



TECHNIFOR

GRAVOTECH GROUP



LASER MARKING AND TRACEABILITY SOLUTION



INTEGRABLE RANGE

LASERS OUR EXPERTISE

MANIPULATING LIGHT

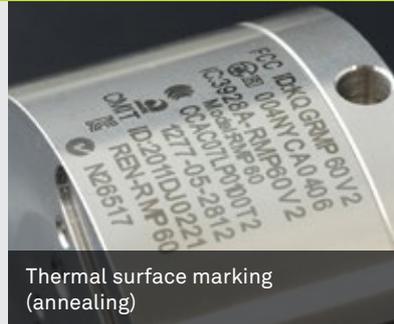
Working with laser technology for over 20 years, Technifor makes use of all the properties of the light beam and its different wavelengths to offer the best solution for direct part marking.

From component to finished product, Technifor lasers reliably perform lasting high-quality marking at the speed of light.

DIRECT PART MARKING (DPM)

Lasers generate high-quality permanent coding on each part (1D and 2D codes, text, logos, optical characters, etc).

Technifor offers comprehensive solutions integrating marking and automatic camera verification to track each part from production process to maintenance operations.



Thermal surface marking (annealing)



Marking by foaming



Engraving with contrast



Engraving without contrast



Marking through layer removal (ablation)



Deep engraving

GREEN
SERIES

532 nm

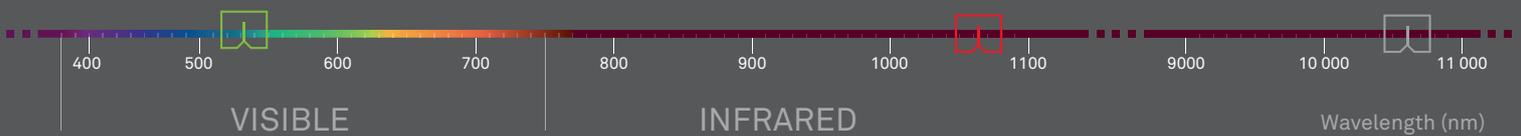
FIBRE
SERIES

1064 nm

HYBRID
SERIES

CO2
SERIES

10 600 nm



DISCOVER OUR VIDEO

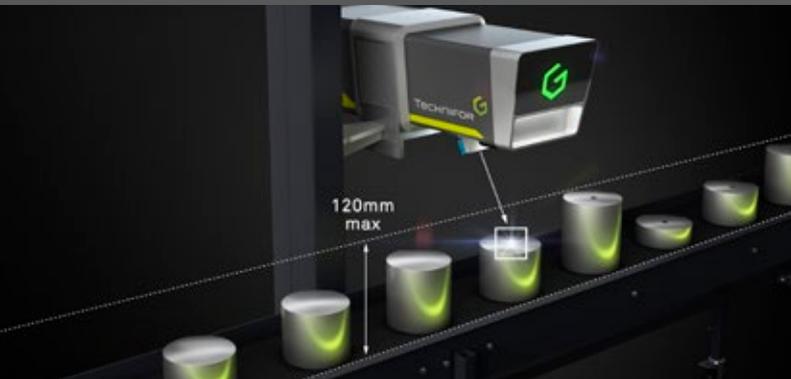
Able to engrave the most difficult materials such as iron or titanium, our systems are equally effective on softer metals and plastics.



OUR + PRODUCTS

3D MODULE

The best amplitude on the market



AUTO-FOCUS

Perfect marking in all conditions

This module automatically adjusts the focal length without calibration or waiting time:

- Guarantee of optimal marking regardless of the flatness of the parts or their shape.
- Exceptional range up to 120mm for part height variation.

MULTI-LEVEL AND INCLINED SURFACES

Marking suitable for all shapes

A unique system makes the adaptation to marking surfaces instantaneous:

- No character deformation
- Uniform contrast over the entire engraving area
- Possibility of multiple markings on a single part at different levels

VISION MANAGER

Instantaneous marking control



FULL TRACEABILITY

- 2D code content verification
- Graduation of the code and trigger of operations: file selection, dialogue with the PLC, activation of alarms, actuators for rejecting faulty parts, etc.

INTEGRATED VISION SYSTEM

Used with Lasertrace software, this module includes a Cognex Insight camera with lighting, auto-focus system and protective lens.

It offers perfect reading of all 1D and 2D codes as well as OCR fonts.

LASER SOLUTION FIBRE SERIES



COMPACT

A compact head designed to easily integrate marking into your production. Whether on a line or a robotic arm, it is simple to install in all positions, considerably reducing installation time and costs.



INDUSTRIAL

Its robust construction and high-quality components offer performance and reliability with low maintenance requirements. Sealed from dust and other projection, the IP54 rated head is designed to cope with harsh industrial environments.



POWERFUL

A high energy stable laser beam provides precise marking at fast speeds. Contrast is high on all types of finishes (rough, smooth or coated). All effects are possible including deep 3D engraving.

YB: FIBRE LASER, CLASS 4 WAVELENGTH: 1064 nm

	F20	F30	F50
Power (W)	20	30	50
Frequency (kHz)	20 - 100	30 - 100	50 - 200
Max. speed (mm/s)	10 000		
Min. beam Ø (µm)	From 40		
Marking mode	Static/Dynamic («on-the-fly»)		
Marking area * (mm)	65 x 65 / 110 x 110 / 175 x 175 / 205 x 205		
IP level	IP54 head –Protection against dust and water projections		
Interfaces	Ethernet TCP/IP; Profinet; Ethernet IP; dedicated I/O (SUB D37); 8I / 8O; RS232; USB (x3)		
Fibre optic length (m)	3 (9.842 ft)		
Ambient temperature (°C)	0 - 40 **		

* Other focal lengths available on request

** 35°C for the F50, if the operating rate > 50%



SPOTLIGHT ON... MULTI-LEVEL MARKING

Identification of clutch housings on a high-speed line under extreme vibration and temperature conditions:

- Marking on 2 planes with a level difference of 100mm
- Cleaning of the rough surface
- Marking of a Datamatrix™ code and references on the lower section
- Marking of 6 characters and Datamatrix™ code on the upper level

The Fibre Series offers marking repeatability and optimal reading on the most irregular surfaces. The 3D module can be used for marking on different levels without adjustment.

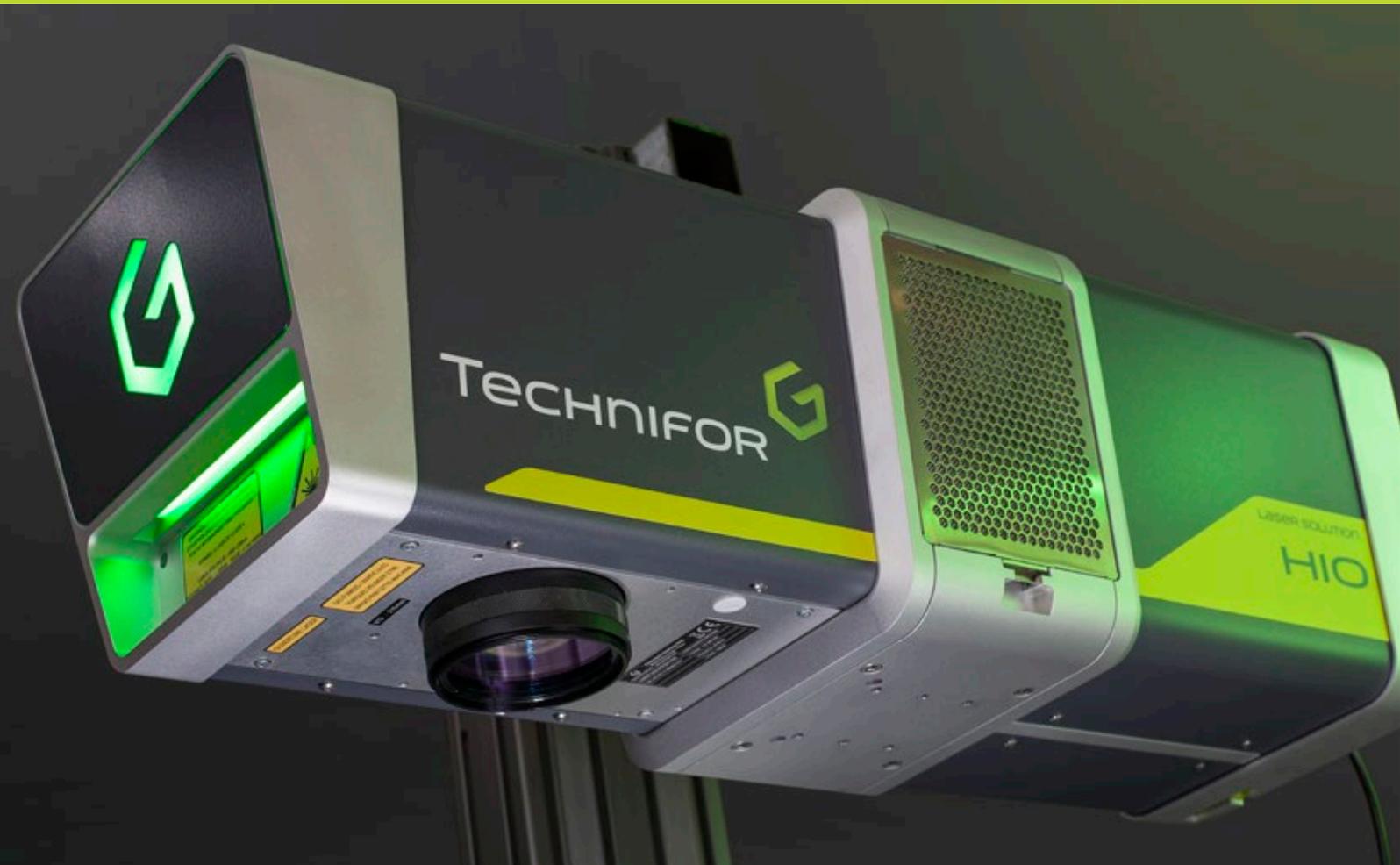


PRODUCT FOCUS

Small in size offering maximum safety, the beam's protection funnel reduces the costs and constraints of a class 1 station.

Completely independent, its double-wall system with suction is used for the removal of fumes and dust. Safety systems prevent laser emission if the funnel is not sealed on the part.

LASER SOLUTION HYBRID SERIES



PLUG N'MARK

Compact and independent turnkey system, its all-in-one design is secure, easy-to-install and free from wiring constraints. Simply connect the single phase power cable and start marking.



MULTI-PURPOSE

Contrasted, discreet, deep or surface marking: the available power range allows all types of marking finishes. The extensive frequency range means marking can be adapted to each application and type of material, from hard metal to soft plastics.



HIGH CONTRAST

With the highest peak power in the range, it provides contrasted marking on a wide range of materials. The fine high quality beam is particularly effective on plastics.

DPSS LASER, CLASS 4 WAVELENGTH: 1064 nm

	H6	H10	H20
Power (W)	6	10	20
Frequency (kHz)		10 - 100	
Speed (mm/s)		10 000	
Min. beam Ø (µm)		From 25	
Peak power (kW)	20	60	150
Marking mode	Static/Dynamic («on-the-fly»)		
Marking area* (mm)	65 x 65 / 110 x 110 / 175 x 175 / 205 x 205		
Interfaces	Ethernet TCP/IP ; Profinet ; Ethernet IP ; I/O dédié (SUB D37) ; 8I / 8O ; RS232 ; USB (x3)		
Fibre optic length	All-in-one system		
Ambient temperature (°C)	10 - 40		

* Other focal lengths available on request



SPOTLIGHT ON... PLASTIC MARKING

Integration into production lines with a direct connection to the factory's network using Profinet:

- Identification of thousands of parts each day
- Series of plastic caps in different colours
- 3 reference lines, logos and Data Matrix™

The Hybrid Series offers contrasted marking on plastics for durable identification.



PRODUCT FOCUS

The Hybrid range combines the unique properties of the DPSS source (Diode Pumped Solid State) with the proven monobloc design of the fibre range.

The MTTF of the pumping diodes of our DPSS sources is greater than 120,000 hours, providing reliability and longevity inherent to fibre technology.

LASER SOLUTION GREEN SERIES



«COLD» MARKING

Laser beam concentration allows marking without generating heat onto parts, avoiding any burning or deformation. This marking does not alter the material and is an ideal solution for marking soft materials and sensitive components.



MICRO-MARKING

Its ultra-fine beam generates marking with an exceptional resolution. Small 2D Datamatrix, detailed logo, precise removal of thin layers of coating: the Green Series can overcome all challenges.



UNIQUE INTERACTION

This range uses a 532 nm wavelength to mark materials that would not normally react to infrared wavelengths: from rough to the most transparent plastics, reflective metals (copper, silver, gold), ceramic, etc.

GREEN LASER, CLASS 4 WAVELENGTH: 532 nm

	G5	G10
Power (W)	5	10
Frequency (kHz)	10 - 100	
Speed (mm/s)	10 000	
Min. beam Ø (µm)	From 15	
Peak power (kW)	60	90
Marking mode	Static/Dynamic («on-the-fly»)	
Marking area* (mm)	65 x 65 / 110 x 110 / 150 x 150	
Interfaces	Ethernet TCP/IP ; Profinet ; Ethernet IP ; I/O dédié (SUB D37) ; 8I / 8O ; RS232 ; USB (x3)	
Fibre optic length	All-in-one system	
Ambient temperature (°C)	10 - 40	

* Other focal lengths available on request



SPOTLIGHT ON...MICRO-MARKING

Integration of marking of printed circuits after component control:

- Marking of characters up to 0.1 mm high
- Marking of very small Data Matrix™ codes which can be read by camera

With exceptionally fast performance, the Green Series offers surface marking without damaging the components combined with the repeatability required for mass identification.

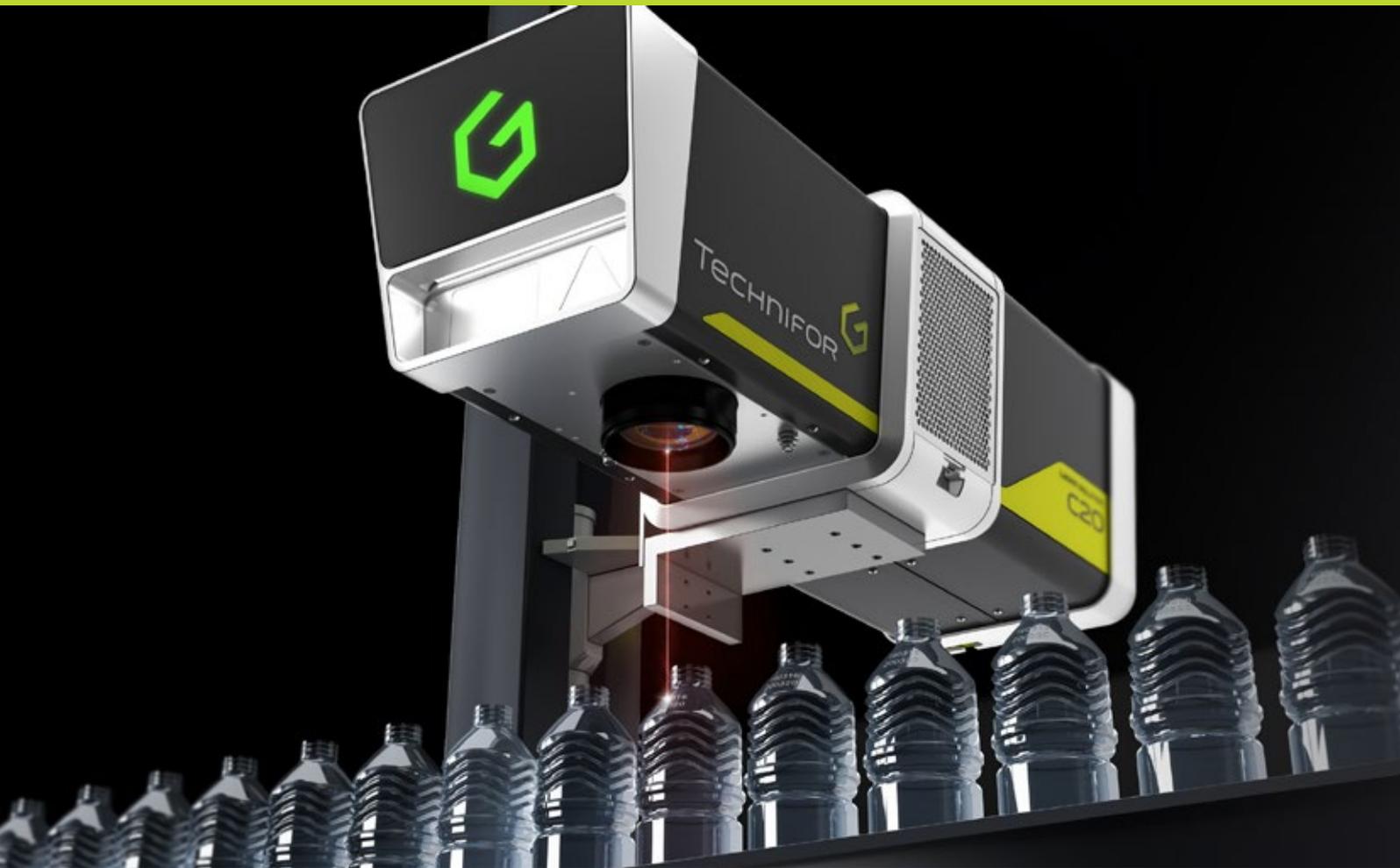


PRODUCT FOCUS

The integrated HMI displays machine status, enables access to self-diagnostic functions and simplifies the implementation and visualisation of tasks for the operator.

The data is displayed in real time on the HMI regardless of whether it is operated from a PC or PLC.

LASER SOLUTION C02 SERIES



«ON THE FLY» MARKING

Designed to mark both stationary and moving parts while maintaining constant coding quality. This traceability solution offers high-speed readable and permanent marking: serial n°, batches, DLC, DLUO, date and time, logos, OCR characters, barcodes, 2D Data Matrix™, QR codes, etc.



ECO-FRIENDLY

An alternative to inkjet marking, its operation is clean without ink deposits or solvent emissions. Minimal operating costs thanks to zero consumables and maintenance.



FROM THE NATURAL TO THE TRANSPARENT

Effective marking on all organic materials (wood, rubber, leather, etc), mineral (glass, ceramic, etc) and transparent plastics as well as coated metals.

CO2 LASER, CLASS 4 WAVELENGTH: 10 600 nm

C20

C30

Power (W)	20	30
Frequency (kHz)	CW (Continuous)	
Speed (mm/s)	10 000	
Marking mode	Static/Dynamic («on-the-fly»)	
Marking area * (mm)	70x70 / 100x100 / 140x140 / 210x210	
Interfaces	Ethernet TCP/IP ; Profinet ; Ethernet IP ; I/O dédié (SUB D37) ; 8I / 8O ; RS232 ; USB (x3)	
Fibre optic length	All-in-one system	
Ambient temperature (°C)	10 - 40	

* Other focal lengths available on request



SPOTLIGHT ON...DYNAMIC CODING

High-speed continuous numbering of PET bottles:

- Marking of the batch number and expiry date
- Coding speed: 30,000 bottles/hour

Completely independent, the CO₂ Series offers high-resolution marking. With its small size, it can be installed on existing lines and can mark different materials and adapts to your production rates without any consumables.

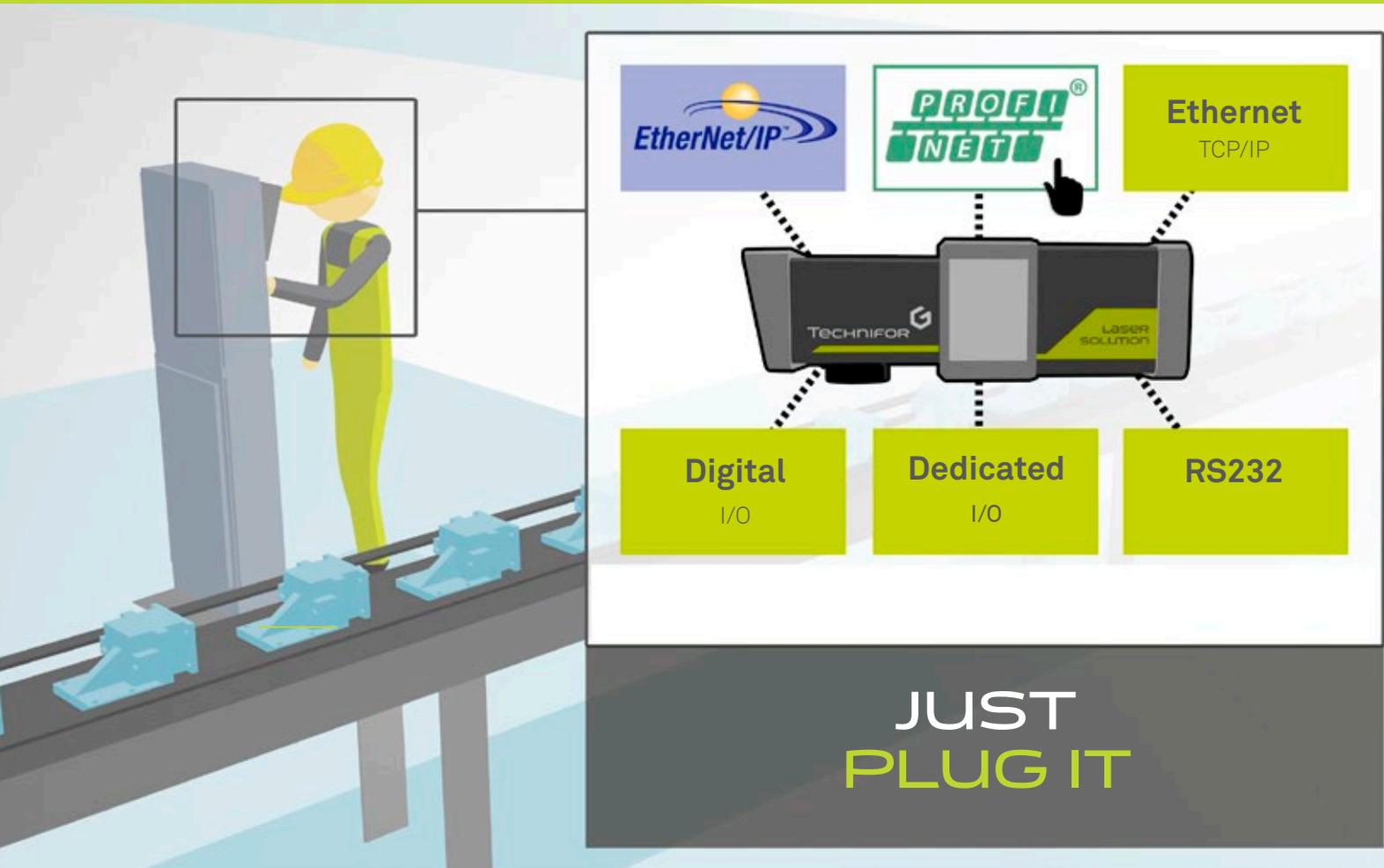


PRODUCT FOCUS

With an extremely-high coding speed (up to 10,000 mm/s), the CO₂ Series is designed to adapt to your production requirements.

Able to mark linear and 2D codes, optical characters and alphanumeric text, it offers a high level of flexibility and readability.

COMMUNICATION OUR ADVANTAGE



COMMUNICATING

Equipped with communication tools, our systems continuously and instantaneously exchange with any industrial environment. Easy to configure by factory, line and even by product, they communicate with PLCs and are able to operate independently and remotely.



TIME SAVING

Simple set-up, plug and play modules (no PC or communication adaptor required) and pre-programmed commands for most PLCs: installation time is reduced considerably.



REDUCED COSTS

«Ready-to-integrate» solutions require no additional connection equipment. In a robust casing and protected from electromagnetic disturbances, they require no filtration or additional housing.

OUR INTUITIVE SOFTWARE SIMPLIFIES THE CREATION OF YOUR MARKINGS



Multilingual interface

Data Matrix™, bar codes, QR codes, UID, GS1...

Texts, serial numbers, variables, shift codes, dates, logos...



Direct access to marking parameters



Library of marking presets, Color Scale Marking, Link to databases (ODBC, Excel, ASCII...)



FUNCTIONS DEDICATED TO TRACEABILITY

Developed especially for identification and traceability purposes, Lasertrace is able to meet all your standard-related and regulatory requirements.

- Fonts: catalogue of fonts optimised to reduce cycle times, OCR fonts, etc.
- Barcodes: CODE 39: CODE128 / 2of5 / CODE 93 / UPC EAN13, etc.
- 2D codes: Datamatrix ECC200, GS1, QR code, UID, etc.



FUNCTIONS DEDICATED TO AUTOMATION

Production mode is used to easily automate a variety of tasks:

Control of duplications, log files, operator/supervisor access, data acquisition from your existing systems (ERP, database, measuring equipment, etc), connection to code readers, etc.

INTEGRATION OUR SPECIALITY

Easy to integrate and highly communicative, our laser equipment meets worldwide industrial standards.

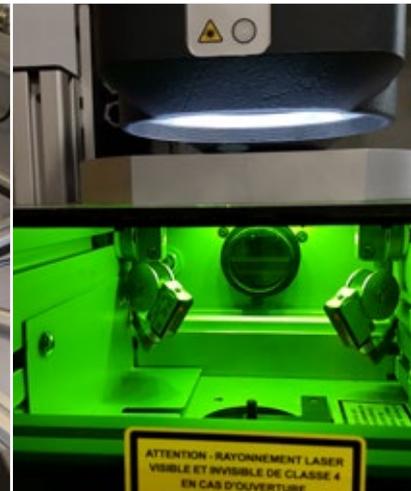
Compact, fast, safe and reliable, Technifor lasers are suitable for your environment and can be installed on new or existing lines.

An expert in the aeronautics, automobile and medical industries as well as industrial applications in general, Technifor designs easy-to-automate solutions resulting in significant time, costs and energy savings.

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Our aim:
To help you automate the marking of your parts by communicating with your existing tools and benefiting from the exceptional properties of laser technology.

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BETTER PRODUCTION AT A LOWER COST

With practical experience at the biggest manufacturers, our Innovation and Technology Centre designs systems adapted to industrial constraints:

- Reliability and longevity
- Improved productivity
- No consumables or restrictive maintenance
- Versatility

ACCESS FOR MEMBERS

A dedicated web portal available 24 hours a day/7 days a week provides all practical information online, including integration guides, control instructions, PLC programming examples, manuals and more.



A GLOBAL PARTNER

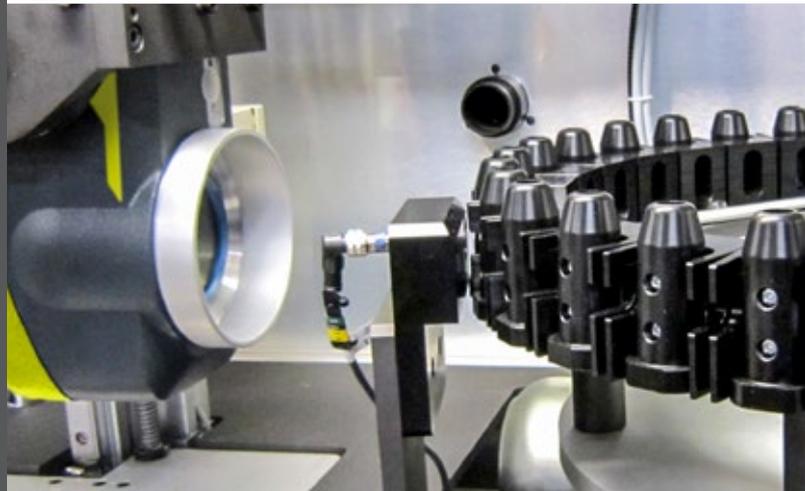
OUR SERVICES

Feasibility studies, advice and free tests, Technifor offers direct support for your projects and can manage major integration projects worldwide thanks to a network of unique subsidiaries.

Within its application laboratory, our experts assess the most suitable technology for your application and test-mark your samples.

CUSTOMISATION

A team of engineers assists our application experts with the integration of marking systems and develops customised solutions based on the your specific requirements.



LOCAL SUPPORT IN THE OPERATOR'S LANGUAGE

Our local teams on all five continents provide on-site training, assistance and adapted maintenance contracts.

Technical documentation and software are available in over 20 languages.

QUALITY

Technifor's success is based on the permanent focus on quality (ISO 9001 - v2015) and an organisation focused on customer service.

ABOUT GRAVOTECH

Gravotech is the global leader in cutting, engraving, scoring and permanent marking solutions for the personalisation, signage and traceability sectors. The group has two main brands: Gravograph and Technifor. Gravotech is the reference supplier of laser and mechanical machines and materials for cutting, engraving and scoring operations.

Technifor specialises in dot peen marking, scoring and permanent marking machines using lasers dedicated to traceability.

Gravotech's head office is in Lyon, France, and it operates three production sites and provides solutions via 21 subsidiaries and distributors in over 100 countries, employing 920 people worldwide.

Additional information on the group, its products and services is available on our sites: www.gravotech.com, www.gravograph.com and www.technifor.com

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Part numbers, batch traceability, time-stamping and internal coding are essential to guarantee «zero defects» operation in any modern production.

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Gérard Guyard - President



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