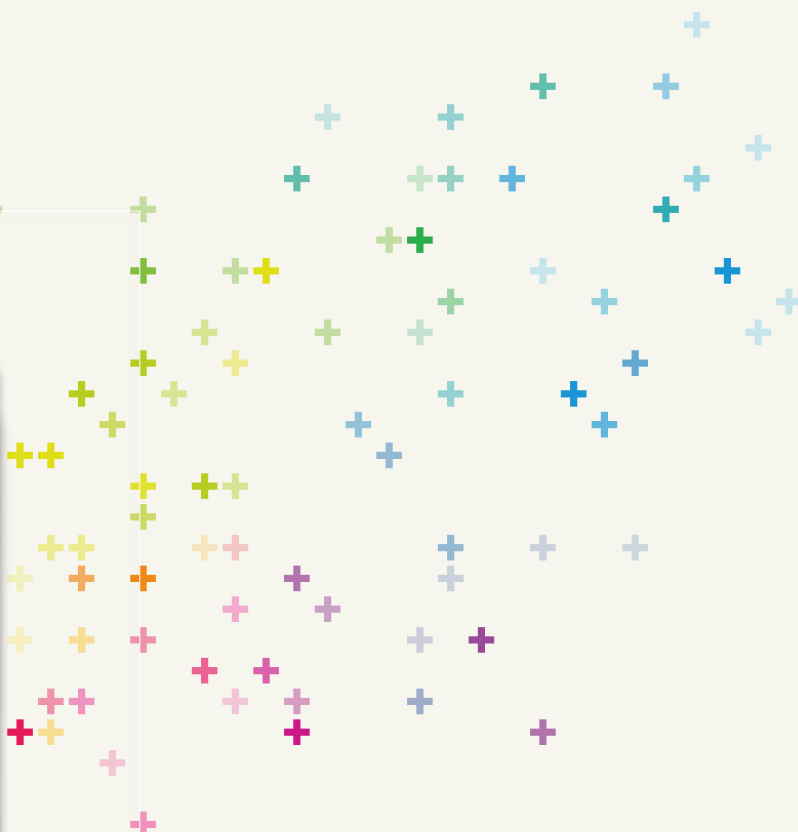


System 3R

WorkPartner 1+



GF Machining Solutions: all about you

When all you need is everything, it's good to know that there is one company that you can count on to deliver complete solutions and services. From world-class electrical discharge machines (EDM), Laser texturing and Additive Manufacturing through to first-class Milling and Spindles, Tooling, Automation and software systems – all backed by unrivalled customer service and support – we, through our AgieCharmilles, Microlution, Mikron Mill, Liechti, Step-Tec and System 3R technologies, help you raise your game and increase your competitive edge.

Swedish design and quality

Contents

Modularity Automation	4
WSM – WorkShopManager	8
Customer Services	10
Technical specifications	12
GF Machining Solutions	14



Partnering your production

- Can serve one or two machines in a production cell.
- One, two or three magazine capability gives exceptionally flexible capacity.
- Large doors facilitate loading of workpieces and tools into the magazines.
- Integrated pneumatic control of gripping devices and table chucks.
- Minimal floor space requirements.

Achieve greater return on your investment!

Customer-specific Solutions

Modularly adapted to your needs



Milling application

WorkPartner 1+ (LHL Version)
Large magazine capacity
Two types of tooling
Heavy loading station



Wire-cutting EDM (wireEDM) application

WorkPartner 1+ (HH Version)
Heavy loading station



EDM application

WorkPartner 1+ (LH Version)
Heavy loading station
Drain station





Laser application

WorkPartner 1+ (LL Version)



Mixed technologies EDM & Milling

WorkPartner 1+ (LH Version)

Large magazine capacity

Two types of tooling

Heavy loading station

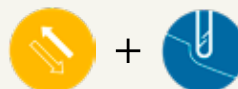
Drain station



Rail application for front loaded milling machines

WorkPartner 1+ (HH Version)

Heavy loading station



Standardized modules

9 modular models!



1 pc. Light magazine



2 pcs. Light magazines



3 pcs. Light magazines



1 pc. Heavy magazine
1 pc. Light magazine



1 pc. Heavy magazine
2 pcs. Light magazines



1 pc. Heavy magazine



2 pcs. Heavy magazines



3 pcs. Heavy magazines



2 pcs. Heavy magazines
1 pc. Light magazine

WorkPartner 1+ offers maximum magazine capacity in minimum floor space. Unlike many other solutions on the market, there is no risk of "painting yourself into a corner". Our modular magazines give an unprecedented flexibility that can be adapted to each user's needs. If you start with a single magazine, one or two more can be added whenever required.

WorkPartner 1+ is equally ideal for milling machines, die-sinking, wire EDM machines, laser machines and grinding machines. Similarly, it is equally efficient whether used in one-off or series production.

With generous magazine doors that facilitate loading/unloading, WorkPartner 1+ is extremely user friendly. Other advantages include rapid change cycles, integrated pneumatic control of gripping devices and table chucks and minimal floor space requirements.

Modular components:



Manipulator unit



Light magazine



Heavy magazine



Security glass door, 10 mm

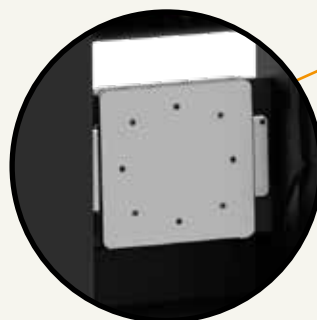
Doors
On several sides for loading
& unloading



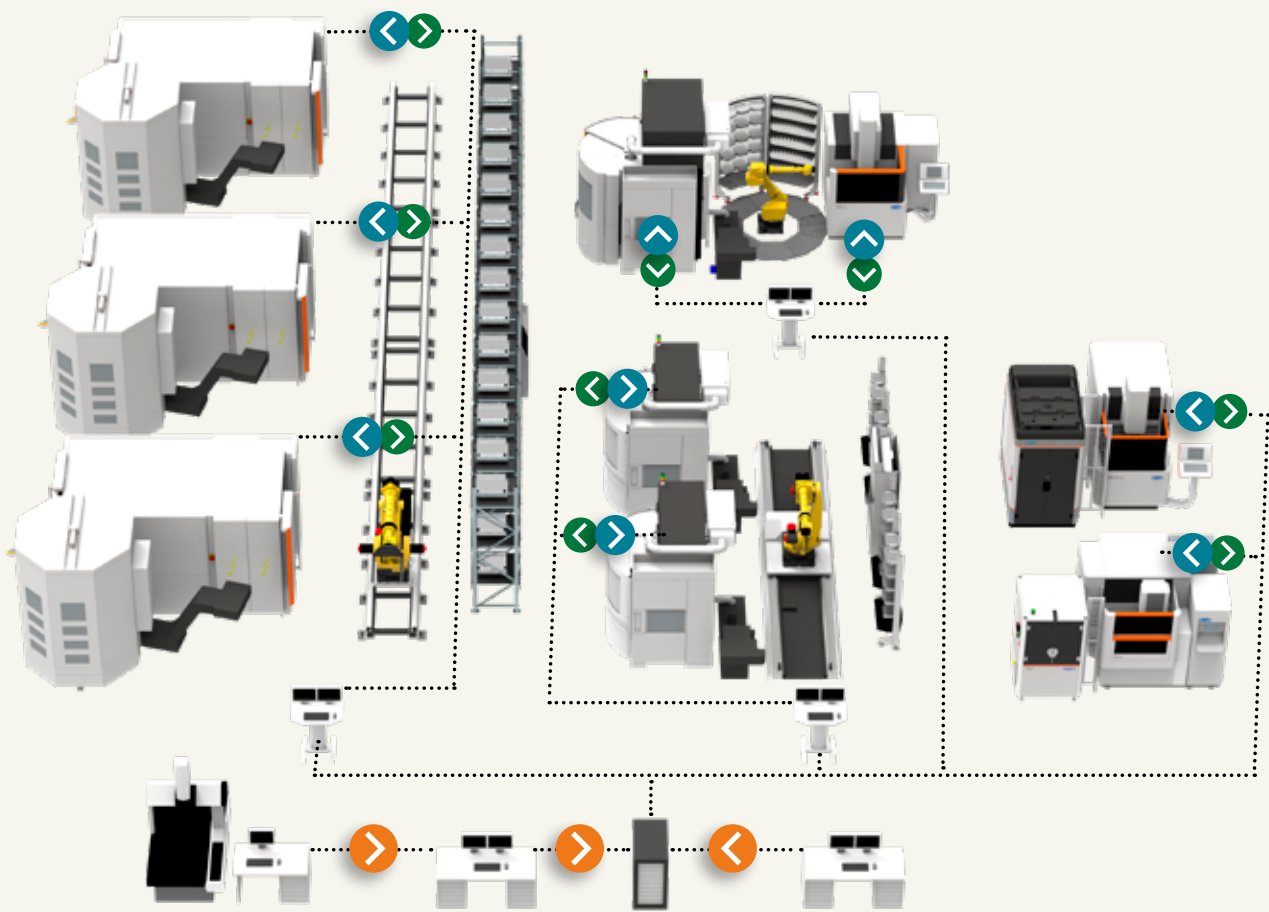
Loading door
With one sliding shelf
as a loading station



Drain station
For emptying fluids
from workpieces



Gripper arm (not shown)
Prepared for automatic
gripper change function



WSM – WorkShopManager

User-friendly Cell Management Software

- Necessary data is entered quickly and in a structured manner.
- Quick, precise overview of the entire process chain
- Increased flexibility: The order of priority can be changed at any time.
- Simpler, safer preparation of automated cells
- The risk of errors due to the human factor is minimized.
- Increased process security



.....> **Preparation – WorkCenter**

- Create an order
- Assign operations and NC programs
- Retrieve offset values
- Release the order for production

.....> **Monitoring – CellMonitor**

- Display status of all cells
- Display status of individual machines and processes

Statistics – WSM Statistics

- Retrieve and analyze cell utilization data
- Retrieve and analyze order data

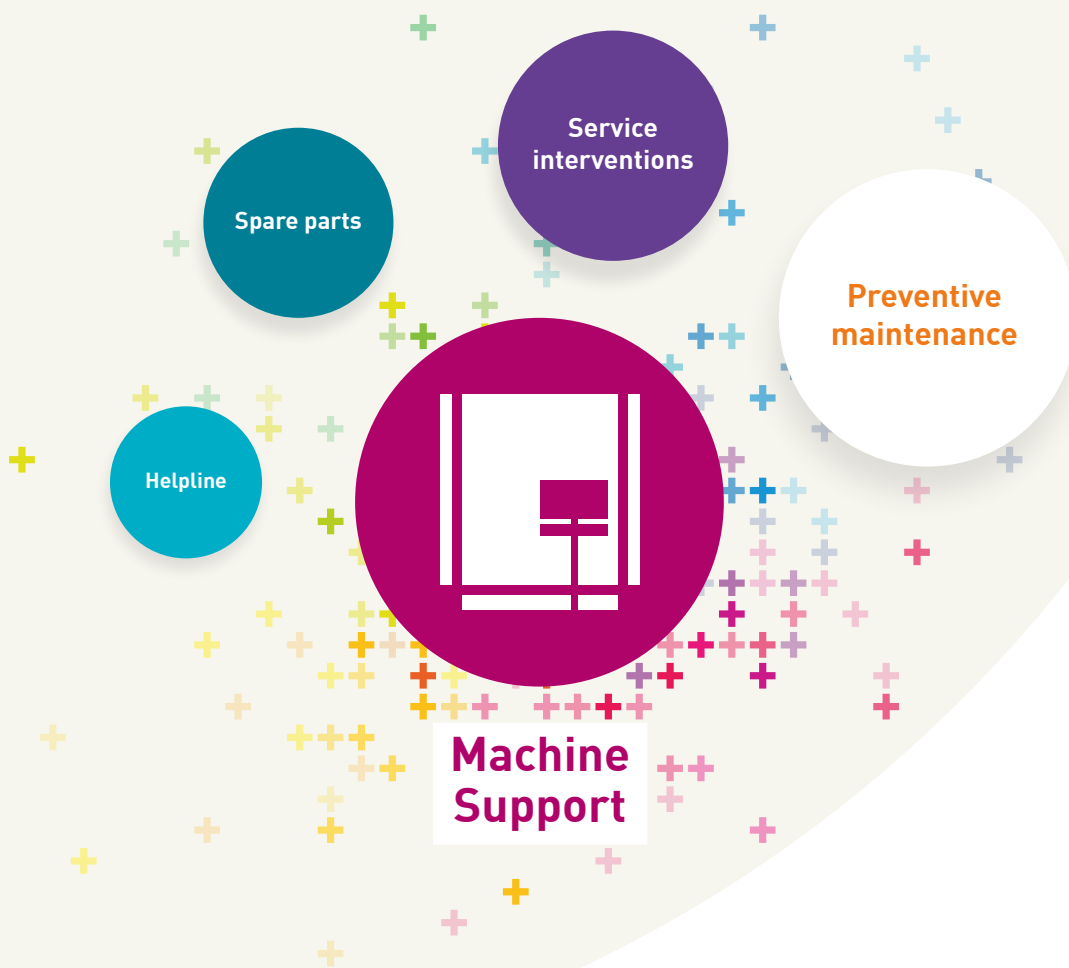
.....> **Execution – CellManager**

- Manages the pallet ID codes and magazine positions
- Creates priority lists
- Automatically starts available jobs in the order of the priority list
- Updates the information in the database with the status and machining times of individual orders

Customer Services

Optimize the uptime of your equipment with our Machine Support services

Annual reconditioning minimizes production stops and optimizes function, precision and performance. GF Machining Solutions offers comprehensive services for your Automation, reference systems and masters and calibration tools.



Preventive maintenance

Automation

- Mechanics
- Pneumatics
- Peripheral equipment



Reference systems

- Rebuilding chucks
- Inspecting references
- Checking clamping force



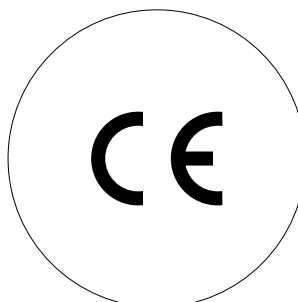
Masters and calibration tools

- Cleaning and polishing
- CMM inspection
- Quality certificate



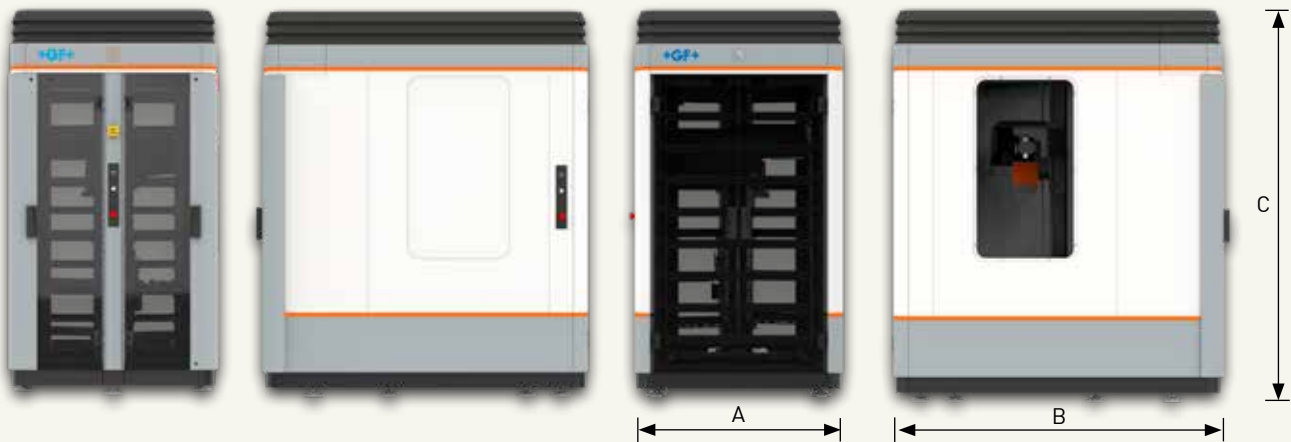
CE Certification

GF Machining Solutions' Customer Services also offers CE Certification of Conformity for complete Automation cells.



Technical specifications – general

WorkPartner 1+



Foot print

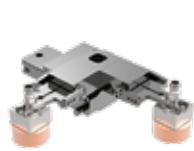
Two light magazines	A = 1310, B = 1800, C = 2460 mm (A = 52, B = 71, C = 97 in)
One light magazine & one heavy magazine	A = 1310, B = 2060, C = 2460 mm (A = 52, B = 81, C = 97 in)
Two heavy magazines	A = 1310, B = 2480, C = 2460 mm (A = 52, B = 97.5, C = 97 in)
Three light magazines	A = 1460, B = 1730, C = 2460 mm (A = 57, B = 68, C = 97 in)
Two light magazines & one heavy magazine	A = 1460, B = 2030, C = 2460 mm (A = 57, B = 78, C = 97 in)
One light magazine & two heavy magazines	A = 1860, B = 2030, C = 2460 mm (A = 73, B = 78, C = 97 in)
Three heavy magazines	A = 1890, B = 2430, C = 2460 mm (A = 74.4, B = 95.7, C = 97 in)

Specifications

Transfer weight	80 kg. (pallet with workpiece) 177.8 lbs (pallet with workpiece)
Max. X-reach	1254 mm (three magazine versions), 1244 mm (two magazine versions), 49.4 in (three magazine versions), 49 in (two magazine versions)
Max. Y-reach	1500 mm 59 in
Max. C-rotation	330°
Required air pressure	6 ± 1 bar, 150 litres/minute
Required power supply	Single-phase, 180-240 V AC, 14 A at 180 V AC, 20 A at 230 V AC.
Required floor space	1310 x 1800 x 2460 mm (but affected by increased magazine capacity) 52 x 71 x 97 in (but affected by increased magazine capacity)
Interface	serial RS-232
Double emergency stop	

Options & accessories

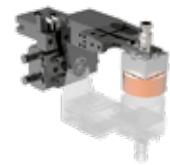
Loading station
Draining station
ID-system with or without automatic scanning
Internal magazine lighting (LED)
Cell PC with WSM software
RS422 interface
Customer chosen color for outer casings
Manual rail



Double

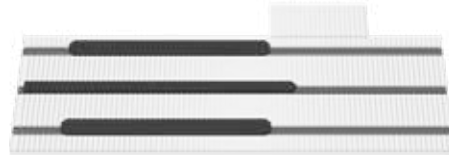


Tilting



Turning

Optional grippers



Option

Manual rail – slide away WorkPartner 1+ for manual operation of front-loaded machines

Magazine capacity

There are two types of magazine, light (L) and heavy (H).
Up to three magazines can be connected to the changer unit in any combination whatsoever.

One magazine: L or H.

Two magazines: L + L, H + H or L + H.

Three magazines: L + L + L, H + H + H, L + H + H or L + L + H.

Note: Each individual magazine is intended for one and the same pallet system.

The magazine's capacity is determined entirely by the shape and size of the workpieces. The tables below show only "guideline values" for each pallet system carrying workpieces of a "standard" size and shape.

Pallet systems in the LIGHT magazine	No of pallets/rack	No of racks	Total
Macro 54/70	10	8	80
Macro PT (70x70)	10	8	80
Macro 116	6	8	48
Macro Chip Guard	6	8	48
Matrix 110	6	8	48
Matrix 142	5	5	25
MacroMagnum	5	5	25
GPS 70	10	8	80
GPS 120	6	8	48
ITS50	10	8	80
ITS72	9	8	72
ITS115	6	8	48
ITS148	5	5	25

Pallet systems in the HEAVY magazine	No of pallets/rack	No of racks	Total
MacroMagnum	4	5	20
Matrix 110	4	5	20
Matrix 142	4	5	20
GPS 240	2	5	10
Dynafix	2	5	10
ITS148	4	5	20
UPC Fork	2	5	10
UPS RCS	2	5	10

Note: When carrying out wire EDM with Macro, MacroTwin or Unimatic, solutions are customer specific – the number of positions per rack is entirely determined by the nature of the devices securing the workpiece and not by the pallet system.

GF Machining Solutions



Milling

High-Speed and High-Performance Milling Centers. In terms of cutting speed, HSM centers are 10 times faster than conventional milling machines. Greater accuracy and a better surface finish are also achieved. This means that even tempered materials can be machined to a condition where they are largely ready to use. One essential advantage of HSM is that with systematic integration, the process chain can be significantly shortened. HSM has developed alongside EDM into one of the key technologies in mold and tool making.



EDM

Electric Discharge Machines. EDM can be used to machine conductive materials of any hardness (for example steel or titanium) to an accuracy of up to one-thousandth of a millimeter with no mechanical action. By virtue of these properties, EDM is one of the key technologies in mold and tool making. There are two distinct processes — wire-cutting EDM and die-sinking EDM.



Laser

Laser texturing. Laser texturing supplements and extends the technologies offered by GF Machining Solutions. With our laser technology we enable you to produce texturizing, engraving, microstructuring, marking and labeling of 2D geometries right through to complex 3D geometries. Laser texturing, compared to conventional surface treatment using manual etching processes, offers economic, ecological and design advantages.



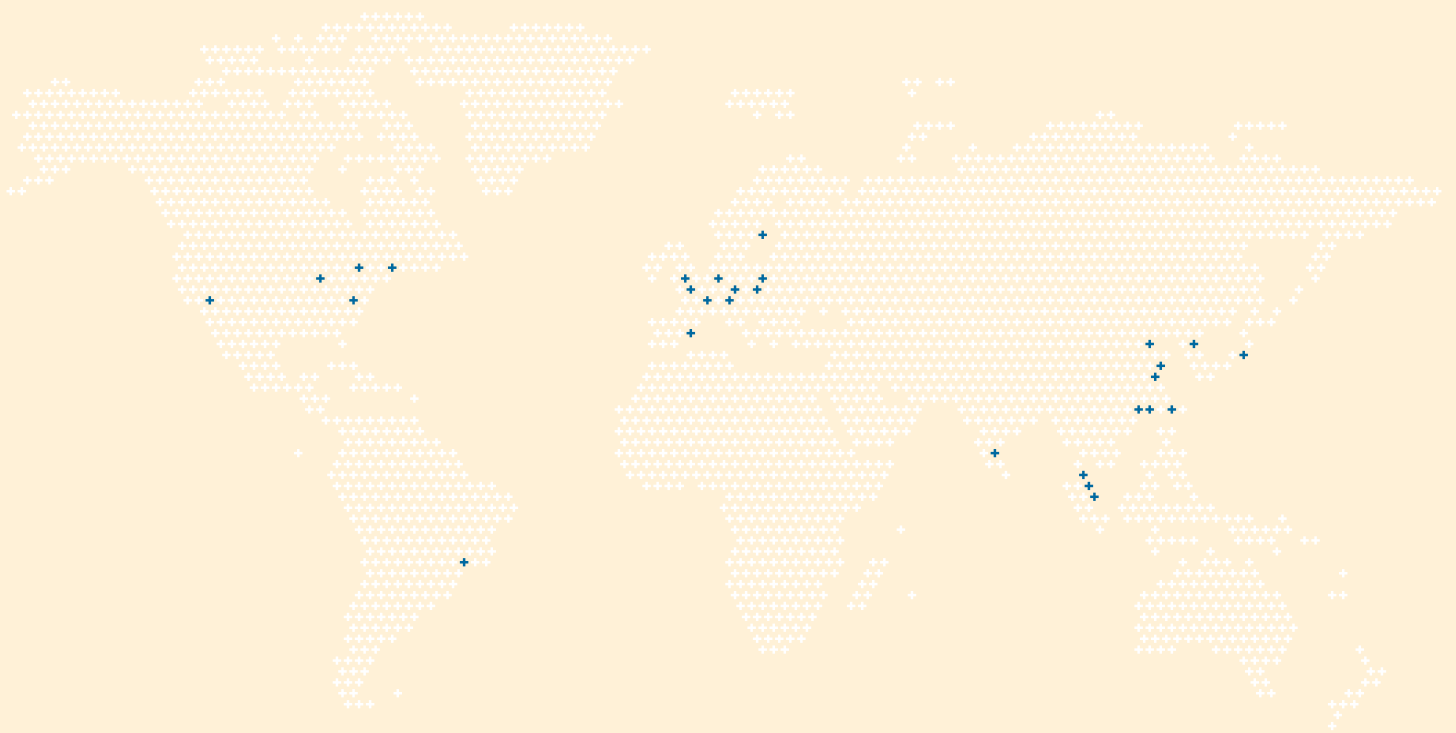
Automation and Tooling

Tooling, Automation, Software. Tooling for fixing workpieces and tools; automation systems and system software for configuring machine tools and recording and exchanging data with the various system components and design advantages.



Customer Services

Operations, Machine and Business Support. Customer Services provides with three levels of support all kind of services for GF Machining Solutions machines. Operations Support offers the complete range of original wear parts and certified consumables including wires, filters, electrodes, resin and many other materials. Machine Support contains all services connected with spare parts, technical support and preventive services. Business Support offers business solutions tailored to the customer's specific needs.



Optimize the uptime of your equipment with our Customer Services

- + Ensuring productivity.
- + Reducing running costs and wasted parts.
- + Maximizing the return on your System 3R investments.
- + Extending the product lifetime of your System 3R equipment while maintaining optimum precision.
- + Ensuring robot cell safety satisfies present machine directives.

System 3R's Customer Services is uniquely positioned to help you maximize the availability, value, precision and productivity of your System 3R equipment. Our cost-effective, customer-centric and expert services put your success at the center, ramp up your productivity and ensure predictable, uninterrupted uptime. System 3R's service engineers are your expert partners for a wide range of success-triggering services.

For more info ask your local System 3R dealer.

For contact details, please refer to:
www.system3r.com.

