

Company Presentation

Rotating workpieces – economical production

1960

Foundation of pL LEHMANN

Family

owned in 2nd Generation

60

Employees

Long-

term oriented



Production depth
approx.

95%

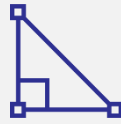
Lean
management

Installed base
> 25'000 units

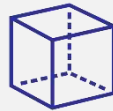
Education
campus



Machine Tools



Metrology



Application



Automation



Services &
Support



Solutions

Swiss quality



1



20



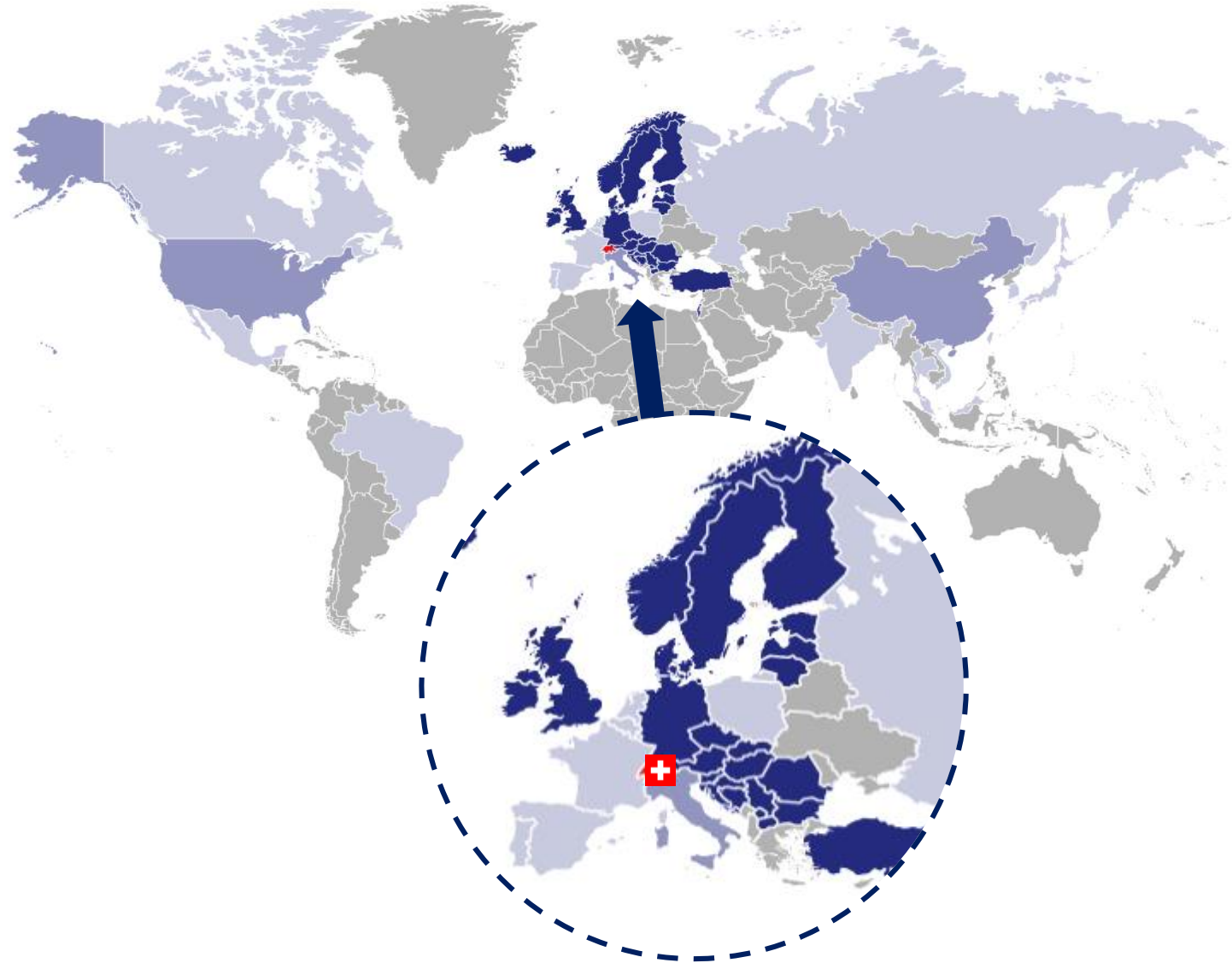
direct



entities



exclusive partners



Production Location in Switzerland



The original building – now the administration



Welcome @ Bärau



Production



Assembly



Started **2008**

Transition to
**synchronized line
assembly system**

Supply chain

integration
shorter **throughput times**

capacity > 1'000 units

Lower stocks

Increased
**productivity &
availability**



Vertical machining centers



Horizontal machining centers



Production on pL rotary tables

Detail from lean production



Precision grinding



Lean warehouse



Lean assembly

*«We take you to the top
of the competition»*



Swiss Quality



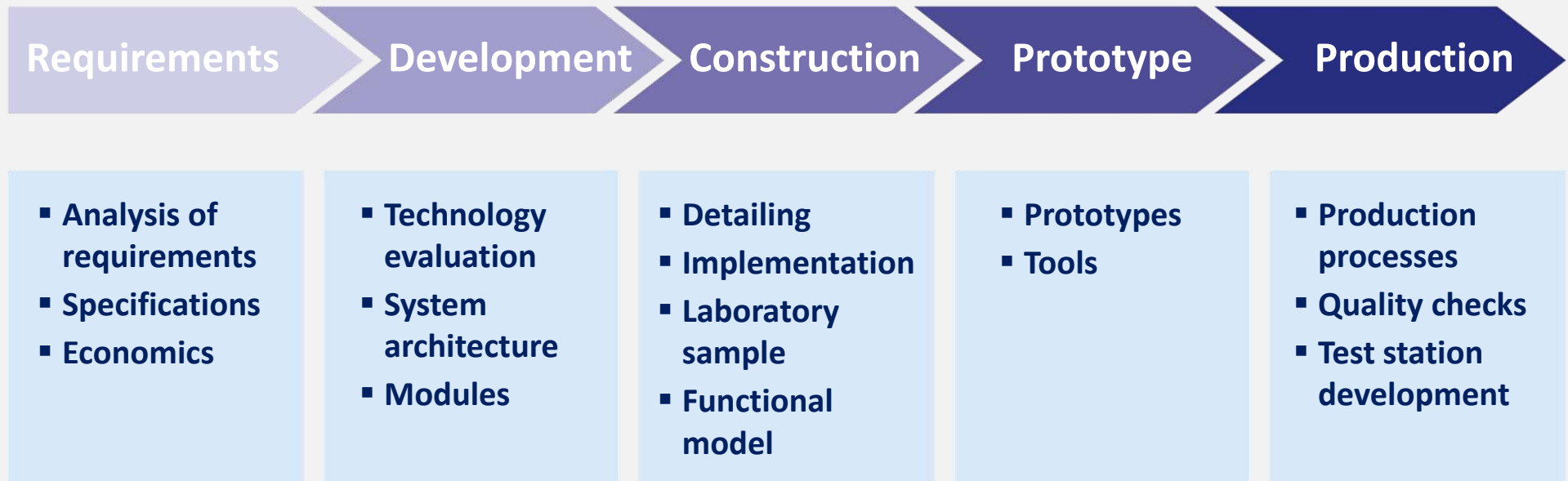
Integrated
automation



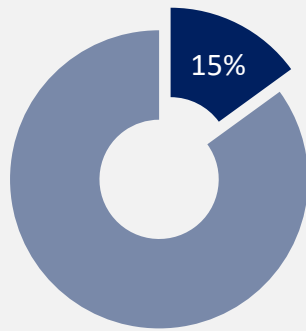
Flexible system
solution



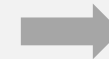
Wide range of
documentation



Employees
working
for R&D



1971



today

Industry



Automobile & Mobility



Medical & dental



Micromechanical
parts & watches



Aircraft & turbines



Machinery & tools



Components &
systems

Technology



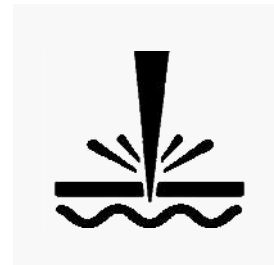
Milling/Drilling



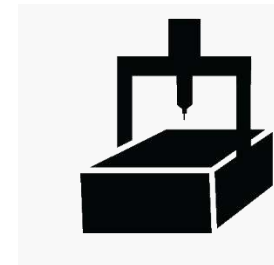
Grinding



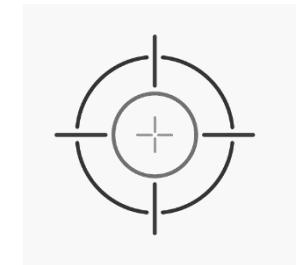
EDM & Engraving



Water cutting



Metrology



High Precision



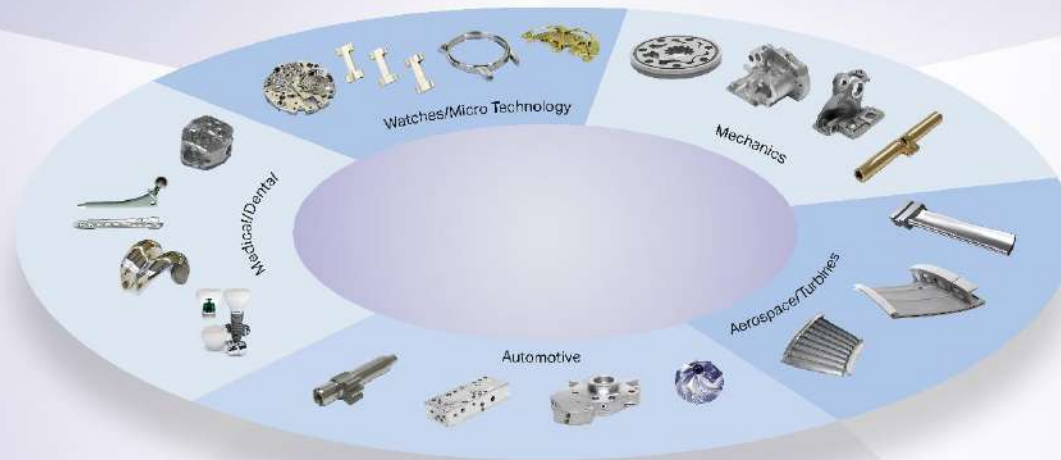
Automation



Gear Drive



3D printing



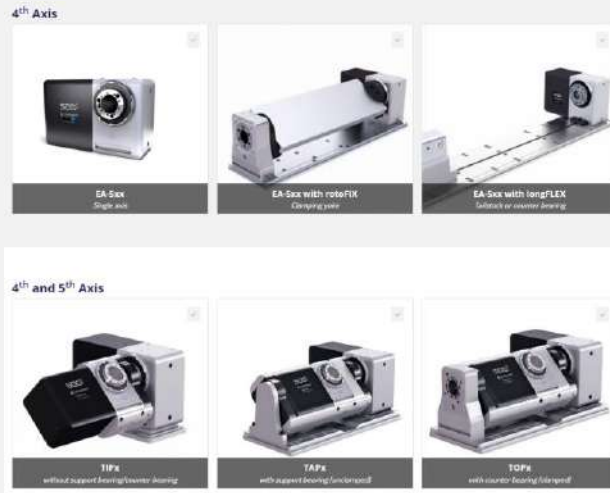
Direct Drive



Metrology



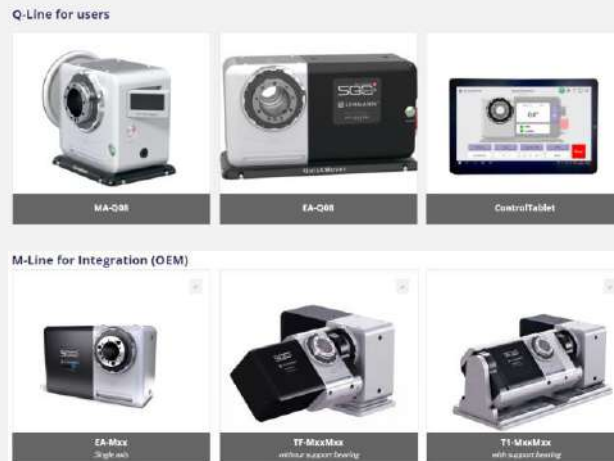
Gear drive (Series 500)



Direct drive (Series 900)

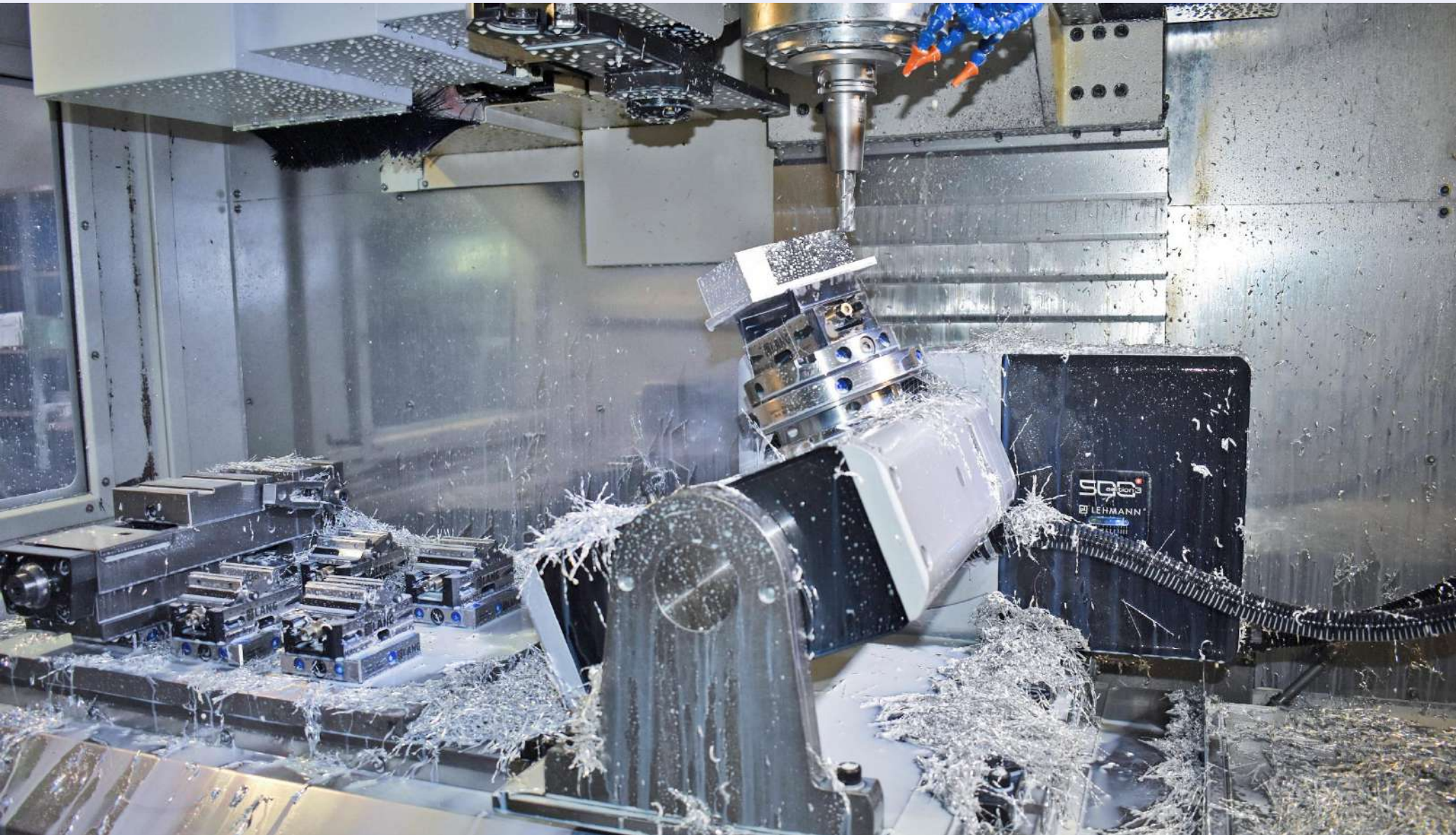


Metrology (Q- and M-Line)



Automation and AM-LOCK







Machines:
Vertical machining centers ...
serial production ... Medium batches

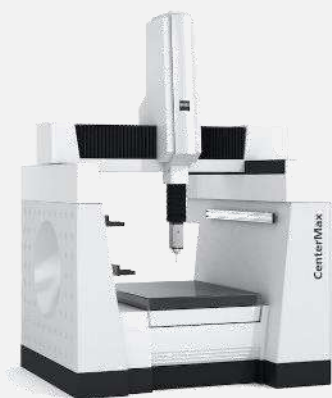


Workpieces:
4AX: $\varnothing 400 \times 2'000$ mm
5AX: $\varnothing 250 \times 250$ mm





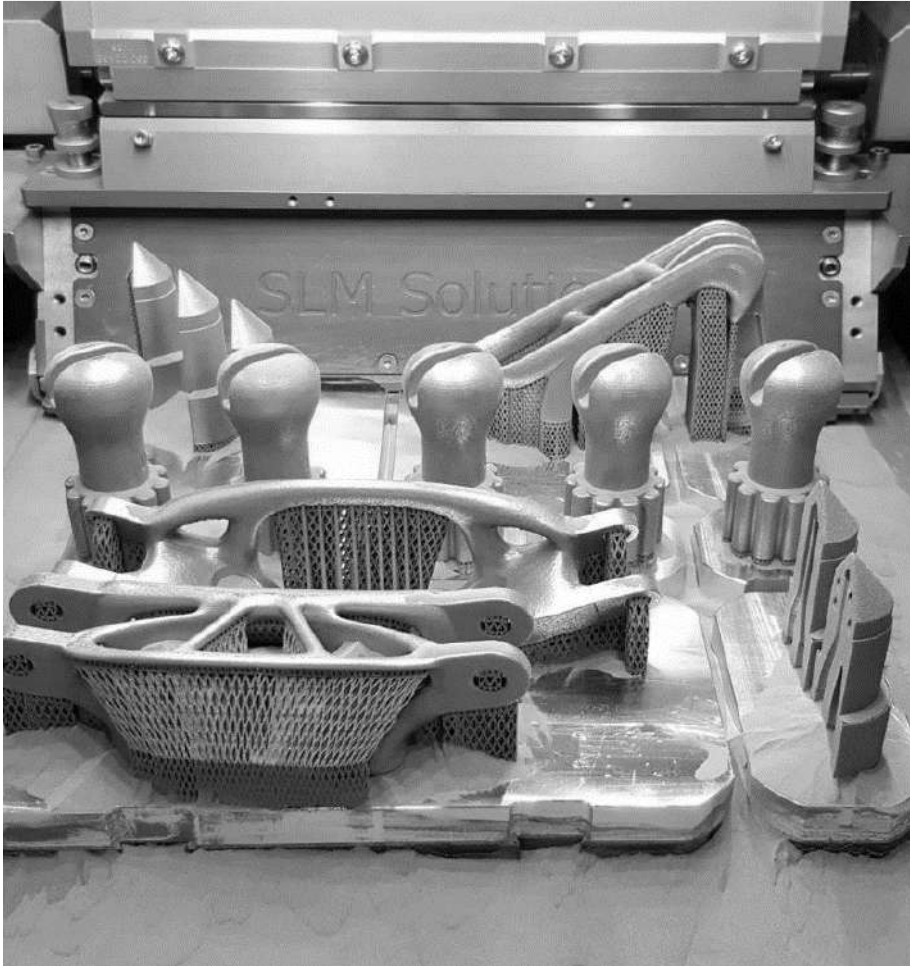
Measuring instrument:
e.g. CMM for the Shopfloor ...
in-&postline ... place&play / plug&play



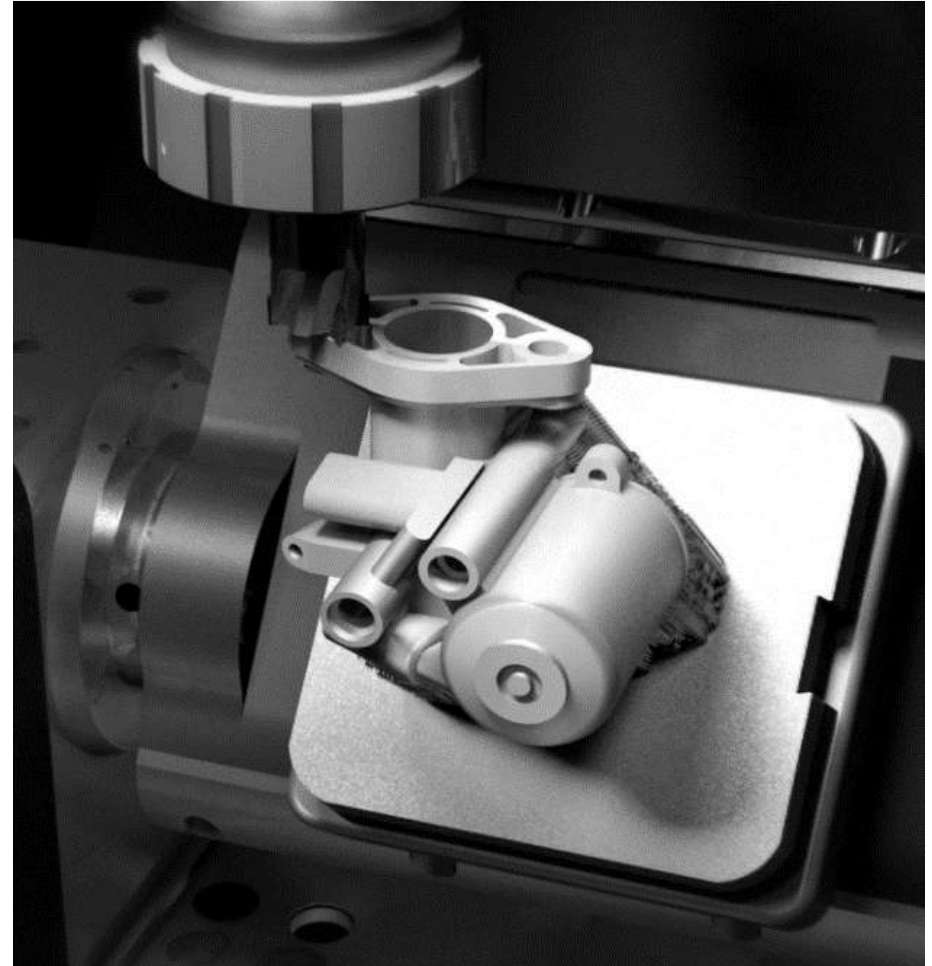
Workpieces:
4AX: Ø200 / 40 kg
5AX: on demand



Print hybrid ... Separate without destroying ...
Maintain zero point



...and rework zero-point safe



- Plug & play indoor automation
- workpiece storage with quick-change system
- for unmanned 6-side machining with integrated part changer

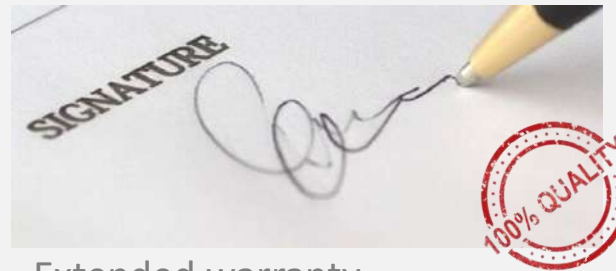


- Easy programming with machine CNC
- Ideal for existing and new vertical machining centers
- Turn nighttime into production time





Commissioning/application support



Extended warranty



Helpline-support



Preventive maintenance



Conversion/retrofitting



Academy



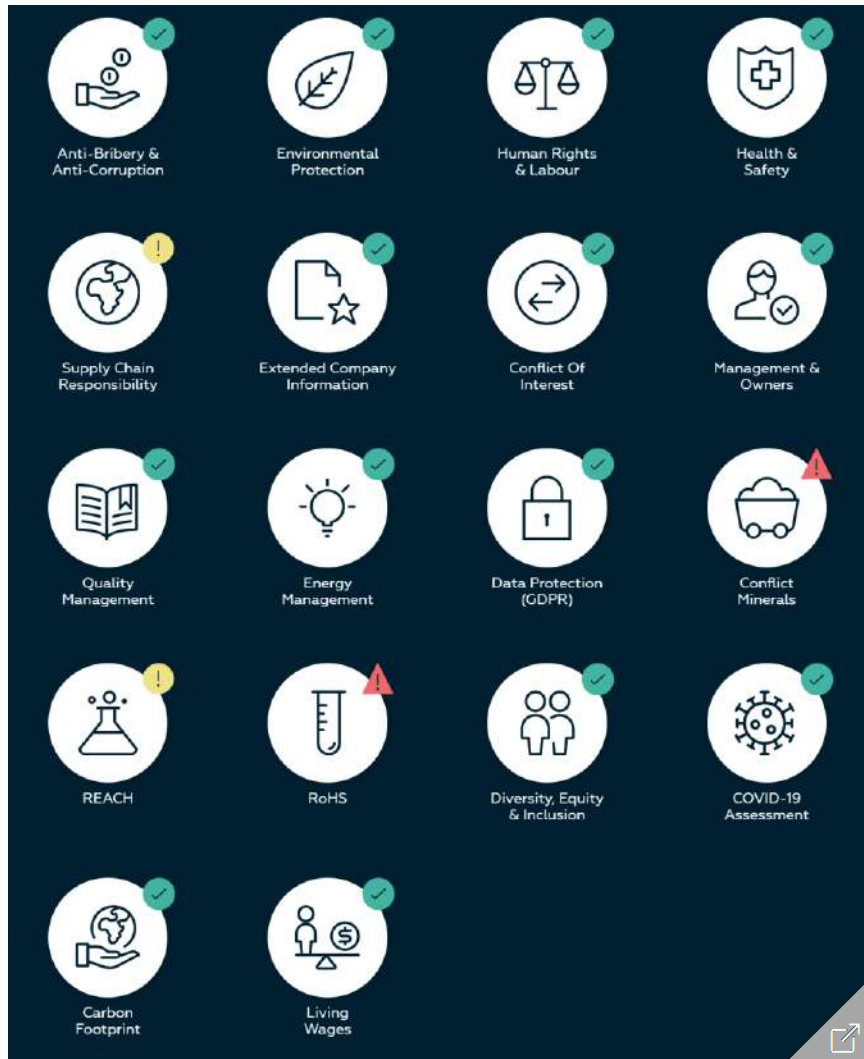
Spare parts



Repairs in-house



Repairs in field



Low transport
emissions thanks
to lightweight and
compact products



We heat our rooms
with exhaust heat
from our machines



Low energy
consumption
(compared to
competitors and 5-
axis machines)

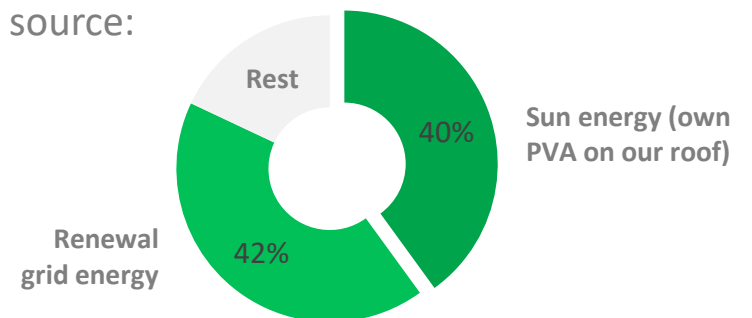


We air-condition
our rooms with
groundwater



We produce
electricity with
photovoltaics (PV)
on our roofs

Our energy source:



Standardisation – the modular system

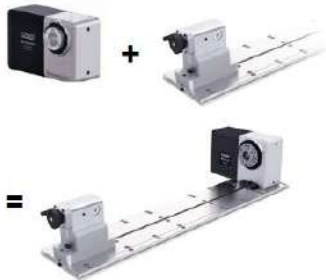
EA → TF TIP



EA → EA with rotoFIX



EA → EA with longFLEX



Diversity of products

- Wide range of applications for each size
- Lower storage costs, also in service (spare parts)
- Increased sales and service productivity

unique

Highest level of flexibility

- Rotary table is available quickly and can be converted at any time
- If the needs change, the investment is not lost
- Pay in installments: First, the machine later the rotary table - can be retrofitted at any time

unique

TF TIP → T1 TAP



TF TIP → T1 TOP



T1 TAP → T1 TOP



Attention! Due to export control regulations,
the conversion will only be carried out at headquarters

Spindle accessories in rear

- Rotary unions **up to 250 bar**
- Hydraulic clamping cylinder **23 kN at 120 bar**
- Pneumatic clamping cylinder **11 kN at 10 bar**
- Angular position measuring systems **as precise as ± 1 arcsec**



Spindle accessories in front



Tailstock and counter bearing



Medium transfer dividing axis



5 Axis machines Compared to 3+2 machines:



heavier



Bigger footprint



More electricity



No vises



No counter bearing



More expensive



Less flexibility

...less
efficient

3+2 Axis machines We support you:



ROTOLUTION

...flexible **whatever** comes!

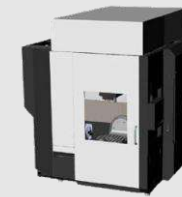
Your benefit Example:

Key points for new investment

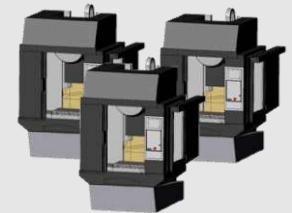
10 m²

300k€

5 Axis solution



3+2 Axis solution



1 spindle



3 spindles



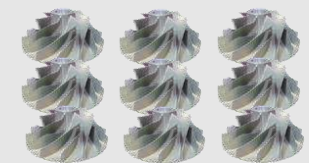
3 parts / hour



=



9 parts / hour



=



e.g. Scroll (rotomilling)



e.g. Gear Skiving



ROTOLUTION

for customized turn key solutions to use at best of the existing machine space

Own application center

for special machining applications



Service A-Z

All over the live and the world

Partnership with production specialists

for developing cutting edge production concepts

Invest smart. Produce lean. Benefit big.

Together!