Creative Engineering

ROBOTICS
MECHANICS
AUTOMATION

RMA LCS

Fully Automated Laser Cleaning System

> *www.myrma.eu/LCS*

LCS – where laser meets 4.0

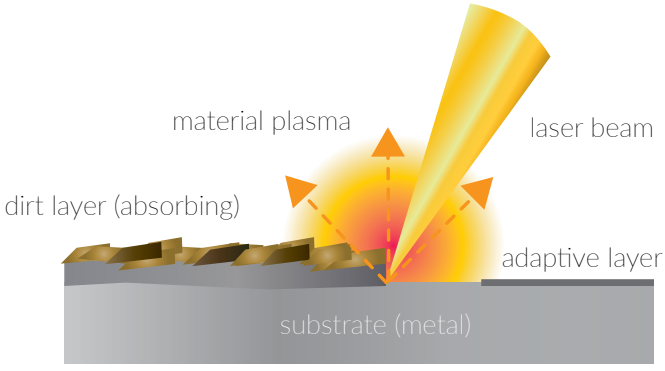
LCS is a complete fully automatic laser cleaning system. It consists of a high power, ultra short pulse nanosecond laser and a galvo scan head mounted on a state of the art robotic arm for fast and precise material processing.

The system is fitted in a modular safety enclosure which **enables the workpieces to be fed through a conveyor, indexing table or a push-pull container as in the whole MLS product family.**

LCS uses the latest laser source technology with up to 1kW of average power. This enables **extremely fast processing with minimal heat input to the workpiece.** The process of laser cleaning is based on ablation. This revolutionary technology utilizes highly concentrated laser pulse to vaporize the contamination from the surface of the workpieces without any surface damage. Ablation does not result in rounding of the sharp edges and fine details when compared to abrasive blasting and has far greater cleaning power than dry ice technology.

LCS by RMA is a perfect solution for a **wide range of industrial applications (printing, glass, food industry, metal, plastic and rubber industry).** It is especially suitable for manufacturing where preparation of the surfaces is required for subsequent processes such as painting or welding.

LCS is 4.0 ready with full part tracking, cleaning history and process parameters logging. The system is extremely flexible and suitable both for low and high volume manufacturing environment. It can work with automatic part warehouse and can be operated fully with robots and autonomous guided vehicles to meet the needs of tomorrow.



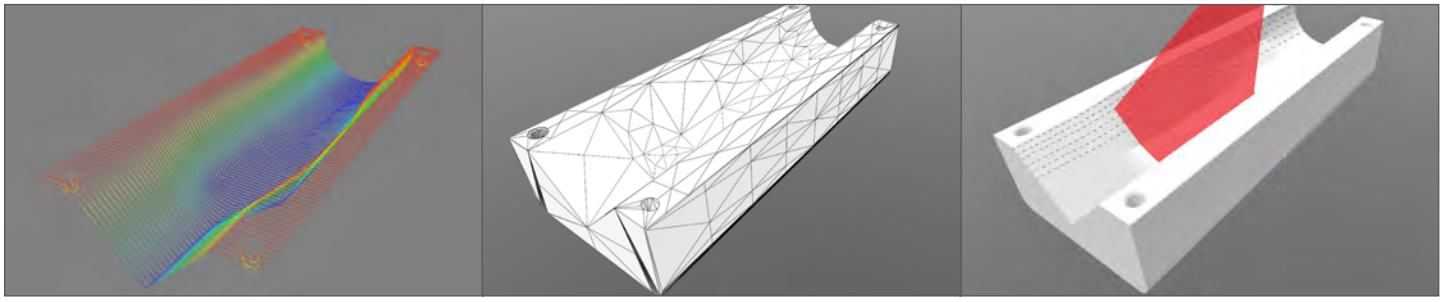
Coating Removal/Cleaning Illustration

Top benefits

- Easy and intuitive setup and operation
- Simple installation (all-in-one)
- Unique programming and control software which completely eliminates the time consuming manual programming
- Industry 4.0 ready
- Extremely fast processing with minimal heat input
- Modular safety enclosure which enables the work-pieces to be fed through different input modules

> Find out more at www.myrma.eu/**LCS**

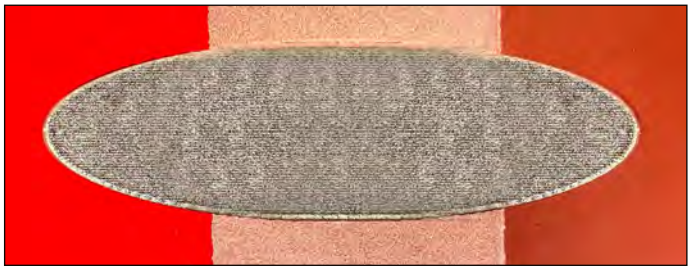
LCS - Software



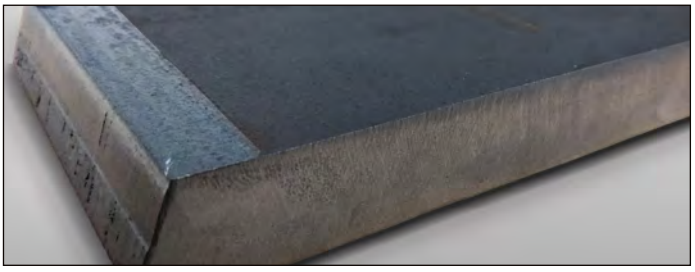
Laser 3D scanning *Model generation* *Intelligent robot path generation*

The heart of the system is a unique programming and control software which completely eliminates the time consuming manual programming.
The robot is equipped with a dedicated 3D laser scanner for fast measurement of the mould shape and intelligent path generation to **maximize the cleaning efficiency while minimizing the beam overlaps and inefficient robot movements**. It can acquire the profile of any mold and automatically adjust the processing parameters such as angles, speed, power and beam shape respectively.
In addition, the **operator can use 3D CAD models both for process simulation and cycle time optimization.**

Applications



Paint removal



Edge cleaning - preparation for welding

Mould cleaning

Rust removal

Technical data*

Product dimensions (W x D x H)	3000 x 2500 x 2200 (mm)
Power supply	3 x 400 V
Weight	~2000 kg
Laser type	Pulsed Fiber Laser
Laser class	IV
Wavelength	1064 nm
Focal distance	250 mm
Beam with: adjustable (5-100 mm)	Adjustable (5-100 mm)
Cooling system	Water cooled
Fiber optic cable length	Up to 30 m
Max. power consumption	5 kW
Min./Max. ambient operating temperature	45 °C
Humidity	10 - 95%

*Some technical data may change due to development

RMA Sp. z o.o.
ul. Chwaszczyńska 133A
81-571 Gdynia
Poland

+48 58 350 65 50
sales@myrma.eu

Find out more at www.myrma.eu