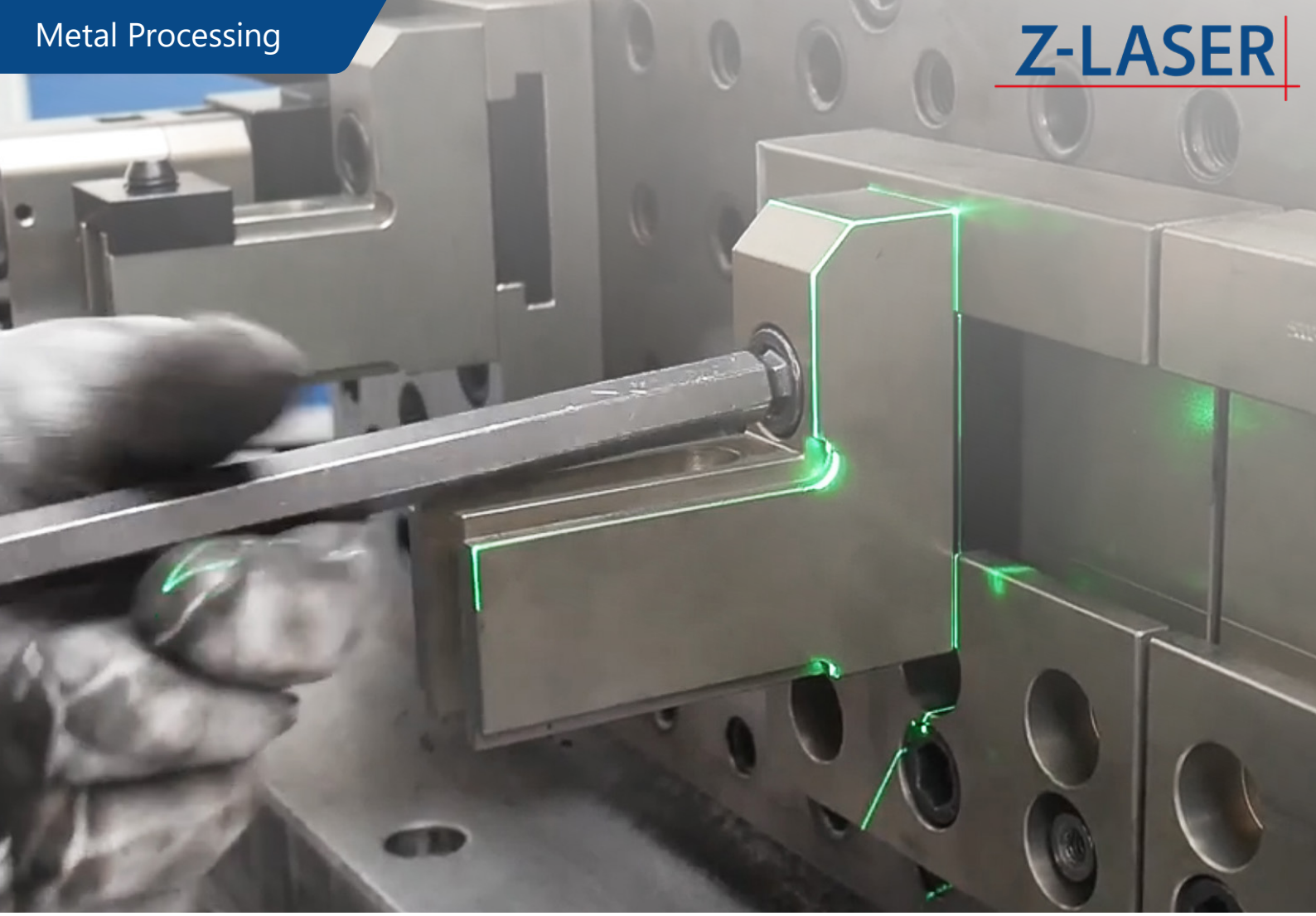
Z-LASER

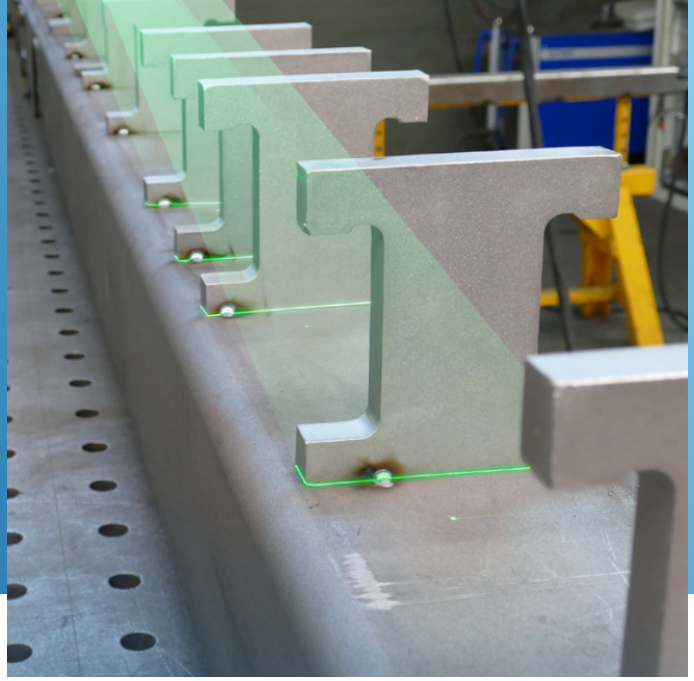


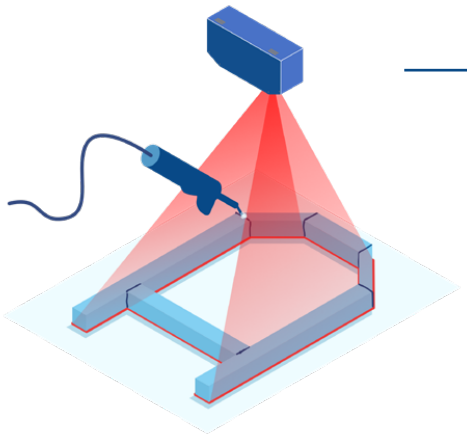
Laser projectors in metal processing

More precision, quality and efficiency for your application

Processing steel and sheet metal even more efficiently

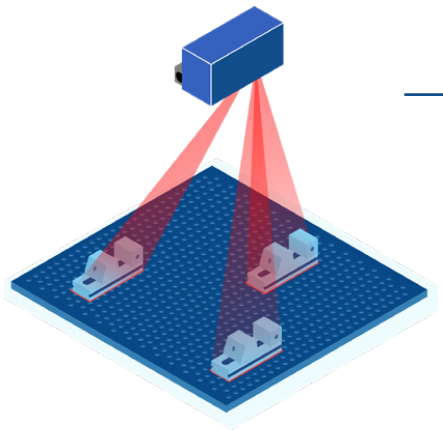
In the metal industry, lasers are a versatile tool for optimizing work processes: Aligning, separating, joining, checking – all these work steps and many more can be done faster and more efficiently with laser projectors.





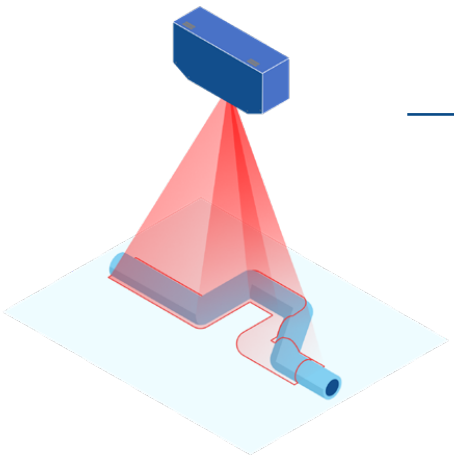
Projector as optical aid for pinning

The exact positioning of components is an essential aspect for a clean result during welding. This work step is greatly simplified using projectors, which display the exact target position at height 0 (bottom side) when tacking components. For the subsequent complete welding, a projection is made onto the top side of the component. This allows heat-induced distortion to be detected and the sequence to be adjusted if necessary. In addition, this considerably simplifies final inspection regarding correct positioning and completeness of the components, as work processes such as time-consuming measuring are no longer required.



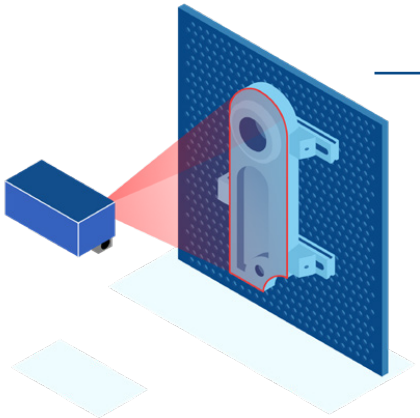
Tool set-up with the help of laser projectors

Setting up individual operations is a tricky process from a business point of view, as the machines are at a standstill during this step and are accordingly unproductive. The use of laser projectors represents a considerable simplification here. By displaying the positions of supports, clamping devices and components in detail, the laser projector guides employees step by step through the setup process by means of easy-to-understand projections. The use of laser projectors not only reduces downtime, but also prevents tool breakage due to incorrect assembly. Time-consuming measuring and the use of unwieldy templates are also eliminated, and the training of new workers is shortened immensely.



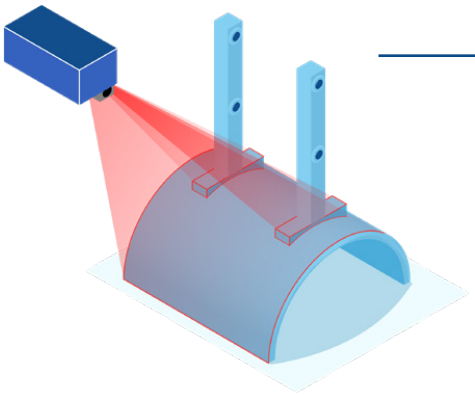
Quality inspection (of bent parts) by means of target/actual comparison

Precise quality inspection is essential in metalworking, such as in the production of bent parts. By using projectors installed above the workbench together with an industrial measuring system, the exact position of the placed workpiece is determined, and the target contour of the component is projected onto the work surface. This allows the worker to easily see with the naked eye whether the component meets the quality requirements. In addition, a slightly larger contour can be projected onto the work surface, indicating the maximum tolerance range of a possible deviation. Compared to conventional measuring methods, such as using a template, downtime is reduced. The system can be flexibly applied to different shapes and materials.



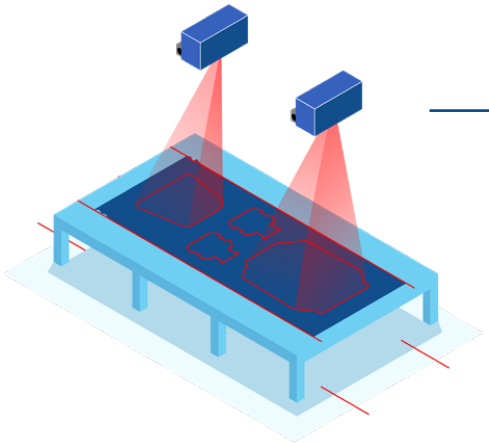
Display of measuring points and measuring tools

During a manufacturing process, components are often tested on separate measuring machines. For this purpose, measuring steps with explicit measuring tools and points are defined. The latter can change during a learning process (teach procedure). When using a laser projector, the previously generated data can be adjusted at any time and stored on the measuring computer. Measuring points can be displayed with various scalable and movable elements such as arrows, circles, texts, etc., as required. The individual test steps for a given component are projected in a user-friendly manner and in the predefined sequence. To select the correct measuring tool, this is marked in the tool magazine by projection of an arrow or frame. This precisely predefined test sequence ensures a high quality of the test results.



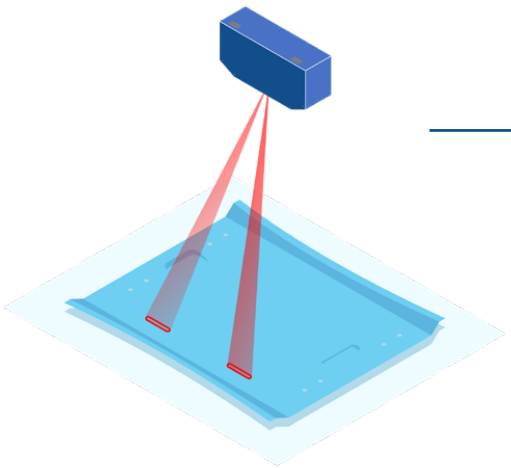
3D projection when welding rack parts

The production of complex 3D frame and structural parts is an elaborate undertaking that requires exact positioning of the individual components. Laser projectors can be used to accurately display the individual positions of supports and fixtures and then project the 3D contours of the entire frame part. Since CAD data in a 3D DXF format is used, setting up the projectors is very user-friendly. In addition, the part height is included in the data, which means that projection is performed at the actual height of the part and further setup is accordingly unnecessary.



Sorting sheet metal parts after cutting

The use of laser projectors makes it easier to sort cut sheet metal parts. A projector mounted above the laser cutter selects and marks all sheet metal parts after cutting is complete. The operator can then remove the marked part in the specified sequence and attach a synchronously printed adhesive label to it. The label is then scanned for its identification number and transported to its designated storage location. Compared to the subsequent assignment of the identification number, the effort is reduced by 10 to 20 % and the correct parts are always provided for assembly.



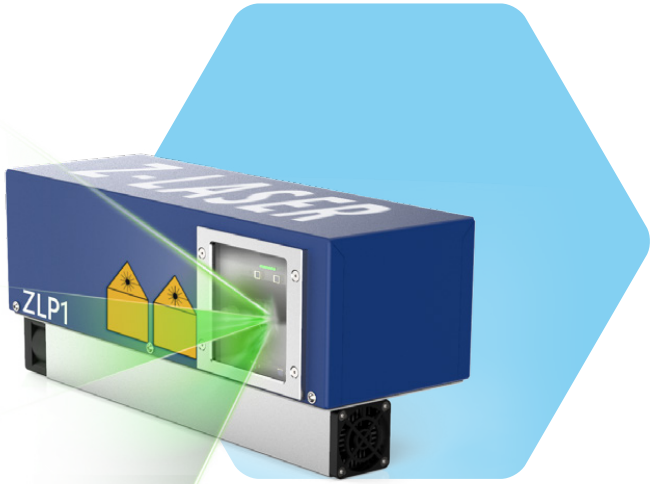
Positioning and applying labels

Part of many industrial manufacturing processes is the application of various labels and tags for internal and external use. This can quickly become confusing. By using laser projectors, this work step can be simplified by using different colors and lettering to indicate the correct positions for the respective labels. The selection and positioning of self-adhesive insulations, attenuators, etc. can also be precisely determined using lasers. Visualization reduces both the error rate during assembly and the time required for this work step.

ZLP1

Compact, powerful, and easy to use

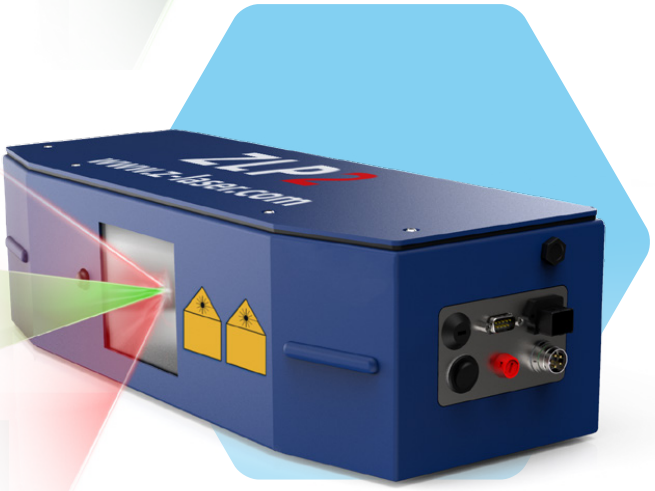
The ZLP1 is the most compact member of the ZLP family and offers a cost-effective entry to laser projection. The ZLP1 is the ideal optical positioning system for applications in picking, logistics, and worker guidance. Optimize your production flows by guiding employees through the manufacturing process with optical work instructions. The ZLP1 is eye-safe (laser class 2M) and is optimized for smaller work fields and short working distances.



ZLP2

High-performance laser projector with Z-FIBER source

The ZLP2 is the high-end model of the ZLP family. By using fiber-coupled laser sources, the ZLP2 provides as yet unrivaled projection quality. With an accuracy of 0.25 mm/m working distance, the laser projector is predestined for cross-industry applications with composite materials.



Get in touch with us - We would be happy to advise you!

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