WE MATERIALIZE FUTURE
PASSION MEETS EXPERIENCE

Management

Stefan Kulzer
Founder, director and shareholder at Stangl & Co. GmbH Präzisionstechnik and SK Carbon Roding GmbH

Benedikt Kulzer
Director at Stangl & Co. GmbH Präzisionstechnik

Günther Riedl
Founder, director and shareholder at Roding Automobile GmbH

Ferdinand Heindlmeier
Founder, director and shareholder at Roding Automobile GmbH
COMPANY GROUP
System supplier for many industries
COMPANY GROUP

Locations

Stangl & Co. GmbH
Plant Roding
Precision parts, toolmaking, prototypes and pilot series
Employees: 249

Stangl & Co. GmbH
Plant Waldmünchen
Precision parts, small and mid volume series
Employees: 57

SK Carbon Roding GmbH
Roding Automobile GmbH
Lightweight e-mobility vehicle projects, engineering, carbon fibre parts, assemblies
Employees: 20 + 24
OUR MILESTONES

Our roadmap to become an international technology supplier

1988
Foundation of Stangl & Co. GmbH Präzisionstechnik in Roding by Johann Stangl and Stefan Kulzer

1990
Move to the new production hall in Roding with 1,300 square metres

1994 + 1997
Expansion of the production halls in Roding to 4,000 square metres

2000
Stangl & Co. GmbH Präzisionstechnik is certified in accordance with DIN ISO 9001:2000

2007
Idea of developing a lightweight vehicle
Feasibility study „PROJEKT Roadster“ is supported by the Federal Ministry of Economics

2008
Foundation of SK Präzisionstechnik Stangl & Kulzer GmbH in Waldmünchen

2009
Foundation of Roding Automobile GmbH
Roding Roadster concept car is presented at IAA Frankfurt

2009
Certification of Stangl & Co. GmbH and SK Präzisionstechnik Stangl & Kulzer GmbH according to DIN ISO 9100:2003 Aerospace

2010
Recertification in accordance with DIN-ISO 9001:2008

2011
Foundation of SK Carbon Roding GmbH in Roding
Roding Automobile GmbH wins „Bavarian Founder’s Award“ In category: concept

2010
Foundation of SK Präzisionstechnik Stangl & Kulzer GmbH in Waldmünchen

2011
Idea of developing a lightweight vehicle
Feasibility study „PROJEKT Roadster“ is supported by the Federal Ministry of Economics

2008
Roding Roadster concept car is presented at IAA Frankfurt

2009
Foundation of Roding Automobile GmbH

2000
Stangl & Co. GmbH Präzisionstechnik is certified in accordance with DIN ISO 9001:2000

"Best Supplier" award from our customer Infineon

1990
Move to the new production hall in Roding with 1,300 square metres

1988
Foundation of Stangl & Co. GmbH Präzisionstechnik in Roding by Johann Stangl and Stefan Kulzer
OUR MILESTONES

Our roadmap to become an international technology supplier

2012
After the Geneva Motor Show, the Roding Roadster 23 goes into production for the first time

2015
Groundbreaking ceremony for the expansion of a new production hall with an office building and a social wing containing a canteen - 6,000 square metres in Roding, plant I

09/2016
New production and administration facility with a total area of 10,000 square metres

05/2017
Official inauguration of the new production hall and administration building

07/2016
Stangl & Co. GmbH wins „Bavaria’s Best 50“ award from Bavarian ministry of economics

2014
Stangl & Co. GmbH Präzisionstechnik is the winner of the SME Grand Prix of the Oskar Patzelt Foundation

01/2017
SK Präzisionstechnik Stangl & Kulzer GmbH in Waldmünchen is integrated into Stangl & Co. GmbH Präzisionstechnik

04/2019
Benedikt Kulzer joins the Stangl & Co. GmbH.
HIGHLY QUALIFIED EMPLOYEES

Factor of success
STRONG MANUFACTURING EXPERTISE

„Industry 4.0“ for the sectors of the 21st century

Aerospace

Machinery and plant engineering

Automotive industry

Electrical engineering and electronics

Motorsport, sports industry

Medical technology
OUR STRENGTHS

7 reasons why you can rely on Stangl & Co. GmbH

1. Air conditioned inhouse production on a total of 10,000 square metres of production area

2. Value chain from the idea to the complete assembly

3. High production capacity due to large production width and depth

4. Machining of all metals, steels, aluminum and plastics

5. Measurement accuracy 0.3 µm

6. Consistently high quality

7. Fast, flexible and on-time delivery times 24 h express delivery
From prototypes to series production

- Manufacturing services for precision parts in various materials

Our services

- CNC milling (5-axis)
- CNC milling of sizes to 5,000 mm
- CNC turning
- Flat grinding
- Round grinding
- Profile grinding
- Subsystem assemblies
- Tool and mould manufacturing
- Highest quality and short delivery times

High capacities, constant quality, short delivery times and quick response
# MACHINE PARK

## List of machines

<table>
<thead>
<tr>
<th>No.</th>
<th>Machine Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Portal milling machine FPT</td>
</tr>
<tr>
<td>31</td>
<td>CNC 5-axis machining centres</td>
</tr>
<tr>
<td>6</td>
<td>CNC 3-axis milling machines</td>
</tr>
<tr>
<td>6</td>
<td>CNC Turning-/milling centres</td>
</tr>
<tr>
<td>19</td>
<td>CNC Turning machines</td>
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<tr>
<td>4</td>
<td>CNC Round grinding machines</td>
</tr>
<tr>
<td>4</td>
<td>CNC Profile and flat grinding machines</td>
</tr>
<tr>
<td>1</td>
<td>Honing machine</td>
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<tr>
<td>3</td>
<td>Die sinking machines</td>
</tr>
<tr>
<td>5</td>
<td>Wire cut EDM machines</td>
</tr>
<tr>
<td>1</td>
<td>Starting hole drill</td>
</tr>
<tr>
<td>6</td>
<td>Coordinate measuring centres for precision up to 0,3 µm</td>
</tr>
<tr>
<td>20</td>
<td>Measuring machines</td>
</tr>
<tr>
<td>3</td>
<td>Tool preparation centres</td>
</tr>
<tr>
<td>1</td>
<td>Laser engraving system</td>
</tr>
</tbody>
</table>
SK CARBON RODING GMBH

Fibrous composite material manufacturing

Manufacturing services for composite parts (GFRP/CFRP)

- Various manufacturing processes: prepreg-/ autoclave, vacuum infusion, VARI, RTM
- Focus on prototypes and small series
- Specialised on:
  - High-performance applications
  - Economic structural and optical parts
- Process development and applied research
- Assembly and finishing of lightweight structure
MACHINE PARK

List of machines

- ZÜND CNC Cutter G3-L 2500
- Autoclave - Scholz
- DEKUMED RTM unit Unidos 300 SADFM
- Vacuum units
- Tempering ovens
- Water tempering units Tool Temp
- Hydraulic press
- Heat press
From sports car manufacturer to system supplier for industry

From a vision developed a 320 hp street-legal sports car in lightweight:

THE RODING ROADSTER R1

Besides the production of the sports car in small series RODING serves the company today primarily as a technology demonstrator for the construction of functional prototypes and concept vehicles with electric drives.

Lightweight construction for vehicle projects

- Development, calculation and simulation of lightweight constructions
- Production of economical CFRP structures for small and medium series
- Holistic competence in vehicle construction
MORE THAN A TECHNOLOGY DEMONSTRATOR

Roding Roadster R1

6 cylinder BMW motor
320 HP or 450 HP,
in 3,9 s from 0 to 100 km/h

1000 kg – Dynamic driving made easy
120 kg  Carbon for main chassis
100 % handmade in Germany

330 l – Storage space
Chassis setting racing
2 in 1 – Coupé or convertible
Subsystem or full vehicle services

<table>
<thead>
<tr>
<th>Engineering and manufacturing for functional prototypes and concept cars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roding Carbon Cell</td>
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<tr>
<td>Vehicle structure</td>
</tr>
<tr>
<td>CFRP-Monocoque, Alu-Spaceframe, Hybrid Alu &amp; CFRP</td>
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<tr>
<td>Modular vehicle platforms</td>
</tr>
<tr>
<td>Electric drivetrain and high voltage battery systems</td>
</tr>
<tr>
<td>Modern electrical system network</td>
</tr>
<tr>
<td>Chassis</td>
</tr>
<tr>
<td>Conception and design</td>
</tr>
</tbody>
</table>
RODING CARBON CELL

Patented CFRP Monocoque Platform

- Own patent for CFRP Monocoque architecture
- Modular customisable design
- "Roding Carbon Cell" in RTM or prepreg hull design
- High functional integration for easy prototype assembly
REFERENCES

Functional prototype + concept vehicle

- BERLINGO
  - Urban Mobility Challenge Berlin 2010
  - 6 months
  - 2 prototypes

- 2011 – 2014
  - 5 prototypes

- 9 months
  - 1 prototype

- 4 months
  - 2 prototypes

- 4 months
  - 2 prototypes
REFERENCES

Functional prototypes + e-mobility
CERTIFIED QUALITY

Certification

- Certification EN 9100:2018 including ISO 9001:2015 quality management
- Certified system for material labels
- Certified fluorescent dye test
Thank you for your attention!

Stangl & Co. GmbH
Präzisionstechnik
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93426 Roding

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✉️ info@stangl-kulzer.de

List of machines