

SCHWARZ



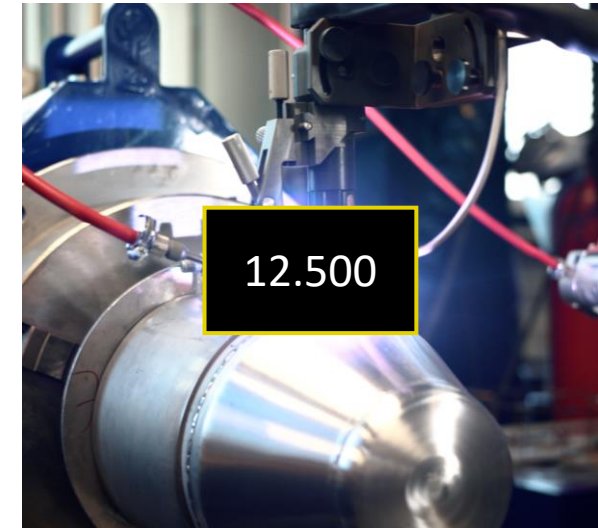
THE SCHWARZ GROUP

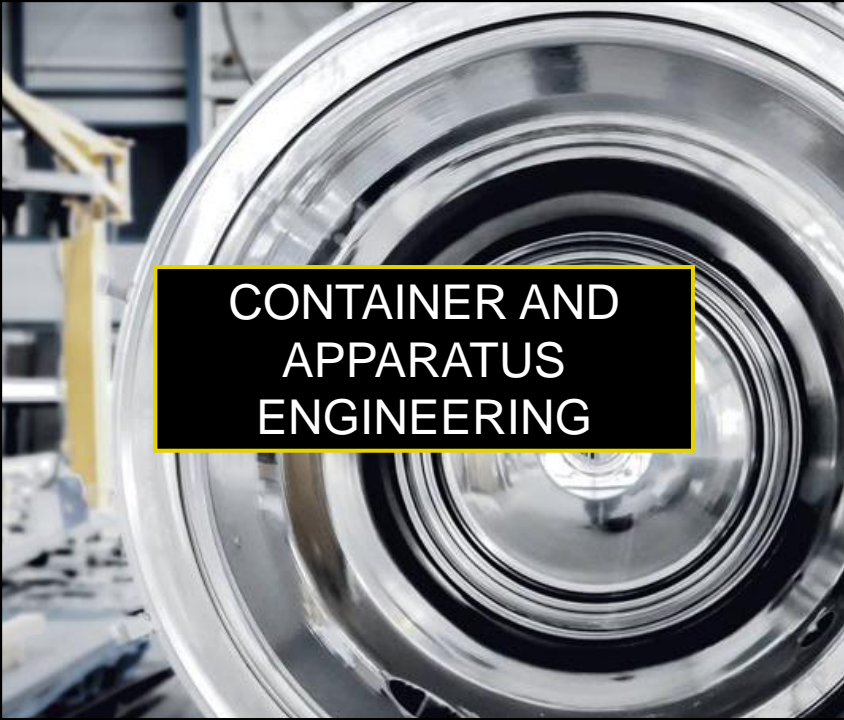
Numbers | Data | Facts



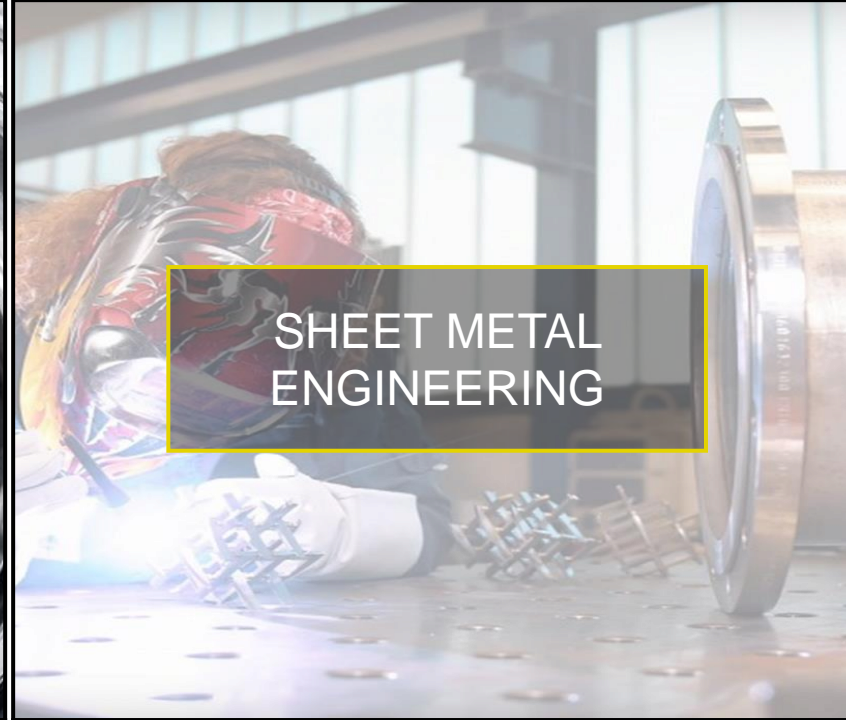
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Numbers | Data | Facts

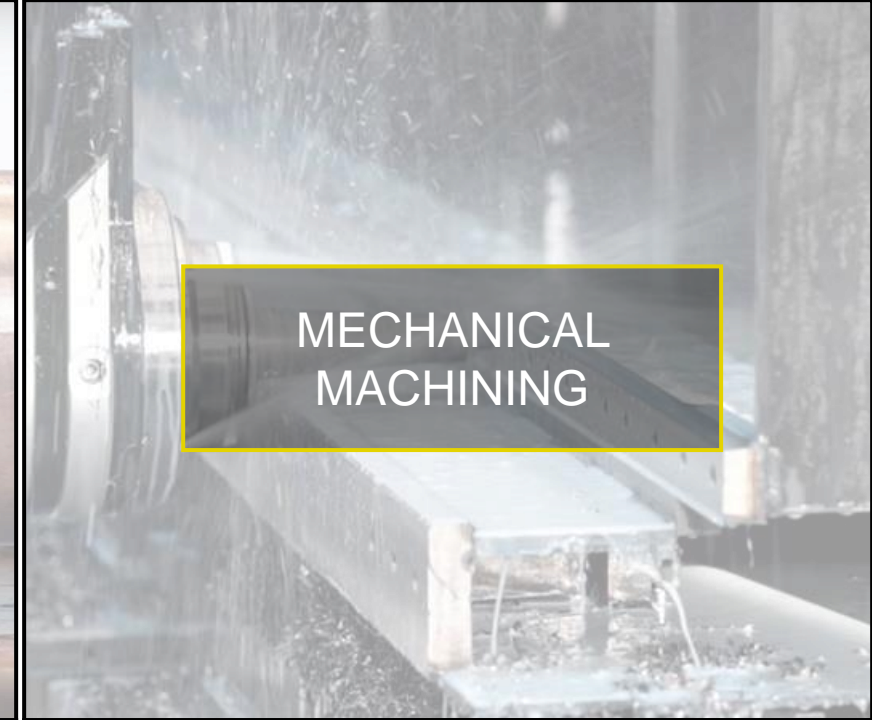




CONTAINER AND
APPARATUS
ENGINEERING



SHEET METAL
ENGINEERING



MECHANICAL
MACHINING



SURFACE
TECHNOLGY



NON DESTRUCTIVE
TESTING

Schwarz Systems



ENGINEERING

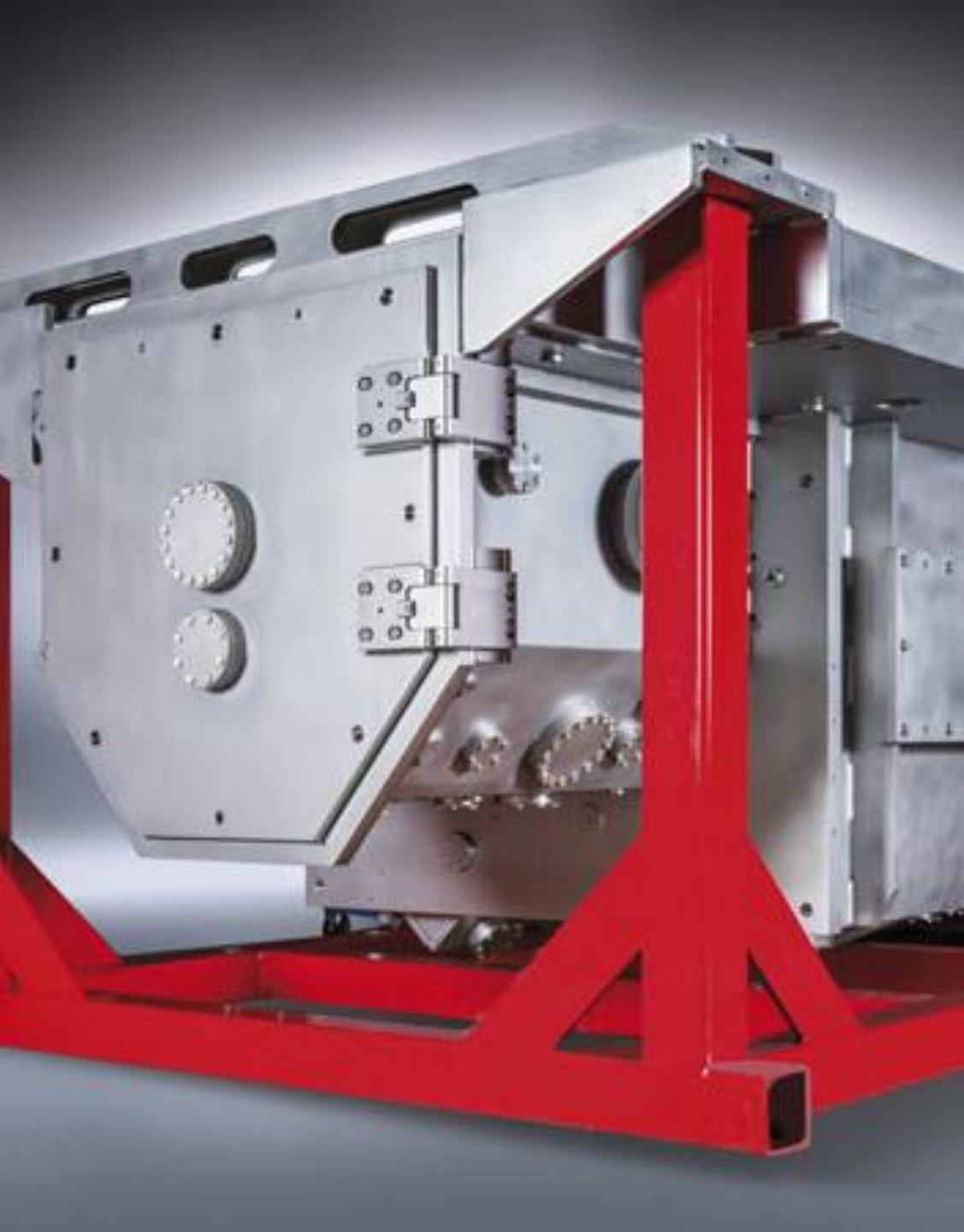


CONTAINER AND APPARATUS

Pressure vessel | Stirred vessel

- 5 to 200.000 litres capacity
- Wall thicknesses of up to 70mm
- Transport, installation, piping and commissioning can be carried out quickly and reliably by our assembly teams
- Range from service provider to complete system



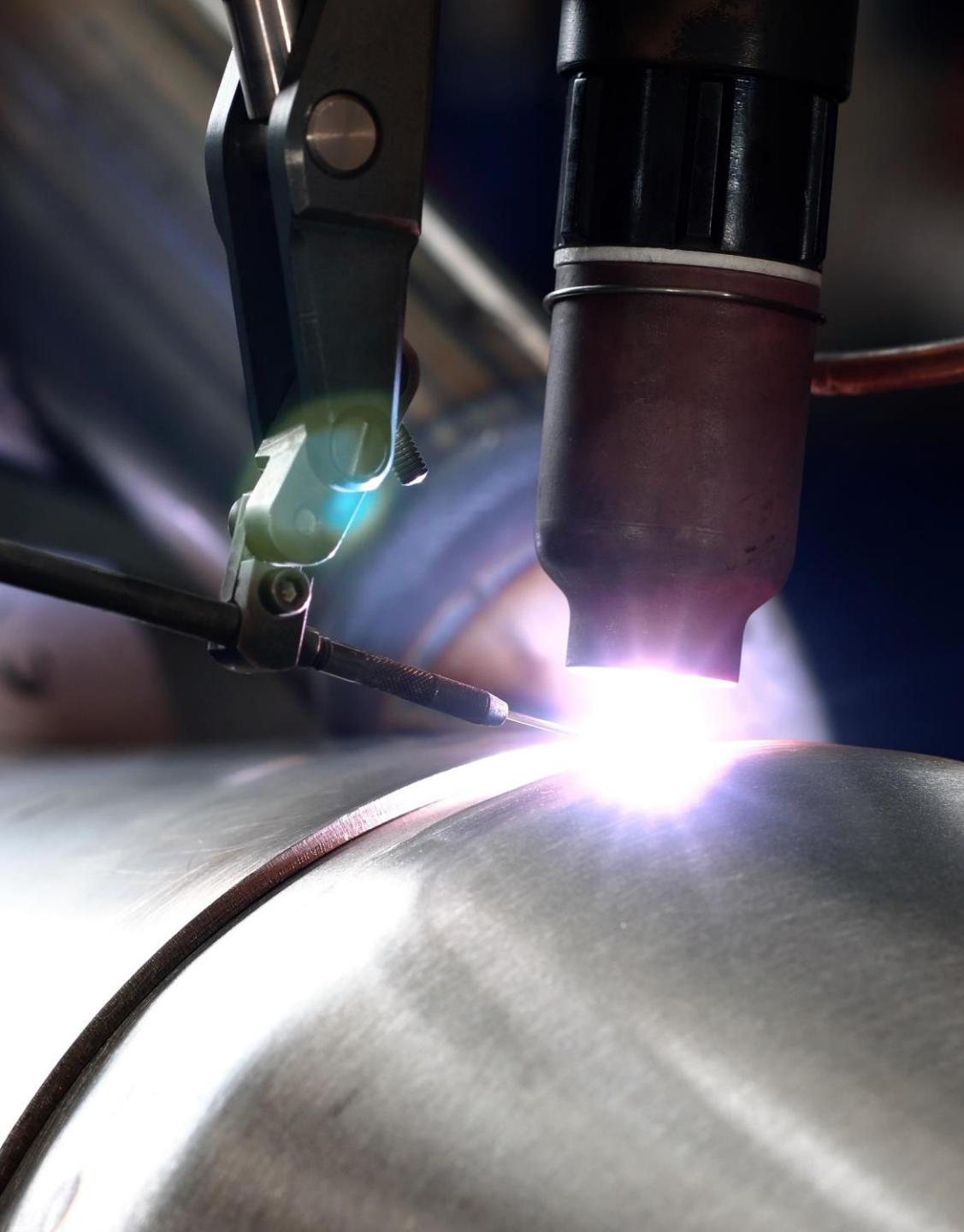


CONTAINER AND APPARATUS

Vacuum Chambers | Components

- Any version, flexible design
- All sizes, up to 30 meters
- Up to 100 tons unit weight
- With leakage test, pressure and vacuum testing





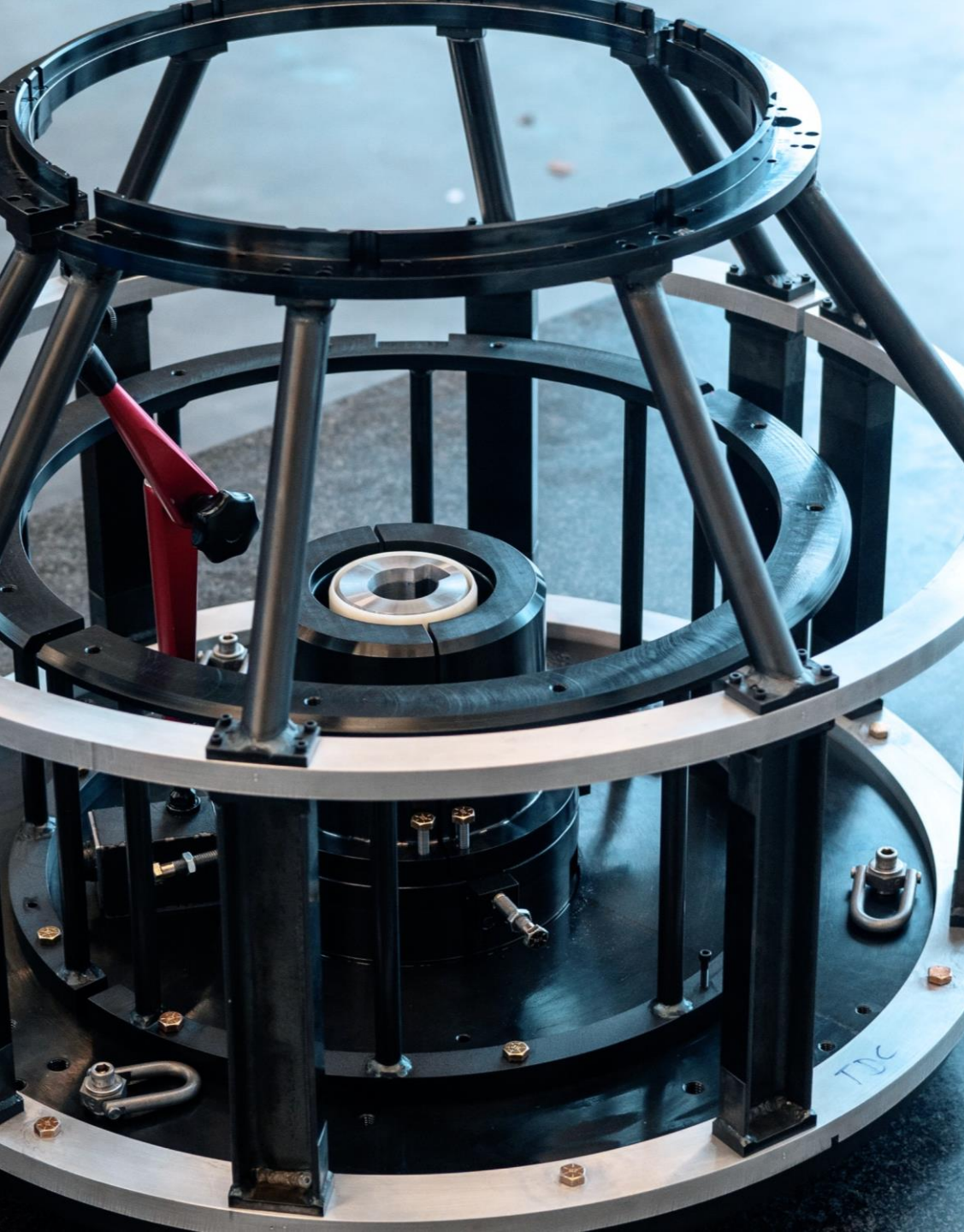
CONTAINER AND APPARATUS

Welding Technology

All common welding processes

- TIG
- MIG / MAG
- Submerged welding
- Plasma welding
- Orbital welding
- Laser welding





CONTAINER AND APPARATUS

Engine & Aircraft Tooling

- Tooling Systems for engine maintenance
- Transport racks for engines
- Assembly Fixtures

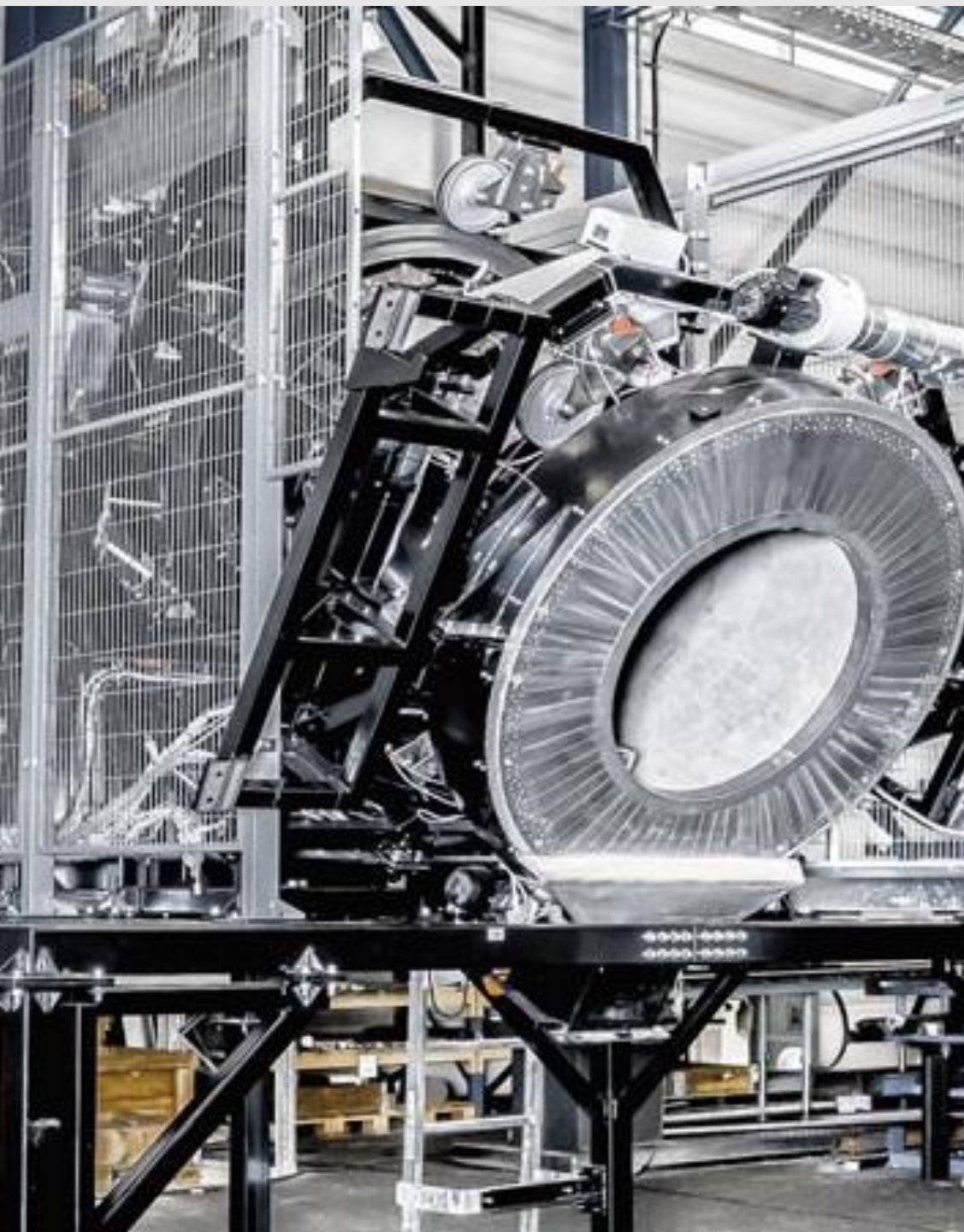




CONTAINER AND APPARATUS

Semiconductor industry | Cleanroom ISO class 7

- Assembling
- Cleaning
- Packing
- Semiconductor standards
- Also as a Service



CONTAINER AND APPARATUS

Plant construction | Steel construction

- Steel constructions
 - Up to 100 tons
- Realization of any special constructions

Shown in the picture

- Pegasus project in cooperation with DLR (German space- and Aviation center)
- Renewable energy



CONTAINER AND APPARATUS

Certifications

- ASME, U+R-Stamp
- China Stamp
- Pressure vessels according to AD2000 /DIN EN ISO 3834-2
- Certification according to EN ISO 9001-2000





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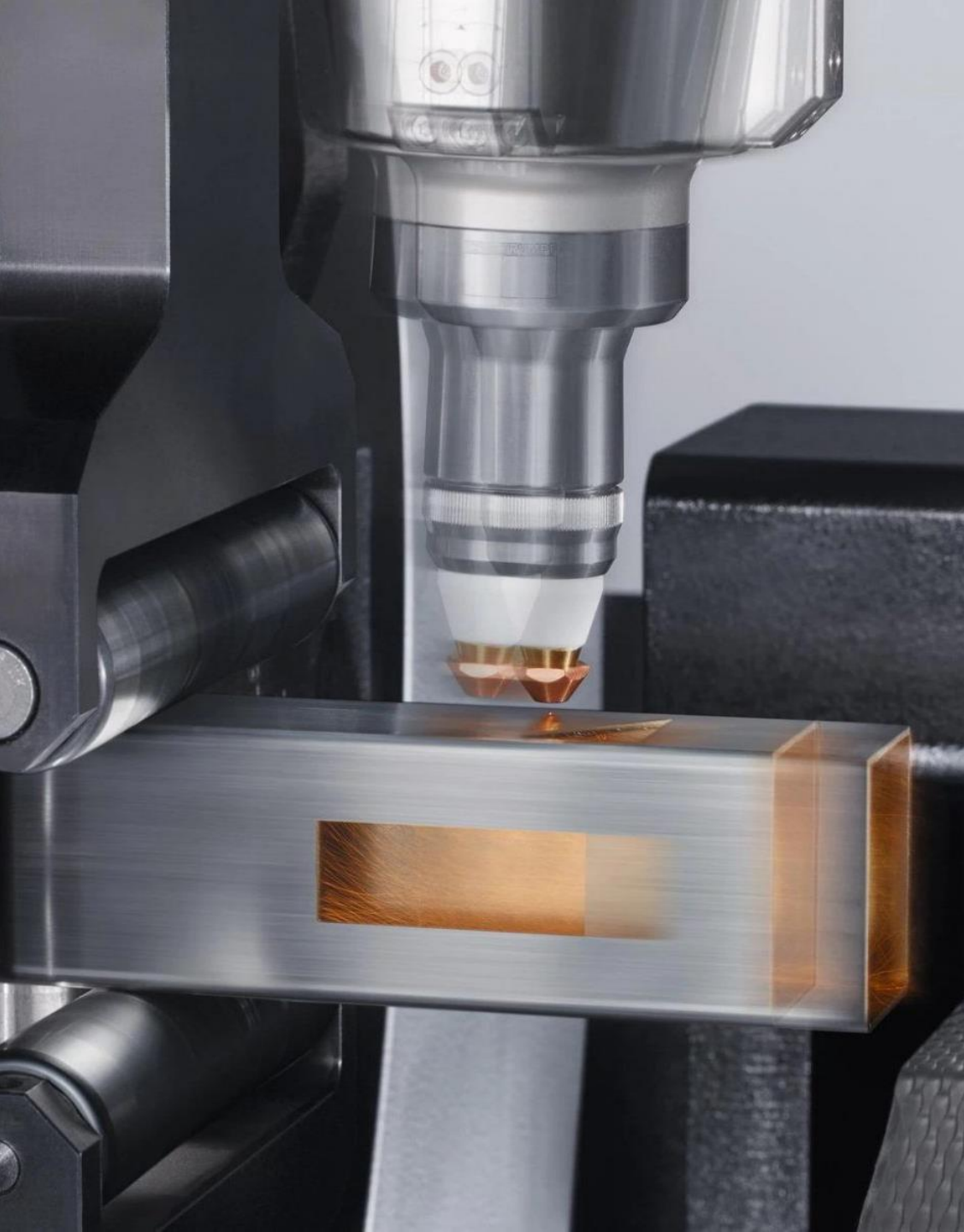


SHEET METAL ENGINEERING

Laser Technology with 5kW

- Automatic connection to a high-bay warehouses with 600 pallets
- Up to 25mm
- Stainless steel, steel, aluminum





SHEET METAL ENGINEERING

Tubelaser Technology

- Tube engineering at its best
- Up to D= 170mm
- Up to S=8mm
- Stainless steel, steel, aluminum





SHEET METAL ENGINEERING

Bending machines

Bending

- CAM-controlled bending process of up to 400t / 6m
- 2D/3D bending simulation with automatic angle measuring system

Round bending machine

- Up to 70mm in stainless steel
- D=4.000mm



SHEET METAL ENGINEERING

Barrel Systems | Flow forming

Barrel Systems

- Customized Solutions
- Number of pieces: 1 to 1500

Flow forming

- Diameter range up to 1500mm
- Wall thickness of up to 8mm in stainless steel

Surfaces

- Pickled
- Electropolished
- Glass bead blasted



SHEET METAL ENGINEERING

Schwarz Smart-Factory

- Optimized material flow
- Lean and efficient processes
- Short lead time

5

connected machines

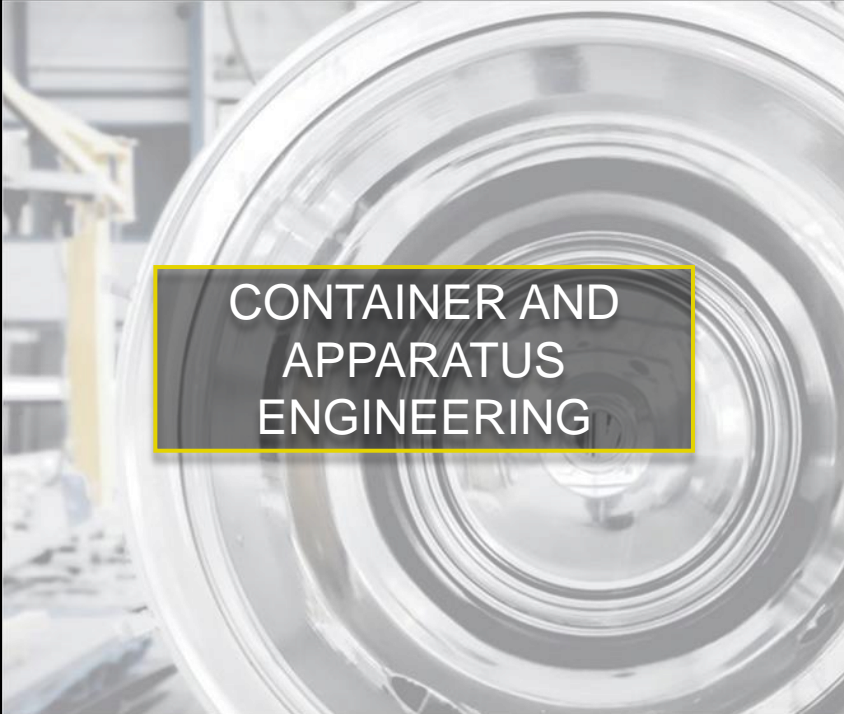
100t

per month

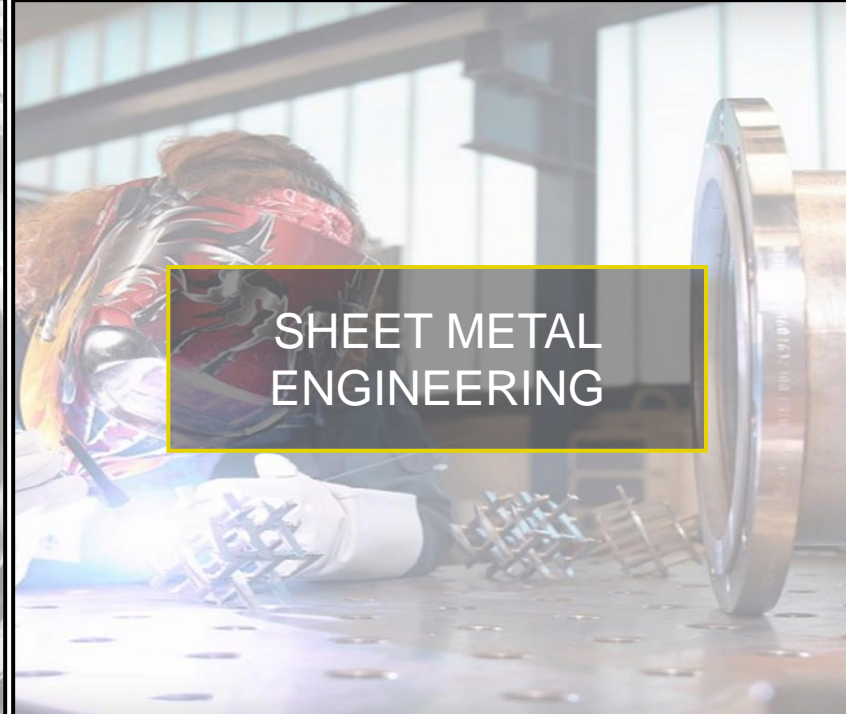
4.000m²

production area

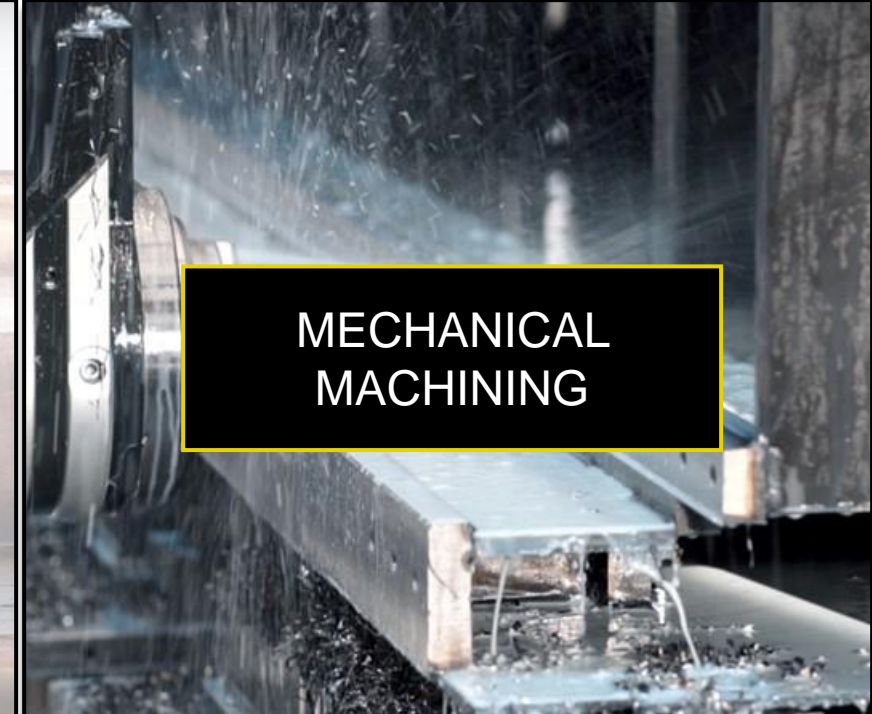




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Schwarz Systems



ENGINEERING



MECHANICAL MACHINING

Large parts machining

Milling machines

- Maximum precision and productivity in the complete machining of heavy and bulky workpieces
- 5-sides machining in one set-up
- CNC lateral milling machines up to $x=30.000$, $y=6500$, $z=2.900\text{mm}$
- Single weight up to 100 tons
- NC-table $D=4.500\text{mm}$

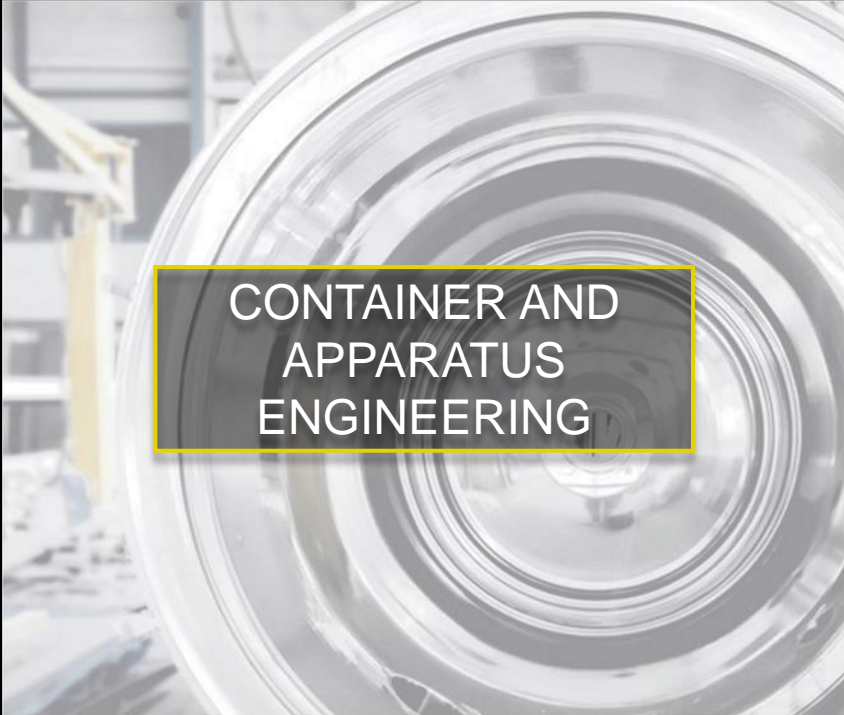
Lathe machines

- Parts from $D=25$ to $D=270\text{mm}$

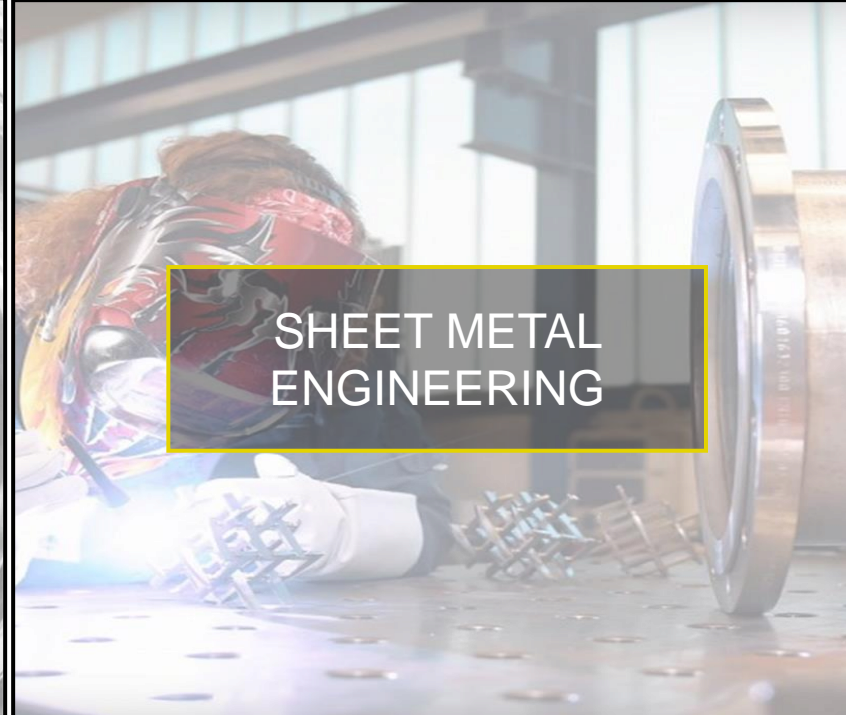
MECHANICAL MACHINING

Large parts machining





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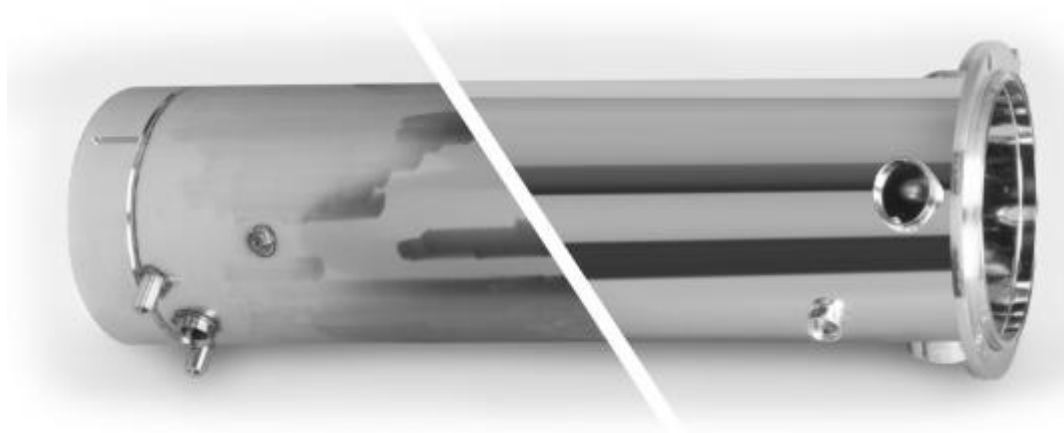
SURFACE TECHNOLOGY

Pickling | Glass bead blasted | Electropolished

- Pickling bath – tank size 2600x2600x1700mm
- Spray pickling up to 20 tons with unlimited size
- Electropolishing bath 6500x1500x1500mm
- Blasting cabin 2000x4000mm



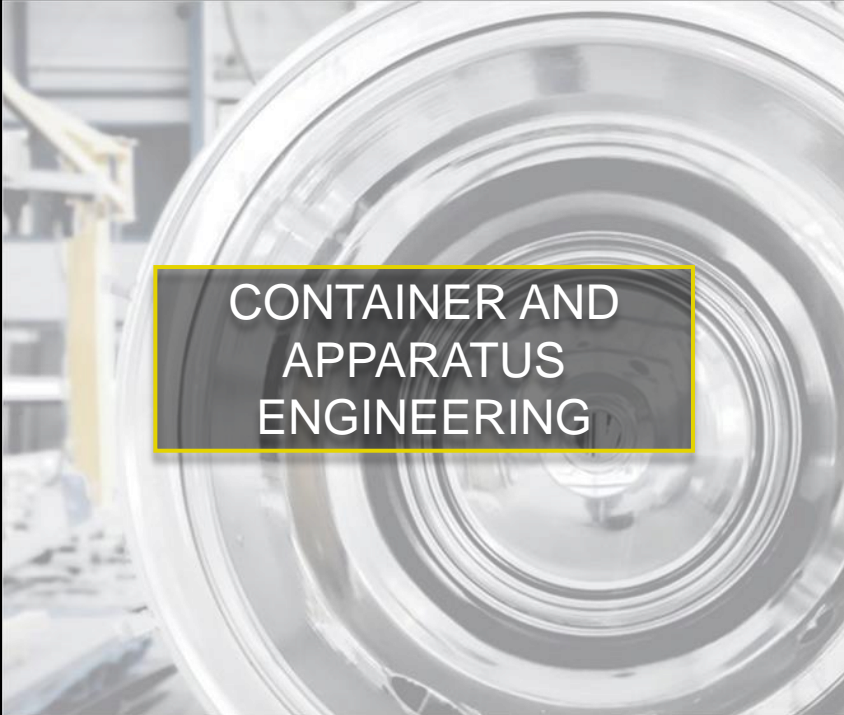
SURFACE TECHNOLOGY



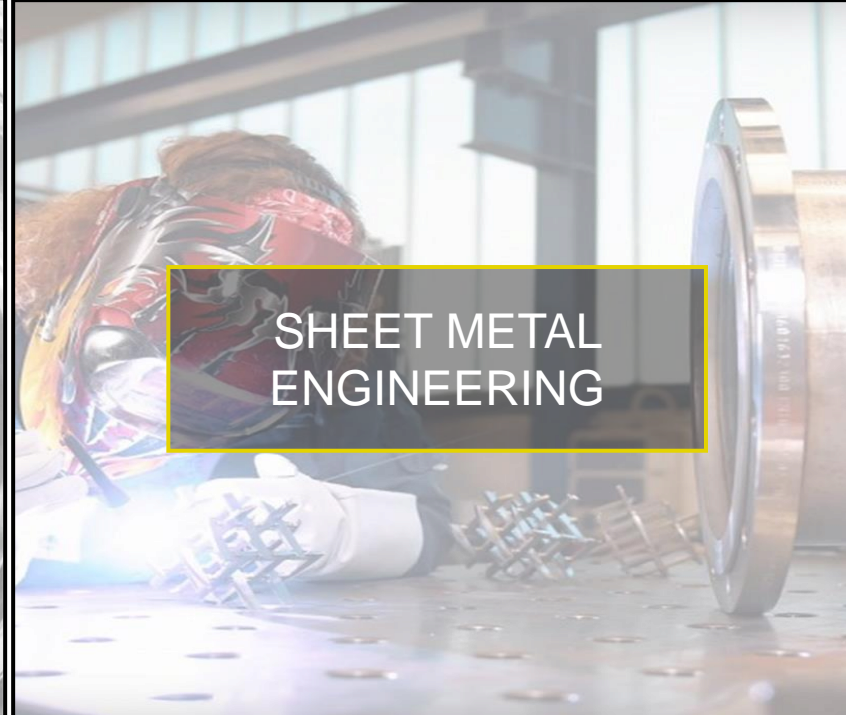
Electropolished
component



Glass bead blasted
component



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ENGINEERING



Non destructive testing

Service provider for materials testing

Inspection systems

- X-Ray inspection - RT
- Ultrasonic testing / Phase Array - UT
- Surface crack detection – MT / PT
- Leak test – LT
- Positive Material inspection – Spectral analysis PMI
- Visual inspection– VT
- Ultrasonic – TOF- Inspection – UT

Inspections (on site)

- Construction and weld seam monitoring
- Plant inspection
- Inspection of piping systems



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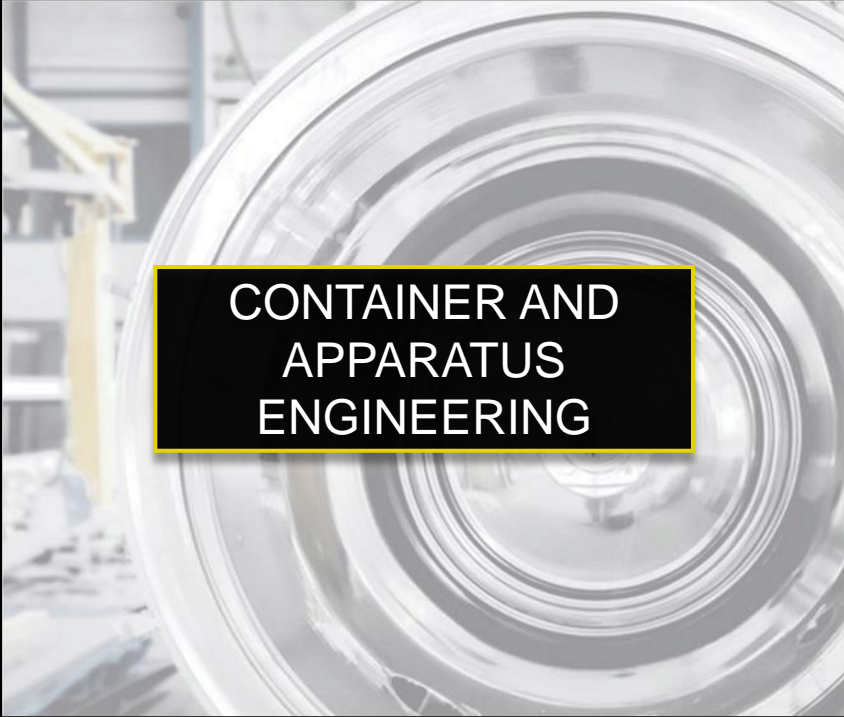
ENGINEERING



ENGINEERING

Construction | Reverse Engineering

- Construction and planning
 - From the idea to commissioning
 - State-of-the-art technology
 - Solid Edge- Solid CAM
 - FEM-PDM-EPR
- 3D-Component measurement
 - Creaform Metra Scan Black Elite
 - Faro Arm
 - Faro Laser Measuring System



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SHEET METAL
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NON DESTRUCTIVE
TESTING



Engineering



Blackworker

Lifestyle Produkte

- Fire trays and grills
- Customized products
- Garden walls / partitions for the garden
- Outdoor furnitures

<https://www.blackworker.de/>

Schwarz Forst & Agrar

Forestry tongs | Winches | Multitool



Forestry tongs

- 1250mm
- 1500mm
- 1900mm

<https://www.schwarz-forst-agrar.de/>

Drum winch

- 4,5 t traction
- 6,5 t traction
- 7,2 t traction

Constant pull rope winch

- 6,5 t traction
- 7,2 t traction
- 10 t traction
- 12 t traction



Thank you for your
attention



100 JAHRE SCHWARZ

SHEET METAL ENGINEERING

Tubelaser parts



Zurück

CONTAINER AND APPARATUS

Vacuum chambers

Zurück

