High-Tech Mechanical Engineering in the Czech Republic
CzechInvest – Your One-Stop Shop for the Czech Republic

Introduction
Since its establishment by the Ministry of Industry and Trade in 1992, CzechInvest has successfully mediated over 1,400 investment projects. Our experienced and devoted staff will be pleased to provide you with the necessary advice and assistance to ensure the success of your next project in the Czech Republic. All of our services are provided free of charge.

One-Stop Shop for Investors
- Comprehensive services for investors
- Full information assistance
- Tailor-made visits to the Czech Republic
- Handling of investment incentives
- Access to structural funds
- Business properties identification
- Supplier and joint-venture partner identification
- Liaise with government bodies
- Aftercare services

CzechInvest’s – Prestigious Awards
- Best Website among All Investment Promotion Agencies 2009, World Bank
- European Inward Investment Team of the Year 2009, Business Destinations
- Best Practices in Promotion Award 2004, World Investment Forum
- Best Advertisement by an Investment Promotion Agency (third place) 2003, WAIPA
- Best Investment Promotion Agency in the EU Accession Countries of the Year 2002
- European Investment Promotion Agency of the Year 2001
- European Investment Promotion Agency of the Year 2000

General Characteristic of the Sector

Reasons to Invest:
- Strategic position in Central Europe, direct transport access to the EU single market of nearly 500 million consumers
- 150 years of engineering experience in the Czech Republic – continuity of premium-level technological know-how
- Highly educated and skilled workforce, good access to university graduates with technical degrees – over 5,000 mechanical engineers graduate every year
- High concentration of mechanical engineering companies allowing easy identification of business partners and suppliers.
- Positive approach of the Czech Government, investment support for up to 60% of eligible costs through a transparent system of investment incentives
- Highly developed infrastructure – both transport and telecommunications
- The most advanced telecommunication infrastructure within the CEE region, creating conditions for establishing regional software hub, supporting this way future material research and precise mechanical engineering
- First-class support from CzechInvest

General Characteristic of Czech Mechanical Engineering
- The Czech engineering sector has a long tradition with the origins of engineering education dating back to 1707, when the Engineering Academy in Prague was established.
- Mechanical engineering has a great history in the Czech Republic. In the period of 1918 – 1938 the then Czechoslovakia was one of the most industrialized countries in the world. The production portfolio of the mechanical-engineering sector in the Czech Republic is extremely broad, including everything from sewing needles to nuclear power plants.
- The general engineering sector (CZ NACE 2B) employs 170,000 highly skilled professionals, making it one of the most important employers in Czech industrial production.
- With a production base of more than 1,100 companies, the sector supplies complete plans and manufactures machines (including turbines, transportation and air-conditioning equipment; agricultural, food-processing and construction machinery; and machine tools while also engineering household goods.
- The sector maintains its strong position as a traditional exporter – between 80% and 90% of the sector’s output is exported.
- Whatever engineering sector you are active in, you will always be able to find Czech engineering partners and suppliers, and to hire employees from a large pool of highly educated and skilled professionals.
- The continuous development of the mechanical-engineering sector in the Czech lands dating back to 1707 has resulted in tremendous technological know-how and potential that investors can use to their advantage when expanding their business.
Historical milestones

1707 Establishment of the Engineering Academy in Prague, commencement of university education in mechanical engineering.

1791 One of the first industrial exhibitions in Europe takes place in Prague, featuring the finest products of Czech engineering.

1825 The first Czech public railway is established on the Česká Budějovice – Linec route. With vehicles initially pulled by horses, the railway was set up to supply Bohemia with salt and to transport timber in the opposite direction.

1827 Czech forester Josef Ressel invents the screw propeller, which significantly increases the speed of steam boats. The efficiency of screw propellers results in the disappearance of paddle steamers in the second half of the nineteenth century.

1854 The first rail carriages manufactured in the Czech lands, beginning with freight cars and later passenger carriages, are produced at the Ringhoffer works in Prague. The company employed as many as 12,000 workers and was among the biggest industrial employers in the Austro-Hungarian Empire.

1911 Škoda Energo produces the first steam power turbine of its own design with a pressure of 210.25 kp/cm² at 3,000 rpm. Viktor Kaplan of Brno Technical University invents a new type of water turbine capable of mechanical efficiency of 86%. Kaplan’s concept is still widely used today.

1912 The Škoda Electric locomotives manufactured in the then Czechoslovakia are produced at the Škoda Plzeň works. The Škoda electric locomotives proved very reliable and thus were exported in great numbers worldwide.

1933 The TOS trademark is established. Major machine-tool manufacturers in the then Czechoslovakia were nationalised under the common TOS trademark, leading to the development of the nation’s successful machine-tool sector with worldwide exports.

1966 TOS Varnsdorf produces a numeric controlled horizontal drilling machine, the first of its kind in series production in the then Czechoslovakia and winner of several international awards.

1974 High-speed diesel locomotives produced by ČKD Vysočany reach a speed of 176km/h in high-speed tests, placing them among the world’s fastest diesel locomotives.

1993 The Dukovany nuclear power plant becomes the first nuclear power plant in operation in the then Czechoslovakia. A number of Czech engineering companies (Škoda, Vítkovice, Sigma Lutín) supply the site with high-tech engineering components.

2006 Škoda Transportation introduces its Škoda 14 T high-capacity, low-floor tramcar designed for use in the demanding conditions of Prague’s tramway system.

2005 Škoda Transportation introduces its Škoda 14 T high-capacity, low-floor tramcar designed for use in the demanding conditions of Prague’s tramway system.

2004 Škoda Electric and Irisbus team up to produce the IRISBUS 24 Tr, a high-capacity, low-floor trolleybus with great passenger comfort and low operating cost. This model has been sold to 27 countries around the world.

2004 Škoda Electric introduces its Škoda 14 T high-capacity, low-floor tramcar designed for use in the demanding conditions of Prague’s tramway system.

2005 Škoda Transportation introduces its Škoda 14 T high-capacity, low-floor tramcar designed for use in the demanding conditions of Prague’s tramway system.
Power Engineering

One of the most prominent R&D facilities in the power-engineering sector is the Nuclear Research Institute Řež, located near Prague. The institute is an organization engaged in nuclear research and development, specifically in the manufacture of special products and equipment, provision of design and engineering services, technical engineering and expert activities pursued in the power engineering and general industry. The institute’s strategic aim is to render comprehensive scientific and research services in the area of using nuclear power and sources of ionizing radiation as well as to offer the domestic and international communities scientific, analytical, engineering and design support for the construction of new nuclear and other power-related facilities and for the operation of existing ones. Founded in 1955, the institute was at first associated with basic research in nuclear physics, radiochemistry and the nuclear-power industry. Since the 1970s, the institute gradually shifted its focus towards applied research in gas-cooled reactors. In November 2002, the institute enlarged its scope of business activities and began also providing design and engineering services.

Power engineering is an integral part of the Czech engineering tradition that is gaining worldwide recognition. A significant number of Czech companies are active in this sector, including well-known domestic firms such as Vítkovice Power Engineering, Škoda Power Engineering, ČKD Blansko, První brněnská strojírna, Excon Steel and many more.

The portfolio of companies active in the sector in the Czech Republic includes world leaders such as Honeywell, Siemens Industrial Turbomachinery, Doosan Heavy Industries & Construction, Alstom Power, ABB, APV Invensys and Schaeff Industries AG to name just few.

Traditional Czech producers such as Vítkovice Power Engineering and Škoda Power Engineering rely on their extensive experience in delivering large turn-key power-plant projects for foreign customers all over the world.

Approximately 35,000 workers are employed in the sector, which achieved turnover of USD 4.34 billion in 2007. Since 1993 the power-engineering sector has enjoyed a significant inflow of foreign investments, with 13 projects.

The Czech Republic is home to a number of R&D power engineering centres in the Czech Republic. Corporate R&D centres include the Honeywell Prague Laboratory focusing on unified energy solutions and Škoda Výzkum focused on research and testing of service reliability of the various power engineering devices. Others existing R&D centres are of an academic nature and are part of the Academy of the Sciences or technical universities. The most prominent are the Nuclear Research Institute in Řež, a suburb of Prague, the Centre for Advanced Technologies and Power Engineering Systems at the Czech Technical University (ČVUT) in Prague, the New Technologies Research Centre in Písek, the Energy Institute at the Technical University in Brno and the Energy Research Centre in Ostrava. The Czech Republic also directly participates in the international CERN project.

Technical-Academic Base and R&D in the Czech Republic

University-level engineering education has a long and impressive history in the Czech Republic. Besides the first Czech technical university established in Prague in 1707, there are six other technical universities in the Czech Republic located in Ostrava, Brno, Písek, Liberec, Pardubice and Zlín.

The Czech Republic has a number of R&D power engineering centres in the Czech Republic. Corporate R&D centres include the Honeywell Prague Laboratory focusing on unified energy solutions and Škoda Výzkum focused on research and testing of service reliability of the various power engineering devices. Others existing R&D centres are of an academic nature and are part of the Academy of the Sciences or technical universities. The most prominent are the Nuclear Research Institute in Řež, a suburb of Prague, the Centre for Advanced Technologies and Power Engineering Systems at the Czech Technical University (ČVUT) in Prague, the New Technologies Research Centre in Písek, the Energy Institute at the Technical University in Brno and the Energy Research Centre in Ostrava. The Czech Republic also directly participates in the international CERN project.

Source: Institute for Information on Education, 2009

---

### Mechanical engineering at Czech universities

<table>
<thead>
<tr>
<th>Year</th>
<th>Graduates</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002/03</td>
<td>5,000</td>
<td>10,000</td>
</tr>
<tr>
<td>2003/04</td>
<td>10,000</td>
<td>20,000</td>
</tr>
<tr>
<td>2004/05</td>
<td>15,000</td>
<td>30,000</td>
</tr>
<tr>
<td>2005/06</td>
<td>20,000</td>
<td>40,000</td>
</tr>
<tr>
<td>2006/07</td>
<td>25,000</td>
<td>50,000</td>
</tr>
<tr>
<td>2007/08</td>
<td>30,000</td>
<td>60,000</td>
</tr>
</tbody>
</table>

Note: According to the selected educational fields – source CzechInvest

Source: Institute for Information on Education, 2009
Product Portfolio

The range of Czech power-engineering products is broad, ensuring that you will always be able to find suitable business affiliates in the Czech Republic, whether your business partners are suppliers or end users. **Water, Wind and Steam Turbines**

The fairly extensive Czech power-engineering product portfolio includes various types of water, wind and steam turbines, heat exchangers and condensers, modular turbines, solar power station gas turbines, boiler drums, steam generators and many more. Biomass stations and other engineering technologies related to renewable sources of energy also comprise a significant part of the portfolio. Traditional manufacturers in this sector are, among many others, ČKD Blansko Engineering, ČKD Blansko Holding, Siemens Industrial Turbomachinery, Mavel a.s., ČKD Turbo Technics, Hydrohrom, CINK vodní elektrárny, EXMONT – Energo, Strojírny Brno, Zironmont, Wikov, Schaaf Industrie AG, G Team a.s., PBS Energo a.s. and SMF Hodonín s.r.o.

**Škoda Power Engineering**, **Vítkovice Power Engineering**, Siemens Industrial Turbomachinery and Sigma Energoinženýring are companies with the necessary technological and human resources to carry out large-scale turn-key projects including construction of entire power plants in different countries around the world.

**Brück AM**

Brück AM, is originally a German company with eighty years of experience in mechanical engineering. The company established its operations in the Czech Republic in 1993 and specializes in the machining of metal products. The company’s production programme also includes machining of bearing rings, bearing rings used in wind power plants, swinging mechanisms and gearboxes. The company has extensive experience in delivering solutions for the Ariane space program, nuclear power engineering and oil-platform projects.

**Temelín Nuclear Power Station**, is in operation since July 2002. Nowadays, Temelín Nuclear Power Station together with Dukovany Power Station produce 42.5% of power consumed in the Czech Republic. Number of Czech engineering companies such as Škoda JS, Vítkovice Holding, Škoda Power Engineering, Sigma Lutín supplied the power station with different components and engineering technologies.
ČKD Blansko Holding

ČKD Blansko Holding is a traditional Czech engineering company with a history dating back to the end of the 17th century. The company’s product portfolio is spread over three divisions: Hydro, Machine-Tools, and Machine-Works. The quality of the company’s hydro products is the result of more than one hundred years of specialization in water turbines and hydro-mechanical equipment for large and small hydro projects, including Kaplan, Francis, Francis Reversible, Pelton, and Deriaz turbines with capacity ranging from 0.5 to 500 MW. The company’s production is enhanced by its in-house Water Machinery Research Institute including a Hydraulic Testing Laboratory that enables further development of the company’s product portfolio.

Vítkovice Power Engineering

Vítkovice Holding is a traditional Czech engineering firm with a history of power-system engineering dating back to 1845. Besides steam boilers, boiler bodies, high-pressure and low-pressure vessels of roll-bent and forged plates, underground double jacket tanks, and storage tanks, the company also focuses on numerous other finished applications for the power industry. Since the end of the 1970s Vítkovice Power Engineering has been active in the field of nuclear power engineering (pressure vessels, steam generators), equipment for conventional power engineering (boiler drums, pressure and non-pressure boiler parts) and water turbine parts (pressure hydro-piping parts, stationary parts of steam, gas and water turbines). The company also supplies components and engineering technologies to nuclear power stations worldwide.

Škoda Power a.s.

Škoda Power is a leading European manufacturer and supplier of the technical equipment and customer services in the field of power generation. The company’s history dates back 150 years, during which it has accumulated enormous technological know-how. The company’s current portfolio includes steam turbines for nuclear and fossil-fuel power plants, heat exchangers and condensers, steam turbine machine halls and services in the area of power-plant maintenance and retrofits. Throughout its history Škoda Power has supplied a number of components as well as turn-key power-plant projects to its foreign customers in 64 countries.

Czech Machinery Cluster

The Czech Machinery Cluster is the leading Czech grouping in the field of mechanical engineering. The cluster consists of fifty mostly corporate members with many active in the field of power engineering and production of related components. The Czech Machinery Cluster represents the joint interests of the mechanical-engineering industry in relation to Czech institutions accounting for more than 19,000 employees and EUR 2 billion in turnover and is currently the biggest cluster operating in the Czech Republic.
Transport Engineering

Transport engineering is part of the Czech Republic’s traditional engineering sector dating back to the first half of the nineteenth century. The former Ringhoffer Wagon Works, Kopřivnice Wagon Works, Premier Bohemian-Moravian Machine Works in Prague and Škoda Works in Plzeň, among many others, have always been on the leading edge of their respective industries.

Today, transport engineering is a dynamic sector with a large number of prominent companies including European leaders such as Bonatrans, the biggest producer of railway wheel-sets, and Třinecké železárny, Europe’s third-biggest producer of rails.

High-profile foreign investors in the sector include world leaders such as Bombardier, Siemens, Honeywell, OTIS-United Technologies Corporation and Huisman Holding.

Due to extensive modernisation of the railway corridors which form part of the Pan-European railway system, there is a significant inflow of orders for new tracks, switches and bridges, as well as communication and signalling equipment. Together with planned modernisation of the passenger carrier fleet, this creates conditions for robust growth of the domestic market in the near future.

The Czech transport-engineering sector bases the success and reputation of its products on the work of world-class research centres and testing facilities. These R&D centres – Výzkumný Ústav Železniční (Railway Research Institute), Výzkumný Ústav Kolejových Vozidel (Research Institute of Rolling Stock), ŠKODA VÝZKUM (Škoda Research), Zkušebna Kolejových Vozidel (Testing Laboratory of Rolling Stock) and a number of academic institutions, such as the Research Centre of Rail Vehicles, at universities in Plzeň and Pardubice – are used for the purpose of designing, developing and testing new equipment aimed at improving the speed, safety, comfort and efficiency of rail transport. This wide range of R&D centres helps Czech rolling-stock manufacturers to stay at the forefront of new railway technologies and maintain their position in this highly competitive environment.

Research Centres and Testing Facilities

The Czech transport-engineering sector bases the success and reputation of its products on the work of world-class research centres and testing facilities. These R&D centres – Výzkumný Ústav Železniční (Railway Research Institute), Výzkumný Ústav Kolejových Vozidel (Research Institute of Rolling Stock), ŠKODA VÝZKUM (Škoda Research), Zkušebna Kolejových Vozidel (Testing Laboratory of Rolling Stock) and a number of academic institutions, such as the Research Centre of Rail Vehicles, at universities in Plzeň and Pardubice – are used for the purpose of designing, developing and testing new equipment aimed at improving the speed, safety, comfort and efficiency of rail transport. This wide range of R&D centres helps Czech rolling-stock manufacturers to stay at the forefront of new railway technologies and maintain their position in this highly competitive environment.

Product portfolio

Since the range of Czech transport-engineering companies is extremely wide, you will always be able to find suppliers or customers for your own products.

Infrastructure

Infrastructure products, including tracks, rails, switches, bridges and other structures, have a long tradition in the Czech Republic and are produced by companies such as Třinecké železárny, DT výhybkárna a mostárna, MTH Praha and VIAMONT doprava.

Railway Research Institute

The Railway Research Institute (Výzkumný ústav železniční –VÚZ) is a company specializing in expert services and comprehensive solutions in the field of assessment, testing activities and consulting for railway systems and rail transport. VÚZ offers a broad portfolio of services such as authorized activities focused on conformity assessment, accredited activities connected with testing and product certification and certification of quality systems. VÚZ has unique testing and technologic support at its disposal. The institute operates its own test centre at Velim with two railway test rings and other infrastructure. VÚZ has built up its know-how over more than fifty years in the field of railway research and testing.

www.cdvuz.cz/en/

Research Institute of Rolling Stock

The Research Institute of Rolling Stock (Výzkumný ústav kolejových vozidel – VÚKV) is engaged in development and testing of railway vehicles and parts thereof as well as other components from the area of transport engineering. The institute is able to offer a broad scope of testing and consultancy services in the areas of design, construction, preparation of project documentation, cooperation in the manufacture of prototypes, and approval and launch of operation. These activities are performed by a team of highly qualified and experienced in-house experts applying state-of-the-art methods, procedures and equipment. The institute’s key clients include domestic and foreign manufacturers of railway rolling stock and transport technology, repair facilities, and infrastructure administrators and operators.

www.vukv.cz
Czech companies are capable of developing, producing and implementing cutting-edge technologies in the field of communication and signalling systems. Leading manufacturers in this area are AŽD Praha, AK signal Brno, ČD-Telematika, STARMON, První Signální and Tratova strojovna.

Domestic component suppliers specialise in the development and production of components and parts that are then incorporated into finished goods. Alfa Union, BONATRANS, BORCAD cz, Cegelec, ČKD Kutná Hora, DAKO-CZ, IBG Praha, Hanácké železárny a pěrovny, LOKEL, LEKOV, MSV elektronika, MTI – Louny, Pars Komponenty, Polovodiče, Satt Ferak, Sécheron Tcheque, SKD TRADE, UniControls, ZKL are the leading companies in this segment.

Numerous Czech companies work in the area of manufacturing, repairing and upgrading railway rolling stock. Skilled engineers and the latest technology allow efficient production of advanced vehicles: trams, metros, electric and diesel electric units, passenger and dining coaches and locomotives (both diesel and electric). The leading companies in this segment are Bombardier Transportation Czech Republic, ČKD VAGONKA, ČKD VELENCE, ČKD Loko, ŽOS České Velenice CZ, ŽOS Nymburk, ŠKODA TRANSPORTATION, ČZ Loko.

Development, production, maintenance and modernisation of rail vehicles comprise a traditional Czech industrial sector. Besides the Czech Republic’s manufacturing tradition, the high quality of rail-vehicle products is also based on the country’s outstanding potential in the fields of research, engineering and testing and the strong potential of providers of repair services and suppliers of rail-vehicle components.

**Communication and Signalling Systems**

Czech companies are capable of developing, producing and implementing cutting-edge technologies in the field of communication and signalling systems. Leading manufacturers in this area are AŽD Praha, AK signal Brno, ČD-Telematika, STARMON, První Signální and Tratova strojovna.

**Component Suppliers**

Domestic component suppliers specialise in the development and production of components and parts that are then incorporated into finished goods. Alfa Union, BONATRANS, BORCAD cz, Cegelec, ČKD Kutná Hora, DAKO-CZ, IBG Praha, Hanácké železárny a pěrovny, LOKEL, LEKOV, MSV elektronika, MTI – Louny, Pars Komponenty, Polovodiče, Satt Ferak, Sécheron Tcheque, SKD TRADE, UniControls, ZKL are the leading companies in this segment.

**Rolling Stock**

Numerous Czech companies work in the area of manufacturing, repairing and upgrading railway rolling stock. Skilled engineers and the latest technology allow efficient production of advanced vehicles: trams, metros, electric and diesel electric units, passenger and dining coaches and locomotives (both diesel and electric). The leading companies in this segment are Bombardier Transportation Czech Republic, ČKD VAGONKA, ČKD VELENCE, ČKD Loko, ŽOS České Velenice CZ, ŽOS Nymburk, ŠKODA TRANSPORTATION, ČZ Loko.

Development, production, maintenance and modernisation of rail vehicles comprise a traditional Czech industrial sector. Besides the Czech Republic’s manufacturing tradition, the high quality of rail-vehicle products is also based on the country’s outstanding potential in the fields of research, engineering and testing and the strong potential of providers of repair services and suppliers of rail-vehicle components.
Domestic Leaders

Třinecké železárny – Moravia Steel
Třinecké železárny is a traditional manufacturer with an impressive 170 years of history and is currently the third-biggest European producer of rails. The company produces different types of rails including flat bottom railway rails, switch rails, tram rails and rails for mine and field tracks. Apart from rails, the company offers a full range of other products such as wire rod, reinforcing and rolled bars, cold-rolled finalised bars, selected grades of steel material and seamless steel tubes. The company’s leading position is made possible by impressive investments involving implementation of state-of-the-art technologies such as the construction of a basic oxygen furnace at its steel plant with a subsequent bloom continuous casting machine and later a billet continuous casting machine.

Bonatrans Group a.s.
Bonatrans is one of the world’s leading and currently Europe’s biggest supplier of rail-vehicle wheels and wheel-sets. The company has achieved worldwide recognition due to its premium quality wheels, wheel-sets and axles for locomotives and passenger, urban and freight rail vehicles and its specially designed noise absorbers. The company’s success is due to the establishment of an in-house R&D team working on a number of projects including the development of rubber-sprung wheels, brake disks, noise absorbers and other products for high-speed rail transport.

Škoda Transportation a.s.
Škoda Transportation is a traditional producer of rail vehicles, diesel and electric locomotives, low-floor trams and metro vehicles for public transport. The history of Škoda Transportation dates back to 1918, when the company started with repairs and soon after with production of rail vehicles. In 1927 Škoda Transportation launched production of electric locomotives, which gained a great reputation and were exported worldwide. Since the beginning of the 1990s the company has expanded its product portfolio with the addition of rail vehicles for urban transport systems, which have achieved global export success.

The Association of the Czech Railway Industry (ACRI)
The ACRI is an organization associating companies engaged in the Czech railway supply industry as well as in the manufacturing, repair and upgrade of railway rolling stock. The association is a member of the Union of European Railway Industries (UNIFE). The ACRI represents the joint interests of the railway supply industry in relation to Czech institutions, rail operators, and rail infrastructure managers and, via UNIFE, in relation to EU institutions. Companies associated with the ACRI currently employ more than 22,000 people in the Czech Republic and generate annual turnover of over EUR 2.8 billion. The share of exports in the total turnover is more than 40%.
The Czech Republic has a strategic location in the centre of Europe with very good access to established western and emerging eastern markets. Prague is only a two-hour flight from most other European capitals. The road and motorway network (total 55,654 km) is already one of the densest in Central and Eastern Europe and several rail modernisation projects are currently underway to link the Czech Republic with the pan-European network of high speed railways (total 9,588 km).

The Czech Logistics Association
This non-profit organization serves as a platform associating more than 50 companies, including both logistics providers and their major clients. The main mission of this organization is to introduce logistics as a discipline representing an effective and measurable tool for optimising supply-chain management. The organisation’s overall aim is to enhance the high-quality logistics services in the Czech Republic as well as to develop an understanding of good logistics practices by clients in order to minimise transport related costs and risks. The Czech Logistics Association works closely with CzechInvest, offering its services to investors.
Machine-Tool Industry

The sector of machine tools and forming machine is part of the traditional engineering field in the Czech Republic. The outstanding technical level of Czech machine tools, the traditionally high level of workmanship and the reputation of companies such as Tos, Kovosvit MAS, TAJMAC-ZPS, ŽDAS, Škoda Machine Tool and Šmeral Brno are enticing to all foreign investors and manufacturers interested in cooperation with the Czech Republic in this field. The machine-tool industry in the Czech Republic ranks among the most highly competitive sectors in the world’s most discerning markets and covers a very diverse range of machine tools and forming machines. Currently, approximately fifty companies are engaged in the production of machine tools and forming machines and components thereof in the Czech Republic. Of these, forty (representing 90% of the total production of machine tools and forming machines) are members of the organization CECIMO (European Committee for Cooperation in the Machine-Tool Industry). The Czech Republic ranks seventh in Europe in terms of total production.

Roughly 90% of Czech machine-tool and forming-machine production consists of highly sophisticated cutting machines designed for the most discerning clients, mainly in the automotive and aerospace industries. The total annual value of machines produced was approximately EUR 657 million in 2008. Roughly 80% of production is exported around the world, mostly to Germany, Italy, France and other European countries, as well as to Russia, China and the United States.

The Czech machine-tool industry produces machines of almost every type and size, primarily in versions with computer numeric control. These CNC machines account for 85% of current Czech machine-tool production. This primarily concerns milling machines, lathes and grinding machines in single- and multi-purpose versions (machining centres). Recently, this has especially involved machines with five-axis control, which are used by customers for production of precision moulds and for shaping very complicated parts from steel, light alloys and other materials that are more difficult to machine, e.g. titanium.

The second most prominent group of machine tools comprises metal-forming machines, representing approximately 10-15% of total production. This product group is represented by mechanical, hydraulic and pneumatic presses, a wide range of forging presses and machines for forming bar stock, sheet metal, etc. In the area of forming machines, the Europe’s five most significant manufacturers operate in the Czech Republic. These companies’ machines are distinguished by their high reliability.

Selected Producers of Metal Cutting Machines

Lathes
TOS HULIN a.s. manufactures vertical lathes specifically for high-precision and efficient turning. These vertical lathes also enable boring, thread cutting, milling and grinding. The table-diameter range is from 1,250 to 5,000 mm.

ŠKOD Blansko Holding a.s. produces heavy-duty vertical lathes used for machining highly demanding rotary water-turbine parts. The company’s lathes have been supplied to 30 countries worldwide.

Drilling, Boring and Milling Machines
KOVOSVIT MAS a.s. manufactures a range of machines for vertical, horizontal, five-axis and portal milling. The company’s product portfolio is aimed mainly at subcontractors for the automotive, energy, aviation and engineering industries.

ŠKODA MACHINE TOOL a.s. produces state-of-the-art milling and boring machines. With their operational range, high power and machining precision, these machines are the best solution for high-precision milling, drilling and boring of large and heavy work-pieces. Grinding, Sharpening, Honing and Lapping Machines Erwin Junker Grinding Technology produces and supplies CNC centre-grinding machines, grinding centres for synchronous cutting, centre-less grinders and special grinders.

Machining Centres
TAJMAC-ZPS a.s. is a top Czech producer of highly efficient machining centres and world-class multi-spindle automatic lathes. The company’s MANURHIN K_MX 432 long-revolving CNC automatic machine was awarded the Gold Medal in the IMT 2008 competition.

TOS VARNDSORF a.s. manufactures table- and floor-mounted horizontal milling and boring machines as well as CNC machining centres with five-axis control.

TOS KURIM-OIS, a.s. focuses on the production of gantry and floor type milling machines and machining centres enabling machining of heavy parts using continuous five- and multi-axis control.

Selected Producers of Metal Forming Machines

Šmeral Brno a.s. produces and supplies forming technology for equipping of forge and press shops. The main product line consists of vertical forging presses, trimming presses, cross wedge rolling machines, hot calibration presses, presses for accurate cold cutting, hydraulic presses for coil forming, etc.

ŽDAS a.s. focuses on production of forming machines, forging presses, metal-scarp processing equipment, rolled-product processing equipment, castings, forging, ingots and tooling especially for the automotive industry.

DIEFFENBACHER-CZ is a prominent Czech producer of hydraulic presses up to 12,500KN for the automotive industry and specialized press shops. The company’s basic production programme also includes transfer presses and hydraulic presses for hot and cold plastic forming and for different technologies such as trimming of die castings, scraping, laminating, etc.
Selected Producers of Metal Cutting Machines

Lathes

TOS HULIN a.s. manufactures vertical lathes specifically for high-precision and efficient turning. These vertical lathes also enable boring, thread cutting, milling and grinding. The table-diameter range is from 1,250 to 5,000 mm.

ČKD Blansko Holding a.s. produces heavy-duty vertical lathes used for machining highly demanding rotary water-turbine parts. The company’s lathes have been supplied to 30 countries worldwide.

Drilling, Boring and Milling Machines

KOVOŠVIT MAS a.s. manufactures a range of machines for vertical, horizontal, five-axis and portal milling. The company’s product portfolio is aimed mainly at subcontractors for the automotive, energy, aviation and engineering industries.

ŠKODA MACHINE TOOL, a.s. produces state-of-the-art milling and boring machines. With their operational range, high power and machining precision, these machines are the best solution for high-precision milling, drilling and boring of large and heavy workpieces. Grinding, Sharpening, Honing and Lapping Machines

Erwin Junker Grinding Technology produces and supplies CNC centre-grinding machines, grinding centres for synchronous cutting, centre-less grinders and special grinders.

Machining Centres

TAJMAC-ZPS a.s. is a top Czech producer of highly efficient machining centres and world-class multi-spindle automatic lathes. The company’s MANURHIN K_MX 432 long-revolving CNC automatic machine was awarded the Gold Medal in the IMT 2008 competition.

TOS VARNSDORF a.s. manufactures table- and floor-mounted horizontal milling and boring machines as well as CNC machining centres with five-axis control.

TOS KUŘIM-OS, a.s. focuses on the production of gantry and floor type milling machines and machining centres enabling machining of heavy parts using continuous five- and multi-axis control.

Selected Producers of Metal Forming Machines

Šmeral Brno a.s. produces and supplies forming technology for equipping of forge and press shops. The main product line consists of vertical forging presses, trimming presses, cross wedge rolling machines, hot calibration presses, presses for accurate cold forging, hydraulic presses for coil forming, etc.

ŽDAS a.s. focuses on production of forming machines, forging presses, metal-scarp processing equipment, rolled-product processing equipment, castings, forging, ingots and tooling especially for the automotive industry.

DIEFFENBACHER-CZ is a prominent Czech producer of hydraulic presses up to 12,500kN for the automotive industry and specialized press shops. The company’s basic production programme also includes transfer presses and hydraulic presses for hot and cold plastic forming and for different technologies such as trimming of die castings, scraping, laminating, etc.
The Czech educational system meets the needs of a competitive economy. The country can provide manufacturers with impressive productivity levels and a highly skilled workforce. According to the 2008 OECD Education at a Glance study, the Czech Republic has a very strong position with regard to the percentage of students graduating in engineering and manufacturing fields.

Each year Czech universities turn out more than 5,000 mechanical-engineering graduates. Moreover, according to an Augur Consulting survey conducted in 2008, 61% of Czechs are able to speak at least one foreign language (predominantly English and German).

With a population of 10.5 million people, the Czech Republic’s workforce totalled 5,264,000 people in December 2008. In October 2009 there were as many as 498,760 Czechs ready to start work.

Secondary engineering schools provide their students with three- and four-year study programmes to prepare them to work as skilled craftsmen and operators in the mechanical-engineering sector. Many of these secondary engineering schools closely cooperate with industrial companies to ensure a seamless supply of highly specialised and skilled workers.

### Well-educated and Skilled Workforce

**Availability of scientist and engineers**

<table>
<thead>
<tr>
<th>Country</th>
<th>Rating from 1 to 7</th>
<th>5.8</th>
<th>5.4</th>
<th>5.2</th>
<th>5.0</th>
<th>4.7</th>
<th>4.6</th>
<th>4.4</th>
<th>4.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td>5.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td></td>
<td>5.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td></td>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td></td>
<td>4.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td></td>
<td>4.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td></td>
<td>4.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Unit Type: Rating from 1 to 7; 1 S&E non existent, 7 widely available.
Source: fDi Benchmark 2009

**Number of R&D companies**

- **Czech Republic**: 4,660
- **Poland**: 1,647
- **Romania**: 435
- **Slovakia**: 623
- **Bulgaria**: 318
- **Hungary**: 298
- **UK**: 635
- **Germany**: 1,047
- **Romania**: 623
- **Slovakia**: 635
- **Bulgaria**: 318
- **Hungary**: 298
- **UK**: 635
- **Germany**: 1,047
- **South Bohemia**: 298
- **Prague**: 768
- **Central Bohemia**: 1,340
- **Mohelno-Labe region**: 331
- **Pilsen**: 329
- **Zlin region**: 99
- **Olomouc region**: 69
- **South Moravia**: 1,369
- **Karlovy Vary region**: 65
- **Moravian-Silesian region**: 1,674

Note: Unit Type: Number of companies in R&D (SIC codes 8731, 8734)
Source: fDi Benchmark 2009
Selected Czech Technical Universities and Mechanical Engineering R&D Projects

**Czech Technical University, Prague (CTU)**
- Second largest technical university in Europe with a history dating back to 1707
- Exchange programmes with foreign universities in over thirty-five countries
- More than twenty thousand students
- R&D centres based at the university include the Research Centre of Manufacturing Technology, Centre for Quality and Production Reliability and Centre for Advanced Technologies and Power Engineering Systems
- Projects with Bosch, CKD Group, Honeywell, Škoda, RWE, ČEZ Group and Porsche-Engineering, among others

**Brno University of Technology (UT)**
- Third largest institute of higher education in the Czech Republic
- The Faculty of Mechanical Engineering comprises 14 technical institutes focused on physical engineering, material science, power engineering, mechanical engineering, industrial science, robotics and many more fields of study
- Projects with Honeywell, Bosch, Siemens, IBM and Škoda Auto, among others
- Technology Transfer Office facilitates the commercial use of knowledge generated at the university

**Technical University of Ostrava (TUO)**
- Second oldest technical university in the Czech Republic
- The Faculty of Mechanical Engineering and Faculty of Metallurgy and Materials Engineering comprise twenty-four departments and institutes including the Energy Research Centre, Laboratory of Rail Vehicles and Nanotechnology Centre
- Projects with Siemens, Vítkovice Machinery Group, Arcelor Mittal Ostrava, Bonatrans Group, Dalkia and Siemens, among others
- The Centre of Advanced and Innovative Technology and Centre for Technology Transfer of TUO ensure lasting and effective cooperation between the Technical University of Ostrava and industrial companies based in the region

**University of West Bohemia, Plzeň (UWB)**
- The Faculty of Mechanical Engineering comprises five mechanical engineering departments currently with over one thousand students enrolled
- The New Technology Research Centre, Railway Research Centre, Research Centre of Forming Technology and Research Centre for Engineering Manufacturing Techniques and Technology are based at the university
- Projects with Škoda Transportation, Škoda Machine Tool, Iscar, Kovosvit, Hofmeister, ČEZ Group, Škoda Power, AHT Energetika and Czech Precision Forge, among others
- The Science and Technology Park is a joint project of the university, the Business Innovation Centre Plzeň and the City of Plzeň that stimulates and commercializes research and development at the regional level

---

**Centre for Advanced Technologies and Power Engineering Systems**

The aim of this institute is to solve problems related to the planned regeneration of Czech power sector. The main focus is on increasing efficiency and limiting negative environmental impacts of coal power blocks working with water steam and supercritical steam. The centre focuses on research in the area of promising alternative-energy sources with practical impact for the power sector. The centre works closely with a number of industrial R&D teams, thus ensuring the effective transfer of knowledge into industrial practice.

[www.ptse.fs.cvut.cz](http://www.ptse.fs.cvut.cz)

**New Technology Research Centre**

The New Technology Research Centre is focused on applied research within which an important role is played by problem-oriented research concerning technological processes, technical and other dynamic systems, and materials. The centre also focuses on development of new specialty materials and measurement of their properties, laser technologies, computer modelling and measurement of special tasks. Laboratory equipment includes laser and photonic experimental technologies, systems for measurement of thermo-mechanical processes, and systems for research and development of new materials and measurement of their properties.

Favourable Labour Costs

One of the main attractions of the Czech economy is its skilled and well-educated workforce available at a fraction of the cost of those in western economies. Differences in remuneration among regions reach approximately 20%. Employees in Prague typically earn more than in other regions (currently 25% above the Czech average).

Business Legislation and Patent Protection

Investors may carry out business activities in the Czech Republic through establishing various and flexible forms of corporate, non-corporate and EEC-specific legal entities governed by Czech law or as individuals in their own name on the basis of a valid trade licence.

Any type of foreign legal entity may also relocate its seat to the Czech Republic and remain under the home country’s internal governance law and shareholder liability law with the conditions of its formation or, alternatively, establish a branch in the Czech Republic. Additionally, foreign companies may enter into mergers, joint-ventures and associations, or establish wholly owned subsidiaries in the Czech Republic.

Such business entities may employ either Czech or foreign citizens, subject to registration and other requirements. Visas, residency permits and work permits can be obtained for key foreign employees.

Investors enjoy the advantages of an advanced (judicial and non-judicial) legal and dispute-resolution system, anti-trust protection and the umbrella of EU protective regulation.

Investors undertaking research and development also enjoy the protection of Czech intellectual-property and patent-protection law, as well as the added protection of EU law and international treaties including the TRIPS agreement to which the Czech Republic is a signatory. Furthermore, incentives are available under the specific innovation programmes launched by the Czech Republic.

For more detailed information, please visit the website of the Ministry of Industry and Trade of the Czech Republic at http://www.mpo.cz/dokument31608.html.

Business Properties Services

CzechInvest’s Business Properties Department Properties was established to cooperate with foreign investors in order to identify locations that perfectly meet their needs and requirements. Services offered by the Business Properties Department include assistance in obtaining financial support from public resources, provision of information pertaining to the real-estate market, organization of site visits, and arrangement of contacts with property owners, state bodies and local authorities. Whether you require space in an industrial zone, a manufacturing facility, a brownfield site or office space, the department’s comprehensive Real Estate Database will help you find your ideal business property.

Case Study Investment

Bombardier Transportation Czech Republic a.s.

A global leader in aerospace and rail transportation, Bombardier started its operations in the Czech Republic in 1998. Since then, the company’s Czech subsidiary has been involved in the production and development of modules, car bodies and double deck loose parts for the Bombardier Transportation group.

The company increased its production in 2009 and hired 100 new workers for production of light rail units and trains. An additional 100 employees will be hired in 2010, thus bringing the planned total to 1,100 employees.

Honeywell Czech Republic

Honeywell chose the Czech Republic for its first R&D facility outside the United States in 1993 when it founded its Prague laboratory, which currently employs 30 engineers and consists of two departments working in the fields of process control and optimisation and data-centric technology. The laboratory closely cooperates with its partners in the US and at the Czech Technical University in Prague. In 2003 the company established Honeywell Technology Solutions, Czech Republic (formerly also known as IDC – Integrated Design Centre and GDC – Global Design Centre), an integral corporate arm of Honeywell International Inc. providing research, development and engineering support to Honeywell businesses. With its world-class engineering talent (over 700 engineers) and state-of-the-art infrastructure, the centre offers product development & support, and research & IT support to cross-company operations in the areas of aerospace, automation and transportation. Close cooperation with the University of Technology (VUT) and Masaryk University in Brno is essential. The Honeywell’s Turbo Technologies Engineering Centre has been operating in Brno since 2008. It is focused on integrated engineering and research services for development and validation of the next generation of turbochargers for both commercial and passenger vehicle applications for customers around the world.
Attractive Investment Climate

The Czech Republic is a fully-fledged parliamentary democracy and one of the most advanced new EU members. Its economic policy is consistent and predictable. An open investment climate has been a key element of the Czech Republic’s economic transition. The Czech Republic has attracted a large amount of foreign direct investment (FDI) since 1990, making it the most successful transition country in terms of FDI per capita. Over 138,000 Czech firms across all sectors are now supported by foreign capital. According to the Czech National Bank, a total of EUR 69.6 billion worth of FDI has been recorded since 1993.

Convenient Tax System

The Czech tax system is similar to those in other developed countries, particularly in Europe. The country’s new, ambitious tax-reform package will result in a more efficient tax system. The corporate income-tax rate is 20% for 2009 and 19% for 2010.

Capital gains

Companies are exempt from tax on capital gains from the sale of shares in a subsidiary resident in the EU or a country with which the Czech Republic has concluded a double-taxation treaty as long as the shares have been held for 12 months. Qualifying holdings are defined in the same way as for the dividend exemption. Management fees are allowed.

Transfer pricing

The arm’s length principle generally applies to transactions between related companies. The OECD Transfer Pricing Guidelines are followed in applying domestic transfer pricing legislation. The Finance Ministry has issued detailed guidelines on what evidence should be available and it is possible to ask for an advance pricing agreement.

Czech credit ratings

Rating Agency | Rating (January 2010)
--- | ---
Moody’s | A1
Standard & Poor’s | A
Fitch IBCA | A+

Source: Czech Government, 2009

National Bank of the Czech Republic

2005 | 2006 | 2007 | 2008 | 2009
--- | --- | --- | --- | ---
GDP (constant prices 2000, %) | 3.6 | 4.5 | 6.3 | 6.8 | 6.4 | 3.8 | 4.3 | 8.3
GDP per capita (PPS/EU-27) | 12,736 | 14,984 | 17,580 | 16,286 | 20,899 | 23,495 | 17,792 | 19,880
Unemployment (avg., %) | 3.1 | 5.9 | 7.6 | 4.5 | 4.5 | 4.4 | 3.1 | 3.1
Trade balance (% GDP) | 0.8 | 2.0 | 0.4 | 2.0 | 2.4 | 2.8 | 3.0 | 3.1
Inflation rate (avg., %) | 0.6 | 2.3 | 2.3 | 2.0 | 2.4 | 2.6 | 2.8 | 2.9
Unemployment rate (avg., %) | 2.9 | 3.6 | 4.2 | 3.0 | 3.2 | 3.4 | 3.0 | 2.9

Source: Ministry of Finance, July 2009

Czech Republic Stock of inward foreign direct investment per head, in USD

<table>
<thead>
<tr>
<th>Country</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009 Estimate</th>
<th>2010 Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>5,423.77</td>
<td>7,806.44</td>
<td>10,830.48</td>
<td>11,589.70</td>
<td>11,639.20</td>
<td>12,142.05</td>
</tr>
<tr>
<td>Slovakia</td>
<td>4,546.62</td>
<td>7,331.66</td>
<td>7,456.92</td>
<td>8,073.30</td>
<td>8,363.80</td>
<td>9,862.39</td>
</tr>
<tr>
<td>Hungary</td>
<td>6,094.54</td>
<td>10,239.24</td>
<td>10,540.58</td>
<td>23,575.90</td>
<td>24,259.20</td>
<td>24,964.50</td>
</tr>
<tr>
<td>Poland</td>
<td>2,351.19</td>
<td>3,293.25</td>
<td>4,169.42</td>
<td>4,035.16</td>
<td>4,277.48</td>
<td>4,566.53</td>
</tr>
<tr>
<td>Germany</td>
<td>7,855.45</td>
<td>9,699.36</td>
<td>12,120.89</td>
<td>12,406.90</td>
<td>12,335.60</td>
<td>12,335.50</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance, July 2009

Wages growth in the Czech Republic

<table>
<thead>
<tr>
<th>Period</th>
<th>Forecast</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal change, EUR per employee</td>
<td>10%</td>
<td>11%</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td>Nominal change, %</td>
<td>8.5</td>
<td>9.1</td>
<td>9.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Real change, %</td>
<td>2.0</td>
<td>2.1</td>
<td>2.3</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance, 2009

Social and health insurance costs

<table>
<thead>
<tr>
<th>Cost type</th>
<th>Employer</th>
<th>Employee</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social insurance</td>
<td>6.50%</td>
<td>0%</td>
<td>6.50%</td>
</tr>
<tr>
<td>Pension fund</td>
<td>4.50%</td>
<td>0%</td>
<td>4.50%</td>
</tr>
<tr>
<td>Other insurance</td>
<td>2.50%</td>
<td>0%</td>
<td>2.50%</td>
</tr>
<tr>
<td>Total</td>
<td>13.50%</td>
<td>0%</td>
<td>13.50%</td>
</tr>
</tbody>
</table>

Source: Patria Online, October 2009
**Doosan Heavy Industries & Construction**

The leading Korean heavy-industry company acquired in December 2009 the iconic Czech power-plant equipment manufacturer Škoda Power. This strategic acquisition will provide the Doosan Group access rights to core turbine technologies and will enhance its broad range of capabilities in the area of core technologies for boilers, turbines, and generators – the three key components of modern power plants. Škoda Power will maintain its principal base of operations in the Czech Republic while retaining the iconic Škoda brand and will obtain access to new markets and customers that were originally served by the Doosan Group.

---

**Komatsu**

This Japanese manufacturer of construction and mining equipment, utilities and industrial machinery invested USD 19 million in the Czech Republic in 2004. Its 230 highly skilled Czech workers produce sheet metal products used in construction equipment produced by the Komatsu Group.

---

**Robert Bosch**

The Bosch Group of Germany invested in the Czech Republic for the first time in 1991, though its first business contacts here were established at the end of 19th century. Since 1991 the Bosch Group has opened five manufacturing plants and a number of sales offices in the country. Currently, the company’s Czech subsidiary employs over 8,000 people and in 2008 achieved turnover of EUR 1.3 billion. Its product portfolio covers the automotive and industrial sectors, with major production focusing on diesel automotive components and industrial thermal technologies.

---

**Sandvik**

This Swedish company is one of the world’s biggest producers of seamless stainless-steel tubes for users with the strictest requirements for quality, affordability, precision and dependability. Established in 2001 with an investment USD 28 million, Sandvik Chomutov (Czech Republic) Precision Tubes, is a branch of Sandvik AB Sweden. The plant employs over 130 people in Chomutov and is worldwide exporter of the straight tubes, U-bends and coiled tubes.

---

**Amagasaki Pipe**

Amagasaki Pipe Corporation of Japan invested in its Czech plant in 2004, when it created 120 jobs. The plant, which is the company’s only European facility, produces copper pipes and other sub-assemblies for air-conditioning units.

---

**Toyo Radiator**

The Japanese company Toyo Radiator invested in the Czech Republic in 2004 when it established a manufacturing plant in Unhost, Central Bohemia. The USD 20 million investment created jobs for 100 people in the production of heat exchangers, which are supplied to another Japanese corporation, Daikin Industries, which also has operations in the Czech Republic.

---

**Comco Europe**

Comco Europe was established in the Czech Republic in 2002 as a subsidiary of Comco Holdings, a Japanese manufacturer of production lines and tube-forming machines. The company focuses on providing customized special machines and workstations for the automotive and other industries throughout Europe. Since its establishment, Comco-Europe has expanded its business activities and services to include investment, design and manufacturing of special machines. This is possible thanks to the availability of highly skilled workers with world-class know-how in the development and design of special metal-forming machines.

---

**Made in the Czech Republic**

Selected High-Tech Mechanical Engineering Investments
OTIS

OTIS, the world’s leading manufacturer, installer and maintainer of elevators, escalators and moving walkways, invested in the Czech Republic in 2000, when it established its Czech subsidiary. Following its positive experience in the Czech Republic, invested another USD 25 million here in 2004. The company’s subsidiary in the Czech Republic employs approximately 300 people at its Břeclav plant in South Moravia.

Ingersoll-Rand

Toyo Radiator

ABB

Honeywell

Trustfin-Vanguards

Windmöller & Hölscher

Honeywell-Aerospace

ABB APV Invensys

Siemens

Brück AMSchaaf Industrie

Bosch

Seiko

Flowcontrol

Baumann Springs

DIEFFENBACHER-CZ

Pramet Tools

Emerson Climate Technologies

OTIS

Danaher Motion

DIEFFENBACHER-CZ

Huisma Holding

Sejong

Evraz Vitkovice Steel

Rieter Group

Huisman Holding

RIEI Group

Siemens

Sejong Group of South Korea invested in the Czech Republic in 2007, when it established a plant for producing car exhausts. The initial investment of USD 22 million provided employment for 250 people. The plant’s output is supplied to Hyundai and Kia car factories in the Czech Republic and Slovakia respectively.

Rieter Group

Established in 2001 with an initial investment of USD 30 million, Rieter CZ s.r.o. is part of the Rieter Group of Switzerland. Rieter CZ consists of four facilities: 1) spun yarn system with development and production of spinning machines and components for textile machinery, 2) components manufacturing focused on development and production of transmissions and drive mechanisms for textile machinery, gluing of belts and conveyors, 3) tooling focusing on development and production of cutting and press tools for plastic and aluminum parts, 4) automotive manufacturing including production of thermal and sound insulation components for cars of all world brands.

Huisman Holding

Huisman Holding, a Dutch special lifting-equipment company, invested in the Czech Republic in 1997 when it established its Czech subsidiary. Huisman Konstrukce s.r.o. The objective of Huisman Konstrukce is to build all types of steel structures for Huisman Special Lifting Equipment and for other companies. The company specializes in designing and manufacturing heavy lifting and offshore equipment such as cranes, plant- and cable-laying equipment, underwater equipment and drilling equipment. The company currently employs approximately 250 people in Svitavy, Czech Republic.

Sejong

Sejong Group of South Korea invested in the Czech Republic in 2007, when it established a plant for producing car exhausts. The initial investment of USD 22 million provided employment for 250 people. The plant’s output is supplied to Hyundai and Kia car factories in the Czech Republic and Slovakia respectively.

Evraz Vitkovice Steel

Evraz Group S.A., a Russian holding - one of the largest vertically-integrated steel, mining and vanadium businesses in the world, accomplished its investment in Czech Republic in 2005, when it acquired Vitkovice metallurgical works. The production portfolio includes plates, sections, sheet piles and flame-cut shapes and is exported to many countries all around the world. The plant consists of three main production lines such as steel plant, rolling mills and flame-cut shapes works which are equipped by three modern flame-cutting burners that are supported by a CNC system.

Danaer Motion

The Danaher group of the United States invested in the Czech Republic in 2001, when it acquired the original Czech company Servo Motory Brno. Since then, Danaher Motion Brno has focused its product portfolio on engines, control mechanisms, mechanical components and other mechanical parts intended for production of packaging lines, medical devices and vehicle equipment. The company has over 289 employees and is among the most highly regarded plants within the Danaher Group.
Engineering Subcontracting Database

Partnership and Sourcing Opportunities in the Czech Republic

Czech engineering companies represent a very well-developed supplier base. These companies supply a number of world markets with a wide range of highly regarded components and services, and are accustomed to dealing with foreign customers and investors. At the same time they meet international and European quality standards. These Czech engineering companies are active in number of sectors including power engineering, transport engineering, machine-tools, automation and general engineering.

Information can cost you a fortune

CzechInvest’s fundamental tool for seeking out suitable business partners comprises its sector databases of Czech companies. The Engineering Database contains nearly 400 high-quality records with a broad scope of information on Czech suppliers interested in long-term cooperation with foreign partners. The databases are regularly updated and supplemented according to the requirements of foreign companies.

http://engineering.czechinvest.org

On our website, you will find an on-line database that is a freely accessible simplified version of our own internal database. Through filtering by sector, technology, products, region, company name and full text, the database enables fast and simple searching for suitable suppliers and partners in the Czech Republic.

The databases represent a complete summary of information on Czech firms in engineering sectors in a user-friendly, graphically vivid environment enabling detailed searching. The sector databases are also available on CD.

Make a date with Czech firms

Leave the legwork to us

Do you want to have a look at the production facilities of your potential suppliers or joint-venture partners? The Czech Republic is a small country, which gives it certain advantages. Over the course of a few days, you can visit dozens of firms in every corner of the country and thus find out which companies will make the most suitable partners.

CzechInvest’s project managers will organise visits exactly according to your requirements. Do you have a list of firms that you would like to check out at first hand? We will contact them for you and prepare the itinerary of your business trip. Are you not sure which firms in the Czech Republic could become your partners? That doesn’t matter, as we will seek them out according to your specifications in our internal database of suppliers.

Please contact us at suppliers@czechinvest.org
**Investment Incentives**

**Technology Centres**

In order to strengthen the Czech Republic’s position as a technology hub in Central Europe, the Czech government supports investments in development activities. Technology centres are defined as centres engaged in research, development and innovation of high-tech products and technologies if there is an expectation that the output of such centres will be transferred and used in production. Aid for technology centres is provided via the Potential Programme.

**Investment Incentives and Other Business Support Measures**

The Czech Republic offers both new and existing investors support covering up to 60% of costs associated with investment projects in manufacturing, technology centres and business support services. Aid is provided in all regions, with the exception of Prague.

**Manufacturing Sector**

Aid for manufacturing projects is provided pursuant to the Act on Investment Incentives and consists in the following incentives:

- **Forms of incentives**
  - **Tax incentive**
    - Full corporate tax relief for up to five years for new companies
  - **Job-creation grants**
    - Partial tax relief for up to five years for existing companies
  - **Training and re-training grants**
    - Financial support for creation of new jobs in selected regions (up to EUR 2,000 per new job)
    - Financial support for training and retraining of new employees in selected regions (up to 45% of eligible training costs)

- **Eligibility criteria**
  - Minimum investment: EUR 2 – 4 mil. depending on the region’s unemployment rate
  - Half of the minimum investment must be financed by the equity of the investor
  - 60% of total investment must go into machinery
  - Machinery must be new
  - No work may be started prior the issuance of Confirmation of Project Registration at CzechInvest
  - The project must be implemented in the Czech Republic outside the territory of Capital City of Prague.

- **State aid intensity map**

*Used exchange rate CZK/EUR 26*

Please contact us at incentives@czechinvest.org
CzechInvest – Your One-Stop Shop for the Czech Republic

Introduction
Since its establishment by the Ministry of Industry and Trade in 1992, CzechInvest has successfully mediated over 1,400 investment projects. Our experienced and dedicated staff will be pleased to provide you with the necessary advice and assistance to ensure the success of your next project in the Czech Republic. All of our services are provided free of charge.

One-Stop Shop for Investors
- Comprehensive services for investors
- Full information assistance
- Tailor-made visits to the Czech Republic
- Handling of investment incentives
- Access to structural funds
- Business properties identification
- Supplier and joint-venture partner identification
- Liaise with government bodies
- Aftercare services

CzechInvest’s – Prestigious Awards
- Best Website among All Investment Promotion Agencies 2009, World Bank
- European Inward Investment Team of the Year 2009, Business Destinations
- Best Practices in Promotion Award 2004, World Investment Forum
- Best Advertisement by an Investment Promotion Agency (third place) 2003, WAIPA
- Best Investment Promotion Agency in the EU Accession Countries of the Year 2002
- European Investment Promotion Agency of the Year 2001
- European Investment Promotion Agency of the Year 2000

General Characteristic of the Sector

Reasons to Invest:
- Strategic position in Central Europe, direct transport access to the EU single market of nearly 500 million consumers
- 150 years of engineering experience in the Czech Republic – continuity of premium-level technological know-how
- Highly educated and skilled workforce, good access to university graduates with technical degrees – over 5,000 mechanical engineers graduate every year
- High concentration of mechanical engineering companies allowing easy identification of business partners and suppliers
- Positive approach of the Czech Government, investment support for up to 60% of eligible costs through a transparent system of investment incentives
- Highly developed infrastructure – both transport and telecommunications
- The most advanced telecommunication infrastructure within the CEE region, creating conditions for establishing regional software hub, supporting this way future material research and precise mechanical engineering
- First-class support from CzechInvest

General Characteristic of Czech Mechanical Engineering

- The Czech engineering sector has a long tradition with the origins of engineering education dating back to 1707, when the Engineering Academy in Prague was established.
- Mechanical engineering has a great history in the Czech Republic. In the period of 1918 – 1938 the then Czechoslovakia was one of the most industrialized countries in the world. The production portfolio of the mechanical-engineering sector in the Czech Republic is extremely broad, including everything from sewing needles to nuclear power plants.
- The general engineering sector (CZ NACE 28) employs 170,000 highly skilled professionals, making it one of the most important employers in Czech industrial production.
- With a production base of more than 1,100 companies, the sector supplies complete plans and manufactures machines (including turbines, transportation and air-conditioning equipment; agricultural, food-processing and construction machinery; and machine tools while also engineering household goods.
- The sector maintains its strong position as a traditional exporter – between 80% and 90% of the sector’s output is exported.
- Whatever engineering sector you are active in, you will always be able to find Czech engineering partners and suppliers, and to hire employees from a large pool of highly educated and skilled professionals.
- The continuous development of the mechanical-engineering sector in the Czech lands dating back to 1707 has resulted in tremendous technological know-how and potential that investors can use to their advantage when expanding their business.
The Partnership to Support Foreign Direct Investment is a joint project of the Association for Foreign Investment and CzechInvest. Through their participation in the Partnership, companies display an active interest in the development of the Czech investment environment and the Czech Republic’s competitiveness in the field of foreign investment, whereas one of the main objectives of the project is to create an effective environment for communication between foreign investors, the state administration and Czech companies. Within the Partnership, a number of prestigious events are organised every year, including the celebratory announcement of the Investor of the Year, Business Property of the Year and Business Project of the Year awards, as well as a range of significant joint activities of the AFI and CzechInvest. The Partnership to Support Foreign Direct Investment is open to all stable companies on the Czech market.

The AFI’s primary purpose is to make the entry of new investors into the Czech Republic as fast and easy as possible. Consultants from the AFI’s ranks are experts in the areas of legal and advisory services, consulting, engineering, project management and other services. Throughout its nearly fifteen years in existence, the AFI has assisted its members in hundreds of successful projects. Thanks to their experience, the AFI’s members are the ideal bridge between local conditions and the expectations of foreign investors.

Jan Bobek, Steering Committee Chairman, Association for Foreign Investment

www.afi.cz