



Workpiece handling in good hands

Faster, more precise, more efficient –
automated solutions by Fastems.

Automatically better Automated workpiece handling.

Independent from company size or number of employees:

Automated workpiece handling has numerous benefits.

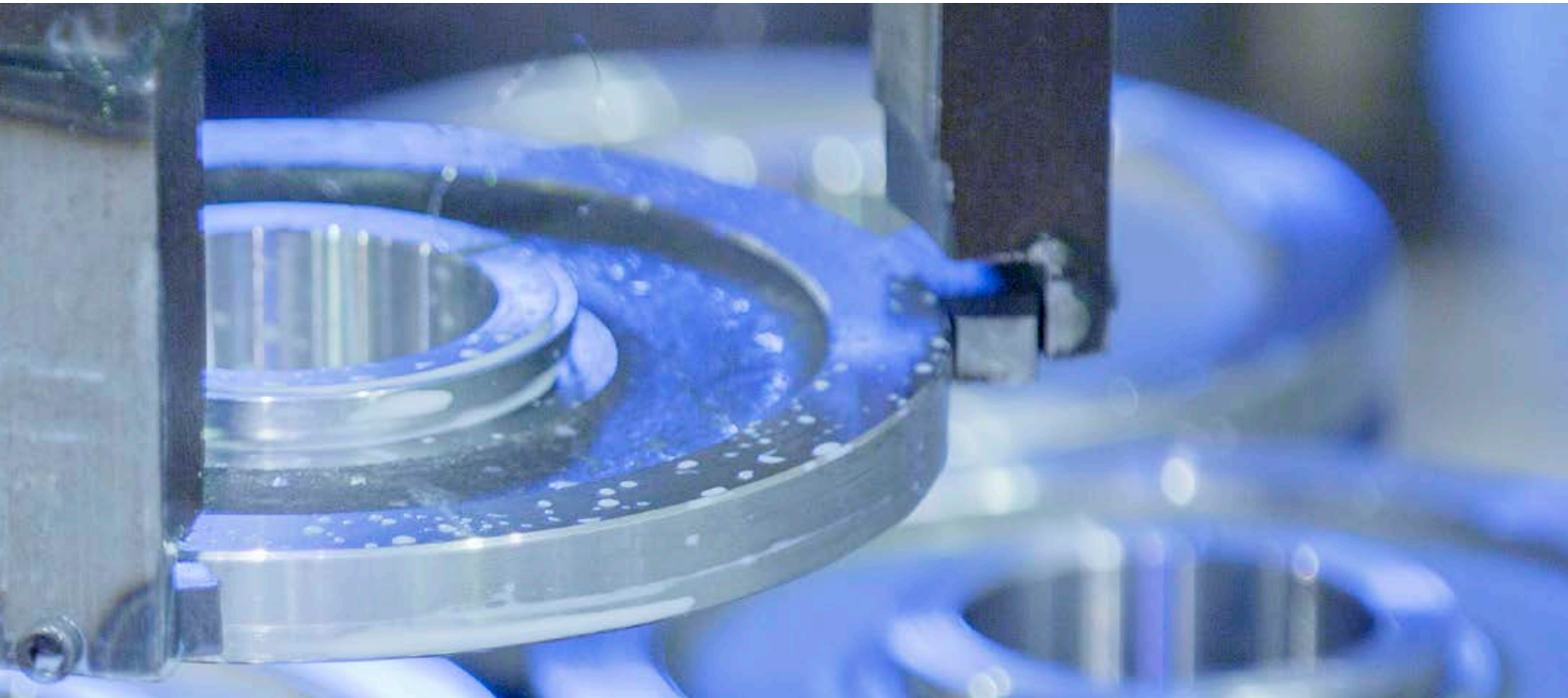
There are economically interesting solutions for smaller and medium lot sizes also in the machining industry.



- **Sustainable cost reductions and increased productivity** will give you a decisive advantage over the competition.
- Improved **reliability in the production process** ensures **consistently high quality**, brings down your unit costs and allows you to plan your delivery times better.



- Automation relieves your qualified personnel and allows them to concentrate on more demanding tasks and more ergonomic work, **preventing a shortage of skilled workers**.
- You can integrate upstream and downstream processes into your automated system, allowing you to **use otherwise unproductive downtimes usefully**.



8 good reasons for automated workpiece handling by Fastems.

- 1** **Over 30 years of experience** in workpiece handling in the machine tool sector
- 2** **More than 1,000 workpiece handling systems** installed in the machine tool, automotive, subcontractor and aerospace industries
- 3** **Turnkey solutions** that make it possible to improve the utilization rates of machine tools and optimize processes
- 4** **Compatible with a wide range of systems and interfaces**, allowing you to take advantage of the opportunities offered by new technologies, digitalization and networking by implementing new software and hardware solutions
- 5** **Intelligent manufacturing management software (MMS)** for efficient planning, forecast, control, visualization and monitoring of production and other processes, together with tool management
- 6** **Global sales and service organization** with production sites in Finland and Germany
- 7** **Professional consulting** on topics such as material handling and production efficiency
- 8** **Fastems Lifecycle Services:**
 - 24/7 worldwide technical support – more than 85% of cases resolved remotely
 - Local service presence in many countries with factory-trained personnel
 - Support points and spare parts in Finland, Germany and the USA



So much more versatile. Manufacturing Management Software.

Planning, forecast, control, visualization and monitoring automatic production processes – our Manufacturing Management Software (MMS) is unbelievably versatile. What this means for workpiece handling: A high product mix combined with enormous flexibility and productivity in parts processing.

MMS PERFORMANCE FEATURES:

- A management solution for the entire production process
- High-performance reporting functions for greater transparency, allowing you to respond quickly to problems and bottlenecks, as well as overcapacity
- Production planning in real time based on production orders that can be read directly from an ERP or PPS system
- Forecast for the completion of production runs on the basis of the current order situation and production conditions, taking all necessary resources into account
- Planning, control and monitoring of the widest possible range of downstream processes in component handling (washing, deburring, engraving, etc.)

More possibilities. From mass production to lots of one unit.

Our solutions in the field of workpiece handling are based on the use of **industrial robots and/or gantry systems** with wide-ranging potential for the automation of machine tools – both for existing and brand new machines.

Depending on your own specific needs, we distinguish between production lines, production cells and production systems:

	Manufacturing lines	Manufacturing cells	Manufacturing systems
Lot sizes	Large	Small/Medium	From lot sizes of 1 unit
Workpiece range	Low	Medium	High
Number of automated machine tools and downstream processes	Many	Few	Many
Set-up times	Approx. 1–3 hrs.	Approx. 30 min.	Minimal/automated
Max. unmanned time (depending on processing time and storage capacity)	Approx. 1 hrs.	Approx. 2–8 hrs.	Approx. 72 hrs.
Order management	Not implemented	By operator	By software
Tool management	Not implemented	Usually not implemented	By software
Resource management	Not implemented	By operator	By software
ERP/MES Interface	One way (for reporting)	Not available	Two-way
Control system	PLC/HMI	MMS/PLC	MMS

You can find all the details you need and a list of the specific benefits for production lines, production cells and production systems on the following pages, along with relevant examples taken from real-life.

More customizable and cost-efficient. Fastems production lines for large production runs.

Our production systems for manufacturing in large runs are excellent in terms of productivity and process reliability – especially where **the machine tools are combined intelligently with conveyor systems using industrial robots and/or gantry loaders.**

Increase your profitability by using your robots for more than simply loading and unloading lines. They can take on many more additional tasks in parallel with prime production time.

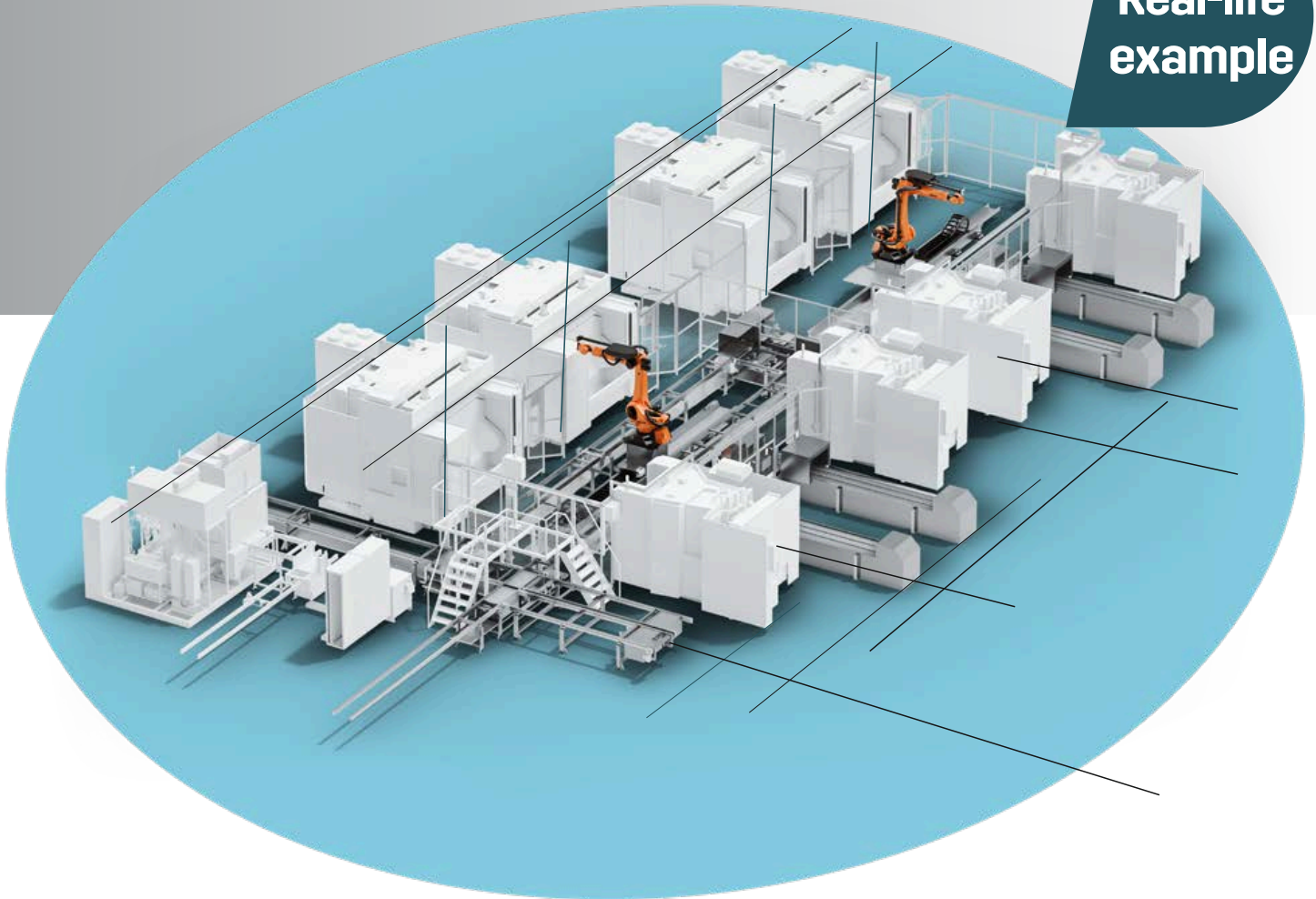
What can Fastems production lines do? See for yourself:

Lot sizes	Medium and large unit runs
Workpiece range	Low
Machine tools	Various (e.g., lathes, milling machines, grinding machines and machining centers)
Set-up times	Generally high
Unmanned times	About 1 hour
Upstream and downstream processes	Deburring, cleaning, measuring and marking, etc.
Order, tool, resource and NC program management	Not implemented
Connection to ERP/MES systems	One way (for reporting)
Control system	PLC/HMI

WHAT THIS MEANS FOR YOU:

- Production of larger lot sizes at minimum unit cost
- More added value through downstream processes
- Maximum output through made-to-measure automation
- Uniformly high product quality
- Excellent process security and reliability through automatic loading and unloading
- Maximum efficiency

**Real-life
example**



Production lines for the automotive industry.

TASK:

Automation of machining of various cast aluminum gearboxes on 8 machine tools

FEATURES:

- Production line with 2 robots, each with its own floor track
- 2 grippers
- 4 chain conveyors for material infeed
- Conveyor belt system for material removal
- Laser marking system
- Connection of RFID/DMC systems for component tracking
- 2 turning positions for workpieces
- 4 SPC drawers
- PLC control and system visualization
- Database connection with logging

BENEFITS:

- **High output**
- **Compact system design for 8 machine tools**
- **Flexible automation system for simultaneous production of different workpiece variants on a single set of paired machines**

More compact and economical. Fastems production cells for small and medium-sized lots.

Our production cells are perfect for automating individual machine tools producing smaller and medium-sized lots.

No additional investment is required as your existing machines can be retrofitted simply and easily. To achieve this, all you need is an automation interface and a door automation arrangement—enquire about our **Fastems Automatic Door!**

Here is a summary of the possibilities provided by Fastems production cells:

Lot sizes	Small and medium
Workpiece range	Medium
Machine tools	Various (e.g., lathes, milling machines and grinding machines as well as specialized machines such as balancing machine)
Set-up times	Low
Unmanned times	Up to 8 hours
Upstream and downstream processes	Deburring, cleaning, measuring and marking, etc.
Order, tool, resource and NC program management	By the operator – tool management not implemented
Connection to ERP/MES systems	Usually not implemented
Control system	PLC/HMI

WHAT THIS MEANS FOR YOU:

- Compact automation solution
- Simple and quick installation and commissioning with minimum effort
- High flexibility by decoupling the individual operations
- Operating of several machines simultaneously by one operator
- Increased labor productivity
- Increase in machine productivity through unmanned production (2–8 hours) with high spindle utilization rate
- Robot downtime becomes productive time

**Real-life
example**



Compact robot loading for your production using Fastems RCD.

TASK:

Automatic loading and unloading for small metal workpieces in medium-sized batches

FEATURES:

- Drawer system as material buffer
- Workpiece-specific drawer inserts
- Workpiece-specific grippers
- Workpiece-specific gripper fingers
- Intermediary stations for workpieces
- Possible integration of additional processes, e.g. deburring, measuring, marking and cleaning
Drawer for NIO/SPC parts

BENEFITS:

- Space-saving design
- Fast installation – delivery as one ready-tested unit
- Fast start-up
- Easy operation thanks to the user-friendly graphical user interface
- Drawer system with extensive buffer capacity, taking up very little space
- Ideal for multi-shift operation
- Autonomous, highly productive robotic cells for personnel-free production (4 to 8 hours)
- Increased productivity, one operator can operate several machines
- Increased spindle hours

More versatile and productive. Fastems Production systems from lot size one.

Shorter response times, increased product customizability and smaller lot sizes as small as one piece are ever more important factors in modern industrial processes. And our production systems can provide all of them! They allow you to efficiently produce any workpiece in any batch size at any time.

The system can run several processing orders in parallel – and **thanks to our high-performance MMS software, the system places workpieces and pallets exactly where they are needed.**

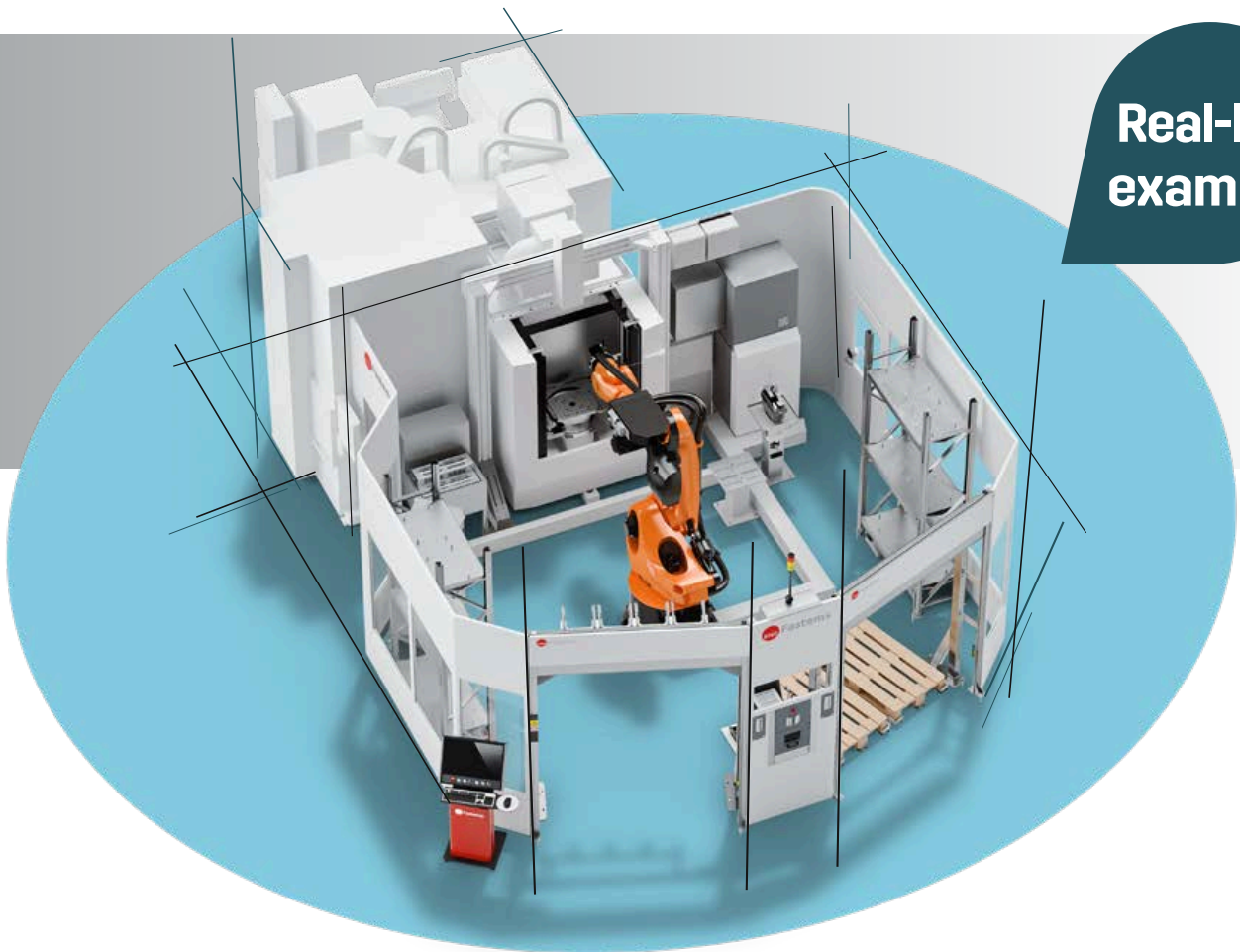
What makes Fastems production lines stand out from the crowd? Here is an overview:

Lot sizes	From lots of 1 unit to medium-sized runs
Workpiece range	Broad
Machine tools	Various (e.g., lathes, milling machines and machining centers)
Set-up times	Low
Unmanned times	Up to 72 hours
Upstream and downstream processes	Deburring, cleaning, measuring and marking, etc.
Order, tool, resource and NC program management	Through MMS
Connection to ERP/MES systems	2-way interface
Control system	MMS

WHAT THIS MEANS FOR YOU:

- Parallel processing of multiple orders without interrupting production
- Handles both workpieces AND pallets
- Broad range of products together with varied lot sizes
- Thanks long unmanned times production over weekends are possible
- Minimization of unproductive downtimes thanks to automated setup change
- More added value through integrated processes

**Real-life
example**



Agile robot cell for parametric workpiece and pallet handling.

TASK:

Processing 32 different prismatic parts in different manufacturing lot sizes

FEATURES:

- Two material stations for in-feeding 2 Euro pallets each (one pallet for raw parts and one for finished parts)
- Storage shelving for machine pallets with fixtures
- KUKA KR600 Robot
- Handling weight: max. 400 kg (pallet + fixture)
- Gripper change system
- Workpiece handling with permanent magnet and parallel gripper
- Conservation station
- Blow-off station
- Regrip station/buffer station
- Test piece drawer
- Barcode reader
- Screw unit to tighten and loosen mechanical vices

BENEFITS:

- **The integrated gripper change system allows the combination of workpiece and pallet handling**
- **Full automation without setup changes for processing different orders**
- **Automated 6-side machining**
- **Process monitoring using MMS**
- **Integrated plausibility checking for material feed-in**
- **Reading of production data using the barcode reader**

We are Fastems. We are here for you.

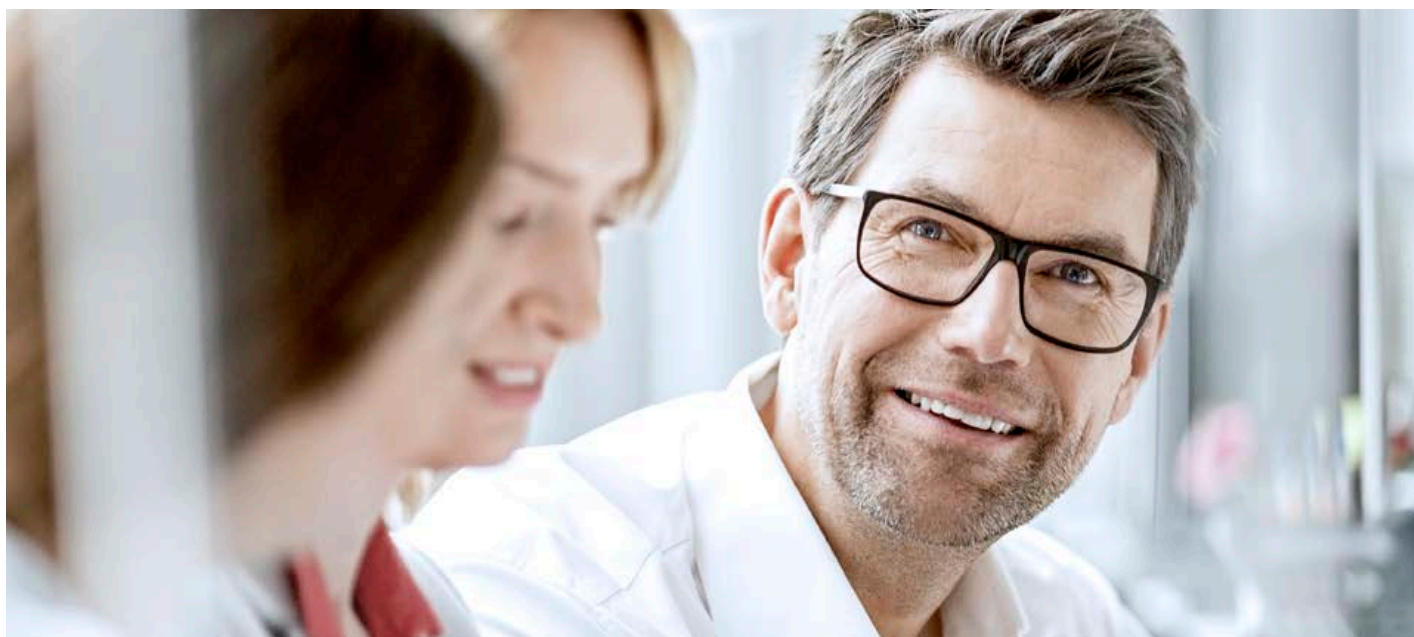
“At Fastems, we are convinced that building and maintaining a strong manufacturing base is essential to the development of our society and the well-being of its people.”

That is why we do everything in our power to increase the competitive advantage of our customers and to make their production facilities as efficient, profitable and forward-thinking as possible – through intelligent digitization and process automation.

- Decades of industry experience and more than 4,000 successfully installed systems worldwide
- Systems that optimize your time cycles, reduce costs and improve the usability of your existing machinery

- Systems that have been developed with the health and safety of your personnel in mind
- 24/7 support to ensure maximum productivity during all 8,760 hours of the year

We look forward to helping you determine the potential of your manufacturing processes and to finding a solution that is right for you!



Subject to technical changes



www.fastems.com