CAD-PRO

Laser projection system for industry
and small businesses

Up to 75 % time saving

Project your CAD data in seconds

Avoid error-prone measuring and time-consuming manual marking. The CAD-PRO laser projector removes the necessity for them, and projects your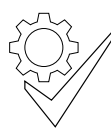 CAD data true to scale as visible laser lines on 2D and 3D surfaces, quickly, precisely, and reproducibly. Whether in composite manufacturing, prefabricated home construction or precast concrete part production, use CAD-PRO laser projection systems to align and position your workpieces with millimeter accuracy. Increase quality and process reliability by reducing defects down to zero and meeting quality requirements 100 percent.

Fast

Save up to 75 percent of the time for manual measuring and marking. The laser lines are projected onto the surfaces in seconds. This makes positioning go much faster and boosts your overall process efficiency.

Error-free

Reduce costs measurably by avoiding rejects, reworking and waste. The precise display of contours, assembly points and cut edges prevents errors from arising in the first place. You can reduce your reject rate to nearly zero.

Precise

Meet quality requirements and comply precisely with production specifications. Laser projection systems from LAP offer you the precision and repeatability needed in high-end manufacturing, such as for the aerospace industry.

Small, strong, smart

Precision meets compact size

Only 3 kg

The CAD-PRO laser projector from LAP weighs just three kilograms, making it a lightweight among laser projectors. Handling of every kind is fast and simple, from installation to replacement to shipping.

3 colors

CAD-PRO laser projectors can project in three colors simultaneously. Any kind of line can be shown – contours, straight lines, curves, logos, pictograms, texts.

30,000 h

CAD-PRO laser projectors use diode lasers with a service life of up to 30,000 operating hours. That's over three times that of DPSS laser sources. This long service life gives you a high level of investment safety.

±0.06 mm/m

CAD-PRO laser projectors attain a line precision of ±0.2 millimeters per meter distance of the projector from the surface. High precision models for applications requiring extreme accuracy can achieve a precision of ±0.06 mm/m.

100 % digital

The actuators for the turning mirrors in CAD-PRO laser projectors are controlled digitally. This eliminates typical errors of analog systems, like thermal drift and control circuit EMP susceptibility.

1 cable

This handy laser projector stands out with compact dimensions and simple installation. The CAD-PRO snaps into a swivel mount and is held in place with an Allen screw. Only one single cable has to be connected.

Scalable and flexible

Customized CAD-PRO systems

Whether you're using a standalone, mobile or stationary multi-head system, we customize your CAD-PRO laser projection system to your requirements. We work with you to plan the installation and integrate the optimum solution into your processes.

Scalable system

For complex or large projections, multiple projectors can easily be combined. CAD-PRO laser projectors project singly or in groups, independently or in unison. For complex projections, the data is evenly distributed among the projectors.

Simple operation

You can easily operate CAD-PRO laser projectors via PC, Windows tablet, or remote control. For rough working environments, a heavy duty remote control is available. It's even possible to use a mechanical switch to move from one projection to the next.
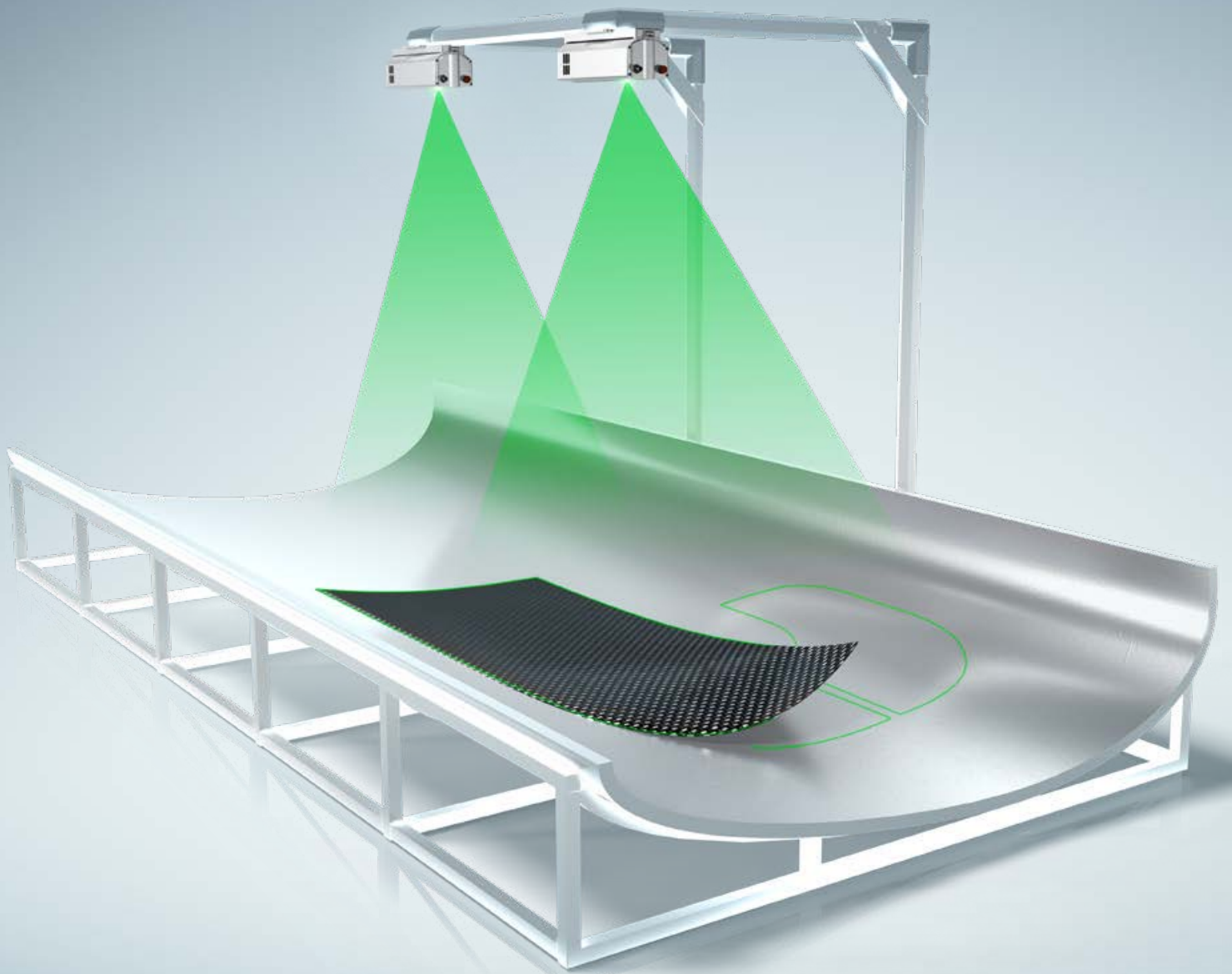
Flexible configuration

CAD-PRO laser projectors can be configured exactly for their task, with different laser colors and powers. Choose the appropriate CAD-PRO model for your application, depending on the precision requirements, distance from the projection surface, and visibility of the projection color.
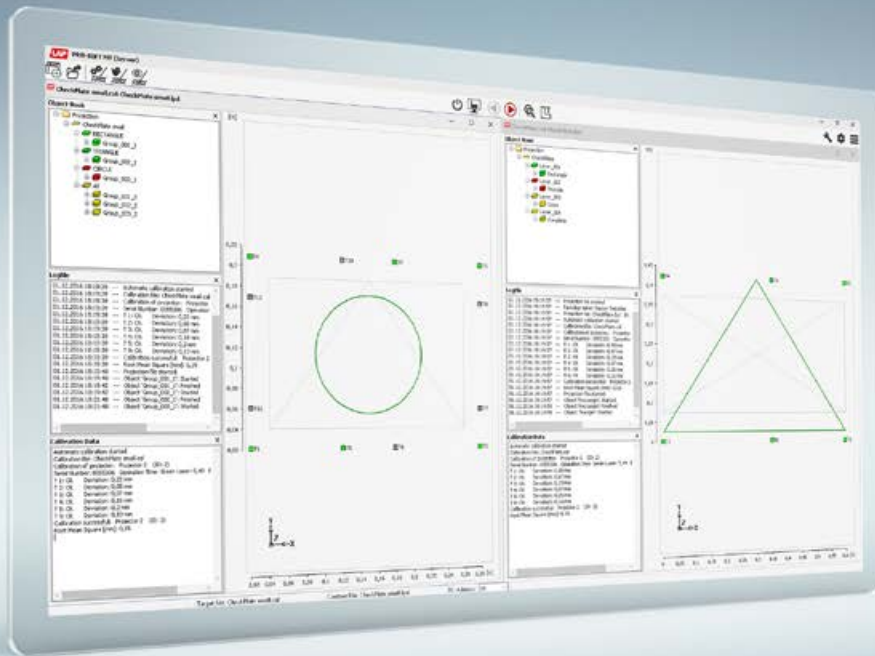
Mobile or stationary

CAD-PRO laser projectors can be mounted on any secure ceiling, wall, or traverse. Installation is possible in any position as long as there is a clear line of sight. Do you need a mobile solution? CAD-PRO laser projectors can also be supplied on autonomous movable projection carts.

Learn more about our laser projection systems at www.lap-laser.com

With CAD-PRO laser projection systems, various applications can be realized. Solutions range from the smallest workbench to the series production of aircraft parts or wind turbine rotor blades.

Manage projections easily with the user-friendly PRO-SOFT software.

Everything from a single source

All-in solution for process optimization

PRO-SOFT Software

PRO-SOFT is the user-friendly operating environment for CAD-PRO laser projection systems. It assists you from work preparation to projection tasks all the way to documentation and quality assurance. Export your CAD data in any of the supported formats, from DXF, IGES, and HPGL to LPD and PLY. Projection files can be managed in a clear file structure.

Operators can then work through them step by step. The intuitive menu operation and clearly structured graphic user interface enable simple operation. The software is ready to use after brief training. LAP offers different software variants optimized for specific industry requirements. We will be glad to advise you.

DTEC-PRO camera system for process optimization and quality assurance

DTEC-PRO camera system

The intelligent DTEC-PRO camera system is the ideal add-on for mobile worktables. This industrial camera with infrared flash detects the position of your workpieces and reacts automatically to changes. These functions offer additional possibilities for process acceleration, visual process control, and quality assurance.

DTEC-PRO can be easily retrofitted to CAD-PRO systems. A PRO-SOFT software update is enough for existing LAP systems.

Functions supported:

- Accelerated CAD-PRO laser projector calibration

- Laser projection repositioning in response to tool movements

- Live camera images check the correct position in real time

- Virtual projection shows projection contours in the camera image

- Saving of camera images for quality assurance

Accessories

- Calibration plate
- Targets
- Remote control

Service

Regular maintenance protects your investment goods. Our maintenance agreements range from regular inspection to complete cost coverage in case of malfunction.

Find out more about SAFEGUARD-PRO
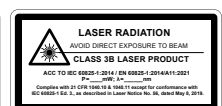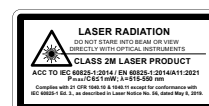
CAD-PRO models

Configurations

Model	Precision*/**	Laser color and wavelength	Projection color	Laser power	Laser class
CAD-PRO	±0.2 mm/m or ±0.06 mm/m HP (High Precision)	red (diode, 640 nm)	red	5 mW	2M
				10 mW	3B
		green (diode, 520 nm)	green	5 mW	2M
				10 mW	3B
				30 mW	3B
		red (diode, 640 nm) and green (diode, 520 nm)	red, green, yellow	5 mW	2M
				10 mW	3B
CAD-PRO compact	±0.2 mm/m	green (diode, 520 nm)	green	5 mW	2M

Technical Data

	CAD-PRO	CAD-PRO compact
Dimensions [L × W × H]	300 × 110 × 110 mm	240 × 110 × 110 mm
Weight	approx. 3 kg	approx. 2.8 kg
Power supply	24 V DC, 1.5–3 A	24 V DC, 1.5–3 A
Repeatability*/**	±0.025 mm/m	±0.025 mm/m
Line width*	0.5 mm FWHM	0.5 mm FWHM
Projection angle	60–80°	60–80°
Ambient conditions	0–40 °C, 35–85 % rel. humidity, non-condensing	
International Protection Rating	IP 54	IP 65 and IP 67
Interfaces	RS485/Ethernet via LAP interface	RS485/Ethernet via LAP interface

* Within ±30° projection area at a distance of up to 4 m, beam strikes surface vertically,
  unit is correctly focused and calibrated, at least 30 min. warm-up time
** Millimeters per meter distance from projector to surface
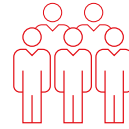
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About us

LAP is one of the world's leading suppliers of systems that increase quality and efficiency through laser projection, laser measurement, and other processes. Every year, LAP supplies 15,000 units to customers in industries as diverse as radiation therapy, steel production, and composite processing. LAP employs 300 people at locations in Europe, America, and Asia.

90+
Partners

300
Employees

7
Locations

Quality

We work to uniform standards and with certified processes. For us, "Made in Germany" means the highest precision in manufacturing and quality inspection of each device. For our customers, this means planning and process certainty.

All our worldwide locations use a quality management system according to EN ISO 13485 or EN ISO 9001. Our products have all the necessary approvals and registrations almost everywhere in the world.

Service

We ensure the maximum availability of your equipment so you can concentrate on your core process. Wherever you need us, our certified service technicians are quickly on site in any time zone. We support you from installation and commissioning, through user training, up to maintenance, repair, or unit replacement.

Our efficient logistics ensure the fast availability of spare parts worldwide. For technical questions and support, our helpdesk is at your disposal by telephone, via e-mail, or remote diagnosis.

**More about our
global QM system**

**made
in
Germany**

Contact us!
info@lap-laser.com

Contact us!

P   +49 4131 95 11-95
E   info@lap-laser.com
in   LAP Laser
▶   laplaser

LAP GmbH Laser Applikationen
Zeppelinstr. 23
21337 Lüneburg
Germany

LAP GmbH Laser Applikationen, Germany / LAP Measurement Technology GmbH, Germany / LAP FRANCE SAS, France LAP Laser Applications Asia Pacific Pte. Ltd., Singapore / LAP Laser Applications China Co. Ltd., China / LAP of America Laser Applications, L.L.C., USA / LifeLine Software, Inc., USA / Our worldwide partners: Argentina / Australia / Brazil / Bulgaria / Canada / Chile / Colombia / Croatia Czech Republic / Dominican Republic / Egypt / Finland / Greece / Hungary / India / Indonesia / Italy / Japan / Jordan / Kuwait / Latvia / Lebanon Lithuania / Malaysia / Mali / Malta / Mexico / Netherlands / Norway / Oman / Philippines / Poland / Portugal / Qatar / Romania / Saudi Arabia Slovakia / Slovenia / South Africa / South Korea / Spain / Sweden / Switzerland / Taiwan, China / Thailand / Turkey / United Arab Emirates United Kingdom / Venezuela / Vietnam / Zambia

www.lap-laser.com/cad-pro