

PRESS RELEASE

Camera Enhances Laser Processing Quality

Smart visual monitoring system boosts process efficiency

Puchheim, Germany – May 31, 2016 – As the leading OEM supplier of laser scan systems, SCANLAB AG offers an intelligent monitoring and calibration system for laser processing applications requiring strict dimensional tolerances. The easy-to-use SCANalign image processing solution augments scan systems via ultra-precise calibration of the entire image field. By enabling automatic process alignment and visual quality control of laser processing results, SCANalign prevents rejects and cuts costs.



Quality control is crucial for laser applications requiring very strict dimensional tolerances and exact positioning of workpieces – possibly even across several days or multiple batches. One ideal approach to this challenge is integrating a camera-based calibration solution into the system that directly performs image field correction and detection of workpiece orientations.

With the SCANalign image processing solution, a camera captures images coaxially via a camera adapter or side-mounted standard objective. Intelligent algorithms then transfer

acquired image data as laser coordinates to enable direct correction of laser scan processes.

System operation is via a clearly structured graphical user interface (GUI) that requires no programming expertise. Integration into production equipment is facilitated by a provided managed-code library or TCP/IP. The image processing software delivers calculation results usable by laser processing programs such as laserDESK to align scan patterns to the workpiece's actual position and orientation. Upon detection of errors, the process operation can be immediately aborted. This eliminates the need for exact, time-consuming positioning of workpieces within the scan head's processing field, while still ensuring best process results.

More exact than the laser spot itself

SCANalign uses a high-precision calibration plate to achieve absolute calibration of laser coordinates for dimensionally accurate laser processing, with obtainable precisions that can be smaller than the process laser's spot size. For applications with a 255 mm focal length and 1064 nm laser wavelength, absolute precisions under 10 μm can typically be achieved. Applications particularly benefitting from this smart image processing solution include micro-welding, via-hole drilling, micro-structuring and de-coating.

Print-quality images can be downloaded at
www.scanlab.de/en/news-events/image-library

Current tradeshow calendar:

LASYS 2016 from May 31 to June 2, 2016 in Stuttgart, Germany – You can visit all SCANLAB Group companies in **Hall 4: SCANLAB AG - Booth C 35**, Blackbird Robotersysteme GmbH - **Booth D 33**, Next Scan Technology - **Booth B 72**.

About SCANLAB:

With over 20,000 systems produced annually, SCANLAB AG is the world-leading and independent OEM manufacturer of scan solutions for deflecting and positioning laser beams in three dimensions. Its exceptionally fast and precise high-performance galvanometer scanners, scan heads and scan systems find application in industrial materials processing and the electronics, food and beverage industries, as well as biotech and medical technology. For 25 years, SCANLAB has secured its international technology leadership through pioneering developments in electronics, mechanics, optics and software, as well as the highest quality standards.

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