

Automation  
solutions  
for the  
**packaging**  
industry





More than  
75 years  
experience in  
**the packaging  
industry**



**As one of the leading specialists in drive and automation technology, we always work closely with our partners to find the very best solution. With extensive know-how and a worldwide network of experts in the packaging industry we are well suited to set your ideas in motion with an eye for the optimal solution. This is true whether you want to improve existing equipment or develop a completely new machine.**

We partner with you in all phases of your projects in accordance with your individual goals and requirements. When you design an innovative overall concept, we are there to help you make it a reality.

With our international subsidiaries and regional offices within the US, our experts are active in over 60 countries around the world, working with you to develop the best solution for your warehouse application. Around the globe, well-known customers from this sector partner with Lenze.

#### **This is how we develop innovative solutions for the packaging industry:**

- Experienced experts who understand your requirements and goals
- Innovative hardware and software for the implementation of energy-efficient solutions
- Reliable drive systems for typical warehouse applications
- Open standards
- Global production with uniform Lenze quality standards
- Worldwide efficient logistics concepts
- A global service network and range of training courses offered







## Growing requirements for **packaging machines**

The innovativeness of the packaging industry means that new challenges are constantly arising with regard to the systems and machines that it uses.

Increasing digitization is and will continue to be a part of the current and future requirements for packaging machines. The following across-the-board trends are becoming more and more important.

**Flexibility**

Machines can increasingly be regarded and flexibly deployed as individual units. This enables a speedy response to trading activities and coverage of a broad product range by a single machine. Moreover, retooling and format changes can be carried out more quickly. The time and effort needed to launch new products are therefore reduced.

**Individualization**

Flexibility can be maximized to such an extent that even batch sizes of 1 are possible. This means that a very individual approach to the customer can be adopted, whereby the customer becomes directly involved in product development. The high degree of flexibility also enables faster adaptation to the needs of the market and increasing rates of innovation. A reduction of stocks – the key idea here being “Make-to-order” – is possible at the same time.

**Transparency**

Improved data management is the basis for inter-company networking. All process sequences are simplified due to standardized data structures. Optimized monitoring processes facilitate preventive and corrective maintenance while the entire production control system is also perfected. Servicing for customers is improved due to the use of mobile devices and track & trace options.

**Availability**

The early detection of problems ensures maximum machine availability. Maintenance can be planned and the need to keep fewer replacement parts in stock minimizes the amount of tied-up capital. Replacement parts can be ordered easily, delivered quickly, and installed without any learning process. This, in turn, enables greater freedom in machine procurement.

**Human-machine interaction**

Intuitive concepts make it easier for operators to handle complex technology and it also reduces their susceptibility to errors. Mobile terminals and open interfaces enable flexible control and access to all machines' functions. Internet technologies support diagnostics and also reduce the number of errors in production.

**Resource efficiency**

Digital networking can be used as a lever to enhance resource efficiency, whereby the machine adapts itself to the material and not vice versa. In this way, the consumption of material and energy can be optimally adapted and the loss of product and materials can be minimized. On top of all this, intelligently controlled motors enable energy recovery – a considerable benefit.



# A comprehensive Lenze Automation Platform: Scalable for your machine

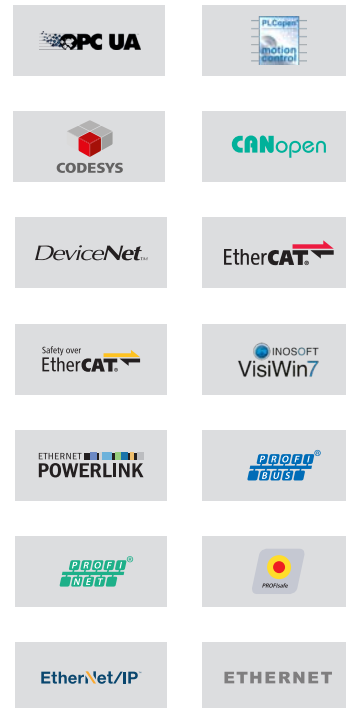
## Comprehensive and open

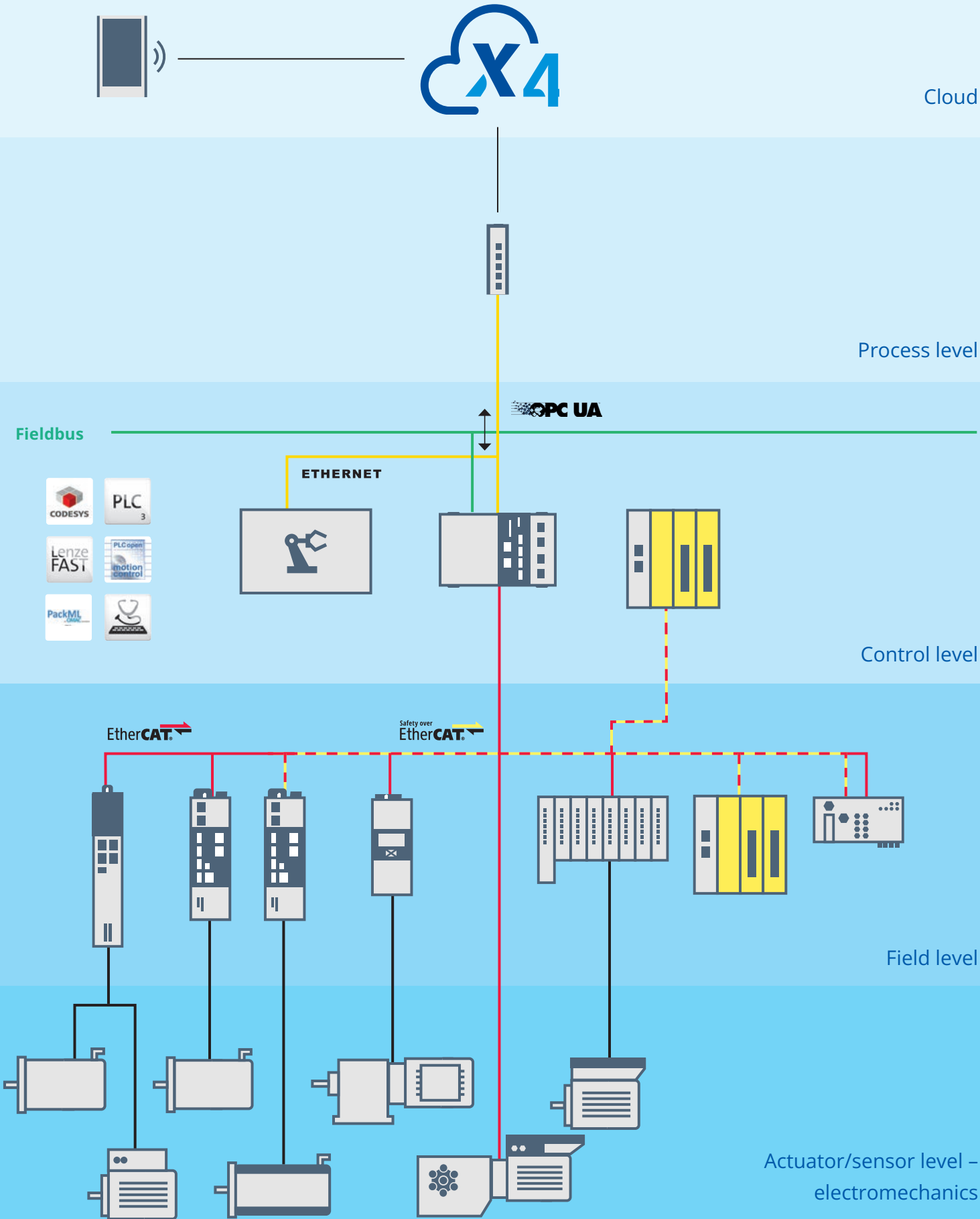
Our automation platform offers you everything from the control level to electromechanics for the implementation of a wide range of tasks. Thanks to our energy efficient mechatronic portfolio you benefit from long-lasting quality and easy handling of all our products.

Furthermore, our platform is open for the efficient integration of components from various partners.


## Compliance with market standards

We are able to network ourselves with control and drive systems at any time. This enables easy integration into higher-level line topologies. Design engineers and users can feel confident that this openness makes our platform future-proof, keeping your core expertise in-house.







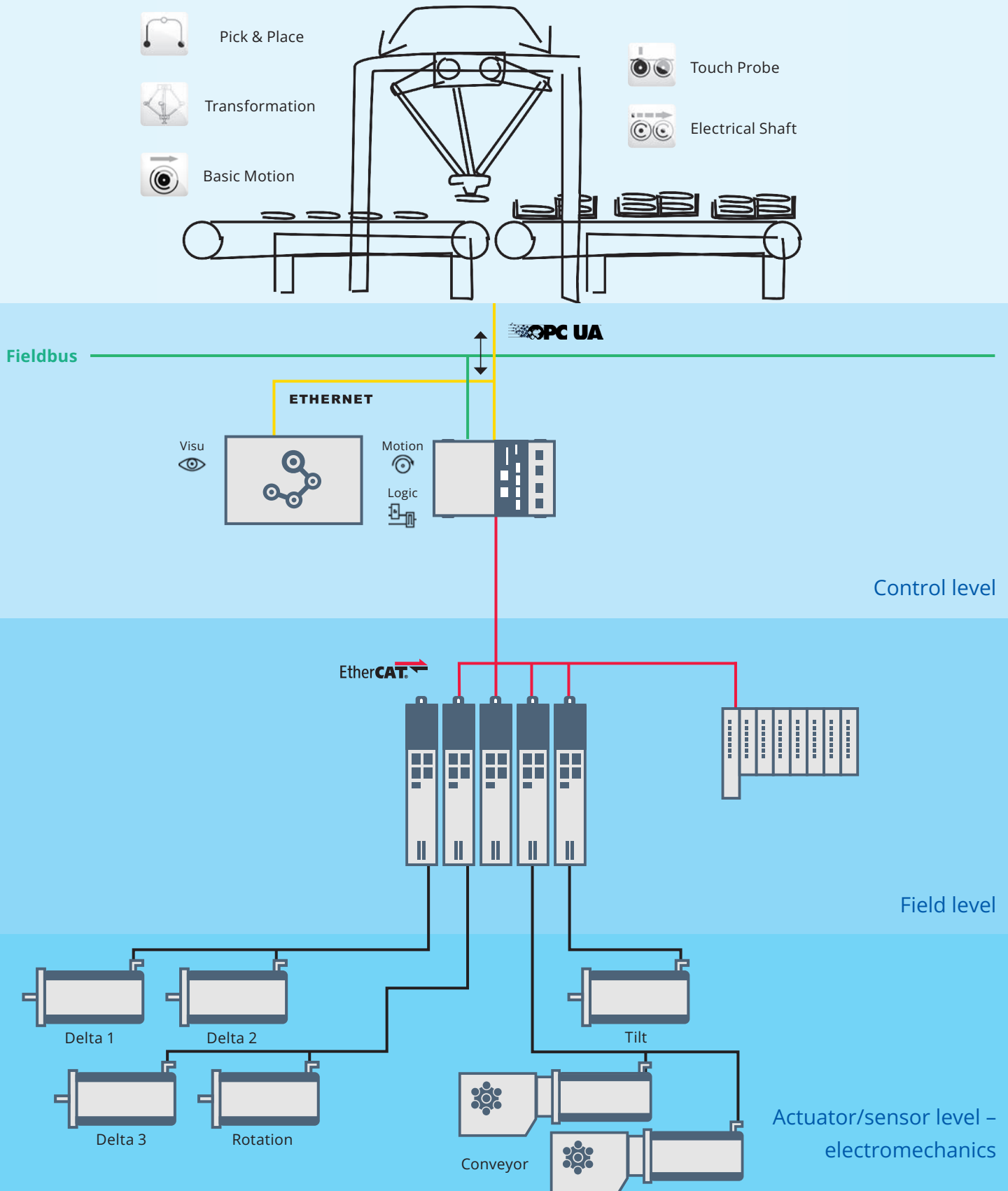



**Maximum  
flexibility**  
due to robotics

**As a flexible component of a machine, the Delta robot is the very first choice for customised production.**

- Lenze FAST technology modules enable parameterization instead of programming – without any deep knowledge of robotics
  - This is how we create software complexity that is easy to manage
- Openness of our software: You remain independent and are able to contribute your very individual core competence
- Integrative control combines logic, motion and robotics in one controller
  - This eliminates costs and engineering work for additional controllers
- Easy linkage of peripherals such as cameras, conveyor belts etc.
- Uncomplicated connection to the MES/ERP system for e.g. track-and-trace functionality, recipe management, machine management



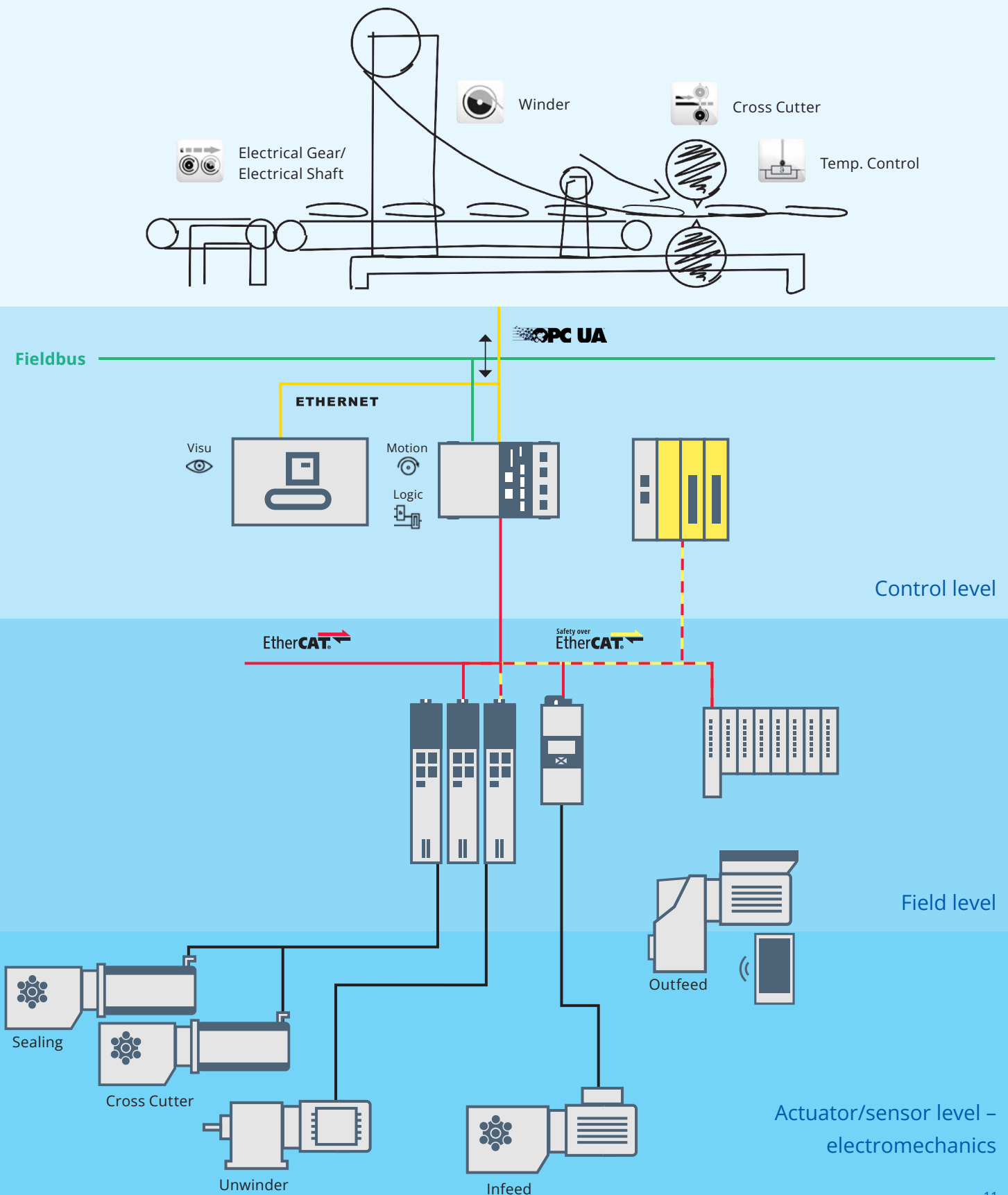




Efficient use of  
resources and  
**maximum  
productivity**

**Modular and scalable software and hardware can be adapted to any requirements.**

- The winder solution from Lenze compensates for problems such as friction and the influence of acceleration
- This prevents material cracks/wastage and enables the use of thinner films that are sensitive to pulling
- And all this without any additional costs for special sensors that are used to measure tensile force
- Intelligent drives: The machine gets to know the parameters of the drive technology during the process
- These parameters no longer need to be determined by means of time-consuming and costly expert tests
- If the packaging material or humidity changes, the machine adapts itself accordingly
- The predefined "Cross cutter" technology module calculates the cam for the synchronous movement of a cross sealing roller and synchronises it with the master axis
- Empty packages and products between the sealing jaws are prevented



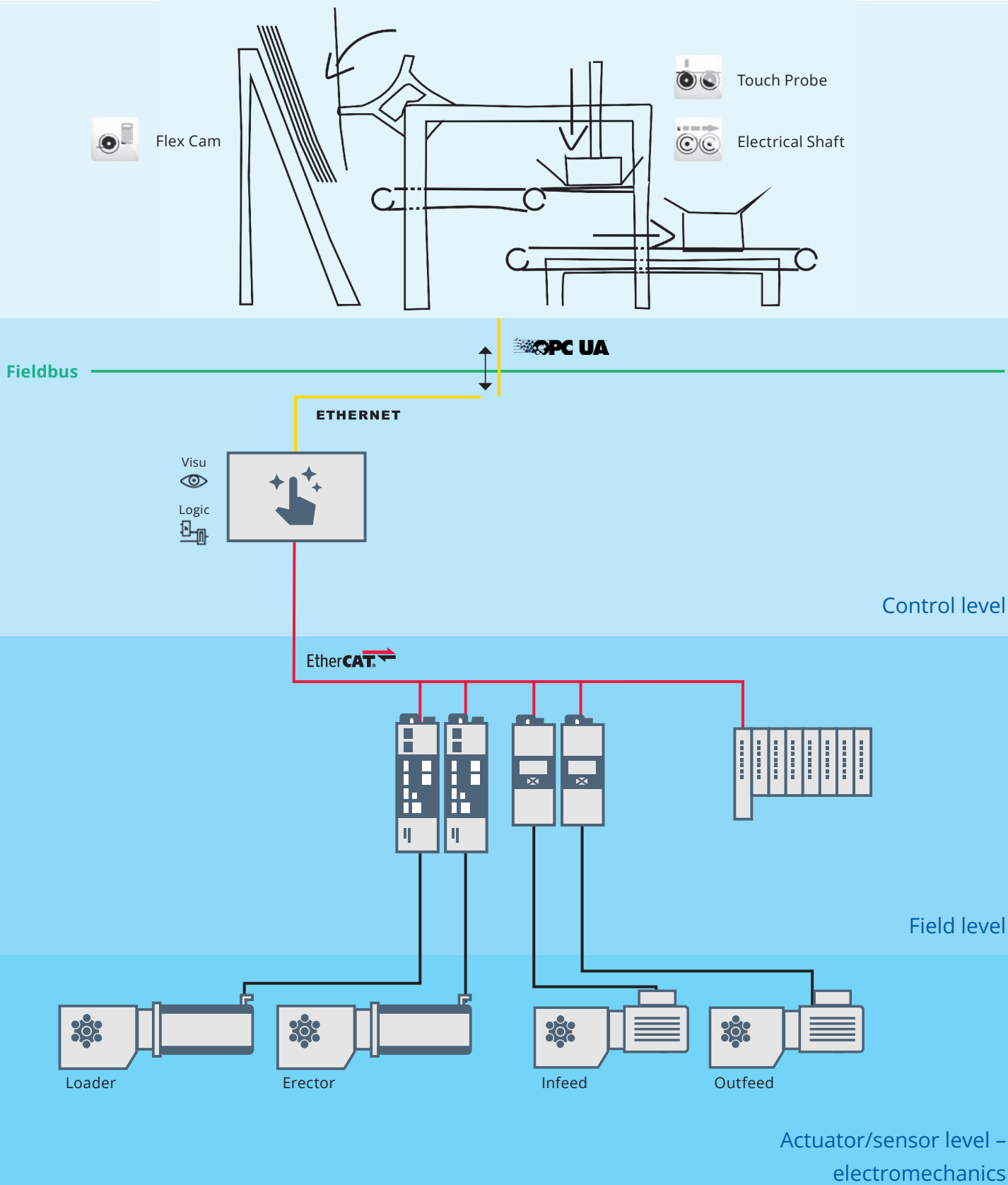


A photograph of an industrial machine, possibly a paper mill or textile loom, with a large blue rectangular overlay on the left side. The machine features a complex arrangement of metal frames, rollers, and a large, curved, ribbed component. The background shows a factory setting with various pipes and structural elements.

## User-friendly operation in focus

**Visualization with an operating concept centered on one user (User Centered Visualization) as well as highly flexible software.**

- Intuitive control and navigation by means of language-independent user guidance (use of images and symbols)
- IPC design adapted to the existing machine design, easy user management, secure and easy log-in of the machine operator by means of RFID
- Fast and reliable set-up, operation and servicing of the machines – worldwide
- Visualizations on multi-touch displays as well as on different display terminals (mobile phone, tablet, browser, HMI etc.)
- Uniform HMI template and therefore better operability of all machines without any HMI training for individual machines
  - Standardised view and arrangement of the buttons, error display etc.



## Digital Services

Added value  
with perspective  
for OEMs and  
end users

**For end customers, the supervision of the operating phase of a machine by the OEM adds additional value. In this context, digital services offer the possibility of tapping into new turnover potential and strengthening profitability in core service activities.**

Together with us, you will develop your tailored digital journey and define steps for your digital offerings which are feasible and realistic for you – today, tomorrow, and in future. With our digital product and solution portfolio, we support you in every phase of this endeavour.





## TODAY

**What is happening?**

- Connection of all machines to a central cloud infrastructure without special IoT know-how
- Remote maintenance and condition monitoring from any mobile device with a web browser
- Autonomous creation of dashboards with the aid of widgets at the click of a mouse

**Benefits for OEMs**

- Secure and transparent access to remote maintenance
- Reduction in commissioning costs
- Reduce support costs through efficient remote maintenance
- Retrospective fault analysis

**Benefits for end users**

- Secure and transparent access to remote maintenance
- Higher machine availability through faster fault elimination by the OEM

## TOMORROW

**What will happen?**

Optimization of availability, throughput, and production yield with the aid of KPIs (OEE, MTBF) in real-time.

**Benefits for OEMs**

- New turnover potential via digital added value services related to one's own machines
- Record of the contractually assured machine availability
- Optimize of machines based on recorded data

**Benefits for end users**

- Anticipate failures to reduce unplanned downtimes
- Display real-time and historical OEE data
- Utilize the entire machine outfit more efficiently
- Performance analysis within a multipoint line configuration

## IN THE FUTURE

**What comes next?**

Increased availability and process quality via predictive analytics.

**Benefits for OEMs/ end users**

- Higher OEE
- Better product and process quality
- Plannable maintenance periods
- Longer maintenance intervals and lower maintenance costs
- Foray into new business models
  - Pay per use
  - Performance-based
  - Contracting
  - And many more

**Lenze FAST**  
Efficient  
software  
engineering



Lenze FAST is based on the experience from several thousand realized applications.

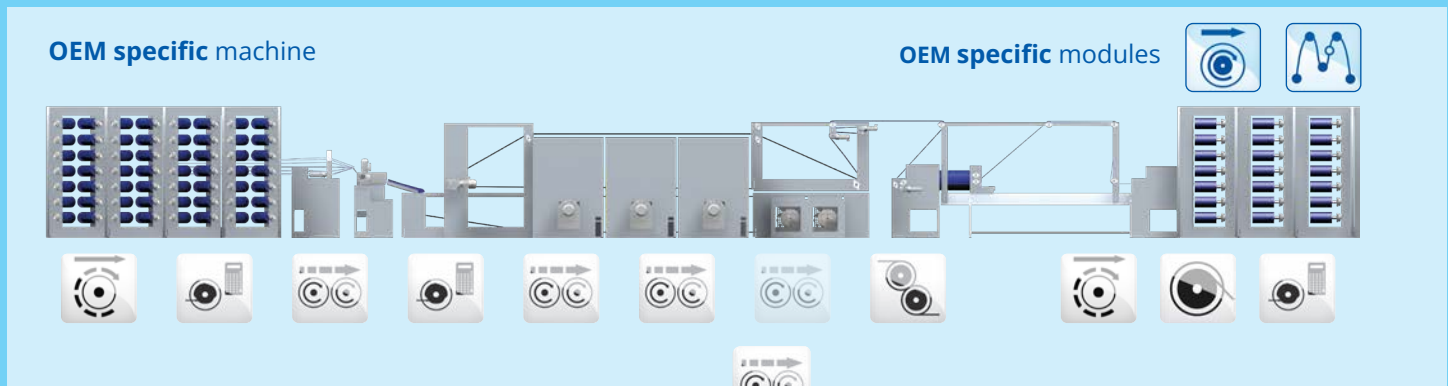
**The engineering process is becoming increasingly digital. Whether it is higher machine flexibility which allows for batch sizes of 1 or improved productivity: Machine software is increasingly becoming the focus.**

Our modular software system, the Lenze FAST Application Software Toolbox, incorporates the experience from several thousand realised applications. Ready-made and tested technology modules reduce development time for technology-specific basic functions, thereby simplifying the implementation of machine functions.

For better software quality, the technology modules can easily be reused. They can be used directly by the OEM or form the basis for the development of custom modules, thus allowing a machine to be programmed efficiently.

A structured programming layout is realized via the Application Template.

## FAST Application Template



## FAST Technology Modules





# EASY Engineering Tools

## The right software tool for every task

### Do you want to plan, build or commission machines?

Adjust existing machines or run diagnostics?  
Regardless of whether you require simple applications or maximum precision and dynamics:  
You can choose the right tools for you and perform your engineering more rapidly and easily.



Developing  
ideas



**EASY System Designer**  
Plan automation solutions

Implementing  
solutions



**Drive Solution Designer**  
Design drive solutions

Conception | Product selection | Dimensioning |  
Quotation requests | Ordering



Drafting  
concepts

Manufacturing  
machines

Ensuring  
productivity



**PLC Designer**  
Program the controller



**EASY UI Designer**  
Machine visualization



**EASY Starter**  
Parameterization and operation

Parameterization | Configuration | Programming |  
Debugging | Setup | Interface design

Commissioning |  
Diagnostics |  
Troubleshooting

# Engineering Services

## Together we develop solutions

### Concept Engineering

The basis for the best solution for your machine task is that we first learn to understand your processes and your organization.

Building on this, we demonstrate to your engineers how your machines can be developed efficiently and fully, utilizing all possibilities with our automation solutions.

### Project Engineering

The use of a Lenze automation system provides you with long-term advantages.

Integrated project management supports smooth workflows when creating your

- functional concepts,
- hardware concepts, and
- engineering concepts.



**Concept  
Engineering**



**Project  
Engineering**



We support  
you throughout  
all phases of  
the engineering  
process.

With scalable  
hardware,  
modular  
software and  
brainware.

### Project Realization

We offer you a complete solution by also assuming responsibility for the electrical design and the commissioning of the system.

### Technical Training

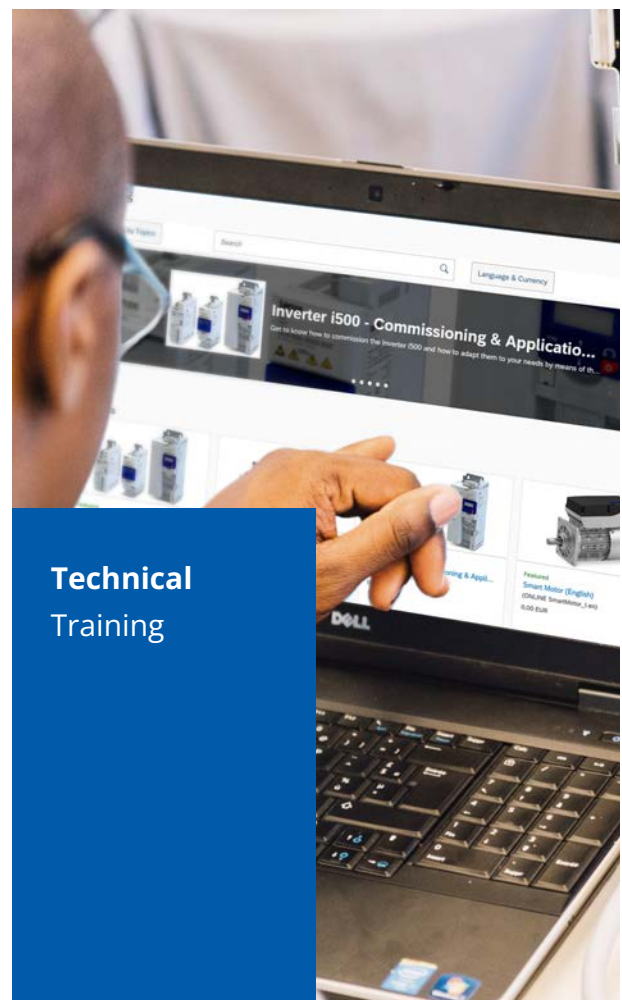
With an individualized training concept, we prepare you for the planning, implementation, and operation of your machine.

Our training courses are application- and practice-oriented and enable you to immediately integrate what you have learned into your day-to-day work.

To offer you flexibility and time savings, our offerings include on-site training programs, online training and video tutorials.



**Project**  
Realization



**Technical**  
Training

A technician with a beard and glasses, wearing a black polo shirt with the 'Lenze' logo, is working on a machine component. He is holding a grey cylindrical part and a metal housing with internal wiring. The background shows a factory setting with metal structures and a yellow safety bar.

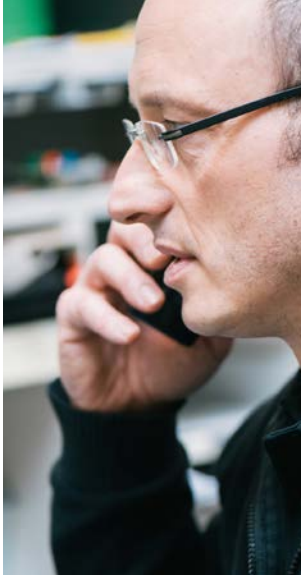
## Worldwide Services

**You can rely on every aspect of our high quality standards.**

Our service is designed to ensure the reliability of your machine and to guarantee its availability.

With proactive solutions that rule out any contingencies, as far as possible and structured procedures, the fast and smooth restoration of the machines' functions in an emergency is ensured.

A large number of our services can be used online at any time. You can of course also get personal support and advice from our specialists.

**24/7 Lenze expert helpline****Online support**

You can directly request support and repairs for specific Lenze products or order spare parts and call up technical data and documentation.

Simply enter the material number or scan the type plate with our integrated scan function. All support information is immediately available to you at a glance.

**Replacement requirement**

Are you using Lenze equipment and need to replace a complete device or some parts? We send you a corresponding quote quickly with our online service.

**Original repairs from Lenze**

In some cases, repairing a Lenze drive instead of replacing it could be a better alternative in terms of quality and cost-savings. This helps you minimize costly downtimes in cases of emergency and means that you don't have to keep large stocks of spare parts.

**Maintenance with a plan**

To ensure maximum machine availability, our maintenance package includes additional services that proactively safeguard your operations. We analyze your requirements together and customize your plan based on our many years of expertise in this field.

**Original repair**





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