

Straight to  
the heart of  
innovation.

# 1

## **Developing ideas**

Are you looking to build the best machine possible and already have some initial ideas? Then get these down on paper together with us, starting with small innovative details and stretching all the way to completely new machines. Working together, we will develop an intelligent and sustainable concept that is perfectly aligned with your specific requirements.

# 2

## **Drafting concepts**

We see welcome challenges in your machine tasks, supporting you with our comprehensive expertise and providing valuable impetus for your innovations. We take a holistic view of the individual motion and control functions here and draw up consistent, end-to-end drive and automation solutions for you – keeping everything as easy as possible and as extensive as necessary.

# Lenze makes many things easy for you.

With our motivated and committed approach, we work together with you to create the best possible solution and set your ideas in motion – regardless of whether you are looking to optimise an existing machine or develop a new one. We always strive to make things easy and seek perfection therein. This is anchored in our thinking, in our services and in every detail of our products. It's as easy as that!

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## Implementing solutions

Our easy formula for satisfied customers is to establish an active partnership with fast decision making processes and an individually tailored offer. We have been using this easy principle to meet the ever more specialised customer requirements in the field of machine building for many years.

4

## Manufacturing machines

Functional diversity in perfect harmony: as one of the few full-range providers in the market, we can provide you with precisely those products that you actually need for any machine task – no more and no less. Our L-force product portfolio, a consistent platform for implementing drive and automation tasks, is invaluable in this regard.

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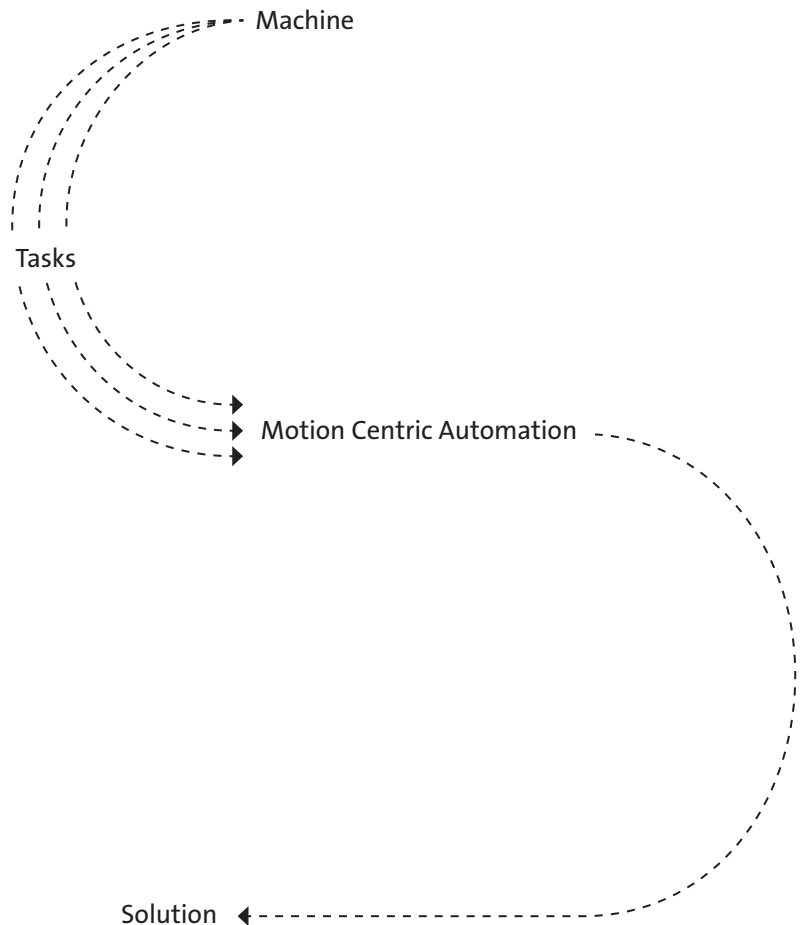
## Ensuring productivity

Productivity, reliability and new performance peaks on a daily basis – these are our key success factors for your machine. After delivery, we offer you cleverly devised service concepts to ensure continued safe operation. The primary focus here is on technical support, based on the excellent application expertise of our highly-skilled and knowledgeable after-sales team.

Freedom  
in machine  
building.

We work in partnership with you to create the foundations for your own specific customer-oriented solutions. We are one of the few providers in the market who work alongside you throughout the development process of your machine – from initial ideas all the way up to after-sales, from the control system all the way up to the drive shaft. This is what we call “Motion Centric Automation”.

And you can rely on our sales and engineering experts to get everything right first time. These experts are highly skilled in exploring your machine concepts and are capable of understanding even the finest of details. Working together, we ensure that your innovations are reliably taken all the way to market maturity. This is what characterises Lenze as an innovative company and gives you the necessary freedom to implement your ideas.



Making  
engineering  
distinctly  
easier.

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All of our services are freely scalable. You simply select the scope of services you require for your specific project. Our sales and application engineers are on hand at all times to provide you with individual product and application support. Whether you require support in selecting drive components or for the actual engineering, we can work together with you to develop the optimum solution for your machine's requirements.

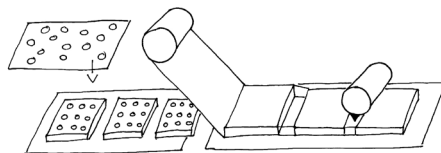
As a reliable partner, we accompany and support you from the initial design phase of the machine, through development, all the way up to commissioning and complete project management. This approach not only saves you valuable engineering resources and costs, it also significantly reduces the load on your planning and design department.

For example we can advise and support you in

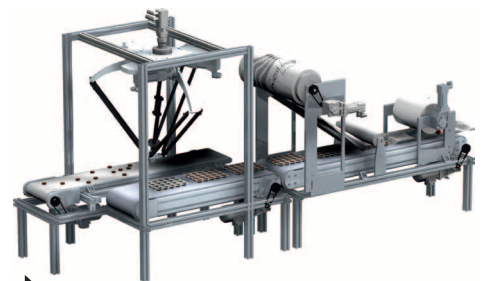
- planning your machine concept, developing the automation topology, system integration and safety engineering
- planning and implementing software applications, all the way up to creating circuit diagrams and networks
- creating prototypes, setting up and testing switchgear, commissioning and optimising the automation and drive concept in your machine or training your operators




Requirement



Concept Development



Implementation



Let your  
machine  
decide.

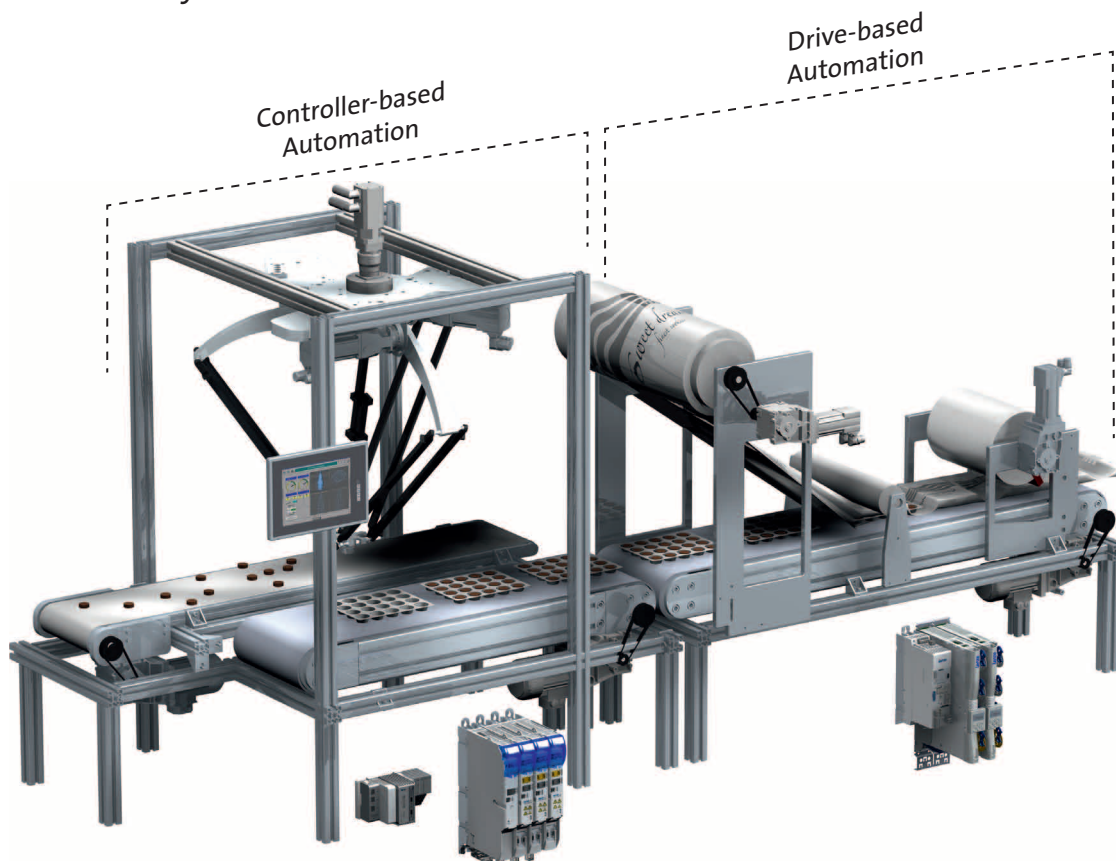


With our automation systems, we always offer you a tailor-made, holistic approach for your machine – from the control system to the drive shaft. The individual system elements are optimally matched to one another and thereby meet the highest quality and efficiency standards in every respect.

We offer you automation systems for both central (controller-based) and decentralised (drive-based) motion control from a single source. Here, we place great emphasis on the use of market standards, such as EtherCAT, CoDeSys V3 and PLCopen, thereby simplifying integration into higher-level line topologies through standard interfaces. This ensures your independence and prevents you from relying on any single standard – which makes sound financial sense for any investment.

No matter whether controller-based automation, drive-based automation or both – we guarantee end-to-end support for your individual drive concept by:

- Calculating all necessary drive axes, including description of the respective machine task and selection of the drive technology
- Providing you with a mechanical and electrical drive concept, together with accompanying calculation of the drive mechanics
- Providing you with solutions for saving and distributing energy (DC-bus operation) to ensure efficient energy usage
- Providing you with global expertise that secures conditions for international approval and reliable operation of your machines



# For central motion control: Controller-based automation.

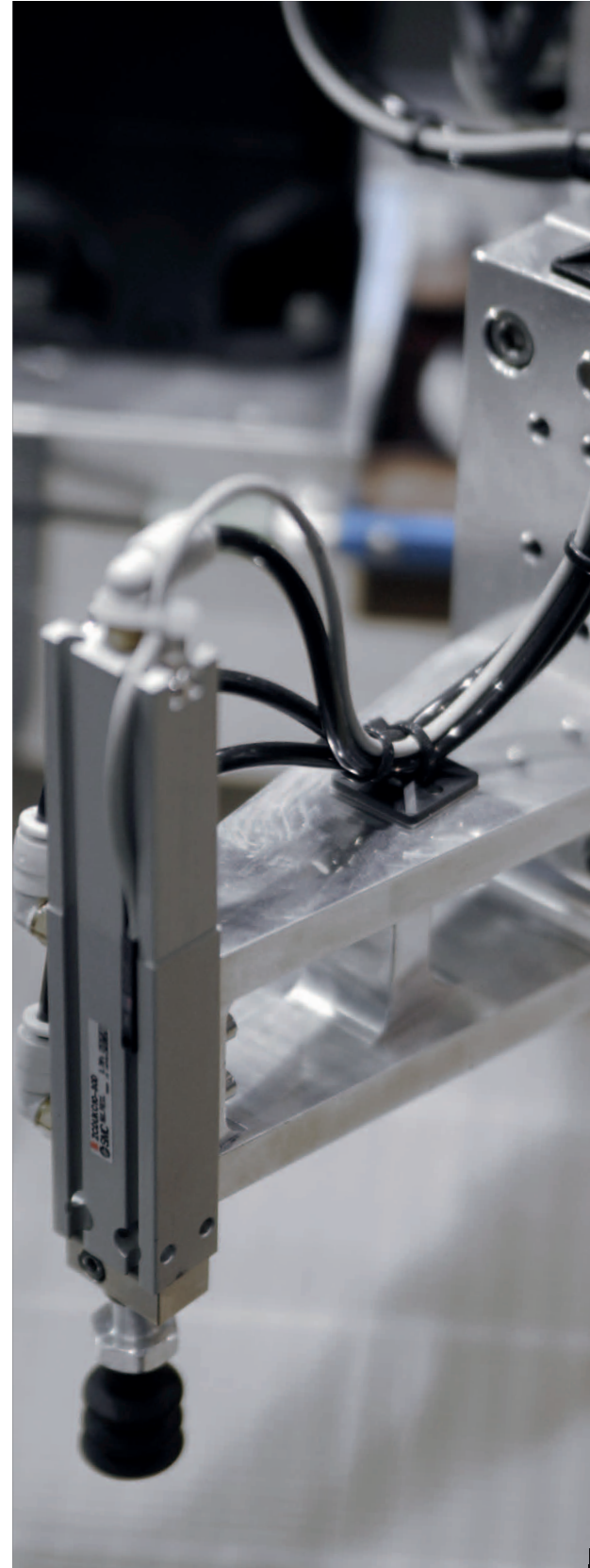
The best way to implement powerful, central motion control for sophisticated machines is with our Controller-based automation system. The controllers 3200 C and p500 offer the ideal prerequisites for this.

Motion control commands are forwarded to the Servo-Inverters i700 via the standardised EtherCAT realtime bus. Centrally managed, these inverters can drive all motors in your machine module.

The I/O-System 1000 combines impressive performance with extremely compact dimensions. An integrated backplane bus makes it possible for modules from the system to be directly side-mounted to the controller.

For an open visualisation concept we offer the uniform end-to-end VisiWinNET® visualisation software and the EL100 range of high-performance HMIs for operation and monitoring.

The complete system is rounded off by our motors and gearboxes. From standard three-phase AC motors to highly dynamic synchronous servo motors, available without gearbox or combined with a standard industrial gearbox.



**1 Controller 3200 C and p500:**  
control and visualisation functions in one compact unit.

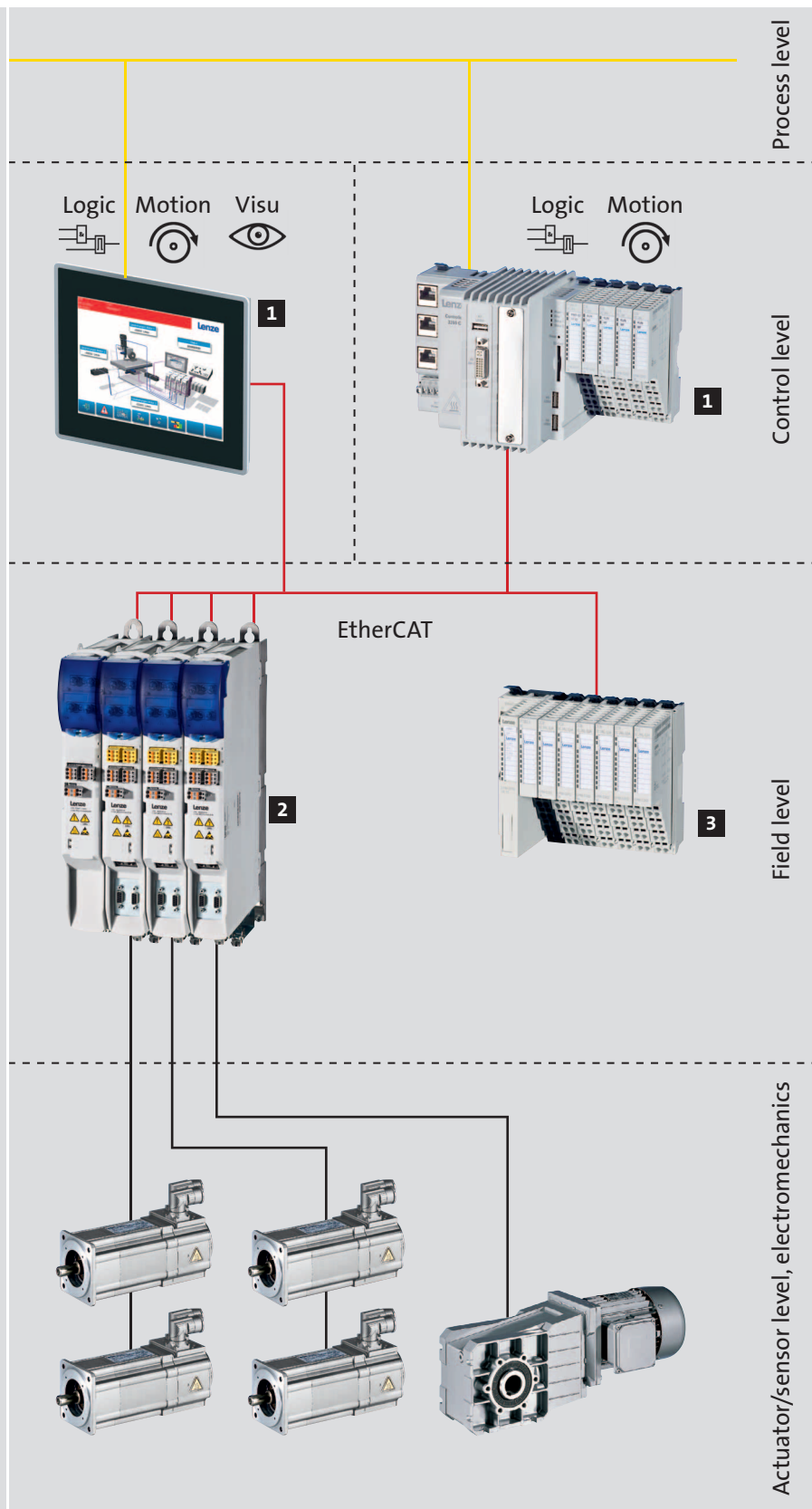
These controllers combine logic (PLC), motion and visualisation in a single device. Thanks to its modern Intel Atom Processor®, extremely precise control can be implemented in even the tightest of spaces – for the best possible production results. The controllers provide the same functionality in different designs: 3200 C as a cabinet version – p500 as a panel version.

**2 Servo-Inverters i700:**  
adds a dynamic to multi-axis applications.

The Servo-Inverters i700 are characterised by their compact and highly flexible design. Dual axes keep the drive size to a minimum, while dynamic motor control makes the units suitable for use in a wide range of applications. Drive integration, commissioning and maintenance are substantially simplified thanks to the installation concept and easy engineering.

**3 I/O-System 1000:**  
a wide range of functions in a compact design.

The I/O-System 1000 is very slim and offers space for 8 connection points. With a total area of just 12.5 mm, these units are ideally suited for use on conventional DIN rails. Thanks to their easily recognisable status LEDs, the labelling and diagnostics concept is very easy to understand and use. The highest speed requirements are also fulfilled for realtime-based architectures.



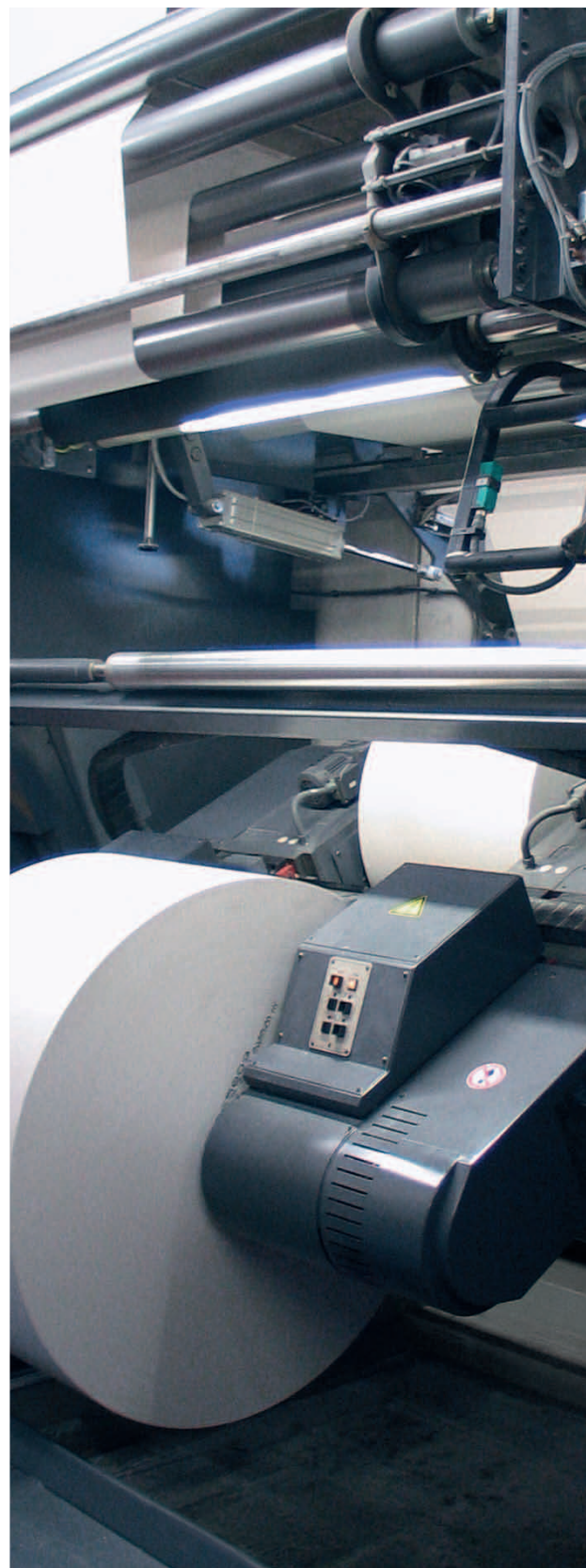


# For decentralised motion control: Drive-based automation.

With compact machines and machine modules, decentralised motion control allows the load on the machine control system to be dramatically reduced or even eliminated altogether.

The Inverter Drives 8400 and 9400 in particular are capable of taking over decentralised control responsibilities. And the I/O-System 1000 can be incorporated into the system to evaluate the control signals. An end-to-end network can also be established, for example using EtherCAT or CANopen. This includes the scalable visualisation concept using the HMIs from the EL100 product range and VisiWinNET® software.

The overall system can also be rounded off here with our range of motors and gearboxes.



**1 Inverter Drives 8400 HighLine: helps you stay on top of the situation.**

The Inverter Drives 8400 HighLine is ideally suited to drive tasks with or without speed feedback. It has integrated positioning control and is capable of handling up to 15 target positions – including the accompanying travel profile.

**2 Inverter Drives 8400 TopLine: makes it easy to achieve high dynamic performance and accuracy.**

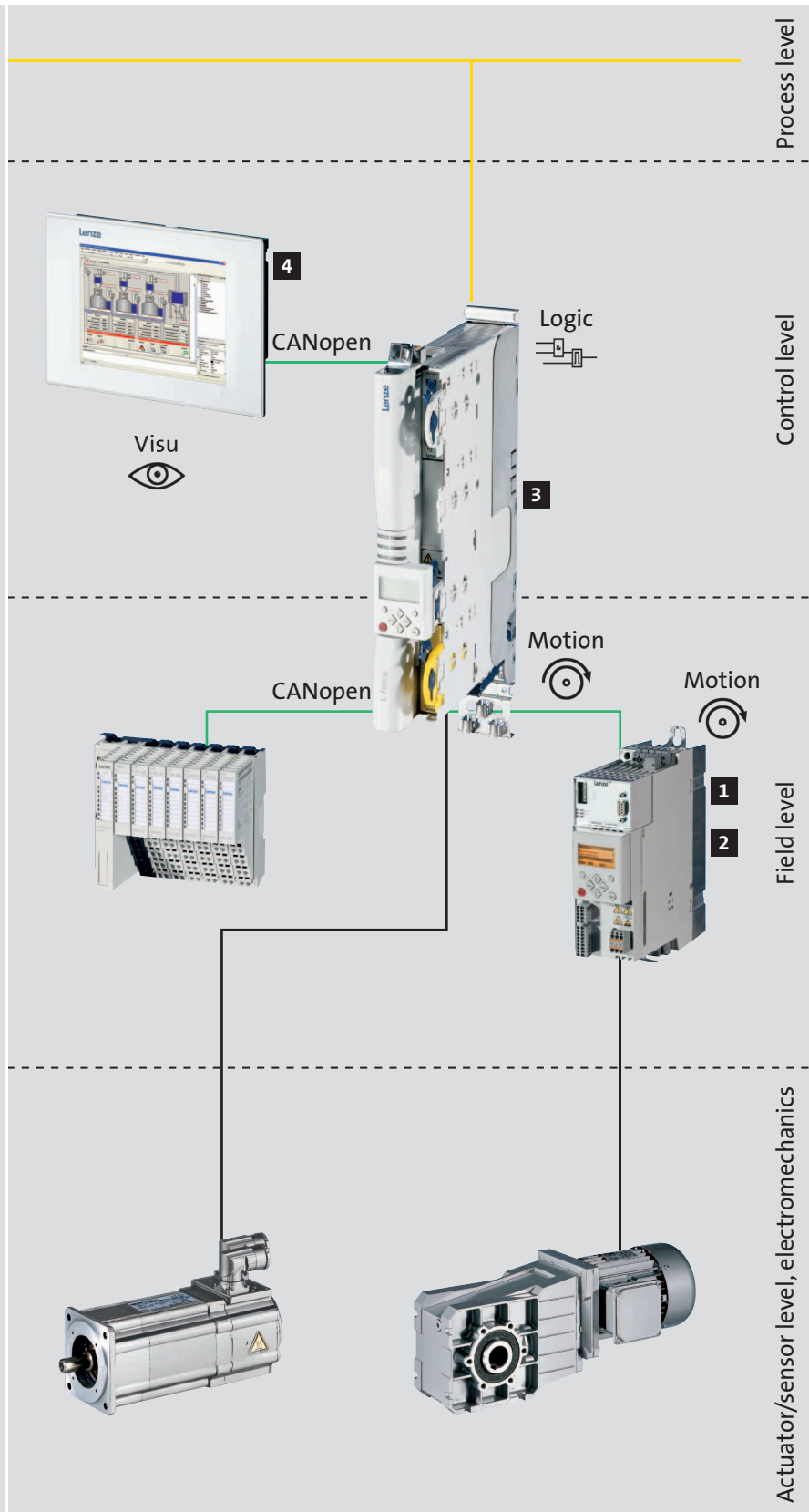
The Inverter Drives 8400 TopLine is the right inverter for positioning tasks that require high precision and feedback. As such, it is ideally suited to controlled, dynamic movements, such as flying saws or synchronised applications.

**3 Servo Drives 9400 HighLine: extremely versatile for demanding tasks.**

The Servo Drives 9400 is the right choice for high-precision and dynamic requirements – whether as positioning control, electronic cam or integrated servo PLC. In terms of communication and safety, the Servo Drives 9400 units offer a great deal of freedom for sophisticated and individual solutions directly in the drive.

**4 Human Machine Interface EL 100: functions in harmony with the operator.**

Even in their basic version, the HMIs form powerful complete systems for operation and monitoring. Thanks to their use of Windows® CE, the compact touch panels have a flexible graphic user interface. Display sizes range from 8.9 cm (3.5") to 26.4 cm (10.4") for diverse applications.



We are keen to help get your ideas moving forwards! Learn more about our approach, our ways of thinking, our visions and how we can make things easier for you in future. Please feel free to contact us directly or visit us at:

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com**

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