



**KLINGEL**  GmbH

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[www.Klingel-GmbH.de](http://www.Klingel-GmbH.de)

# AGENDA

- Company Information
- Development & Innovation Partners
- Machinery & Materials
- Product examples
- Divisions
- References
- Contact persons

# COMPANY INFORMATION

- Founded: 1978
- Company location: Waiblingen
- Number of employees: 190
- Production area: 9,200 m<sup>2</sup>
- Revenues for fiscal year 23/24: € 36 million
- Divisions:



Prototype production



Flexible production



Line production  
(according to IATF 16949 standard)



- Holistic professional customer support from the initial idea to series production readiness
- Solution-oriented and motivated employees to meet market requirements and customer wishes
- Cooperative development partner and innovation provider
- Fast responsiveness through short decision-making paths
- Cooperation with strategic raw material suppliers
- System supplier for high-precision and complex components in the  $\mu\text{m}$  range
- Over 40 years of machining experience
- Manufacture of hydraulic cylinders



## Machining

- 25 single- and double-spindle machining centres
- 15 machining centers with 4- and 5-axis machining,
- 52 Vertical and horizontal turning machines
- Linked automated production lines with gantry systems and articulated robots

## Quality

- 3 Mitutoyo 3D Measuring Machines
- 2 Mahr mould testers
- Various measurement/profile projectors and surface measuring devices

## Deburring

- 3 automated Piller high-pressure waterjet deburring machines Vectorjet or Robojet
- 2 electrochemical deburring machines
- 2 automated brushing systems
- 10 various lapping machines (single and double-sided)

## Cleaning

- Residual dirt laboratory
- Single and in-line integrated cleaning systems

# MATERIAL

## Aluminium

- Alloy: 226, 239, 220
- Die casting & gravity die casting & sand casting
- Forged parts
- Profil material
- Experience: > 40 years
- Turnover: 85%



## Low and high-alloy steels

- Free-cutting steel
- Case-hardening steel
- Tool steel
- Duplex steel
- Experience: > 40 years
- Turnover: 10 %



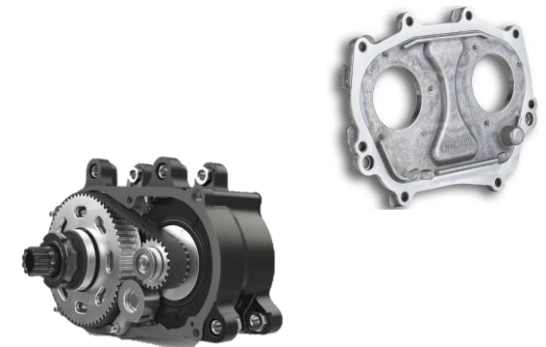
## Plastic

- Polyamide & Polycarbonate & Polyethylene
- 3D-printed parts
- Injection molded parts
- Profil material
- Experience: > 5 years
- Turnover: 2 %



## Magnesium

- A wide variety of alloy
- Die casting
- Continuous casting
- Profile material
- Experience: > 10 years
- Turnover: 3 %



## Line production

- Pressure Plate & Flange: approx. 12 million pcs/year
- Steering knuckle: 165,000 pcs/year (9 blanks, 33 precast variants)

## Flexible Manufacturing

- 4- and 5-axis machining centers
- Working space: 730x400x425 mm
- Focus on aftersales projects, one-off productions, 0 - Series at the start of the project
- Housing: approx. 15,000 pcs/year

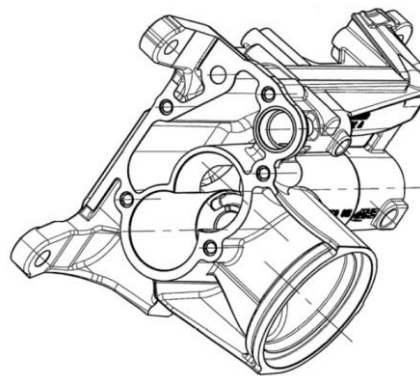
## Prototype production

- 3-axis and 5-axis machining centres with turning-milling function
- The maximum component size is 1050mm x 850mm x 800mm
- Production from quantity 1

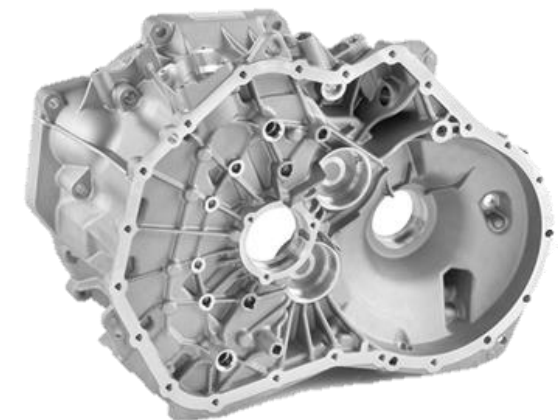
Pressure Plate & Flange



Housing



Gearbox

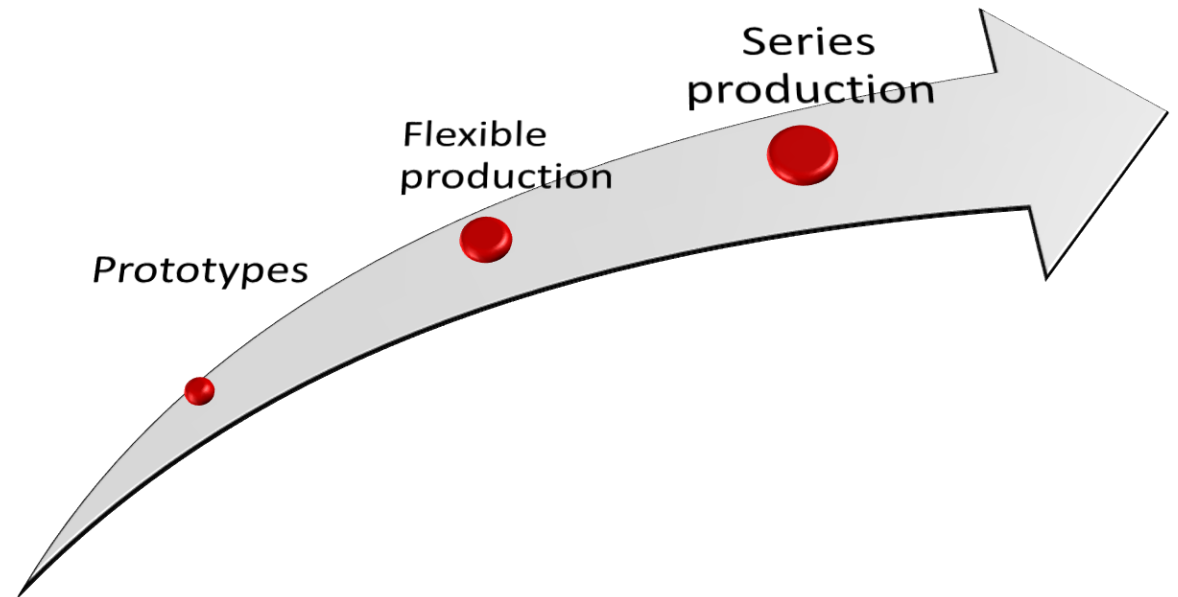


Axle Knuckle



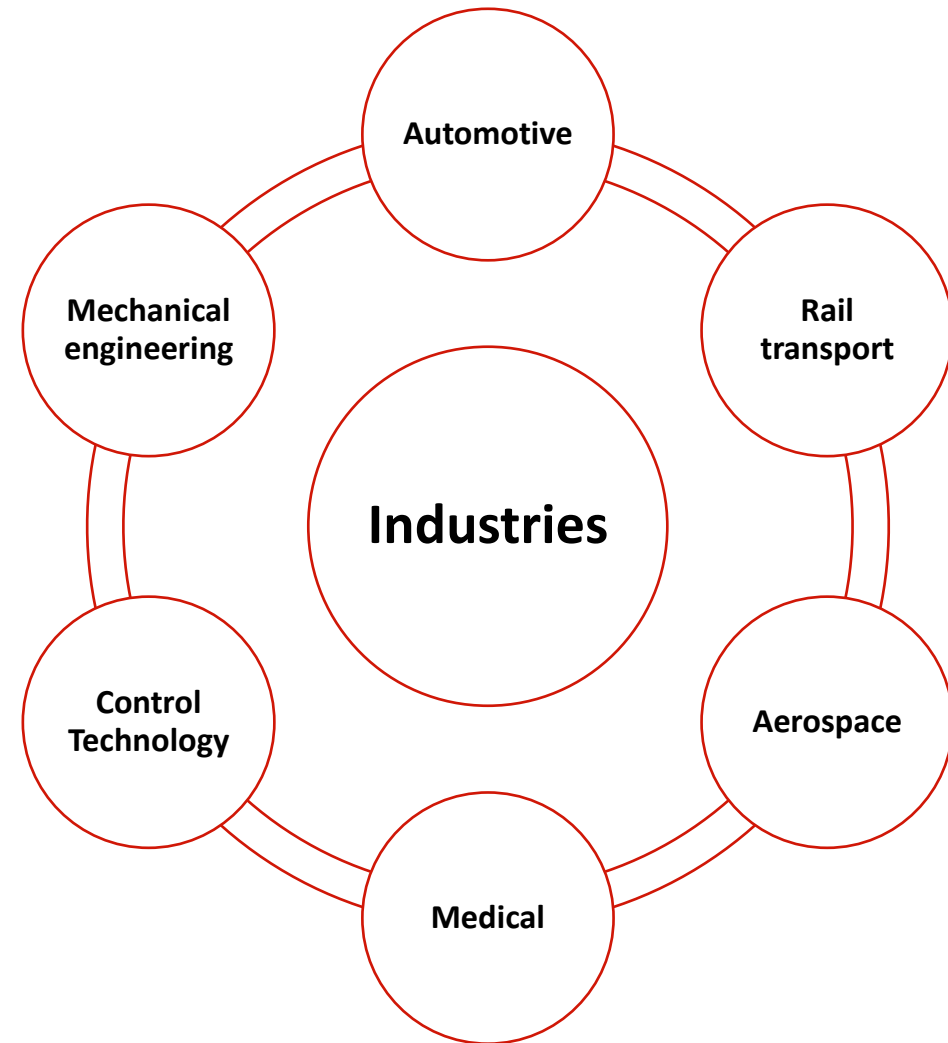
# FROM PROTOTYPE TO SERIES PRODUCTION

- Maximum flexibility thanks to a large number of multi-axis machining and turning centers
- Cooperation with strategic suppliers for all manufacturing processes
- Fast, flexible and high-quality solutions
- Strong design-to-cost approach
- From the first idea and the first chip in prototype production, to flexible production, to series production
- Meeting customer requirements according to IATF standard from the first prototype
- **Our know-how for your SUCCESS!**





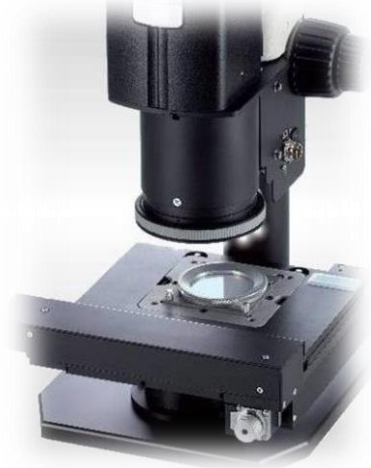
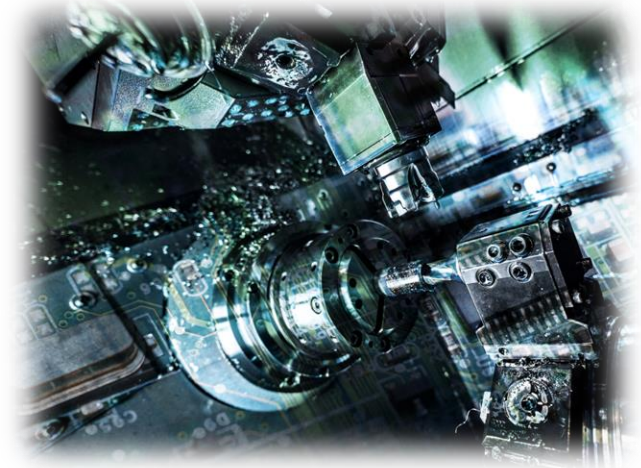
- Production of prototypes & small series
  - Mechanical processing of solid material, complex castings and forgings made of various materials
  - Installation & Leak Testing
  - Customer-specific measurement scopes
  - Residual dirt analysis
- High quality standard, adherence to deadlines and flexibility
- Intensive customer orientation already in the development phase for optimal component design
- Know-how transfer to later series production
- Competence from a single source through an established supplier network & in-house tool and fixture construction



- Competence:
  - Flexible and fast processing of small and medium-sized series
  - PPAP according to IATF standard
  - Additional customer requirements possible
  - Additional customer requirements can be adapted flexibly and quickly
- Other Options:
  - Pre-series production for innovative new products
  - Temporary support for relocation projects
  - One-off production / spare parts production



- System supplier for high-precision and complex components
- Core technologies: Milling / Turning / Drilling / Lapping / Deburring / Cleaning / Assembly / Leak Testing
- Implementation of product-specific production lines
- High degree of automation
- In-house development of clamping concepts
- Fully automated camera inspection for quality assurance
- Residual dirt analysis in our own laboratory
- Certified according to IATF 16949, ISO 14001, ISO 50001



# REFERENCES

BHARAT FORGE CDP



KONCAST

