive here. Today, users expect mobile access to applications, intuitive user guidance and features such as gesture control, multi-touch functionality and multilingualism. For plant operators, the future-proofing of their investments is also particularly important.

The solution sounds simple: the use of web technologies enables the development of visualizations that meet all these requirements. HTML5, CSS and JavaScript in the front end as well as client-server structures for content distribution have proven themselves on a broad front. But which machine manufacturer can afford to employ web developers and user interface designers in addition to PLC programmers in order to equip its machines with professional web visualization? For this clientele, Lenze offers a solution that is easy to use and provides the basis for meeting users' demands in terms of user-friendly visualization.

No programming required

The solution includes the EASY UI Designer, an application for Windows computers that contains ready-made operating elements ("controls") as well as templates for complete pages. The controls can be used in different designs, can be inserted into the visualization via drag-and-drop and linked there with PLC variables. The OEM therefore does not need specially trained web developers to develop the interface.

In addition, the FAST UI Runtime is required on a Lenze controller. Currently, the c520 and c550 models can be used for this purpose. They provide the necessary working power to easily master the communication of the visualization data to the client in addition to the PLC control. The range of suitable controllers will be expanded in the future.

The OEM is completely free to choose the size, resolution and orientation of the display. The web visualization can be projected in a responsive design that adapts to the available screen. In the past, it could happen that during a retrofit, the user interface was only displayed tiny on a fraction of the display area, for example, if larger screen diagonals and high-resolution panels were installed. This problem no longer exists with a web visualization. In addition, a visualization in responsive design enables the flexible use of mobile devices such as tablets or smartphones, which are increasingly being used in mechanical engineering.

OEM-friendly implementation

The EASY UI Designer already comes with a number of templates, for example for user management, the alarm system or recipe management. For development, Lenze relies on expert support from a specialist in UX design. Dr. Julia Jürgens, a usability expert, pays attention to contemporary, easy-to-use elements and page templates. At the same time, the templates are designed in such a way that the OEM can quickly adapt them to his corporate identity (CI) and his needs. With their own logo, the corresponding colour scheme and specific elements in the header and footer of the interface, the machine visualization can be easily individualised.

Lenze now offers a whole range of tools to support digital engineering. These include the EASY System Designer (ESD) to create the basic machine topology,

the PLC Designer for automated creation of the control software, or the EASY Product Finder (EPF), which simplifies the selection of components and fills the shopping basket. The long-term strategy of the automation manufacturer Lenze is to combine these applications into a tool chain so that the engineering process of a machine becomes even more efficient. Based on the Asset Administration Shell (AAS), the necessary information for the associated visualization project can be automatically transferred from the ESD to the EASY UI Designer.

Conclusion

The user interface is the face of the machine to the customer. A modern and intuitive visualization with a high level of user experience ensures smooth human-machine interaction. It supports the user in mastering the wide range of functions and in being able to take quick remedial action in the event of an error. OEMs can meet these requirements by switching to web technologies. But machine builders should not be satisfied with this alone. After all, professional UX design and progressive integration into digital engineering, which enables greater efficiency in development, offer the decisive added value.

Lenze supports the implementation of user-centred visualization solutions. Core elements are web-based client-server architectures, parameterisability of the displayed interfaces and a library of prepared visualization elements designed according to usability principles.

About Lenze

Lenze is a leading automation company for the machine-building industry and a specialist in Motion Centric Automation. As a systems supplier with solutions competence, Lenze works for and with its customers to create high-quality mechatronic products and packages, powerful systems consisting of hardware and software for machine automation, as well as digitalisation services in areas such as big data management, cloud or mobile solutions, and software for the Internet of Things (IoT).

Lenze employs more than 3,700 employees worldwide and is represented in more than 60 countries. Lenze's growth strategy will see the company continuing to invest strongly in the areas relating to Industry 4.0 in the coming years – with the aim of increasing sales revenue and profitability.

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