

Press release

Mechanical engineering needs digital solutions

Lenze shows how the interaction of IT and OT makes machine builders more competitive

Hamelin/Dusseldorf, May 04, 2023. Mechanical and plant engineering is a driving force of the economy and keeps millions of people in work. The order books? Well filled. The employee utilization? High. So far, so good - but the economic situation is weakening. The forehead wrinkles of the industry representatives are getting bigger. High costs and pressure to innovate are presenting them with enormous challenges. With its solutions, Lenze is addressing the three major "construction sites": demographics, digitalization, and decarbonization, and is relying on Smart Data and the open automation platform Nupano. The Hamelin-based automation specialist shows how engineering time can be saved, energy consumption reduced, and resources conserved throughout the entire machine life cycle through the concrete use of information technology (IT) and Smart Data.

The economic success of machine builders is increasingly determined by their ability to differentiate themselves through additional digital offerings and new business models. "Those who don't follow along will hand over growing revenue streams to software companies and gradually be relegated to being parts suppliers," explains Werner Paulin, Head of New Automation Technology at Lenze. Unfortunately, there is often a lack of appropriate IT and programming skills on the part of the mechanical engineering industry, especially on the part of SMEs.

This situation also concerns Friedhelm Drünker, head of development at a medium-sized mechanical engineering company. He has just advertised three development positions. Applications? One. Too few for the tasks that await him and his team. How does he manage to stay on the ball - and even more: to

stay ahead of the competition? Drünker is thinking of an AI-based app at the machine level that increases the energy efficiency of his machines. At the same time, he is at a loss as to how to equip his series machines with various apps and combine suitable versions.

Nupano gives machine builders a competitive advantage

Drünker informs himself: The majority answer in the automation industry to generating new revenue streams in the face of a worsening shortage of skilled workers is called "platform". Supposedly open platforms, marketplaces, and ecosystems are emerging among many suppliers. What they all have in common is that they generally do not solve Friedhelm Drünker's problems. Because they do not allow him to integrate OWN additional services into the machine and manage them - unlike Nupano from Lenze. "With the Nupano open automation platform, Lenze offers a key technology that does not even require IT knowledge to use. This clearly sets our platform apart from others in the market," explains Annekatrin Konermann, Nupano Product Manager at Lenze.

Open IT standards and easy handling

Nupano allows machine builders to bring innovations into the machine and tap the potential of digitalization at machine level for themselves. Lenze relies on open standards, simple handling, and maximum security to protect know-how. "During development, we worked according to 'Security by Design' right from the start. The source code of the apps managed in Nupano always remains with the user. Users can make their apps publicly available but do not have to. You can still access public apps via the growing partner network," explains Annekatrin Konermann.

This also enables Drünker to work with any IT company and develop innovative, digital applications for its machines, independent of platform and hardware. Applications can be tested together on the platform, and a release workflow and lifecycle strategy are created for his customer's entire machine and plant fleet. "We provide lifecycle management for all apps and their versions. This is a major advantage of Nupano," assures Werner Paulin.

Machine and app management provides space for in-house applications and public software modules. "Our customers demand a competitive advantage from a platform. They don't want to download public commodity apps," says Annekatrin Konermann. Drünker's team maintains control and oversight of the apps using Nupano lifecycle management. In addition, they can customize the apps on a machine without having to program (no code).

Smart Data makes machines more efficient and sustainable

On Nupano, the customer now finds both - the applications and the overview of his machines as digital twins. By drag and drop, the user thus marries the OT with the IT world. "We have to bring the software modules into over 1,000 or more machines per year simply and efficiently, otherwise we don't deliver any added value for the customer," Paulin emphasizes. Via the digital twin in the system, the applications reach an industrial PC where they are executed.

Nupano shows that Lenze thinks holistically and combines operational technology (OT) with modern IT. Friedhelm Drünker also appreciates this. The open automation platform significantly increases the quality, productivity, sustainability, and efficiency of his machines.

Thanks to Lenze's domain expertise and application know-how, Smart Data covers the entire life cycle of the machine - from efficient planning to implementation and safe operation to simple recycling. It is thus possible to plan and simulate complex processes and systems in a virtual environment to identify potential problems in advance or to optimize energy. For machine builders, this combination of OT and IT means less effort, less energy consumption - and more revenue.

