

# Mechanical Engineering



Czech mechanical engineering is shaped by a tradition of over 150 years. This core segment of the domestic industry has gone through a two-decade long restructuring following changes in the structure of production and the territories of Czech exports. Mechanical engineering remains the crucial sector of Czech industry. The Czech Association of Engineering Technology has been active in European structures for many years and is a member of the prestigious CECIMO organization (European Committee for Co-operation among Machine Tool Industries), which associates national associations of manufacturers from 15 European countries.

The mechanical engineering sector's share of Czech exports has been high for a long period of time; it has exceeded 50% in the last few years. The turnover of the sector in the last ten years has multiplied from CZK 96 billion in 1997 to CZK 268 billion in 2007; the sector's share of total revenue from the manufacturing industry has grown from 9% to 19%. Revenue from the sale of own products and services rose in the period from 2003 to 2007 by 98.2%. This growth was also boosted by companies which are totally or partially owned by foreign investors who took advantage of the investment incentives and business support programmes provided by the Czech state.

Thousands of companies in the Czech Republic manufacture a whole range of machinery, equipment, components and accessories; most of them have implemented quality management systems, environmental management systems and security and health protection management systems.

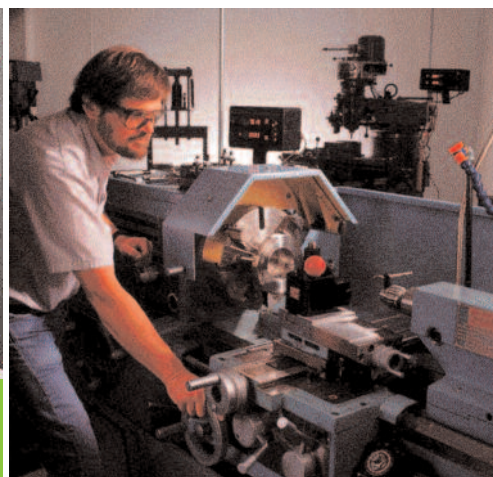
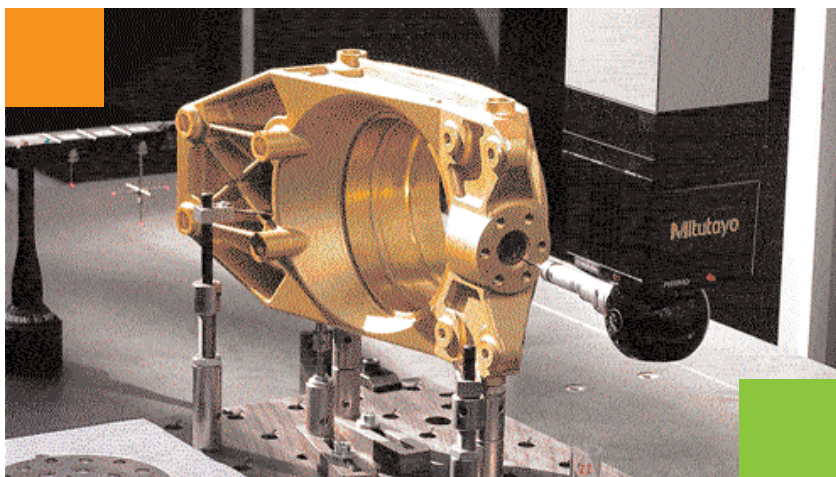
The image of quality and reliability is associated, for instance, with forming and metal-working machines, steam and water turbines and other energy devices, agriculture and food-processing machinery, material handling and construction machinery, extraction equipment, tools and transport equipment.

The tradition of the Czech railway industry dates back more than 150 years. Two of the most successful Czech engineering companies manufacturing railway vehicles and enjoying an excellent reputation worldwide are Škoda Plzeň and Siemens Kolejová vozidla. The companies have their own technologies, technical equipment and documentation necessary for the production of high-quality advanced railway vehicles which meet all standards of modern railway transport.

Aircraft manufacturing, one of the top engineering industries, uses the latest findings of science and research, production process technologies and new materials and thus initiates technical progress in a number of other fields. There are 10 final producers of planes in the Czech Republic, with a total annual production of approx. 350 units; 80% of the production is exported. An additional 10 companies specialise in the production of aircraft components. The production of training jets and lightweight fighter planes, regional aircraft, training and sports aircraft, gliding planes and ultra-light planes has developed dynamically over the last few years. The largest aerospace manufacturer in the Czech Republic is AERO Vodochody, one of the oldest aerospace producers in the world. It closely cooperates with leading aerospace manufacturers such as the Sikorsky Aircraft Corporation, Alenia Aeronautica, Sonaca, Latecoere and Spirit Aerosystems. The Czech Republic is the second-biggest manufacturer and exporter of sports planes in Europe.

There are also manufacturers of river and river/sea cargo ships, sports boats, yachts, motorcycles and bicycles and hot-air balloons.

The Czech engineering sector is currently shifting its attention towards high-tech products requiring an intelligent, highly-qualified, workforce and a greater share of research and development (e.g. optical instruments, measuring and control equipment devices, components and accessories for the automotive and aerospace industries, machine tools and forming



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machines). Currently, almost 70,000 students study at technical universities with excellent reputations. Nearly 9,000 university graduates in technical and scientific subjects enter the workforce every year.

Czech mechanical engineering products are world-famous and, in the long term, they enjoy a very good reputation for their quality, technical solutions and reliability. Manufacturers take advantage of the long-time experience of several generations of technicians and the present-day high level of know-how.

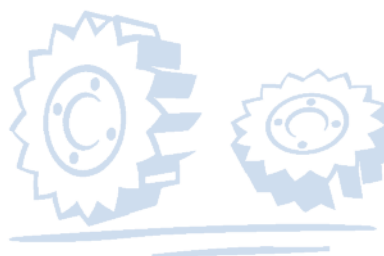
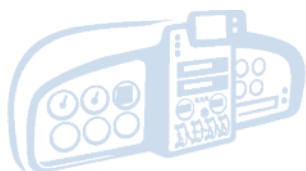
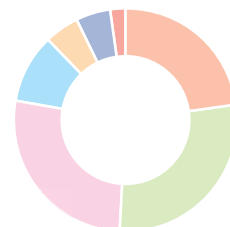
The key export markets are Germany, France, Slovakia and Italy. Most imports are made from Germany, Italy, France and Austria.

The CzechTrade agency encouraged the establishment of the Association of Engineering Technology and the Czech Industrial Design and Innovation association, whose objective is to implement Czech design in industrial production and the design to be used as an innovation tool, not only in the mechanical engineering sector.

## Percentages of sectors on revenues from sales of own products and services in 2008

Production of machinery for production of mechanical energy	23%
Production of other machinery for general purposes	28%
Production of other purpose-built machinery	27%
Production of metal cutting and forming machinery	10%
Production of agriculture and forest machinery	5%
Production of household appliances and devices	5%
Production and repair of weapons and munitions	2%

Source: Ministry of Industry and Trade



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