



ALOtec Dresden

10-axis laser system

ALOhybrid

PRECISION UND MOBILITY

ALOhard

ALOpowder

ALOarc

ALOtec.de

ALOhybrid

ALOhybrid is the first hybrid 10-axis laser system worldwide – a perfect combination of stationary and mobile system for laser treatment. **ALOhybrid** is characterized by its precision and flexibility – the best of both worlds. **ALOhybrid** can be used alternately with technology of laser hardening, cladding and CMT-welding. Furthermore, it can be individually complemented by additional components from its modular equipment.

ALOhard

ALOpowder

ALOarc



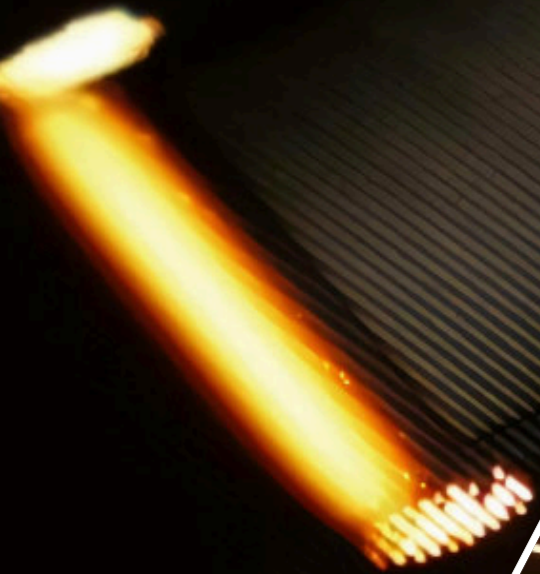
Mobile and stationary use.

Versatile applications

Laser hardening **ALOhard**, laser cladding **ALOpowder** and CMT-welding **ALOfarc** in tool, die industry and mechanical engineering

ALOhard

Processing optics to laser hardening



ALOpowder

Processing optics to laser cladding



- /// Laser hardening (**ALOhard^{zoom}**), Laser cladding (**ALOpowder**) and CMT-welding (**ALOfarc**) in tool, die industry and mechanical engineering
- /// Suitable for machining forming dies, machine beds, cutting tools or screw conveyors, rolls and more
- /// **Alternate usage** as both stationary and mobile laser system

Modular Equipment

The **ALOhybrid** system can be individually supplemented with further components of the modular equipment.



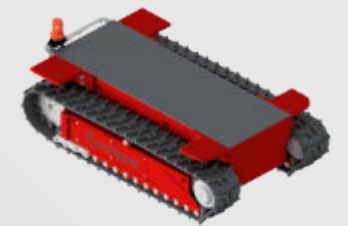
Processing optics



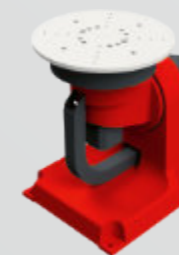
Robot with 6 axes



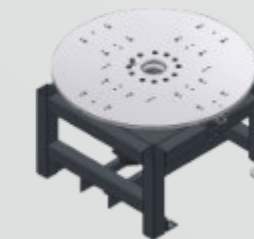
Linear unit



Caterpillar with remote control



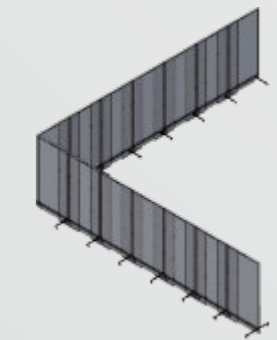
Turn-tilting-axis



Turn-axis



Mobile station for system periphery



Mobile laser safety wall

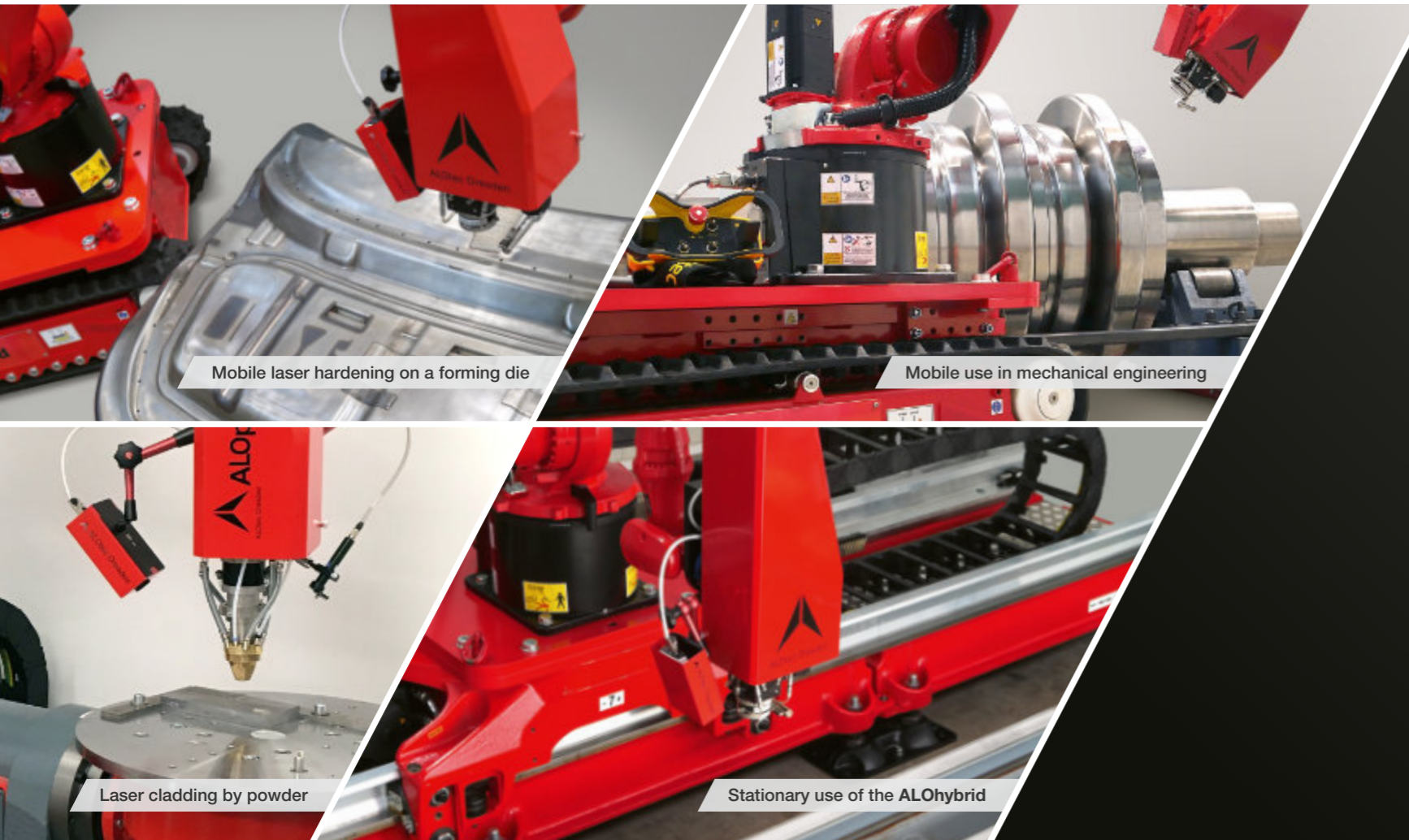
- /// **6-axis-robot** with Linear unit and Caterpillar with remote control
- /// **Processing optics** with High power diode laser
- /// **Turn-tilting-axis** (2-axis-positioner) up to 2.6 t and **Turn-axis** (1-axis-positioner) up to 6 t
- /// **Mobile station for system periphery** and mobile laser safety wall

Your Advantages – flexible and precise

With the ALOhybrid, you get the flexibility of a mobile system and the precision of a stationary system.

Technical specifics

We plan and build your individual hybrid laser system for hardening (ALOhard), cladding (ALOpowder) or CMT-welding (ALOArc).



CONNECTION

- Electricity supply: 400 V / 50 Hz / 32 A (laser hardening max. 4 KW)
- Compressed air connection: 6 bar
- Gas: Argon 7 bar

OPTICS

- Hardening (ALOhard^{zoom}): Zoom optics 5 mm – 40 mm (2D-Zoom optics)
- Cladding (ALOpowder): Spot size approx. 3.6 mm

ROBOT

- KUKA KR 20
- Range: 1.81 m
- Load capacity: 20 kg

PERIPHERALS / AUXILIARIES

- Laser power control
- Line scanner
- 3D-Probe
- Modular Mirror system (ALOhard^{zoom})

LASER

- Laserline LDM 4000-60 – High power diode laser
- Laser power: up to 4000 W (more on demand)
- Wavelength: 900 – 1080 nm

SOFTWARE

- Offline programming software

- 1** Flexibility of a mobile and precision of a stationary laser machine united in one system
- 2** 10-axis system with one control system and simple operability
- 3** Technology change laser hardening between laser cladding using fast changing system
- 4** Continuous documentation of process parameters

- 5** Easy positioning of the machine while using the caterpillar
- 6** Offline programming via CAD/CAM and geometry scan for pre-production planning (optional)
- 7** Versatile transport options (road/rail/water/air)

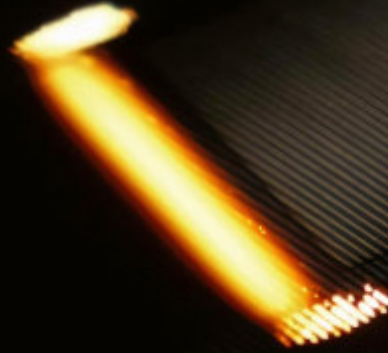
System engineering

Laser systems for use in tool, mould and machine making



Contract manufacturing

Laser hardening, repair and coating as well as additive manufacturing



ALOtec Dresden is a high-performance technology partner for the metalworking industry specialised in the manufacture of customized and turnkey robotic systems for laser hardening and laser cladding for over 25 years.



In addition, **ALOtec Dresden GmbH** offers services in the fields of laser hardening and laser cladding with powder or wire (Job-Shop-Production). These laser material processes can also be carried out – through the innovative **ALOflex** system – on-site at the customer's premises.

ALOtec Dresden GmbH

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25 YEARS
ALOtec Dresden