



# Fraunhofer USA

FRAUNHOFER USA CENTER FOR LASER APPLICATIONS CLA



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- 1 Coax™ Powder Cladding.
- 2 Laser Welding.
- 3 Laser Hardening.

### Fraunhofer USA Center for Laser Applications CLA

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## MAKING LIGHT WORK

### Who We Are

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 development!

### What We Offer

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

### Areas of Expertise

#### Laser Cladding/Additive Manufacturing

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

#### Laser Welding & Joining

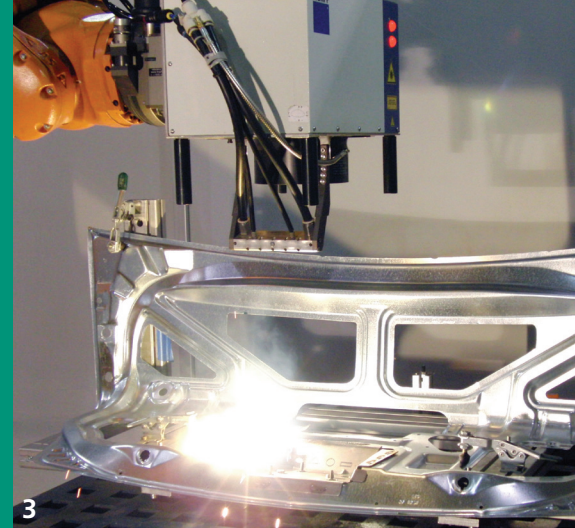
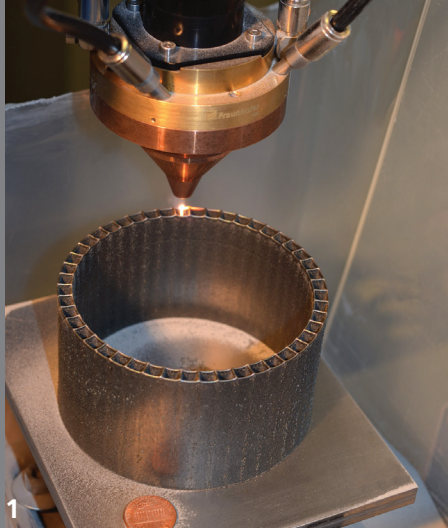
- Laser Beam Welding
- Remote Laser Welding
- Laser Hybrid Welding
- Laser Brazing/Laser Soldering

#### 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
- Laser Ablation/Coating Removal



### Our Success

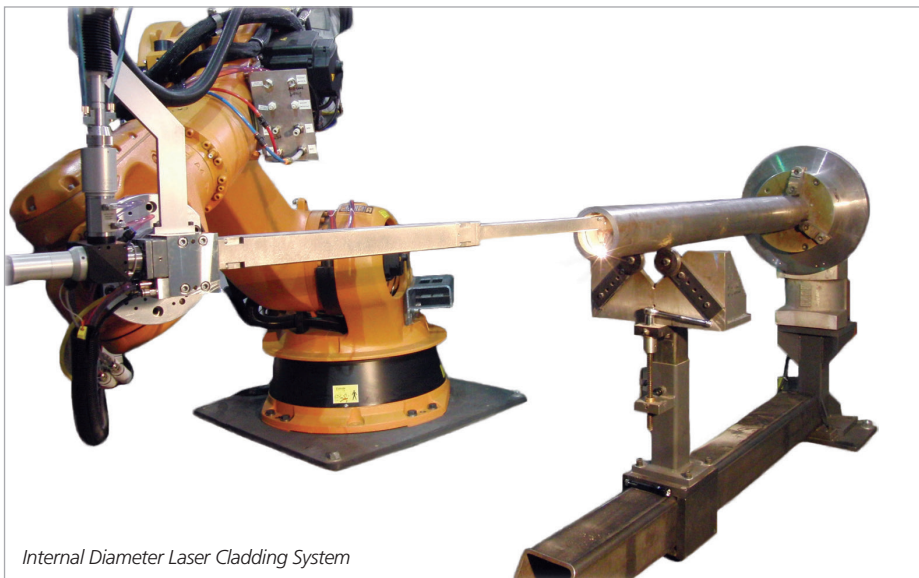
Over the last 20 years we have been successfully developing and introducing new laser applications into industrial production. Applications include Automotive Joining and Aerospace Additive Manufacturing. We have received the Henry Ford Technology Award for our development of a laser beam welding process to improve the roof strength of the Ford F150 Truck.

### Lab Capabilities

- 7 Robotic & CNC Work Cells
- Fiber, Disk, Diode & CO<sub>2</sub> Lasers up to 16kW Power
- State-of-the-Art Metallographic Lab

### Partnership

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



Internal Diameter Laser Cladding System

### OUR SERVICES

From Concept to Implementation

Design Evaluation



Process Development



Prototyping



Production Start



Making Light Work

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1 Fraunhofer IWS COAX™ 14 additive buildup of thin walled prototype part.

2 COAX™ wire process head for Additive Manufacturing.

3 Remote Laser Welding of automotive lift gate assembly.