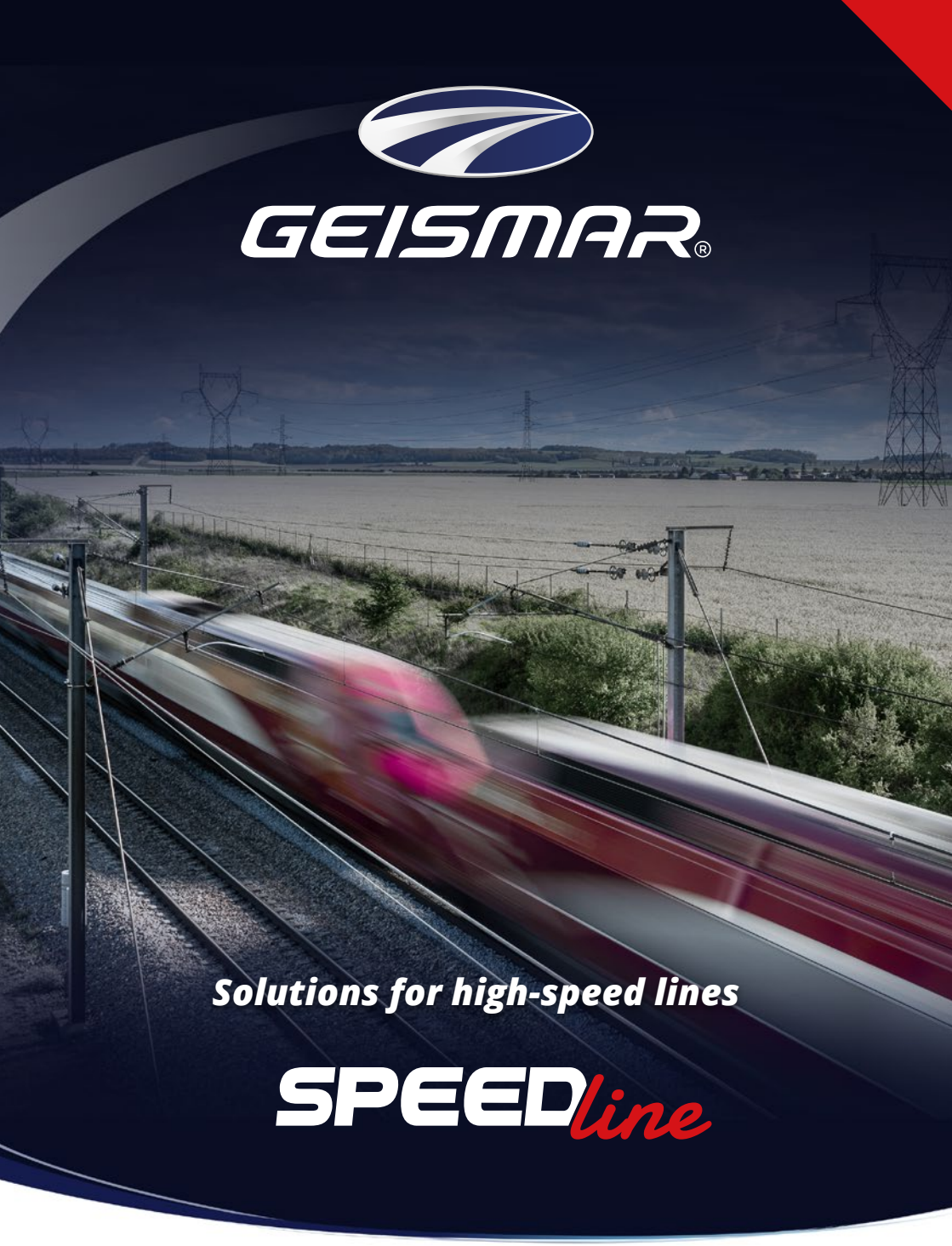
GEISMAR®



Solutions for high-speed lines

SPEEDline

SPEEDline

A range of solutions for high-speed lines

At Geismar, we understand the specific challenges posed by High-Speed networks: dedicated high-voltage catenary systems, rigorous track geometry, higher cants, heavier slopes, longer turnouts, unmatched precision and quality levels, etc.

Based on years of experience building and maintaining high-speed lines in Europe and around the world, Geismar engineers have developed a range of machines and equipment particularly well-suited to meet the needs of high-speed networks.

Specific needs

Laying of the infrastructure, track and catenary
pages 4 to 13

Maintenance and renewal
pages 14 to 27

Measurement and control
pages 28 to 31


GEISMAR
MTZ
SPEEDline
Our selection for your network
GEISMAR
GEISMAR

X-TRACK 21

TRACK SWITCH LAYING SYSTEM

Your benefits

- The versatility of this system offers you the operational capability to combine some of these elements for other track laying systems (such as PEM XL / LEM or X-TRACK) to suit various track laying methods
- Its modular conception enables to install up to 45 meters (148 ft.) / 45 tons switches with a very high degree of safety for the operators thanks to the remote control
- The high output performance of the X-TRACK² system offers you the advantage of installing a switch in less than an hour

Specifications

PEM XL	
Engine / Power	Diesel, 17 hp (13 kW) at 2,300 rpm
Lifting capacity	20 t (20,000 daN)
Lifting stroke	2,935 mm (116 in.)
Slewing stroke	1,375 mm (54 in.)
Maximum extension of lifting feet	4,973 mm (196 in.)
LEM 460	
Engine / Power	Diesel, 28 hp (21 kW) at 2,700 rpm
Lifting capacity	20 t (20,000 daN)
Lifting stroke	350 mm (14 in.)
Slewing table	400 mm (16 in.)
LMC 4611	
Engine / Power	Diesel, 74 hp (55 kW)
Lifting capacity	25 t (25,000 daN)
Drive tread lifting stroke	820 mm (32 in.)
Slewing table	800 mm (31 in.)

STR

SYSTEM TO PULL & TO UNLOAD RAIL

Your benefits

- The STR offers you the most economical methods of handling and positioning rails due to a unique design which is easily integrated into your worksite organization while being completely radio remote-controlled
- The STR offers you the methodology to lay up to 2 kms of track in a day in handling LWR up to 432m. The STR gives track laying efficiency a new benchmark
- Designed to ensure operational and working safety with easy control of the equipment, the STR puts your workforce safety first
- Handling and laying of track panels, concrete slabs or sleepers using the hydraulic lifter on the crawler gantry (option)

Specifications

Caterpillar gantries - ECTR	
Engine	Diesel, 90 KW
Lifting force	12 t (12,000 daN)
Lifting stroke	2,380 mm (93.8 in.)
Slewing stroke	975 mm (38.3 in.)
Maximum feet opening	3,516 mm (138.4 in.)
Maximum speed while working	4 km/h (2.5 mph)
Mass	18,2 t
Rail guiding trolley - LGR	
Engine	Diesel, 8 kW at 2,700 rpm
Lifting force	1.2 t (1,200 daN)
Lifting stroke	1,070 mm (42 in.)
Table slewing stroke	± 400 mm (15.8 in.)
Maximum speed while working	5 km/h (3.1 mph)
Mass	2 t

PEM-LEM

TRACK AND TURNOUTS LAYING SYSTEM

Your benefits

- The most used method worldwide for replacing turnouts. You can use the machines for any turnout length & type merely by adjusting the number of PEM-LEM sets
- The PEM-LEM allows installation of turnouts either by slewing them from an adjacent site or by transporting them on LEMs (motorized transportation trolley) on track from the assembly site to installation site
- The PEM-LEM are designed to keep you safe with a user friendly remote control to operate the machines

Specifications

Telescopic handling gantries - PEM XL	
Engine	Diesel, 17 hp (13 kW)
Lifting force	20 t (20,000 daN)
Lifting stroke	2,935 mm (115 in.)
Slewing stroke	1,375 mm (54 in.)
Maximum feet opening	4,973 mm (196 in.)
Mass	≈ 4,7 t
Motorized lifting trolley - LEM 460	
Engine	Diesel, 28 hp (21 kW)
Lifting force	20 t (20,000 daN)
Lifting stroke	350 mm (14 in.)
Table slewing stroke	± 400 mm (16 in.)
Mass	≈ 4,3 t

PMC

HANDLING GANTRY FOR CROSSINGS AND HALF SETS SWITCHES

Your benefits

- Autonomous for the unloading from a standard truck or wagon and the installation of the switch parts, PMC does not require a lifting machine
- Efficiency of the maintenance operations of the switch parts (crossings, half sets of switches) by working on single track and under catenary voltage
- Adaptation of the number of gantries (up to 3) according to the lengths of switch parts (up to 60 m) to be changed and synchronization by a single radio control, limiting the staff and enabling to see all the work site

Specifications

Lifting capacity	12 t
Lifting stroke	1,850 mm (72.8 in.)
Slewing stroke	1,375 mm (54.1 in.)
Pressure on the ground	2 bars (29 psi)
Displacement speed	2.75 m/min
Lifting speed	From 1 to 4 m/min
Remote-control	Yes
Mass	11.7 t

FLASH WIZARD

TRACK WELDING ROAD-RAIL VEHICLE

Your benefits

- The Flash Wizard V2R offers efficient in-track rail welding to suit all railway environments. The modular concept with proven clamping system guarantees you a high quality weld every time
- The welding operation is controlled by the specialised integrated software which records and analyses the various weld parameters to ensure the perfect weld
- The articulated weld head arm is manipulated by remote control allowing operation from a safe position, keeping your operators and site workforce safe while allowing great visibility of the weld area

Specifications

Engine / Power	Diesel, 6 cylinders
Mass	≈ 32.5 t
Transmission	Hydrostatic
Maximum gradient	4%
Rail gauge	From 1,000 to 1,678 mm (39 to 66 in.)
Maximum rail speed	30 km/h (19 mph)
Maximum road speed	90 km/h (56 mph)
Maximum forging strength	1,200 kN min.
Maximum clamping strength	3,000 kN min.
Welding control parameters	• Voltage • Intensity • Forging force • Material consumption

CUT HORNET

MTZ LIGHTWEIGHT ABRASIVE RAIL SAW

Your benefits

- Extremely short cutting times thanks to the high power of the reliable and powerful Stihl engine, allowing high cutting speeds to be maintained on the construction site
- Cutting precision guaranteed in all circumstances by the use of the simple guide support which is easy and quick to position
- Increased safety: the machine cannot be operated without the guide bracket
- Unparalleled comfort of use thanks to the patented Comfort Cushion system that reduces vibrations transmitted to the operator

Specifications

Engine	Petrol, 2-stroke Stihl engine
Engine power	5 kW (9,000 tr/min)
Cutting disc diameter	350 or 400 mm (14 or 16 in.)
Spindle diameter	22.2 or 25.4 mm (0.9 or 1 in.)
Autonomy	6 cuts minimum
Cutting time	< 90 s
Accuracy	<1% for horizontal or vertical cut
Dimensions (L x W x H)	• MTZ 350: 860 x 315 x 430 mm (34 x 12 x 17 in.) • MTZ 400: 890 x 315 x 455 mm (35 x 12 x 18 in.)
Weight	• MTZ 350: 16 kg (35 lbs) without accessories • MTZ 400: 17 kg (37 lbs) without accessories • Guiding arm ≈ 6 kg (13 lbs)

CLIP HORNET

AP3 COMPACT CLIP MACHINE FOR FASTCLIPS

Your benefits

- The robust and ergonomically-designed Clip Hornet AP3 is perfect for stress-free insertion & extraction of fastclips
- The compact design allows you effortless handling and transportation due to its retractable arms
- The sleeper lifting device ensures optimal, safe and efficient operation

Specifications

Engine	Petrol, 4-stroke engine
Rated hydraulic pressure	≈ 210 bar (3,046 psi)
Dimensions (L x W x H)	1,065 x 570 x 1,030 mm (42 x 23 x 41 in.)

METAL HORNET

MP8 NEO RAIL PROFILE GRINDER

Your benefits

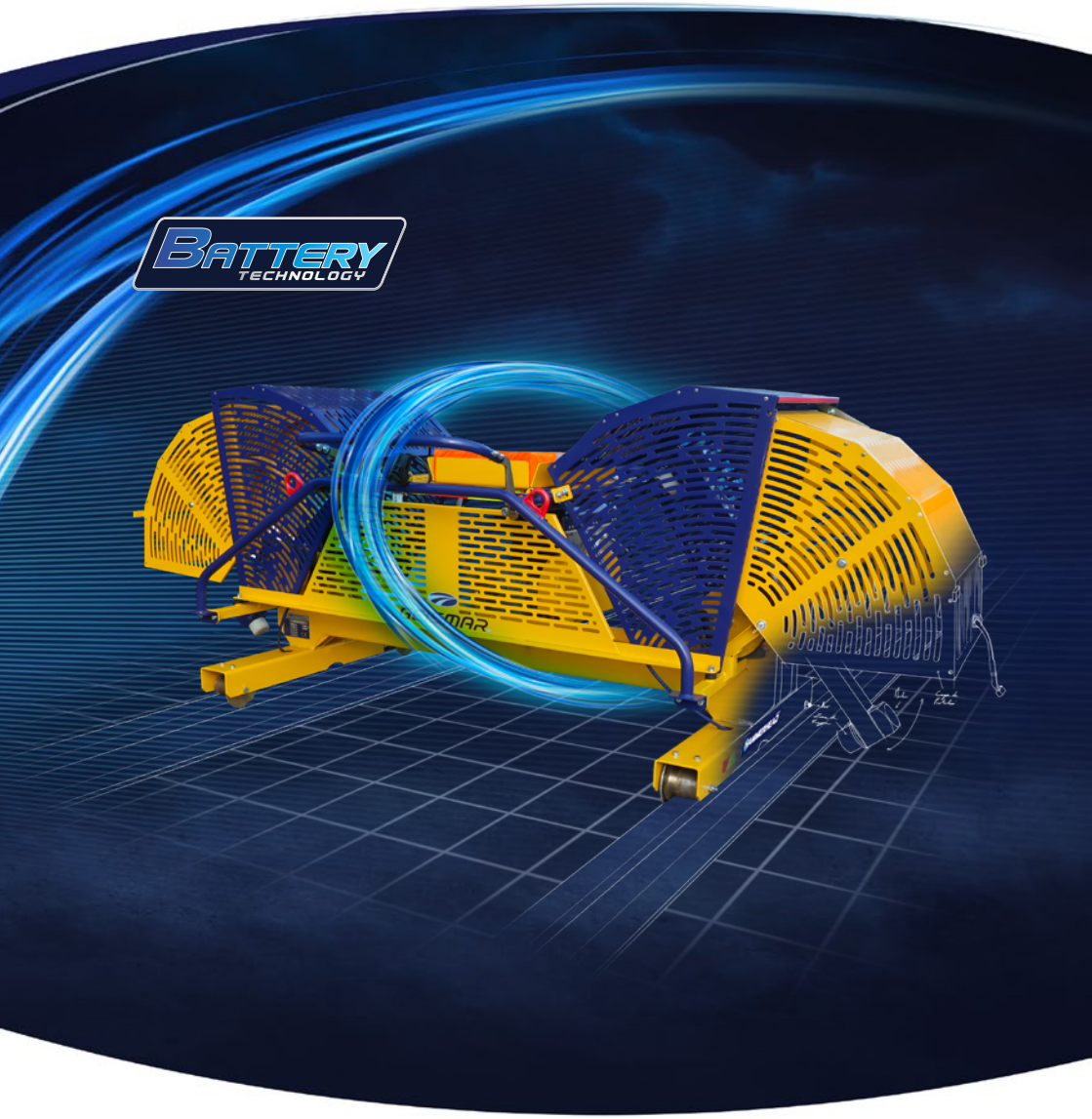
- The Metal Hornet MP8 NEO rail profile grinder guarantees you accurate grinding by hand wheel acting on the depth of pass
- The design of the machine allows you accurate and stable profile grinding up to 90° and 180° about the rail head by rotation of the machine using its turning device and its inclinable operating arm
- 4-stroke motorization for lighter weight and comfort of use by reduction of the vibration level < 5 m/s²
- Optimized working time thanks to the new quick-change grindstone device

Specifications

Engine	Petrol, 4-stroke engine - Honda GX200
Power	5 kW (6.7 hp)
Tilting range on both side	From -15° to +90°
Dimensions (L x W x H)	1,120 x 720 x 800 mm (44 x 28 x 31.5 in.)
Mass	60 kg (132 lbs)

HAMMERHEAD

BATTERY-POWERED RAIL KNOCKER



Your benefits

- Rail extension facilitated by the double hammers, mounted on a lightweight chassis offering full mobility on track
- Hammer heads made of synthetic material protecting the rail surface and guaranteed safety for your operators thanks to protective metallic cages and safety braking system
- Low vibration levels for unlimited operator usage, great simplicity of use and similar work gesture to thermic machines
- Easy to use and maintain

Specifications

Engine	Activion (patented)
Power maxi	6.3 kW
Knocking frequency (per rail)	48 knocks/min
Number of rollers	4
Number of double hammers	2
Dimensions (L x l x h)	2,500 x 1,000 x 1,000 mm (98 x 39 x 39 in.)
Mass (without battery)	≈ 260 kg (573 lbs)

AIR WIZARD

OHL MAINTENANCE ROAD-RAIL VEHICLE

Your benefits

- Efficient and versatile solution for the OHL maintenance ensuring operators safety thanks to our earthing device. Our pantograph can also measure OHL parameters
- Our lifting cradle permits your staff to perform all kinds of catenary operations (such as cable pulling) and maintenance but also tunnel inspection
- Our electrical engine enhances the possibility to work in an urban or tunnel environment without noise nuisance while respecting our environment
- Thanks to railways couplers, Geismar road-rail truck allows you to tow out of service train to free the track in order to resume normal traffic as soon as possible

Specifications

Thermal engine / Power	Diesel, 6 cylinders
Electrical engine / Power	80 VdC - 30 kW
Number of batteries	2
Seat number	3
Maximum gross weight allowed on platform	500 kg (1,102 lbs)
Maximum towing capacity	• 40 t (thermal energy) • 18 t (electrical energy)
Minimum curvature radius	20 m (66 ft.)
Maximum cant	160 mm (for 1,435 mm gauge) 6 in. (for 56 in. gauge)
Maximum gradient	8 %
Gauge	From 1,000 to 1,676 mm (39 to 66 in.)
Maximum speed on road	90 km/h (56 mph)
Maximum speed on rail	40 km/h (25 mph)

OPTIMA 300

CATENARY MOTORIZED ROAD-RAIL ELEVATOR

Your benefits

- The OPTIMA 300 satisfies 100% of catenary maintenance needs thanks to the platform with double baskets for simultaneous working on poles (telescopic cradle) as well as messaging wire (lifting cradle)
- Ergonomic road-rail vehicle, it allows loading of personnel and catenary equipment into the telescopic elevator from the ground and is equipped with stabilizers for working off the track (behind the pole)
- Its dimensions ensure the transport of 2 vehicles on a tank trailer and respects the urban rail structure gauges (2,400 mm maximum width)

Specifications

Engine / Power	Diesel, 4-cylinder, 55 kW
Maximum telescopic elevator working height	12.6 m (41 ft.)
Maximum telescopic elevator working offset	7.2 m (24 ft.)
Cradle rotation on telescopic elevator	180 ° (for working behind the pole)
Maximum loading telescopic elevator	265 kg (584 lbs)
Maximum working height for lifting cradle	8.3 m (27 ft.)
Maximum working offset for telescopic cradle	3,3 m (11 ft.)
Maximum platform loading with double baskets	300 kg (661 lbs) telescopic cradle 120 kg (265 lbs) lifting cradle
Track gauge	1,435 mm (56.4 in.)
Maximum cant	180 mm (7 in.)
Minimum curve radius	40 m (13 ft.)
Maximum ramp	7 %

AIR DRAGON

VEHICLES FOR CATENARY MAINTENANCE

Your benefits

- The Air Dragon VMT/VMB is a high–quality and efficient vehicle operating over all catenary infrastructure ensuring optimal performance and results
- Each Air Dragon VMT/VMB can be customized to meet all requirements thanks to the design of highly specialized equipment
- The equipment uses secure electronic and mechanical systems which guarantees the safety of operators

Specifications

Lifting equipment range	Up to 24 m
Wire position	Electronic with computer equipped office in the cabin
Maximum Gradient	70 ‰
Speed	Up to 120 km/h (75 mph)
Suspensions	Coil springs or rubber/steel
Transmission	Hydrostatic, hydrodynamic or electric
Mass	From 20 to 88 t
Gauge	1,435 mm (56.4 in.) from 1,000 mm to 1,676 mm (from 39 to 66 in.)
Qualification & Certification	UIC, EN, AAR and OSHA standards

VIGILIS 300

TRACK INSPECTION VEHICLE

Your benefits

- Specifically designed to inspect and control the track and its components, day and night, the VIGILIS 300 has a powerful LED projector lighting system
- With large glass surfaces on cab and two driving positions, the VIGILIS 300 allows comfortable and safe transport of up to 4 operators while maintaining the integrity of your tracks
- Fast and safe quick on/off-track thanks to a self-propelled tyre wheel remote-controlled system
- Easy to use and self-propelled, the vehicle is equipped with a pivoting system to quickly change the direction of travel in mid-lane

Specifications

Engine / Thermal power	Diesel, 36 kW (48 hp)
Transmission	Hydrostatic
Track gauge	1,435 mm (56.4 in.) - other on request
Maximum travelling speed on tyre wheels	3 km/h (1.8 mph)
Maximum travelling speed on rails	30 km/h (18 mph)
Lighting	• Cabin (transport) • Front/rear of the vehicle (travelling) • Below/above the vehicle (inspection)
Number of seats	4
Dimensions (L x W x H)	2,490 x 2,530 x 2,900 mm (98 x 100 x 114 in.)
Mass	2,5 t

EYE DRAGON

TRACK AND CATENARY MEASUREMENT AND CONTROL TRACK MOTORCAR

Your benefits

- Eye Dragon VMT/VMB is an investment in the future of your track allowing to measure and record all track and catenary parameters, features and structures with minimal track interruption using our high speed recording systems
- The units use enhanced versatility by integrating custom designed measuring systems within the vehicle to match your infrastructure
- The vehicle records and analyses your data in real time while measuring, allowing quick interpretation of results

Specifications

Measuring speed	• Up to 60 km/h (37 mph) for ultra-sound inspection • Up to 120 km/h (75 mph) for all other measuring systems
Measuring types	• Track geometry • Rail geometry and wear • Ballast profile • Clearance gauge • Ultra sound inspection • Catenary wear and position • Inspection and video recording...
US testing for rail head from 50 to 80 mm	2 mm (0.1 in.) sample rate at 10 km/h (6 mph)
Number of transducers per rail	Wheel probes: 11
Number of ultrasonic channels per rail	Wheel probes: 14
Maximum gradient	70 ‰
Speed	Up to 120 km/h (up to 75 mph)
Suspensions	Coil spring or rubber/steel
Transmission	Hydrostatic, electric or dual-mode
Track gauge	1,435 mm (from 1,000 to 1,676 mm) 56 in. (from 39 to 66 in.)
Qualification and Certification	UIC, EN, AAR and OSHA standards

Services & support

- **Remote technical support**
- **On-site intervention**
- **Training in the use and maintenance of equipment** *(approved training centre)*
- **Renovation and overhaul of equipment**
- **Equipment rental**

24/7

- **Supply of spare parts**
- **Long-term maintenance** *(preventive, curative, ...)*
- **Service man: a dedicated technician integrated into the customer's teams**
- **Periodic visits**

Global coverage

Single point of contact
+33 3 69 85 05 05 | sav@geismar.com

Multidisciplinary team

LinkedIn

Instagram

geismar.com

GEISMAR | +33 1 41 43 40 40 | geismar@geismar.com