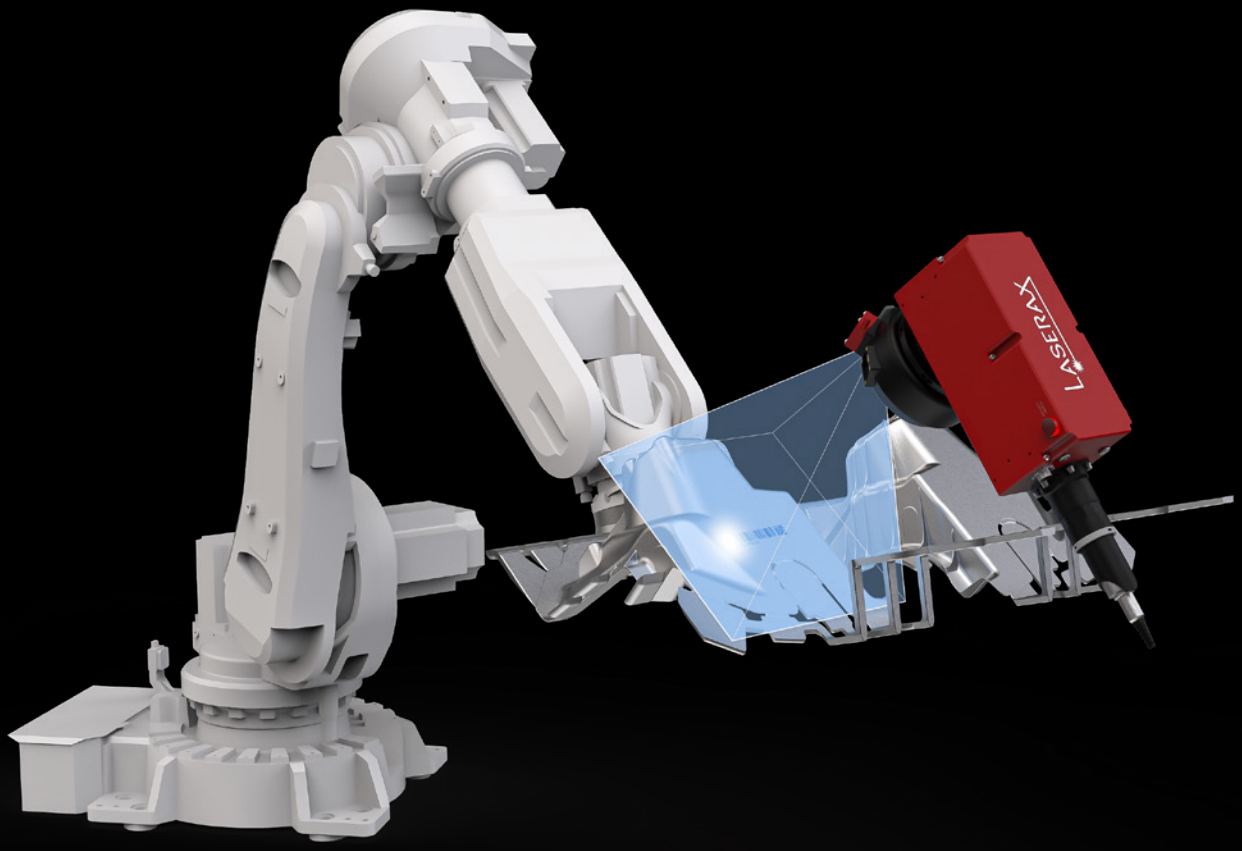
LASERAX

# INDUSTRIAL LASER SOLUTIONS

## FOR FOUNDRIES AND CASTING PLANTS



# LASERAX

## UNLOCKING YOUR FULL POTENTIAL WITH IMPRESSIVE LASER SOLUTIONS

Laserax is revolutionizing manufacturing processes across the world for fast growing industries like EVs and batteries that benefit from faster, more efficient, and greener methods.

We deliver industrial laser solutions inspired by your needs, enabling us to provide unparalleled features and a seamless, customized experience. From OEM lasers to fully automated turnkey solutions, all our projects are tailor made for your applications. Get ready to work with the industry's finest laser solutions and a team of dedicated experts to make your projects a resounding success.

# OUR CLIENTS

Stellantis · John Deere · Nemak · Mercury · Ljunghall · Endurance · Aludyne · Meridian · Rassini

# INDUSTRIAL LASER SOLUTIONS FOR FOUNDRIES & CASTING PLANTS

To reduce the size of recalls, new automotive OEM programs are requiring foundries and casting plants to improve their traceability capabilities. To apply to these programs, you often need to:

- Mark parts as soon as they're created to achieve 100% traceability
- Replace batch numbers with a unique serial number for each casting
- Mark a unique identifier into each sand mold
- Mark castings to be shotblasted or e-coated
- Perform fast inline identification to prevent slowdowns in production
- Minimize maintenance in harsh conditions

With our optimized laser marking solutions, we have already helped foundries all over the world meet these requirements.

# LASER USAGE IN THE MANUFACTURING PROCESS

## Raw Materials

- Ingots and bundles are laser marked to provide permanent identifiers that store information such as weight, alloy, time, date, batch number etc.

- Primary metals manufacturers uses Laserax solutions.

## Molds

- Molds can be marked to provide traceability information directly on the castings.

- Sand casters use Laserax's technology to mark the molds and cores.

## Castings

- To ensure complete traceability, castings are marked as soon as they're created.

- Laserax solutions are built to work in harsh environments and are used by the casting industry to add traceability at the earliest stage.

## Surface Post Treatments

- Parts go through post treatments like shotblasting, e-coating, powder coating, and heat treatments. Any identifiers made earlier in the process need to maintain readability.

- Laserax offers foolproof laser marking that withstands any processes down the line, allowing one-step marking at the part's creation.

## CNC Machining

- For partial traceability, laser marking is easy to implement in this automated environment.

- Laserax offers the fastest marking speed in the industry to mark parts as fast as you need.

## Leak Tests

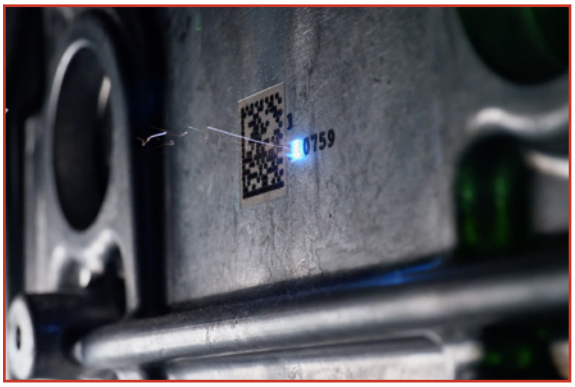
- Laser marking can also be added after leak tests, adding traceability to certified parts.

## Quality & Packaging

- Traceability can be added at the end of the line using batch marking.

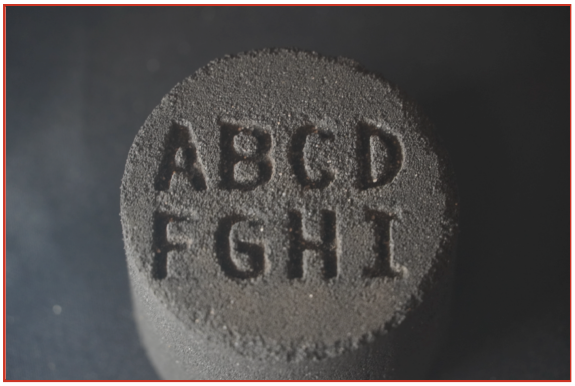
- Laserax manually loaded workstations are adapted to each application and provide great flexibility and efficiency for batch marking.

# LASER APPLICATIONS FOR FOUNDRIES AND CASTING PLANTS



## FASTEST LASER MARKING

Marking inline for traceability means marking fast to prevent bottlenecks. Every time our lasers are benchmarked against lasers of similar power, they are the fastest. With up to 500W of laser power, they can meet any cycle time requirements.




## SAND MARKING

Fiber lasers can be used to engrave identifiers into sand molds and cores so that a unique, permanent identifier is transferred onto each casting. This is the method of choice to implement traceability all the way to the sand.


## SHOTBLAST RESISTANT LASER ENGRAVING

Laserax has developed a unique process to implement traceability at the exit of the die, before shotblasting. The laser process adjusts the size of the identifiers based on the blast particles to prevent shotblasting from removing identifiers.


## E-COAT RESISTANT LASER MARKING

Coatings can make identifiers unreadable, affecting your ability to implement traceability. While masking is traditionally used to protect codes, it is a slow process that is prone to error. Laserax has developed a laser process to mark castings with identifiers that are readable through e-coating, making sure you meet your AIM DPM requirements.

# RECOMMENDED SOLUTIONS FOR THE FOUNDRY INDUSTRY


### OPEN AIR MACHINE

The Open Air Machine leverages a robot to hold castings in place during laser marking. The robot must have enough idle time to wait for the complete marking operation.

### AUTOMATED DOOR MACHINE

The Automated Door Machine relies on a robot to position castings onto fixtures. The robot is free to perform other operations during laser marking, until it is needed again for unloading.

### ROTARY WORKSTATION

The Rotary Workstation is a manually loaded machine that minimizes idle time. An operator loads and unloads parts onto a rotary table while the marking operation is performed in hidden time. This solution can be fully automated by replacing the operator with a robot.

# LASER SOLUTIONS BUILT FOR YOUR NEEDS

### AUTOFOCUS TECHNOLOGY

Equipped with advanced autofocus and vision systems, our lasers can compensate for part positioning variations of all sorts, including thermal distortion, flashing, and imperfect part holding.

### COMPLETE SOLUTIONS

Our experts look at your complete manufacturing process to provide a turnkey solution that addresses all your needs. Our solutions include fume management, lens protection, class-1 laser safety, post-process resistance, barcode validation, and much more.

### INDUSTRIAL GRADE

Without sufficient protection, high heat, vibrations, water vapor, lubricant particles, and dust can damage marking systems. Our lasers are built to operate with low maintenance in these harsh conditions, minimizing downtime and maximizing the laser's lifetime.

laserax.com

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