



Presentation

Division Iron Foundry



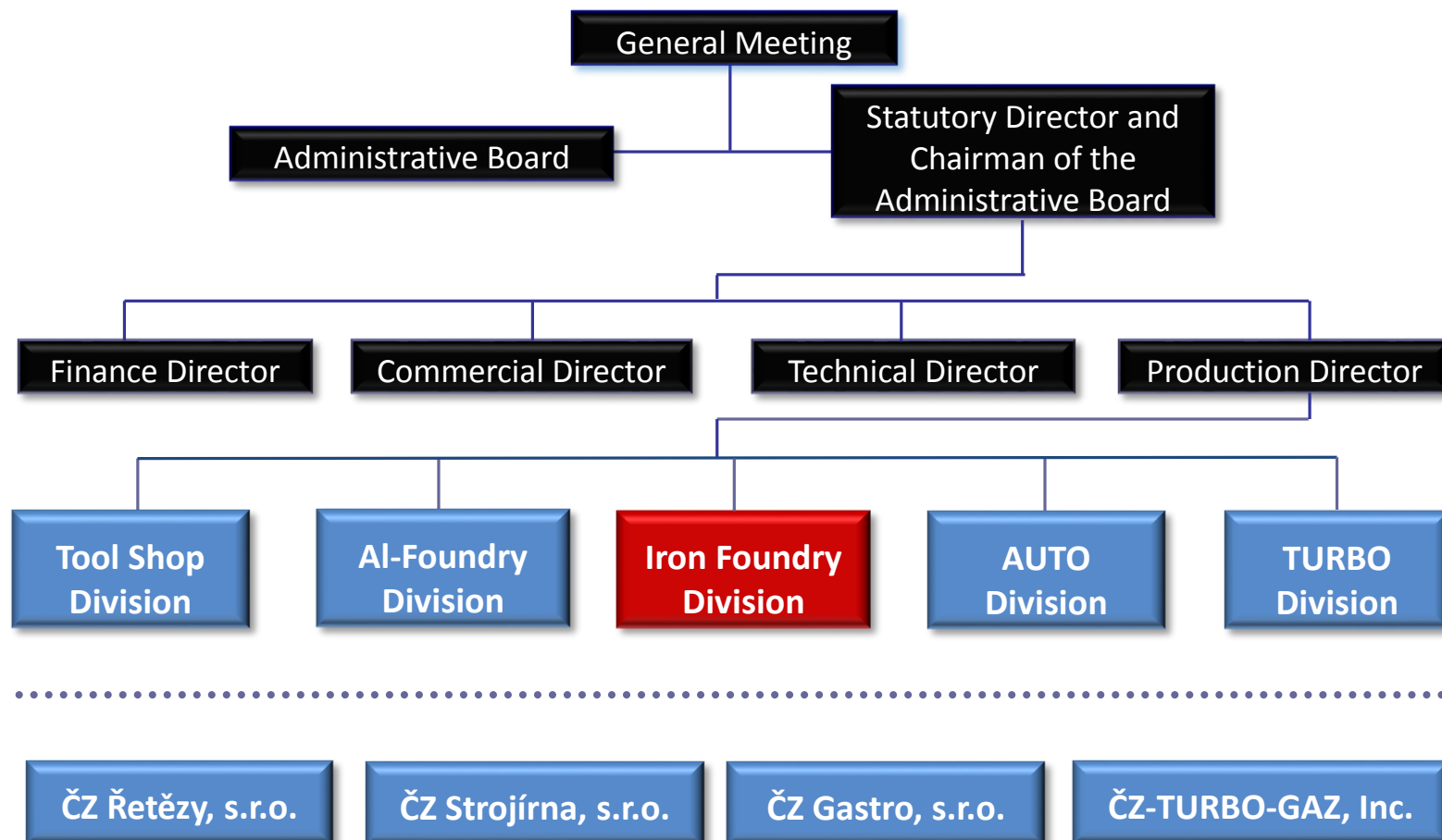
History of ČZ a.s.

- 1919** Founded under the name Jihočeská zbrojovka
- 1923** Original production – small arms
- 1930** Production of bicycles
- 1931** Production of chains
- 1934** Production of tools
- 1935** Production of motorcycles
- 1954** Production of castings
- 1981** Production of turbochargers
- 1988** Production of gearboxes for Škoda-VW passenger cars
- 1993** Privatisation of the company – ČZ Strakonice, a.s.
- 1995** Joint Venture ČZ-TURBO-GAZ, Inc. in Russia
- 1999** Production of forklift trucks DESTA
- 2004** Takeover by principal shareholder ČZ a.s.





Organization chart





History of Iron Foundry

Division Iron Foundry was established in 1954 to produce castings for ČZ motorcycle engines. The key iron product - cylinder barrel for air cooled two stroke engine. → Shell moulding technology → **CRONING** process.



REVIEW:

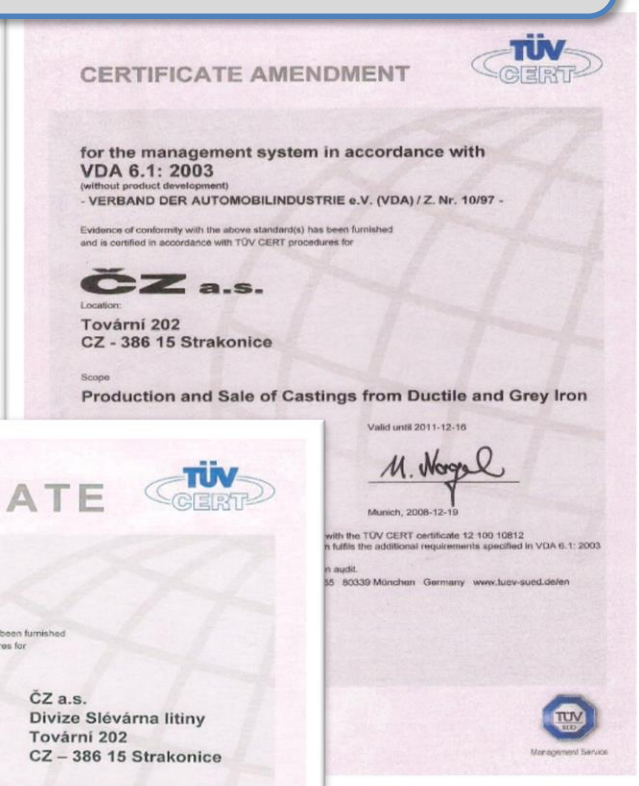
- 1958** Entire casting production uses Croning cores and moulds
- 1962** Renovation of coating sand mixer for „warm processing“; foundry became Czech national R&D centre for Shell moulding technology
- 1972** R&D of melting&production of ductile iron castings (engine crankshafts)
- 1978** R&D of production of castings for turbochargers (centre / turbine housings)
- 1982** Series production of turbocharger castings; first Hottinger moulding machine
- 2000** Production launch of SiMo ductile iron turbine housings
- 2018** Systematic modernization of the technology



Certificates

● ČZ a.s., Division Iron Foundry
is certified according to:

- ✓ ISO 9001
- ✓ VDA 6.1
- ✓ ISO 14001
- ✓ Safe Enterprise





Range of Products

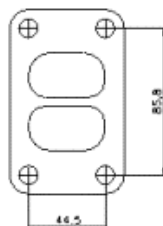
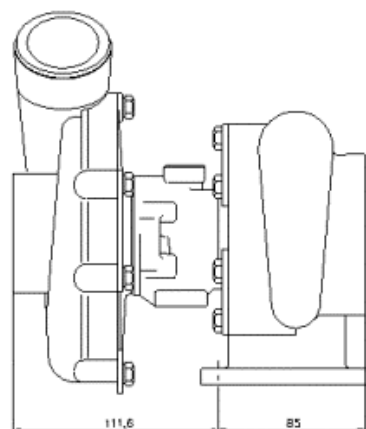
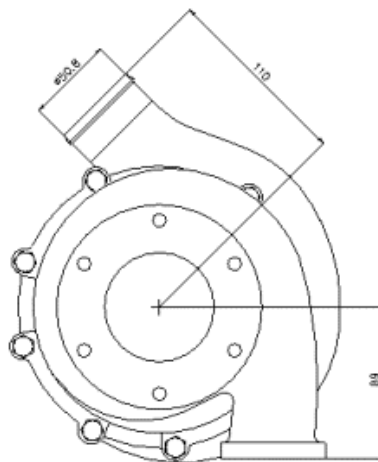
- Shell moulded iron castings
- Weight of castings up to 10 kg
- Dimensions max. 300x200x150mm
- Applied materials:
 - ✓ Grey Iron
 - ✓ Ductile (SG) Iron
 - ✓ SiMo Iron





Range of Products

Centre & Bearing Housings for Turbochargers





Range of Products

Ribbed Cylinders and Compressors & Compressor Accessories





Melting Facilities

- 2x 2,5-ton induction melting furnace, medium-frequency with management of the melting process
- ductile iron treatment in ladle (Tundish cover)



Produced grades of materials:

Grey iron according to the industrial standards EN-GJL-200 (grade GG 20 - DIN 1691), EN-GJL-250 (grade GG 25 - DIN 1691) and **ductile iron** according to EN-GJS-400-15 (grade GGG 40 - DIN 1693), EN-GJS-500-7 (grade GGG 50 - DIN 1693), EN-GJS-600-3 (GGG 60 - DIN 1693) and **SiMo 4/07** or **SiMo 5/07** specification.



Core Making

● Shalco U180/190	3 pcs
● Shalco MCM5	1 pc
● Shalco SCB 10 / gas	2 pcs
● Hottinger HS 16	2 pcs
● Foundry Automation SM40	1 pc
● Primafond SMEC 70	1 pc



Cold-Box or sodium-silicate cores for prototyping, low-volume production or special purposes are purchased from external sub-suppliers from the Czech Republic.



Mould Making

HANDMADE:

furane bonded sand continuous mixing unit with mechanical sand reclamation by RICHARDS and roller-line pouring line





Mould Making

MACHINE MOULDING:

Shell moulding machines with tipping case or shooted tooling, full automatic sand mixing plant WEBAC, thermal fluid sand reclamation RICHARDS, semi-automatic pouring line FDC

Machinery:

ASF 6 position carousel

2 pcs

Hottinger MKA 41/411

3 pcs





Production Machinery

- Semi-automatic pouring line FDC
- Shot-blasters (6 various pcs)
- Grinding & Cutting machines
- Annealing chamber furnaces





Inspection Facilities

To check quality of produced parts:

- **TEMPERATURE:** radiation & thermocouple measuring with records
- **CHEMISTRY:** spectrometer Q4 Tasman; C&S analyser BRUKER G4 – Icarus, analyser BRUKER Delta
- **METALLOGRAPHY:** OLYMPUS & CCD camera & SIS evaluation software
- **MECHANICAL PROPERTIES:** Brinell hardness testers, tensile tests
- **DIMENSIONS & VISUAL:** 3D ZEISS Dura Max, endoscopes





Our Competences

- Long-term experience with production of parts for automotive industry
- Long-term experience with production of heat-resistant irons
- Application of reproducible production methods and tooling
- Financial & Economic stability

Our Goals:

- To reach and keep high standard of our products
- To meet customer's requests
- To be a capable and reliable partner



References

Quality of our work is measured by satisfaction of our customers.





Where can you find us

● Company Head Office:

ČZ a.s.

Sluneční náměstí 2540/5

CZ-158 00 Praha 5

GPS: 50,050537 ° N
14,3420461 ° E

● Production Plant:

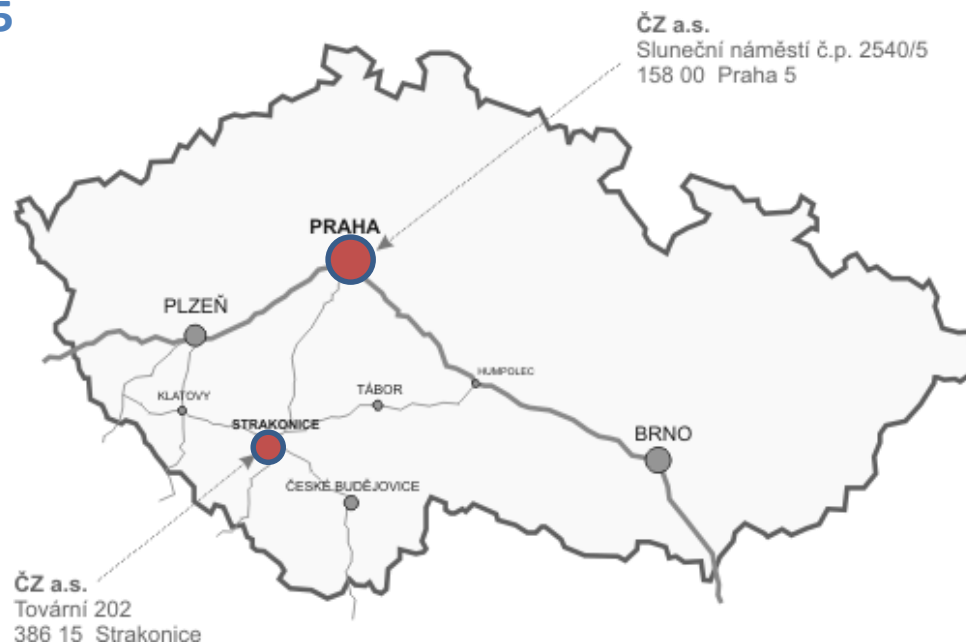
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Contacts

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