

# Making Light Work



**Who We Are** Fraunhofer is Europe's largest application-oriented research organization with locations throughout the world.

Fraunhofer CLA has been operating in the USA since 1994 developing and commercializing laser technology. Our state-of-the-art Plymouth Michigan facility conducts contract research and development in the field of laser materials processing. With our extensive expertise in laser welding, laser cladding, laser cutting, and laser heat treatment, Fraunhofer is your ideal partner for laser applications!

## ADVANTAGES OF LASER PROCESSING

Fast • Precise • Efficient • Low Heat Input • Low Distortion

## WHAT WE OFFER

- Contract Research and Development
- Process Development
- Prototyping & Consulting
- Technical Support
- Pilot Production Systems

## AREAS OF EXPERTISE



### Laser Cladding

- Additive Manufacturing / Rapid Prototyping
- Wear & Corrosion Protection
- Remanufacturing
- ID (Internal Diameter) Cladding
- Induction Assisted Laser Cladding
- Diamond Cladding
- Powder and Wire Fed Processing Heads



### Laser Welding & Joining

- Laser Beam Welding
- Remote Laser Welding
- Laser Hybrid Welding
- Welding
- Laser Brazing / Laser Soldering
- Glass Welding
- Plastic Welding

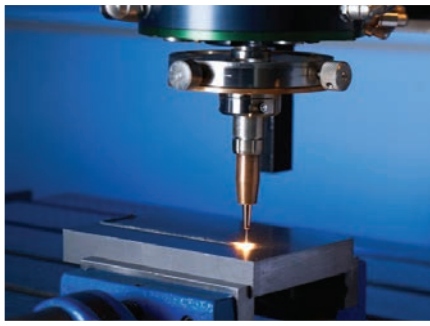


### Laser Heat Treatment

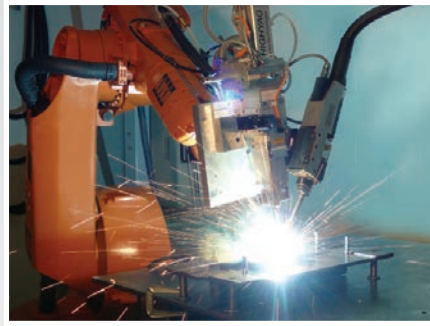
- Laser Hardening
- ID (Internal Diameter) Laser Hardening
- Laser Softening/Laser Assisted Forming
- Color Marking

### Laser Cutting & Drilling

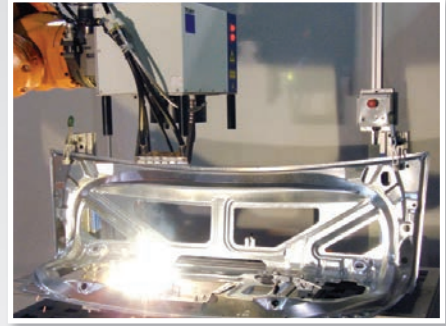
- Remote Laser Cutting
- Micromachining / Drilling



Additive Manufacturing using COAXwire Process



Hybrid GMAW (MIG) Laser Welding



Remote Laser Welding of automotive lift gate assembly

**OUR SUCCESS** Over the last 20 years we have been successfully developing and introducing new laser applications into industrial production. Applications range from Lithium Ion Battery welding to Automotive Body in White assembly. In 2007 we were proud to receive the Henry Ford Technology Award for our development of a laser beam welding process to improve the roof strength of the Ford F150 Truck.

Fraunhofer CLA  
Internal Diameter Laser Cladding System



COAXwire process

### LAB CAPABILITIES

- 7 Robotic & CNC work cells
- Fiber, Disk, Diode & CO2 lasers up to 10kW Power
- State of the art Metallographic Lab

### PARTNERSHIP

Fraunhofer CLA works in close co-operation with the Fraunhofer Institute for Material and Beam Technology (IWS) in Dresden Germany, one of Europe's leading research institutes for laser material processing.

### OUR SERVICES

from Concept to Implementation

Design Evaluation



Process Development



Prototyping



Production Start



Making Light Work

 **Fraunhofer**  
USA  
Center for Laser Applications