Automotive industry

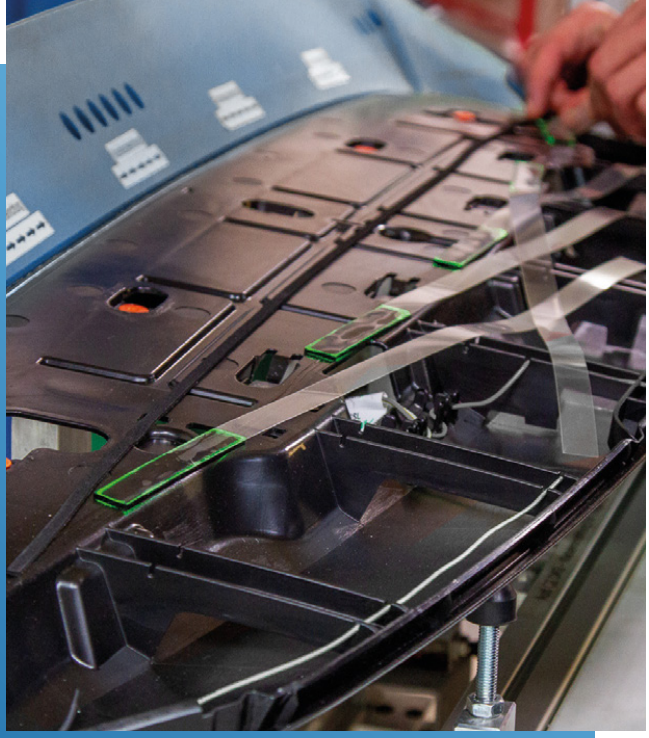
Z-LASER
An Exaktera Company

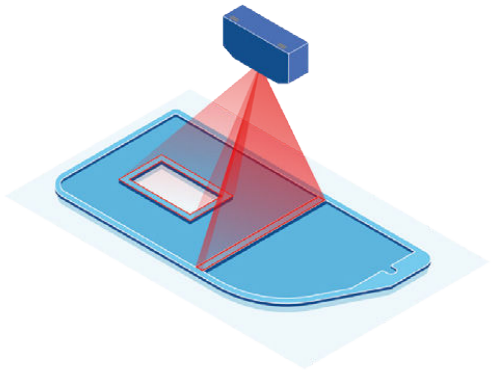
Laser projectors in the automotive industry

Applications in the fields of insulation, bodywork, interior, and logistics

Assembly
Display & control

Car interiors often involve complex and manual assembly, for example on car doors. Laser projectors guide the worker visually through the manufacturing process here: They show how many of which components should be taken from where, and where they should be fitted. This significantly speeds up processes such as routing cables. What's more, instruction texts and critical points or error markings can be shown. This means less training time is required while at the same time strengthening quality control. Using a laser projector to display a red area can help to ensure the safety of the entire manufacturing process.



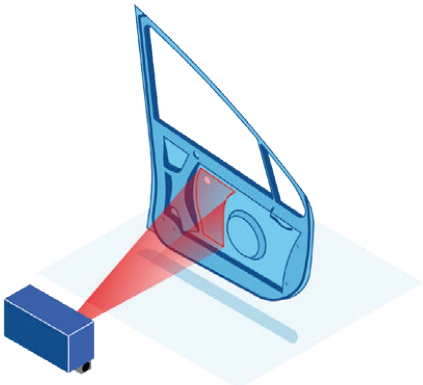


Caravan construction

Wall and floor elements are produced using a sandwich design in caravan and mobile home construction. The laser projectors serve to position assembly elements such as fasteners, struts, and electrical cabling. Ideally, the individual assembly elements are on separate graphic layers so that they can be projected in succession. Generally, two laser projectors with a green beam source are required for each work table.

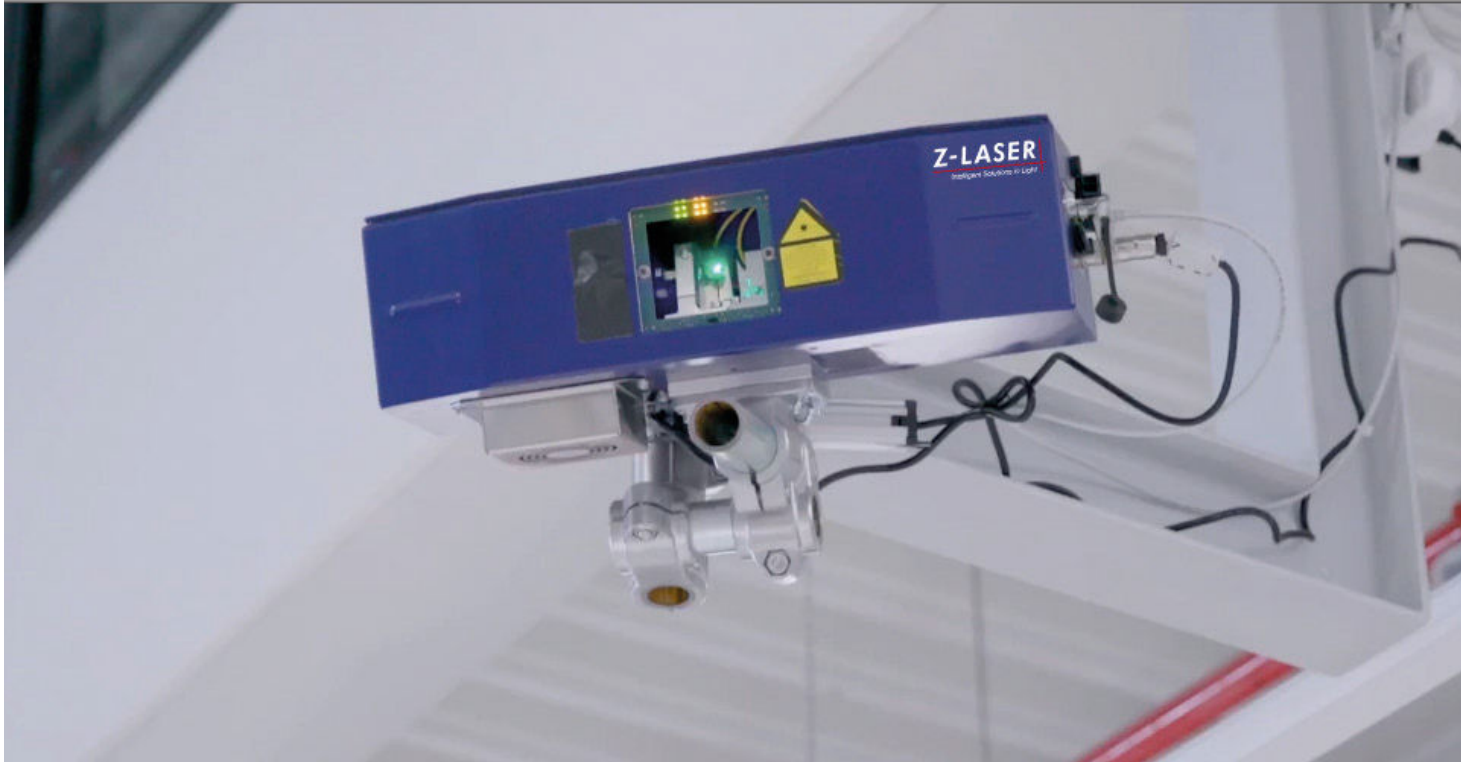
Welding

Welding steel components requires great accuracy when it comes to bodywork. Using template projection on the workpiece makes it possible to check the accuracy of the actual welding joints. The same applies for welding points, which also need to be checked for completeness and correct positioning.



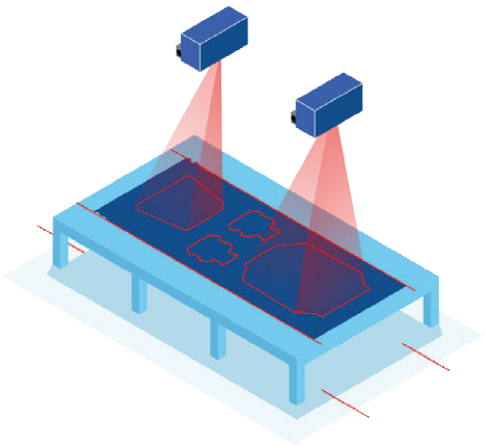
Sound absorption mats

In order to avoid irritating vibrations in the vehicle, sound absorption mats are fitted in areas such as the trunk or fuel tank. To position these mats exactly, laser projectors are used which display the outlines of the mats. This makes it easier to align and then glue the mats.



Seat coverings

The high-quality fabric and leather parts are cut on lay tables, where a laser line is used for exactly aligning the pieces. A cross laser can also be used for checkered fabrics. When sewing the pieces, a line laser shows where the seams are to be placed. In the last work step, simple dot lasers help to fit the seat cover perfectly onto the car seat by highlighting curved seams or the seam “corners”.

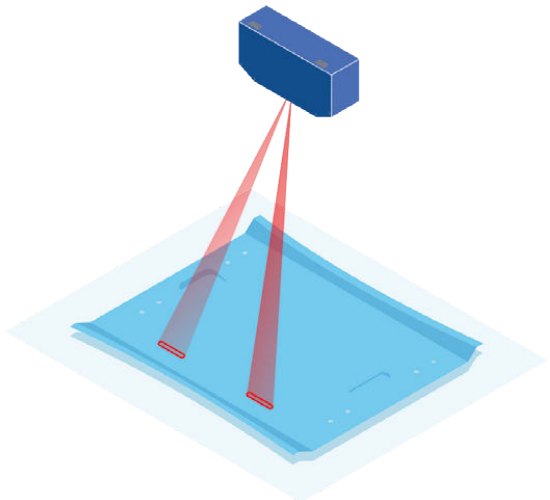


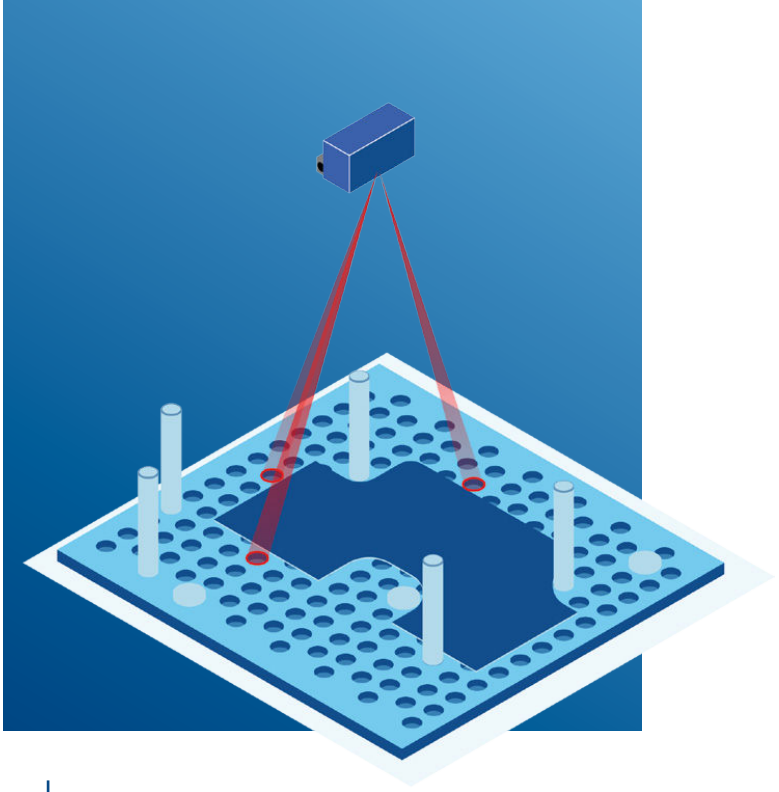
Windshield mounting

When manually gluing the windshield, the swelling tape and glue line have to be attached within a specific area. For optical reasons, markings on the windshield are increasingly avoided. The projection of the target contours for the swelling tape and glue line on the windshield provides the fitter with a simple and effective aid. What’s more, laser projection dispenses with the need for using cumbersome and expensive templates.

Roof liner

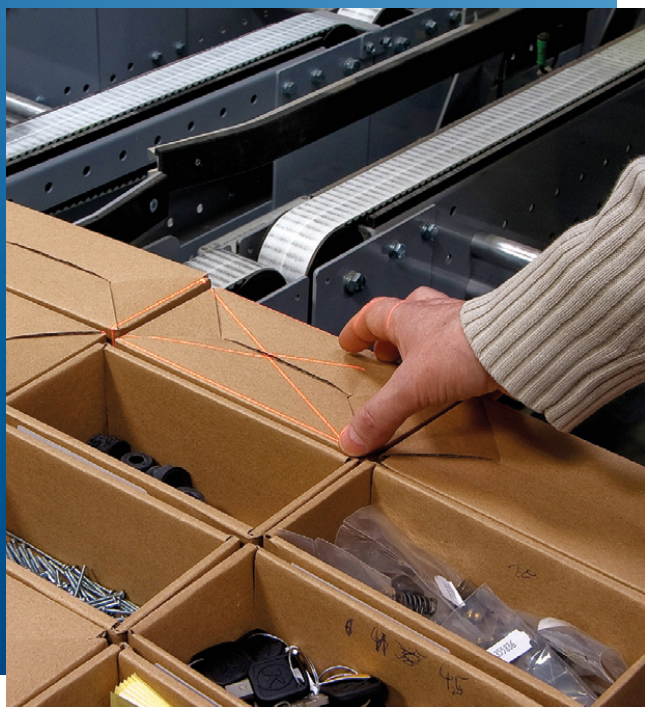
During pre-assembly of the roof liner, retaining clips and the cable set for the interior lighting need to be fitted in the right position. Here, the laser projector shows their exact position on the underside of the roof liner, making assembly easier. Either 3D contours can be used or the individual positions can be taught once with the projector and reproduced later.





Blanking pallet positioning

With the help of laser projection, the mounting position of the pins is projected onto blanking pallets. The punched or pressed forms are then conveyed onto the pinned blanking pallets via a chute. The laser projection keeps the preparation time as brief as possible and the whole setup time is shortened. This does away with the arduous task of manually measuring and aligning the pallets during production.



Logistics

When picking spare parts, it must be ensured that no incorrect parts are dispatched. Despite displaying the picking position on a monitor, a lack of concentration or tiredness on the part of the employee can result in incorrect deliveries. Using laser projectors enables 100% picking quality, as the spare part to be picked is uniquely marked. The visual assistance also enables greater flexibility in deploying staff.

ZLP1

Compact, powerful, and easy to use

ZLP1 is a cost effective entry to laser projection. It is the smallest laser projector in the Z-LASER ZLP family.

ZLP1 is directed to 2D and 3D applications like pick-and-place, logistics and workstations. Enlarge and optimize your production or workflow by this easy to use laser projection system. ZLP1 is eye-safe (laser class 2M) and optimized for smaller working areas and shorter working distances.

We offer our own software ZLP-Suite, which has an intuitive software interface with many customizable options and as a result customers can adapt the settings according to their specific application. Furthermore, ZLP-Suite can be upgraded with additional software modules. Thanks to its numerous connectivity options the laser projector can be operated through various software interfaces such as C++, C# or Phyton.

Ask Z-LASER for OEM integration.

Wavelength: 520 nm

- Intuitive software
- 60° fan angle
- Optimized for 2D and 3D applications
- Designed for multi-projection systems
- Active or passive cooling
- IP54

ZLP2

Proven, powerful laser projector with Z-FIBER source

With the ZLP2, the performance features of the ZLP family have been consistently advanced. For example, the laser projector features an unprecedented beam quality due to the use of fiber-coupled laser sources. With an accuracy of 0.25mm/m working distance, the laser projector is predestined for classic industries such as wood and stone processing as well as for cross-industry applications with composite materials.

The ZLP2 can be controlled by the intuitive ZLP-Suite software with a graphical user interface. Likewise, the ZLP2 can be embedded into existing customer applications through the integrated application programming interface (API). ZLP-Suite can be customized and extended by additional software modules.

Furthermore, the ZLP2 can now be controlled natively via a TCP/IP-capable PLC.

Wavelength: 520 nm 638 nm

- Intuitive software
- Up to 80° fan angle
- Optimized for 2D and 3D applications
- Designed for multi-projection systems
- Improved thermal management
- IP65

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

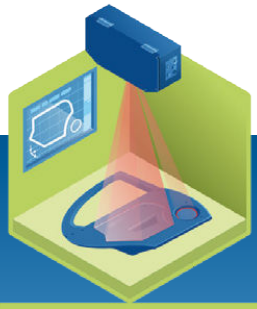
Modularity means less maintenance, optimized performance and better scalability.

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.

Contact

Contact us.
We would be happy to advise you!

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