

System 3R

WorkShop- Manager 5 (WSM 5)

The future-proof
software



Becoming better every day – since 1802

GF Machining Solutions

GF Machining Solutions is one of the world’s leading providers of advanced manufacturing systems for the production of high accuracy components and tools. Thousands of customers rely on our cuttingedge technologies including Electrical Discharge Machining (EDM), high-speed Milling, five-axis Laser Micromachining, and Additive Manufacturing. Our product portfolio also includes Spindles, Automation, high-precision Tooling, Digital Solutions and unrivaled Customer Services. In line with our targets and vision, the focus of GF Machining Solutions is to provide global customers with innovative, energy-efficient, sustainable, end-to-end production technologies for the most demanding applications.



+ We are System 3R.
We are GF Machining Solutions.

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Automation for increased competitiveness

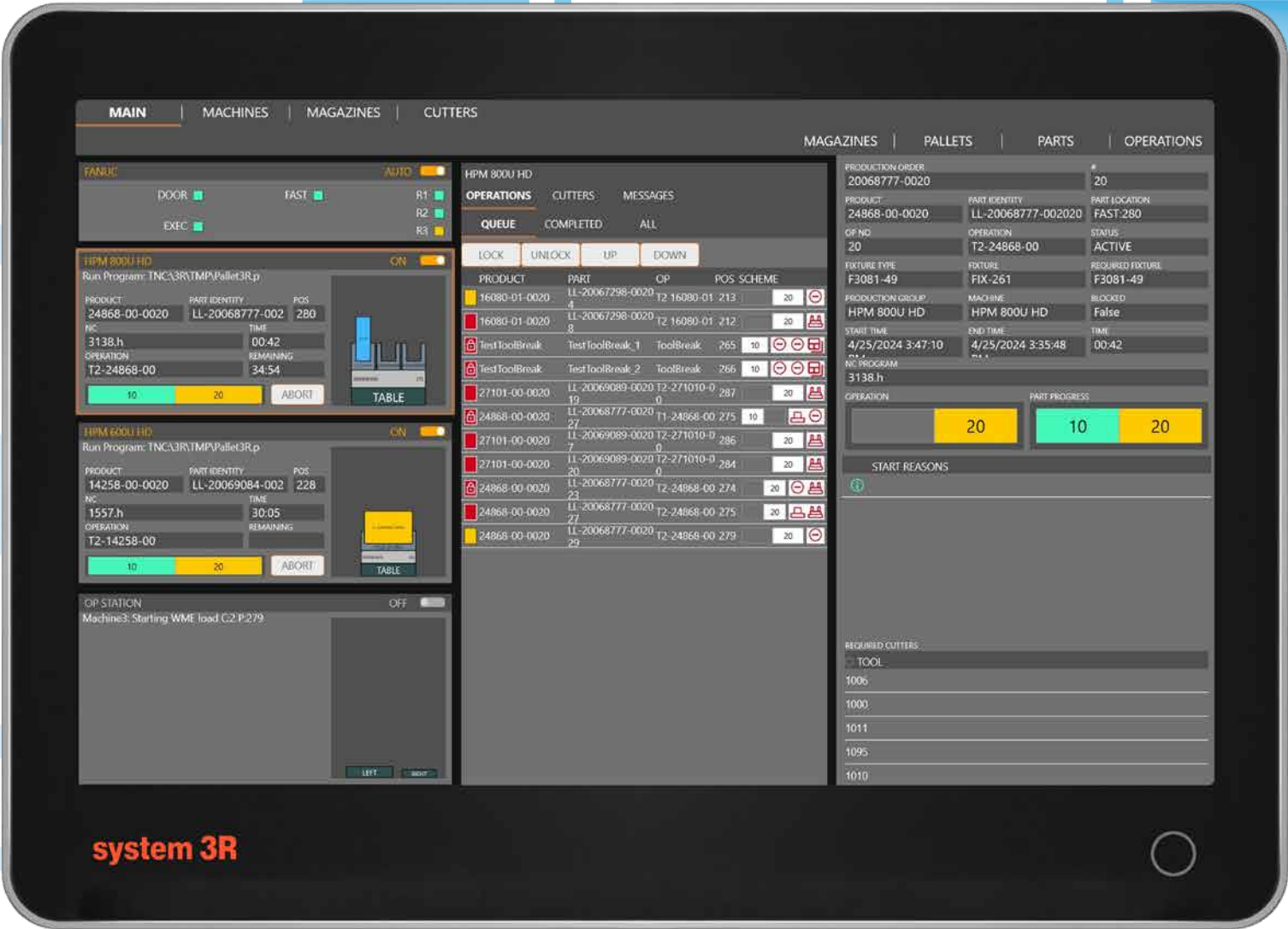
Today's production calendar

Manufacturing takes place all year round, all around the clock and in all parts of the world.

To stay competitive, manufacturers must be able to keep up. Palletisation is a major element in success; automation is essential for competitiveness. With System 3R as your partner, taking the step to automating and streamlining production is far easier than is often imagined.



WorkShop
Manager



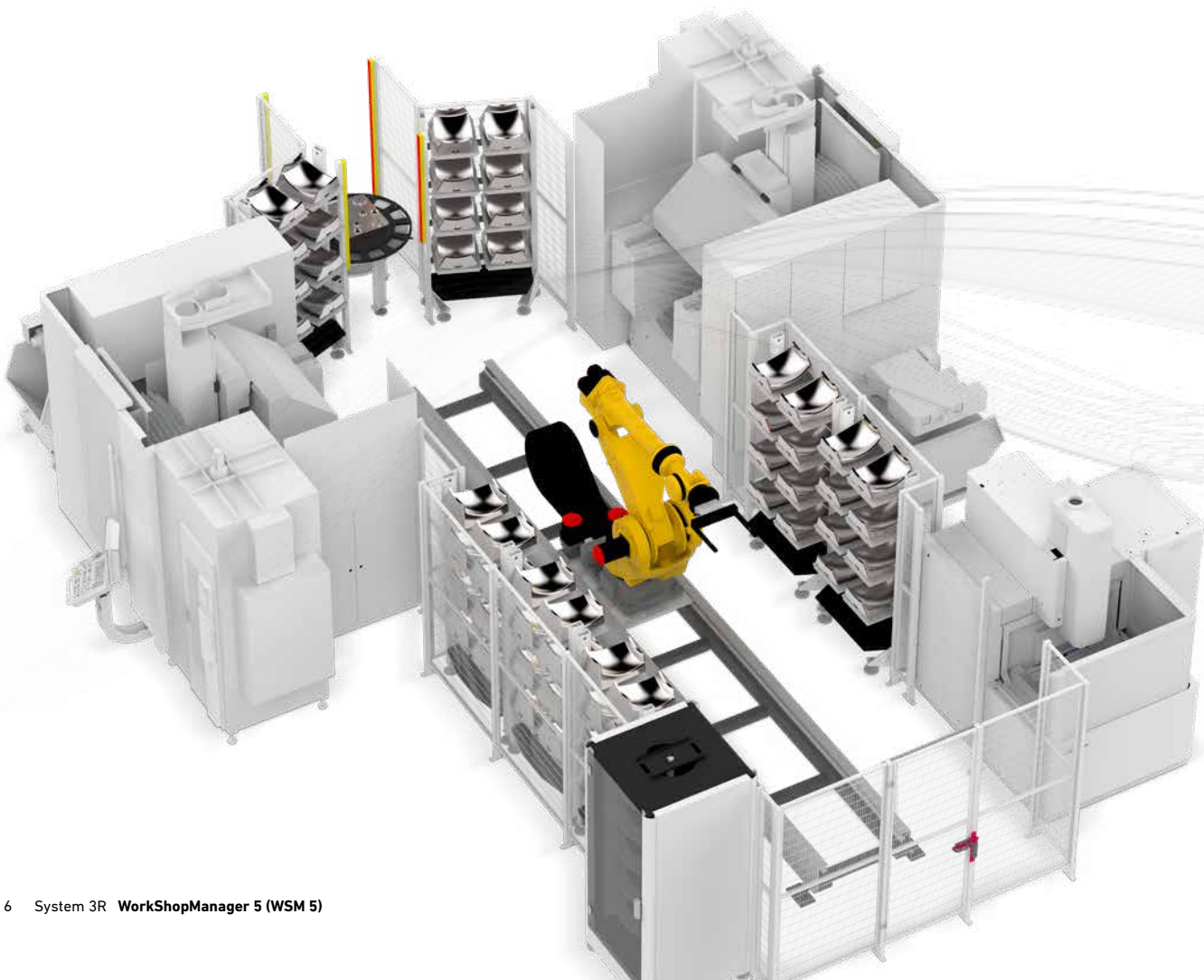
Take control of your production

WSM 5 takes care of all the resources you need for automated manufacturing

The steps are simple. You input the data (workpiece, fixture, NC programs, tooling, materials, etc.). Then, based on current orders, WSM 5 (WorkShopManager 5) shares it with your machine tools and stores all the information in one place.

Boosting Production Efficiency

- WSM 5 optimises and schedules whatever your production environment involves (stand-alone machines, inspections, quality assurance, etc.).
- Control of your manufacturing processes is seamless and real-time. Visibility of your stand-alone and automated operations is guaranteed.
- Automated and non-automated work cells are seamlessly integrated into a smooth production flow.





CellManager – Interface for easy cell control (automation, machine tools, etc.)



Magazine manager– Function for direct job control (independent loading, job assignation, etc.)



Load station application to assign jobs to fixture and pallets in a convenient way

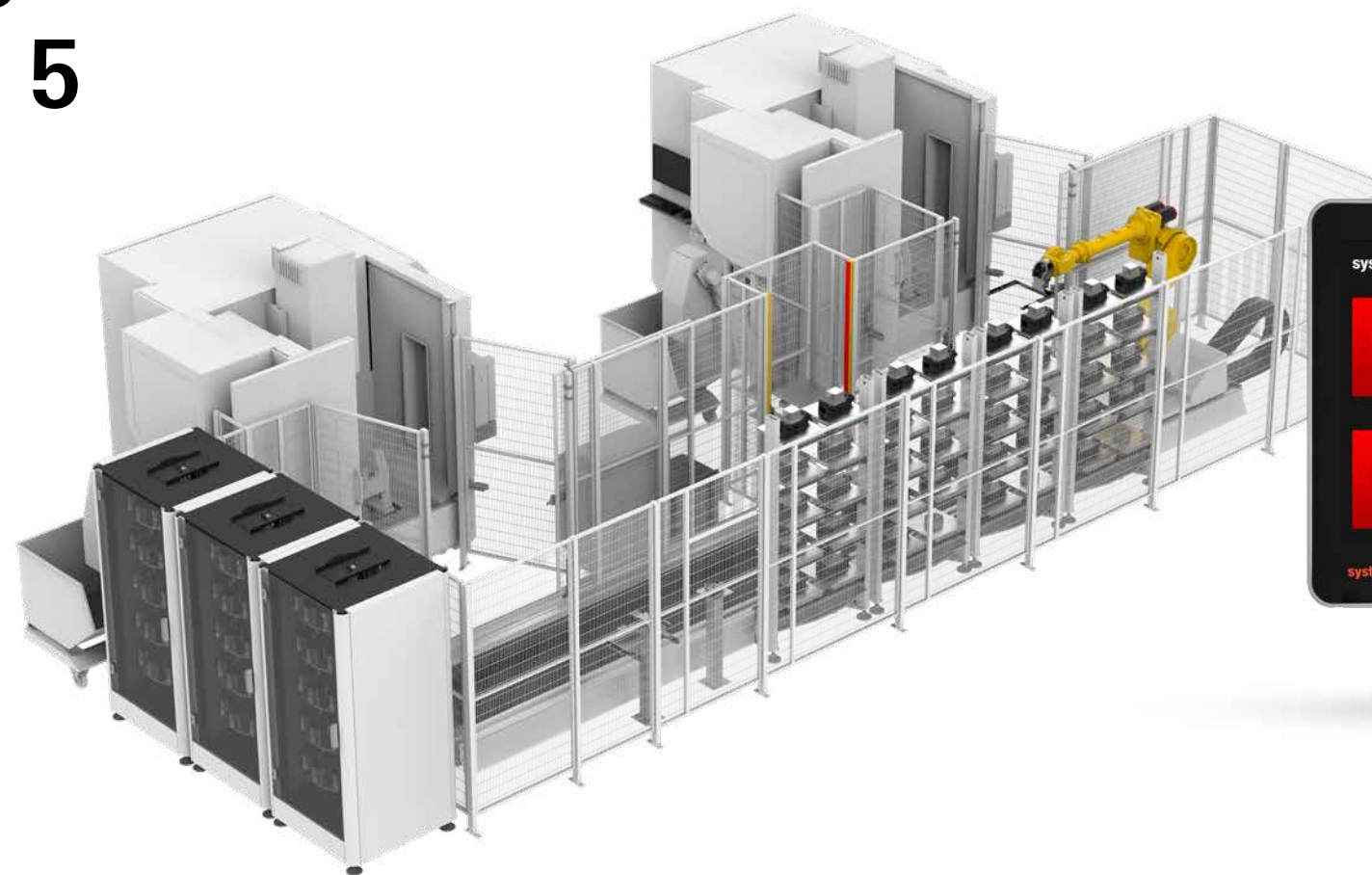


Operation scheme editor

A glimpse into WSM 5 in action



Mobile application



Dashboard view of live utilization in the cell environment.



Versatile automation and real-time control

Our production control software for pallet-based automation solutions (FMS) offers comprehensive management of the entire system, including detailed production scheduling from a single platform. It features adaptive production simulation using real-time data to optimize production orders within the manufacturing environment. The software ensures seamless real-time control and visibility across the entire production process and can be extended with integrated tool data and automation for enhanced functionality.

This software offers top-of-the-line production control for advanced part handling solutions, making it ideal for high-mix production environments. It includes comprehensive production control and setup scheduling for multiple technologies such as Milling and grinding, Wire-cutting and Die-sinking EDM, Laser Micromachining as well as coordinate-based material management with configurable matrices.

Several modules and building blocks ensuring full control of your workshop



- Several modules and building blocks ensure full control of your workshop, whether you have one or multiple machines. Tray for pallet with workpiece
- Supports different types of machine technologies (e.g. **milling, EDMing, WireEDMing, laser, CMM and cleaning**) as well as System 3R automation (e.g. **WorkPal 1, WorkPartner 1+ and Transformer 3 and 6-axis**).
- RFID support = focus on part identification via RFID, QR codes or other optical identification

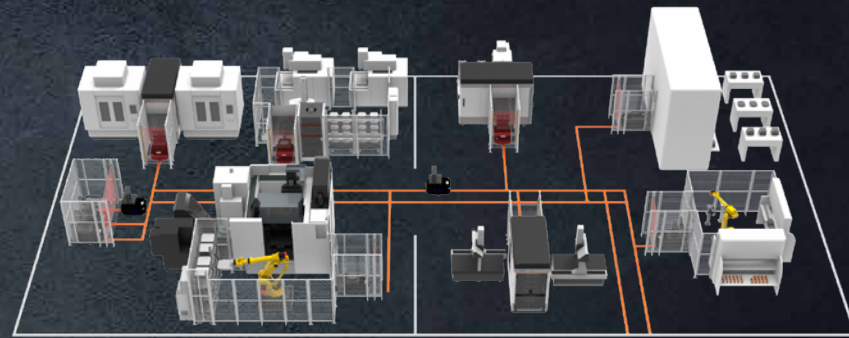
WSM 5:

The future-proof software enabling you to step into lights-out manufacturing

At factories and other industrial facilities, lights-out manufacturing is the fully automated production of goods. No human on-site presence is required. Production can thus take place with the lights out!

WSM 5 gives you a lights-out advantage through:

- Ease of use
- Its enterprise resource planning (ERP) interface (import/export)
- Production scheduling and monitoring
- Being autonomous mobile robot (AMR) ready
- Cutting tool management
- Dashboards, e.g. cell overall equipment effectiveness (OEE)
- Open Platform Communications Unified Architecture (OPC UA) compatibility



Autonomous mobile robots (AMRs)

System 3R has chosen OMRON as its partner for AMRs. OMRON mobile robots are autonomous mobile robots (AMRs) designed to dramatically increase productivity in manufacturing and logistics operations.

OMRON's AMRs increase throughput, eliminate errors, improve material traceability and enable employees to focus on tasks that require complex human skills.

They fit perfectly into both System 3R's transport-centred concept (pallets, electrodes, cutting tools and raw materials) and System 3R's range of robot solutions.



Shopfloor Manager (TDM)

Scheduling Planning tool lists Work steps

Shopfloor Manager is a module in tool data management (TDM) software developed by Germany's TDM Systems. It helps you: lower tooling costs; reduce machine downtime; track and optimise tool stocks; and, improve tool availability.

Digital manufacturing gives companies a clear competitive edge. An enormously important basis for every company in machining production is an efficient and customizable Tool Data Management system.

This is where Shopfloor Manager comes into play. Customers are supported throughout digitalisation and implementation of digital manufacturing.



1. Design



2. Fixture



3. Process planning



4. NC program simulation



5. Tool logistics



6. Tool assembly



7. Presetting



8. Machining



9. Finished part



10. Recycling

WSM 5 Plans, executes and monitors your production

WSM 5 is the brain not only of your production cells, but also of your entire factory. All cells and manufacturing equipment can be connected to WSM 5. It does not matter if your mixes and volumes are high or low. Furthermore, we support all major CNC machines on the market. Our solutions can handle from 1 to 20 machines in a cell.

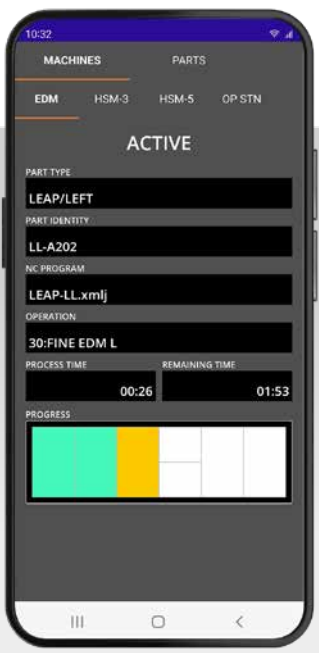


Monitoring and statistics

Managers are under constant pressure to meet a variety of improvement goals for their factories. Making correct decisions is easier with OEE measurements, statistics and historical production data.

Streamline monitoring with your phone

With mobile applications putting production data at your fingertips, monitoring your production could not be easier.



About GF Machining Solutions

Multi-technology solutions provider

Our commitment to you and your specific applications is proven by the value-adding intelligence, productivity and quality delivered by our multi-technology solutions. Your success is our chief motivator. That’s why we are continuously advancing our legendary technical expertise. Wherever you are, whatever your market segment and whatever the size of your operation, we have the complete solutions and the customer-centric commitment to accelerate your success—today.

EDM (Electrical Discharge Machining)



Wire-cutting EDM

GF Machining Solutions’ wire-cutting EDM is fast, precise and increasingly energy efficient. From ultraprecise machining of miniaturized components down to 0.02 mm to powerful solutions for demanding high-speed machining with respect to surface accuracy, our wire EDM solutions position you for success.

Die-sinking EDM

GF Machining Solutions is revolutionizing die-sinking EDM with features like iGAP technology to dramatically boost machining speed and reduce electrode wear. All of our die-sinking systems offer fast removal and deliver mirror finishes of Ra 0.1 µm (4 µin).

Hole-drilling EDM

GF Machining Solutions’ robust hole-drilling EDM solutions enable you to drill holes in electrically conductive materials at a very high speed—and, with a five-axis configuration, at any angle on a workpiece with an inclined surface.

Tooling and Automation



Tooling

Our customers experience complete autonomy while maintaining extreme accuracy, thanks to our highly accurate System 3R reference systems for holding and positioning electrodes and work pieces. All types of machines can easily be linked, which reduces set-up times and enables a seamless transfer of workpieces between different operations.

Automation

Together with System 3R, we also provide scalable and cost-effective Automation solutions for simple, single machine cells or complex, multi-process cells, tailored to your needs.

Milling



Milling

Precision tool and mold manufacturers enjoy a competitive edge with our Mikron MILL S solutions’ fast and precise machining. The Mikron MILL P machines achieve above-average productivity thanks to their high performance and Automation. Customers seeking fastest return on investment benefit from the affordable efficiency of our MILL E solutions.

High Performance Airfoil Machining

Our Liechti turnkey solutions enable the highly dynamic manufacturing of precision airfoils. Thanks to the unique performance and our expertise in airfoil machining, you increase productivity by producing at the lowest cost per part.

Spindles

As part of GF Machining Solutions, Step-Tec is engaged in the very first stage of each machining center development project. Compact design combined with excellent thermal and geometric repeatability ensure the perfect integration of this core component into the machine tool.

Software



Digitalization solutions

To drive its digital transformation, GF Machining Solutions acquired symmedia GmbH, a company specialized in software for machine connectivity. Together, we offer a complete range of Industry 4.0 solutions across all industries. The future requires the ability to adapt quickly to continual digital processes. Our intelligent manufacturing offers embedded expertise, optimized production processes, and workshop Automation: solutions for smart and connected machines.

Advanced manufacturing



Laser texturing

Aesthetic and functional texturing is easy and infinitely repeatable with our digitized Laser technology. Even complex 3D geometries, including precision parts, are textured, engraved, microstructured, marked and labeled.

Laser micromachining

GF Machining Solutions offers the industry’s most complete line of Laser micromachining platforms optimized for small, high-precision features to meet the increasing need for smaller, smarter parts to support today’s leading-edge products.

Laser Additive Manufacturing (AM)

GF Machining Solutions and 3D Systems, a leading global provider of additive manufacturing solutions and the pioneer of 3D printing, have partnered to introduce new metal 3D printing solutions that enable manufacturers to produce complex metal parts more efficiently.

Service + Success



We take you to new heights

Our Success Packs are designed to maximise your return on investment and empower you in your quest for success across all industrial segments. Our subscription packs feature a comprehensive range of services that guarantee the access and support you need to get the most out of your assets today, while preparing for the challenges of tomorrow. Our trusted experts backed by our latest cutting-edge, intelligent Digital Solutions, provide a full range of services.

eCatalog

Keep your equipment operating at peak precision and performance with our wide range of certified consumables and original wear parts. Our online catalog has it all (ecatalog.gfms.com).

Worldwide for you



Our locations

Switzerland	Europe	America	Asia
Headquarters Biel/Bienne ++	Schorndorf, Germany ++ Coventry, United Kingdom ++ Agrate Brianza (MI), Italy ++ Barcelona, Spain ++ Marinha Grande, Portugal + Massy, France + La Roche Blanche, France + Lomm, Netherlands ++ Altenmarkt, Austria ++ Warsaw, Poland ++ Brno, Czech Republic ++ Budapest, Hungary ++ Vällingby, Sweden +	USA Lincolnshire (IL) ++ Chicago (IL) ++ Huntersville (NC) ++ Irvine (CA) ++ Toronto (Vaughan), Canada ++ Monterrey, Mexico ++ São Paulo, Brazil + Caxias do Sul, Brazil +	China Beijing ++ Changzhou + Shanghai ++ Chengdu ++ Dongguan ++ Hong Kong + Yokohama, Japan ++ Taipei, Taiwan + Taichung, Taiwan ++ Seoul, Korea ++ Singapore, Singapore ++ Petaling Jaya, Malaysia ++ Bangalore, India ++ Pune, India + Hanoi, Vietnam ++
Losone ++ Geneva ++ Langnau ++			
+ Plant + Center of Demonstration + Sales company			

www.gfms.com

At a glance

We enable our customers to run their businesses efficiently and effectively by offering innovative Milling, EDM, Laser, Additive Manufacturing, Spindle, Tooling and Automation solutions. A comprehensive package of services completes our proposition.

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