



Higher quality, more
efficiency, less waste

Laser solutions for
woodworking professionals

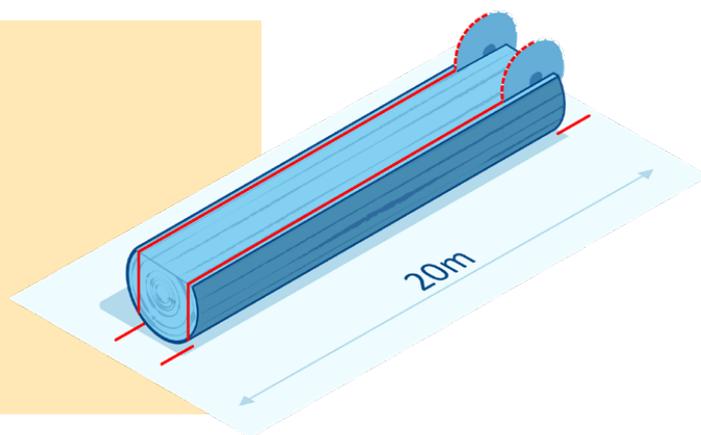
Precision meets experience: How laser solutions support the woodworking industry

Wood has been an elemental resource for mankind for more than 700,000 years. It provides warmth, energy, and protection. Wood is built into our houses and apartments, and we sit on wooden chairs at wooden desks. To maximize the efficiency of this valuable raw material, the wood processing industry is turning to laser solutions. Learn all about the challenges and opportunities of using laser technology in the wood sector in this document.



Your challenge: Economic wood production in a changing world

Like many other trades, the wood industry faces numerous serious challenges that can threaten the competitiveness and growth of companies:



Material procurement

The woodworking industry is dependent on a stable and sustainable supply of raw materials. However, climate change, deforestation and illegal logging result in shortages and price increases.

Innovation

Managers must meet the demands of modern technologies and processes to remain competitive. Digitization and automation of wood-working processes are the most urgent tasks.

Shortage of skilled labor

The industry is dependent on qualified employees. However, the shortage of skilled workers and demographic change mean that it is becoming increasingly difficult to find and retain qualified personnel.

Competition

In a global market, competition often comes from countries with lower labor and production costs, which can lead to price pressure and margin erosion.

Sustainability

Companies are facing increasing demands for sustainability and environmental protection to meet legal regulations and customer expectations. The use of certified wood and the reduction of waste are important issues here.

Your advantages with laser solutions from Z-LASER



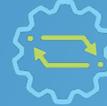
Increased productivity through reduced processing time and improved efficiency.



More precise positioning of workpieces and tools for higher accuracy and quality.



More precise, efficient and sustainable production processes increase customer satisfaction and competitiveness.



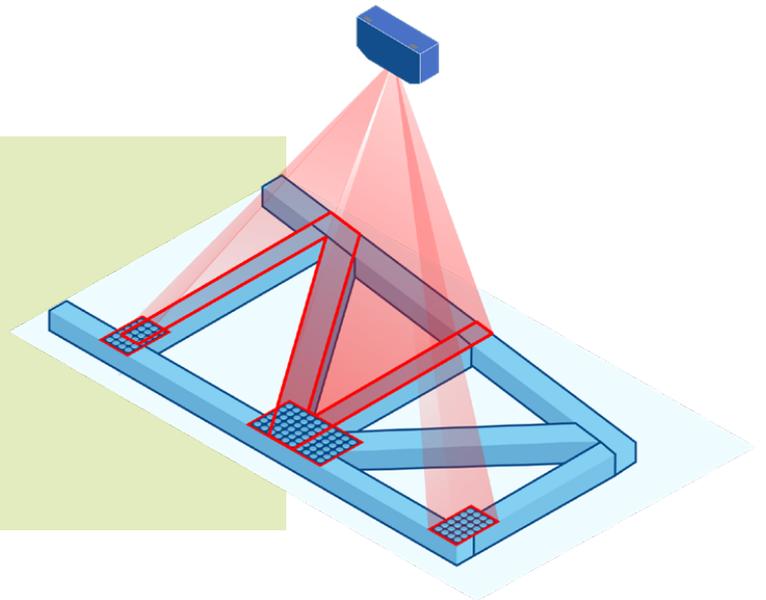
More flexibility in adapting to the requirements and needs of the market.



Optimized material use for less offcuts and waste.

Our solution: Sustainable success with laser innovations

Innovations from Z-LASER help the wood sector to successfully master its challenges. By increasing productivity, quality, and sustainability using lasers, you can operate more successfully.



Material procurement

Our laser solutions help optimize material usage and reduce the need for raw materials.

Competition

The quality and accuracy of your work is optimized, resulting in higher productivity and efficiency, enabling competitive advantages.

Innovation

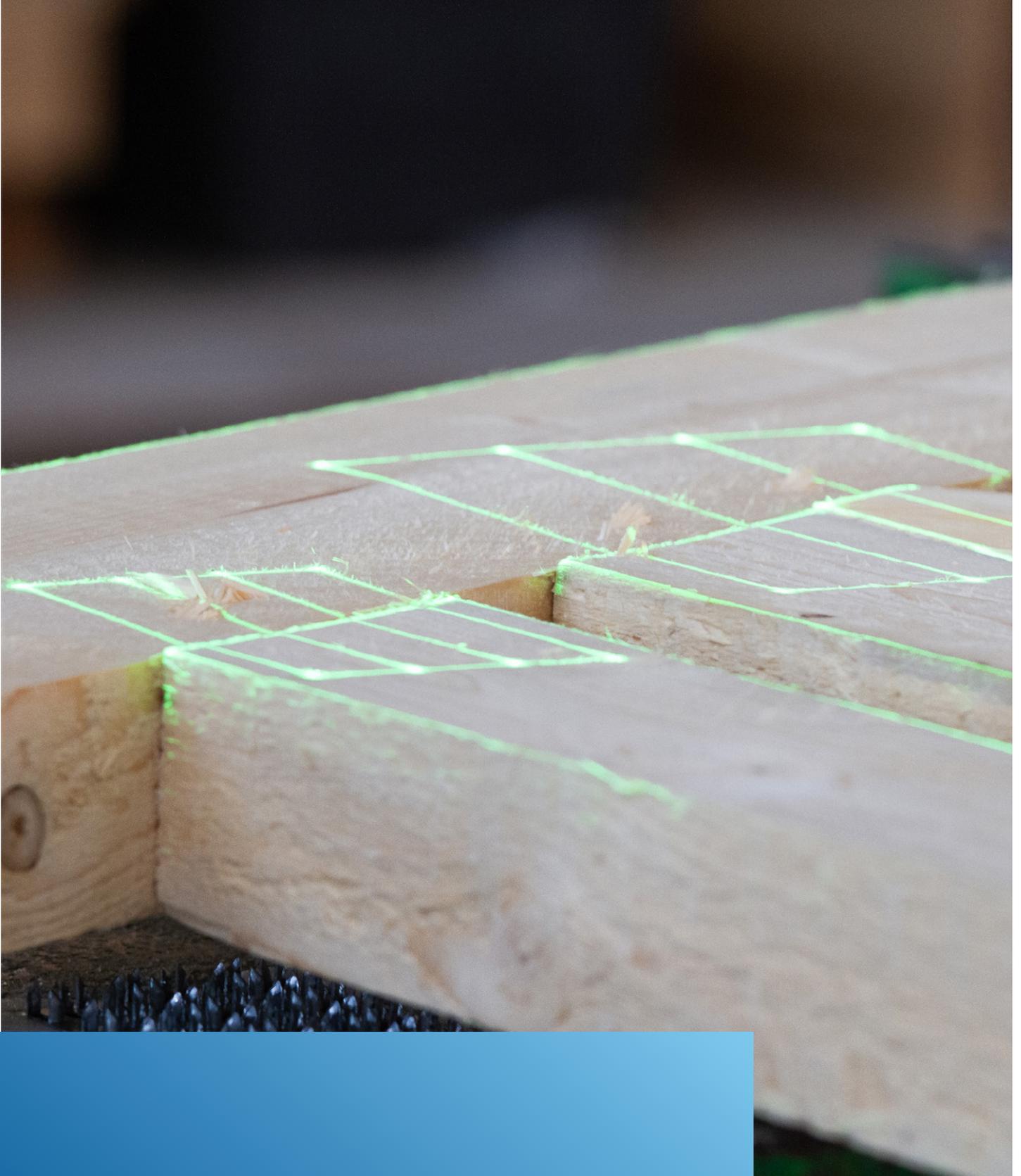
Precise and automated positioning of workpieces and tools helps optimize woodworking processes. This saves time and money.

Sustainability

Positioning lasers and laser projectors from Z-LASER help reduce waste by enabling optimized material use with less waste.

Shortage of skilled labor

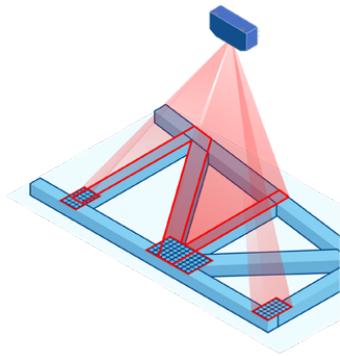
Woodworking processes are simplified and automated, reducing dependence on skilled labor and thus mitigating the negative effects of the shortage of skilled labor.



In action: How laser solutions convince in application

In the woodworking industry, laser light is ideal for applications where work material must be precisely aligned with saw lines, routing paths or drilling points. But you can also achieve noticeably more cost-efficient, accurate and faster results with laser solutions for glue and nail trusses.

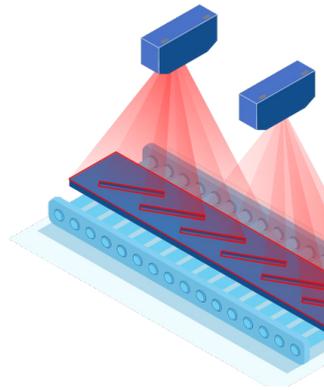
- ✔ Reduce costs
- ✔ Ensure quality
- ✔ Optimize processes



Nail truss

The laser projector creates a laser image from the nail truss design files in the original scale and maps this onto the work surface. It projects the positions of the press blocks, the nail plates and the wooden planks.

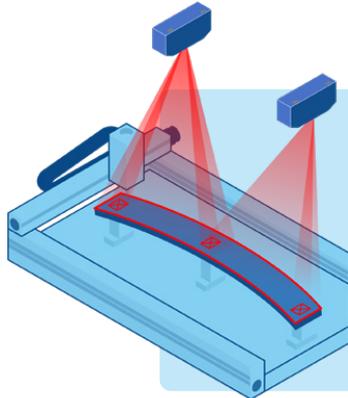
Laser projectors



Staircase construction

In staircase construction, the use of laser projectors saves material costs due to the minimized waste. The stair treads to be milled can be optimally aligned and displayed on the material according to the course of their grain with the help of the software offered. This saves working time and increases throughput.

Laser projectors



CNC machining center

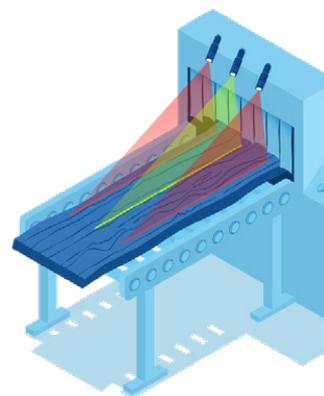
To position the CNC vacuum cups optimally, the laser projector can be used to display both the outline of the material to be machined and the contours of the vacuum cups. Milling edges of workpieces are projected onto a material whenever damage to the suction cups by the milling cutter is to be prevented, material positioning is to be facilitated or material utilization is to be increased.

Laser projectors

Glued/laminated timber trusses

The laser projectors map the shape of the future truss. This is used to position the clamping stanchions in the glue bed. The amount of lamellar material can thus be precisely determined. For further processing of the finished truss on a CNC system, the contour of the truss is projected and shifted to the actual position of the truss. The new position is then transmitted to the machine control.

Laser projectors



Multiblade / trimming saw

Here, line lasers are mounted on linear axes above the machine infeed and coupled with the saw blades. Based on the red or green lines projected onto the wooden panel, the saw blades can be adjusted to achieve the optimum result during trimming and cutting.

Positioning lasers



Panel saw

During edging, a line laser simulates the cut by a red or green line on the wood to cut as close as possible to the edge of the forest. The laser is mounted either above the machine on the workshop ceiling or directly on the chip hood.

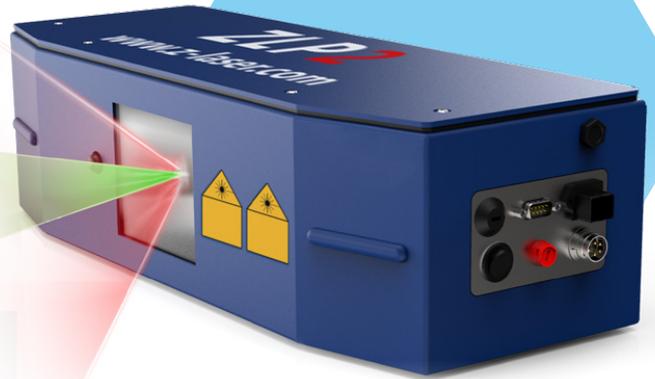
Positioning lasers

Product recommendations

ZLP2

Proven, powerful laser projector with Z-FIBER source

With the ZLP2, the performance features of the ZLP family have been consistently enhanced. Thus, the laser projector features an impressive beam quality due to the use of fiber-coupled laser sources. With an accuracy of 0.25 mm/m working distance, the model is predestined for use in the wood industry.



ZLP2-HighPower

Laser projection with 50 % better visibility.

Pioneeringly bright and impressively robust: The ZLP2-HighPower laser projector offers you long-term support in improving manufacturing processes and product quality. It not only impresses with its particularly robust and high-quality workmanship. In addition to optimized software, the inner workings with a more powerful laser source, new mechanics and revised electronics also set new standards. As a result, you will be impressed by the brightness, accuracy and durability of this laser projector.



ZLP Suite

Control laser projectors quickly and easily
– via GUI or SDK

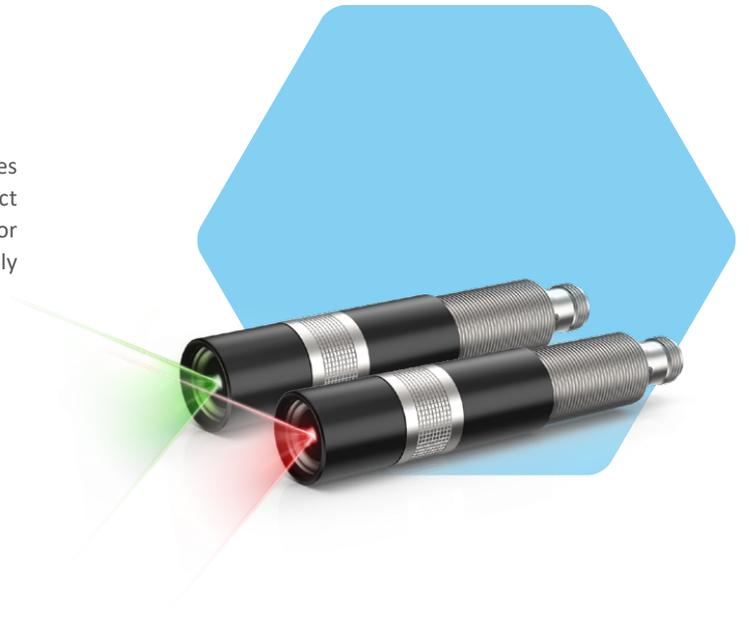
With the Z-LASER software package ZLP Suite, the ZLP projectors can be operated very easily and used directly via the GUI (Graphical User Interface). The integrated programming interface (API) supports a fast connection to existing customer applications.



ZM18

The perfect all-rounders

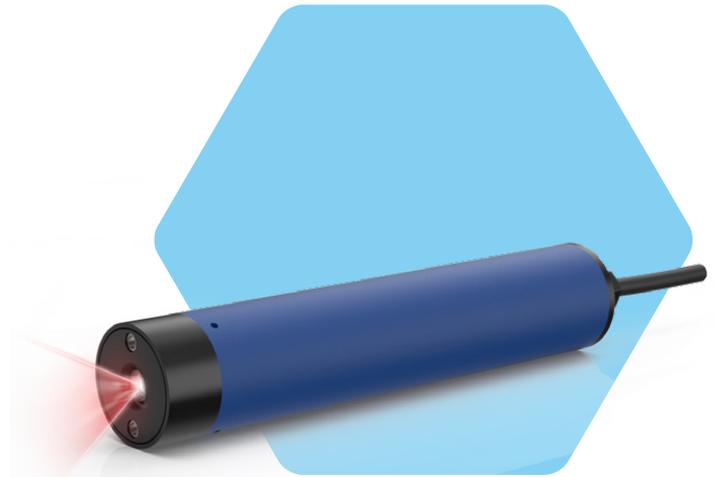
The laser modules of the ZM18 family have long proven themselves as positioning aids („line lasers“) in the wood industry. The compact sensor-like design allows for easy integration into existing machines or systems. An easy-to-use focusing optic rounds off the product. Simply the perfect all-rounder.



ZR

Positioning laser with asymmetric line optics for maximum line length

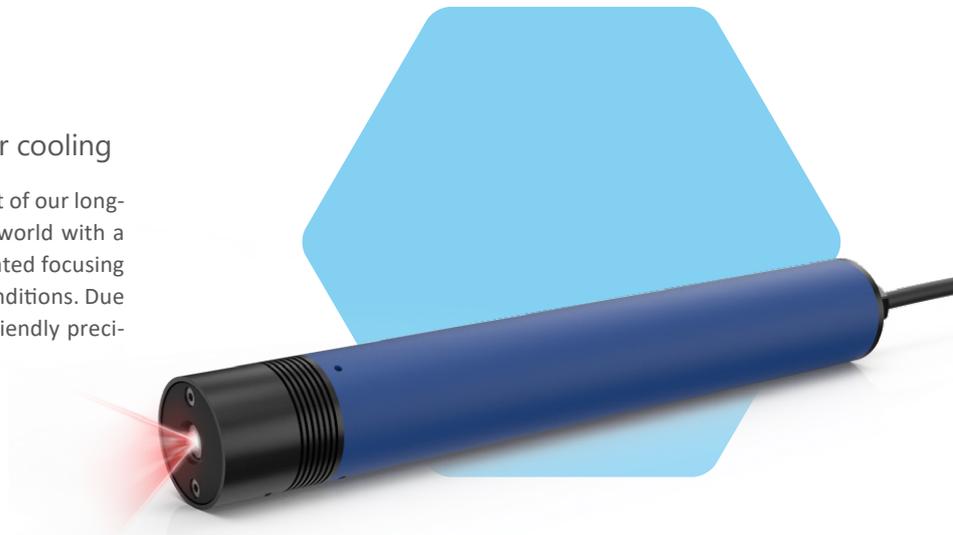
The red positioning laser ZR is a robust laser with a housing diameter of 40 mm. The integrated power supply with high interference immunity also enables easy handling of the device. The positioning aid is particularly suitable as an entry-level model for use in harsh environments. The asymmetric line optics of the line and dot laser allow for maximum line length.



ZPT-F

The world's only positioning laser with Peltier cooling

The ZPT-F with integrated heavy-duty power supply is part of our long-proven laser series. It is the only laser of its kind in the world with a temperature-stabilized laser source. Thanks to the integrated focusing unit, it can be easily adapted to all possible installation conditions. Due to its design, it is a high-quality and, above all, service-friendly precision device.



Z-LASER

An Exaktera Company

Innovative light for better results
Providing visual guidance to people
and machines with laser solutions

Z-LASER has been developing and producing innovative, high-quality laser solutions since 1985.

By providing visual guidance and orientation for people as well as machines, our lasers contribute to optimizing your production processes, ensuring quality, and to using resources carefully.



German engineering since 1985

Over 120 employees develop and manufacture completely in Freiburg, Germany.



Innovators by conviction

25 % of our workforce is involved in R&D.



Rooted locally, at home globally

Sales offices and over 60 distributors worldwide.



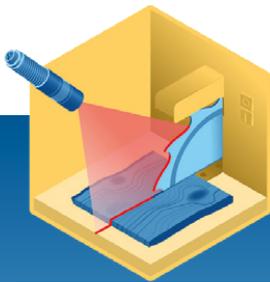
The right solution for every challenge

Developed in close customer exchange, our products adapt perfectly to your requirements.



Modular products for efficient processes

Modularity means less maintenance, optimized performance and better scalability.



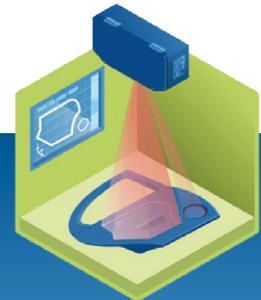
Positioning Laser

Benefit from increased precision for more efficient processes with lower material consumption.



Laser for Machine Vision

Automate your optical quality control with structured laser light.



Laser Projectors

Replace mechanical templates with laser projections and save time, money and material.

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We would be happy to advise you!

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