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## Magazine of the Association for Foreign Investment

## Number 4/2008



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## Association for Foreign Investment



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## The Association for Foreign Investment

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## $\mathcal P$ INVESTOR'S CALENDAR

February – March 2009			
February			
10 11. 2.	Shared Services Summit		
	London, UK		
	Conference		
16 18.2.	BioBusiness 2009, Bio-Partnerin		
	Event		
	Geneva, Switzerland		
	Conference		
March			
9 11.3.	BioSquare 2009		
	Lyon, France		
	Conference		
10 13.3.	MIPIM		
	Cannes, France		
	Trade Fair		
22 26.3.	Shared Services Week		
	Orlando, USA		
	Conference		



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## **Czech Presidency Takes Off**



As is the case with all presidencies of the Council of the European Union, the agenda of the day is set largely by current affairs. The most critical issue that the Czech presidency will face is facilitating a coordinated response to the financial crisis and economic recession across the Union. While massive state interventions in industrial countries aim at stabilising the banking sector, an economic recession has crept in through the back door.

The single market is pivotal for the future of Europe, as was foreseen by the EU founding fathers and as is repeatedly stressed by Prague. Barriers to the single market diminish the competitiveness of European industries. The prosperity of EU citizens can be sustained only when the economy provides the means. The Czech priorities specifically mention, for example, a flexible labour market and less red tape for business. Only after we have the means can we address other threats confronting Europe encounters, whether climate change or the credit crunch. First things must always come first.

Due to the principle of subsidiarity, the European Union cannot supersede national governments' responses and policies to stimulate the economy. The Union's role is to ensure that member states' measures respect common rules. Changes in economic policy in one state must not harm its neighbour. At the European level, the Czech Republic is keen on promoting such initiatives which increase competitiveness, stabilise financial markets and increase labour mobility. There must be no drift towards protectionism or excessive regulation of business. Economy and efficiency are at the top of our agenda.

In a long term, the Czech Republic is determined to increase the security of EU energy supplies and to improve relations with countries within the Eastern Partnership and in the Western Balkans. Contacts with the new US administration will be initiated during the Czech Republic's presidency. Just to demonstrate the extent of negotiations that the Czech Republic is going to handle, in the six months of the presidency we will organize 2,200 expert meetings. In the field of energy security, Prague will, for example, initiate a supply-and-demand analysis across the 27 member states, which have a total population of half a billion people.

With authority comes responsibility. The Czech Republic has an historic opportunity to chair continuous diplomatic negotiations between European countries. With Brussels being perceived as a centre of technocrats and bureaucrats, some of the goals that the Union is striving to achieve are worth reiterating within the Czech presidency. The Union exists to ensure common peace and prosperity. The past 50 years of the Union's existence have proven that even in turbulent times Europe can pull together. Prague is determined to lead the way.

> Milena Vicenová, Ambassador to the EU

## **Headline news**

Global crisis threatens world economy. According to a statement issued by the Czech National Bank, the Czech financial system remains relatively insulated from the global financial market crisis, as the earnings of domestic banks are primarily from retail banking and their exposure to risky assets and problematic global banks is minimal. Banks' dependence on financing from foreign markets is minimal.

- However, the automotive, mechanicalengineering, glass and musical-instruments industries in particular are facing difficulties due to the crisis. The current unfavourable situation is also threatening the hotel, advertising and real estate sectors in the Czech Republic.

The Czech Social Democratic Party (ČSSD) has won both the regional and Senate elections in November (2008). The previously dominant Civic Democratic Party (ODS) failed to defend its leadership position in a single region and the Christian Democrats, Communists, and Greens fared worse than in the preceding elections.

## **Politics and Legislation**

The opposition failed to remove the cabinet of Prime Minister Mirek Topolánek in a recent no-confidence vote in December (2008). Ninety-seven MPs opposed the no-confidence vote, seven abstained, and only 96 no-confidence votes were cast.

Czechs do not need visas when travelling to the States United as of 17 November. Czechs travel to the US based on a form from the electronic authorization system that they fill out for the American authorities online before their departure.

Czech Parliament has approved the new criminal code. A total of 25 acts amended. were The main changes include criminal li-

Hyundai Motor Manufacturing Czech

plans to produce 185,000 vehicles in

2009.

ability starting at age 14, stricter penalties for some crimes, and an updated definition of prohibited substances

The amendment to the Act on Third-Party Liability. which introduces stricter measures against owners of vehicles without insurance coverage, introduced additional sanctions as of I January 2009.



The Czech Republic continues to attract global firms. IBM and the Swedish firm **AF-Kontroll are preparing headquarters** here.

All applicants for permanent residence in the Czech Republic have to pass a Czech language test as of I January. The internet portal www. cestina-pro-cizince.cz has been launched to help applicants prepare for the test.

Russia is offering the Czech Republic a unique agreement that would secure the country direct deliveries of oil without the participation of private Russian intermediaries. No EU country currently receives Russian oil directly from producers.

According to Finance Minister Miroslav Kalousek, adoption of the euro in the Czech Republic in 2012 is no longer realistic.

> Mortgages will again be subsidized by the state as of 2009, as the average interest rate will exceed 5% this year, which means that subsidies will total one percentage point. The current average rate as measured by the Hypoindex is 5.63%.

Parliament approved in a fasttrack process an increase in bank deposit guarantees to 100% of the value of deposits up

**Economy** 

to a maximum of EUR 50,000.

The Czech National Bank cutinterestrates by 0.05 percentage point. The key rate (two-week repo rate), on which commercial-loan interest rates are based on, thus dropped to 2.25% effective December (2008). The Czech Republic thus has the lowest rates in the entire European

Union. Due to the global financial crisis banks are not allowed to lower rates on mortgages.

According to the Automobile Industry Association, domestic automobile companies could lay off up to 2,500 of their 130,000 employees last year. This is due not only to the global economic crisis but also to the strong crown and increases in the prices of raw-material prices, particularly iron.

The Ministry of Industry and Trade will release CZK 16.3 billion for small and medium-sized enterprises from the Operational Programme Enterprise and Innovation, instead of the originally planned CZK 9.5 billion. The increase in funding is aimed at assisting firms that now face problems obtaining bank credit.

In the past seven years the average hourly wage in the Czech Republic has seen a real increase of 41%; the average wage increase in EU countries was only 8% in the same period. However, average hourly wages in the Czech Republic remain lower than those in Western European countries.

According to the Czech National Bank, foreign direct investments totalling CZK 132 billion flowed into the Czech Republic in the first three quarters of the year 2008, up from CZK 119 billion in the same period of last year.

Electricity prices are at their highest level in six years. ČEZ and Pražská energetika are increasing prices by 9.9%, E.ON, which delivers power to the south of the country is raising prices by 16.4%.

#### **Business**

• The German carmaker Porsche has established its regional headquarters for Central and Eastern Europe in Prague. It will be responsible for the sales, service, PR, and marketing activities of 34 Porsche dealers in 23 countries of the region.

• The ČEZ group generated CZK 41.47 billion in consolidated net profits in the first three quarters of the year 2008; this represents a y/y increase of 40 %. In related news, representatives of the ČEZ and Akkök groups have signed an agreement on strategic cooperation in the Turkish energy sector. ČEZ also has won the tender for a majority 76% stake in Albania's sole electricity distributor and will sign an agreement on the completion of two blocks at the "black Water" power plant in Romania.

• Lumen Energy is also entering the household electricity market. The company will begin supplying households with power in January 2009. The following year it should also be able to offer households combined deliveries of electricity and natural gas.

Construction of one of the largest solar energy production facilities in the Czech Republic and Central Europe

will begin in the Třebíč region this year. The solar panels in the cadastral area of Kožichovice will cover an area of seven hectares, roughly the size of ten football fields.

The mechanicalengineering group Vítkovice Holding will build a network of 50 to 100 compressed natural gas filling stations in the **Czech Republic by** 2020. The stations, which will be called CNG vitall, should be built on strategic traffic arteries and in large municipalities.

In October 2008, the carmaker Škoda Auto lowered the prices of all of its models. This measure was taken due strengthento ing competitive pressure and the global financial crisis. Dealwelcome ers this move and claim it should deter customers from buying new Škoda vehicles in Western Europe.

Hyundai Motor Manufacturing Czech, which recently began series production of passenger cars in Nošovice in



According to Finance Minister Miroslav Kalousek, adoption of the euro in the Czech Republic in 2012 is no longer realistic.

one of the largest in the world.

Poděbradybased Sklárny Bohemia, which a subsidiary of Bohemia Crystalex Trading, is closing, with the resulting loss of nearly 500 jobs. Like Sklo Bohemia of Světlá Nad Sázavou and Karlovarský Porcelán, the company is bankrupt.

 The Tesco Stores ČR employees' union called a strike due to what

the Frýdek-Místek, plans to produce 185,000 vehicles in 2009.

Medicon plans to invest almost CZK
 billion in the completion and renovation of a health clinic in Prague.
 The new healthcare centre should be double the size of the current facility.

IBM has won the tender for the digital state treasury project. The company had competed for the contract against Hewlett-Packard. Logica, and SAP ČR. The goal of the project is to connect all state organizations and to build a system that will speed up their accounting while also making it more transparent.

The Japanese electronics manufacturers Panasonic and Sanyo are in discussions on a possible merger, which would create Japan's biggest electronics company and they allege is a low number of employees at stores during the pre-Christmas period. Tesco promised to add staff at stores and the unions have thus abandoned their planned protests for the time being.

## **Miscellaneous**

• The Czech Republic continues to attract global firms. IBM and the Swedish firm AF-Kontroll are preparing headquarters here due not only to the country's favourable location, but also to the knowledge and skills of the local workforce. Adobe, Parker Hannifin, and DHL already run their Central European operations from Prague.

• Two Czech firms rank among Central Europe's Top 10 companies. Škoda Auto and the energy giant ČEZ are the highest ranking Czech companies in Central Europe's Top 500, a ranking published by Deloitte.

For the first time, Charles University and the Czech Technical University are among the world's 500 best universities according to the THES ranking compiled by the British daily The Times.

Sources: Czech AM by the Czech Information Agency, Česká tisková kancelář, Česká informační agentura, MF Dnes, Právo, Lidové noviny, Hospodářské noviny, E15, Profit, Euro, Czech Business Weekly, iHNed.cz, Aktualne.cz, Novinky.cz, iDnes.cz, MediaFax



The Czech financial system remains relatively insulated from the global financial market crisis.



Humans have the unique ability to convert matter into energy and to consume such energy. This has been true since prehistoric times, when thermal energy was produced exclusively. However, intensification and development in this area began in earnest with the industrial revolution, when wood, the basic raw material for energy until that time, could no longer meet the needs of that time. The basic energy source of this era has been fossil fuels (coal, oil, natural gas) derived from plant matter.

The acceleration of technological progress over the past century is unparalleled in human history. Together with technological progress, there has been an accompanying growth in worldwide piece of clothing, every relocation of goods and people requires consumption of external energy.

Every citizen of the European Union, and the developed world for that matter, is to a greater or lesser extent dependent on three types of energy: heat, electricity and energy contained in fuels used to power vehicles. As densely populated developing countries catch up to the developed world, energy consumption is growing apace, leading to the eventual, irreversible exhaustion of our supplies of fossil fuels. The time horizon for this has been estimated by numerous respected institutions and organisations. The scenario of trends and expert opinions and predictions often differ significantly. The general trend is shown in Table 1.

#### **Renewable Energy Sources**

The logical question is how the situation will look in 20, 30 or 50 years. Will we manage to reduce our dependency? Yes, we will, to a certain extent. Improved efficiency of modern technologies, development of nanotechnologies and perhaps a change of lifestyle will possibly bring about humanity's reduced energy dependence. Nevertheless, society cannot function without energy. The agglomerative structure of society developed over the past two centuries, i.e. cities and large agglomerations, is built fundamentally on the needs of transportation and thus energy. In other words, society is built on something that is only temporary.

energy demand and consumption. It is true that modern society is utterly dependent on energy. Electric lights, household appliances and motorised travel are not only easily available, but are considered essential aspects of life in most parts of the world. Energy dependence became an issue that was largely ignored. Few people recognise how intensively they consume energy. Each common product, every





Extraction of fossil fuels (coal, oil, gas) is no longer the only method of acquiring energy, as renewable energy sources have gained prominence in recent years. In comparison with extracting fossil fuels, in the case of renewable sources it is necessary to perform certain additional work, i.e. invest energy in the creation of an energy source together with nature. This is clearly a drawback of producing energy from renewable sources.

The most accessible and common renewable energy sources today are:

- wind energy
- solar energy
- hydropower

geothermal energy biomass



All predictions indicate that the main source of renewable energy in future will be biomass. Each organic substance on earth contains, to a greater or lesser extent, two basic elements hydrogen and carbon, which are the elements that comprise the hydrocarbon chain of oil. All biomass contains, in addition to carbon and hydrogen, a whole spectrum of other chemical elements that can be used. Neither the first nor the second generation of biofuels has sufficiently used the full potential of biomass. Therefore, the prospective bio-refining approach is spoken of as the most effective method of using biomass. At this stage of technological progress, we have come to the extraction of everything that can be used and "otherwise worthless" substances are coming into processes of energy generation. The burning of biomass, as practiced today, will very probably be seen as barbaric and wasteful by future generations. The current reality of this three-part chain looks thus:

- I. Biomass
- 2. Use of biomass for generating energy
- 3. Chemical-technological conversion of biomass into fuel

#### **Biomass**

Biomass is the least well known in this chain. Nature offers a large and diverse scale of lignocellulosic plants and crops, but societal and environmentally conditions radically limit this scale. A basic limitation that hinders the first generation of biofuels consists in the priority of food over energy. This rather controversial limitation excludes primarily all agricultural products food crops (sugar beets, sugar cane, corn, soy and other sugar-rich and thus easily fermentable crops) and secondarily cultivation of energy crops on agricultural land (e.g. reynoutria, helianthus, sorghum, carthamus, cannabis, amaranthus, rumex, etc.) that are very promising for use in generating energy.

What remains after agricultural lands have been excluded? Grasslands, disused agricultural by-products, forests and wetlands unsuitable for agriculture. In the case of grasslands, the way is blocked by the EU's grant policy, which is set up in such a way that it suffices for owners to mow fields and obtain a grant without significant costs on the part of the owner. In this case, Newton's second law of motion clearly applies and we can thus exclude such fields from areas for potential biomass production in the near future.

According to agriculture experts, agricultural by-products, mainly straw, should be ploughed into fields as fertilizer after harvesting. How much of such material should be ploughed under and how much can be taken from the field? Currently, no one can give a qualified answer to this question. Nevertheless, we will not scratch agricultural by-products off the list of biomass sources, though we can consider their use as an energy source as relatively risky.

Prices of timber and industrial wood in developed countries currently make the use of these raw materials in energy generation unrealistic. However, uncontrolled extraction for energy purposes in poorer parts of the world represents an environmental threat. It is necessary to introduce certification regulations in order to prevent the destruction of the Brazilian rain forests, for example.

The least problematic potential source of biomass today is short rotation coppice (SRC), particularly willow and poplar. Here, however, the limiting factor is the necessity to preserve biodiversity. The question is how much land can be planted with SRC. Biodiversity experts have not come up with an exact answer.

It is clear that biomass has a very controversial connotation and it will not be easy to ensure problem-free availability of biomass in large quantities. The solution will probably not lie in a single type of biomass but in a full portfolio of the aforementioned sources while observing the rules of biodiversity and logistical limitations.

However, there exist two promising sources of biomass - municipal solid waste (MSW) and algae, particularly micro-algae. MSW presents a significant challenge in the area of separation and classification. Algae have very good prospects as it involves fewer difficulties. It is the fastest growing plant matter in the world and the presences of carbon dioxide, the main greenhouse gas, is essential for its growth. These two factors comprise the driving force in R&D activities aimed at controlled large-volume production of algae. Research in this area has enormous potential to make a positive impact in the field of renewable energy sources.

#### Use of biomass in energy production

There are three competing interests in the area of biomass usage - heat, electricity and fuels for powering vehicles. Priority is given to power-generation in national energy strategies. Some countries (including the Czech Republic) base their

energy policies on nuclear power, while others reject nuclear power (e.g. Germany's energy policy includes provisions for gradually shutting down that country's nuclear reactors by 2025). It is logical that these different national strategies should involve long-term development of biomass for use in power generation in individual countries.

The Czech Republic's long-term energy strategy was outlined by the Pačes Commission, which confirmed and more or less recommended nuclear energy as an alternative source to meet the Czech Republic's future energy requirements. Unlike in other European Union countries, Czech society has long had a very positive opinion of nuclear energy. These two facts lead to the conclusion that the Czech Republic should support the use of biomass for production of biofuels. The situation is thus diametrically different than that in Germany, which will be without nuclear energy by 2025, making it necessary to use biomass in all three main areas of energy production.

## Chemical-technological conversion of biomass into liquid fuel

Current liquid fuels based on oil have a relatively simple framework comprising diesel, gasoline and, to a lesser extent, liquefied hydrocarbon gases. The range of first-generation motor biofuels is being expanded with ethanol and possibly butanol in the area of gasoline fuels and fatty acid methyl ester (FAME) in the area of diesel fuels. The second generation is further expanding the



### **D** Table 4: Biochemical method



possibilities of biofuels. Fischer-Tropsch synthesis is a well-known technological process that has been employed since the 1950s in the Republic of South Africa where liquid fuel is produced from coal. Natural gas can also serve as the input raw material. A similar method can be used to produce liquid fuel from biomass. The basic means of conversion are:

**Fermentation** – decomposition of sugars. This method has greater potential for production of gasoline-type fuel.

**Gasification** – conversion into gas and subsequently liquid fuel using Fischer-Tropsch synthesis. This method is more effective for production of diesel-type fuel.

**Digestion** – in the area of biogas stations, where the resulting product is biogas, i.e. gas rich in methane. A promising aspect in this area is the possibility of local injection of methane into existing gas mains with subsequent single reception in a technology centre that will convert the methane into liquid fuel. Existing gas mains should thus serve as a transport system for the semi-finished product (methane). This logistical advantage is very significant.

The **biochemical method** uses enzymatic and fermentation processes to produce ethanol and byproducts. Production of ethanol from sugars and starches is a well-known technology with millions of tonnes in annual production. More costeffective processes are continually being sought for using this technology to produce ethanol from a broader range of raw materials, particularly lignocellulose.

Table 5 illustrates the technological process for

#### $igodoldsymbol{ ho}$ Table 5: Technological method



>> Sector Focus

three types of raw materials – sugar-rich, starchy and lignocellulosic. In all cases it is necessary to achieve dissolution of sugars. In the case of starchy substances, dissolution is achieved relatively easily through hydrolysis; with lignocellulosic materials, it is more difficult to break down the cell structure and enzymatically reduce cellulose to lower sugars. The necessary pretreatment fundamentally complicates the entire process.

The **thermochemical method** involves a process of thermochemical dissolution of lignocellulose and is characterised by the use of high termperatures (500-1,500°C) for conversion of solid biomass, either flash pyrolysis at lower temperatures in the case of bio-oil, or high-temperature gasification. Lignocellulose can serve as the raw material.

Bio-oil is a promising, less energy-intensive solution that is more suitable for local processing at the rural level. The process takes place under atmospheric pressures. The resulting product, bio-oil, has a high energy content (approx. 19 GJ/tonne). However, it is a highly acidic liquid with pH 3 and mainly this acidity precludes its use in other applications. Refinement is effected either through subsequent deoxidation or hydrogenation (still in the research phase) or it can be used for energy purposes in a stainless environment during compustion (e.g. turbines).

Gasification is a more energy-intensive process. However, its advantage lies in its lower sensitivity to the type and pretreatment of the input biomass. Simply stated, anything can be

### Table 6: Czech Biofuel Technology Platform

- Research Institute of Plant Production energy crops
- Research Institute for Landscape and Ornamental Gardening – focused on SRC (willow, poplar)
- Institute of Forest Management
- Třeboň Microbiology Institute algae and micro-algae
- University of South Bohemia research in the area of using trefoil
- Institute of Chemical Technology, Prague
- Research Institute of Inorganic Chemistry
- Institute of Chemical Processes, Academy of Sciences
- Brno University of Technology
- Ministry of the Environment

gasified and the product is synthetic gas (SYN-GAS) composed mainly of CO and  $H_2$ . This intermediate product is distinguished by its broad scale of possible subseqent conversion into biofuel.

## Energy in transportation in the Czech Republic

In 2007 the Association of the Chemical Industry established the Czech Biofuel Technology Platform (CBTP) as a mirror organisation to the European Biofuel Platform. The CBTP thus has a similar structure of working groups and benefits from the involvement of a wide range of specialists in the areas of agriculture, chemical technology and sustainability.

The CBTP's work will be professionalized beginning in 2009 with Czechlnvest's support within the Operational Programme Enterprise and Innovation. Nevertheless, the platform has already identified the most logical and effective step on the path to large-volume substitution of biofuels in the Czech Republic, which is the establishment of a testing and research institute for the production of SYNGAS.

Technology from the Austrian firm REPO-TEC, which has five years of successful experience in Güssing, is considered ideal for the conditions in the Czech Republic. Research within the pilot unit will be implemented in several areas:

## I. Variability of input raw materials and influence on the chemical process

Research will be focused on the possibilities of processing various types of biomass and municipal waste with evaluation of the input, i.e. the quality and quantity of SYNGAS.

## 2. Optimisation of the process in the area of fluid gasification

## 3. SYNGAS and its further possible energy uses in energy

Primarily Fischer-Tropsch synthesis and other possibilities of chemical usage of SYNGAS.

The aim of the project will be to involve the Czech Republic's full scientific potential in this area and to offer a real possibility of research in the area of second-generation biofuels. The advantage of the project lies in the fact that production of SYNGAS will produce electrical energy on motors (output of approx. 2.5 MW), which will in turn ensure financing for the research.

Other goals of the CBTP mainly concern the mapping of the Czech Republic's RES potential at the level of cadastral territories. This potential consists in energy corps and by-products of mining, as well as wind and solar energy. The resulting map should define the energy potential at the local level



(thus in randomly selected areas). In future the BIOPOTENTIAL MAP should be the primary tool for optimising decision-making in the area of determining which type and scale of conversion technology for the given biotope is suitable in the long term.

Another ambition of the CBTP is to initiate research in the area of micro-algae and the large-scale production thereof in cooperation with the Institute of Chemical Technology in Prague, the Microbiology Institute and experts in the field of artificial light. The CBTP considers it important to closely monitor the method of methane production, its enhancement and mixing with natural gas.

## The future: RES as an important branch of industry

There is the greatest probability that renewable energy sources will become a very important industrial sector within decades. The main problem, however, will be resources – mainly biomass and assurance of its production. Here there are numerous nice-sounding but undefined and inexact terms – biodiversity, food security – and the economically feasible large-scale production of biomass is, and will be, the most problematic aspect of this industrial sector.

Today's relatively simple formula of oil = diesel and gasoline will be more complicated in future. There will not be only one "optimal" biomass source and the scale of biofuels will be more diverse. Besides the progress of science and research, today it is necessary to answer questions pertaining to the rules of long-term sustainability. It is necessary to go beyond the theoretical level and transform findings into clear operational rules and to avoid the uncoordinated process that was prevalent in the case of first-generation biofuels.

> Leoš Gál, Association of the Chemical Industry of the Czech Republic

Karel Ciahotný, Institute of Chemical Technology in Prague



## Before you begin construction...

Having found the perfect location for a new office complex, warehouse or factory, an investor must first complete a demanding administrative process before laying the cornerstone of the new facility. The following article addresses this issue and briefly describes the necessary steps that must be taken before construction can begin.

The investor should at first investigate the status of the respective land in light of the type and size of buildings that may be constructed located there, if any. The main restrictions may result from the urban development plans and other zoning documentation prepared pursuant to Act No. 183/2006 Coll., on Urban Planning and the Building Code (the Building Act), as amended. With very few exceptions, the Building Act does not allow the placement of new buildings in areas that are not designated for construction by the urban planning documentation or in areas within the boundaries of an existing built-up area. Another threat to potential development can be a construction ban, i.e. a measure of a general character issued by the respective city council restricting or prohibiting construction activity in a given area for a defined period of time. If such a construction ban is in place, a potential investor can ask the respective city council for an exemption. There is no right of appeal against the denial of an exemption.

If the existing urban planning documentation does not prevent the intended construction of a new commercial property and no construction ban applies, the investor can start zoning proceedings, which typically result in the issuance of a zoning permit for the placement of a new building or facility. Nonetheless, the Building Act has newly introduced cases in which zoning permits cannot or do not need to be obtained. A zoning permit cannot be issued with respect to an area for which a regulation plan is in place, assuming that it applies to a built-up area or an area designated for construction. A regulation plan is a measure of a general character that represents a more detailed version of the urban development plan and already provides e.g. limits on the use of individual land plots and the location of public infrastructure. If such a regulation plan is applicable, the investor may skip the phase of obtaining a zoning permit and can directly apply for a building permit. As an-



other alternative to the zoning permit, the investor may seek to conclude a public law agreement with the building authority.

Although both of the above-mentioned alternatives to the zoning permit are applicable pursuant to the Building Act, in our experience they are infrequently used in practice.

In addition, in specified simple cases a zoning permit is not required at all, as it can be replaced by zoning consent (for which no typical administrative proceedings are held), or it can be combined with the building-permit proceedings. Taking into consideration that construction of a new commercial property is not usually a simple matter, we shall not comment further on other alternatives to the zoning permit.

Should the investor apply for the standard zoning permit, the procedure is as follows: The zoning permit can be obtained on the basis of the zoning proceedings held before the competent building authority. The applicant must deliver to the building authority the initial project documentation of the intended commercial property, documents proving ownership title to the land or documents proving the applicant's right to construct the relevant property (e.g. future purchase contract, easement contract, possibly also a lease contract or at least the owner's consent to the construction), opinions of the owners of technical and transport infrastructure and decisions or binding opinions of the concerned authorities.

One of the most important opinions frequently required is the environmental impact assessment (EIA) of the future commercial property. The EIA report is required in cases specified in Act No. 100/2001 Coll., on Assessment of Environmental Impact, as amended. Generally there are two categories of development affected by EIA. Firstly, the respective act defines the types of construction that must always undergo and environmental impact assessment (e.g. cement factories, hazardous-waste disposal facilities). Secondly, the respective act also defines categories of structures that may be required to undergo a full EIA depending on the decision of the relevant public authority in each specific case. Warehouses and commercial complexes including shopping centers with a built-up area of more than 3,000 m<sup>2</sup> belong in such categories.

If the investor intends to locate a new commercial property on arable land, is also necessary to obtain the approval of the relevant authority to have the land affected by the future construction removed from the agricultural land fund. Our client's recent experience shows that the relevant authorities have started to be very reluctant to issue such approval and try to use this approach to make investors shift their potential investments into brownfield development.

Other than the investor applying for zoning permits, participants in the zoning proceedings include the municipality in which the construction is to take place, entities having ownership or other proprietary rights to the land directly affected by the construction, owners of neighboring real estate as well as entities having other proprietary rights to neighboring real estate and entities defined by specific legal regulations, such as ministries or possibly associations focused on environmental protection. All participants in the zoning proceedings may raise comments and protests in the proceedings and they can also file appeals against the issued zoning permit. Until such appeals are settled and the zoning permit takes legal effect, the investor cannot proceed to the final stage, i.e. the building-permit proceedings.

Along with the building-permit application, the applicant must submit the detailed project documentation of the planned commercial real estate, documents proving ownership title to the land and documents proving the applicant's right to construct the relevant property (at this stage simple owner's consent to the construction is no longer sufficient), opinions of the concerned authorities (if obtained by the applicant directly) and a schedule of inspection days during the construction.

Participants in the building-permit proceedings are defined more restrictively as the applicant, the owner of the land on which the construction is to take place, the entity having ownership and other proprietary rights to the land (assuming that such entity's other proprietary rights may be affected by the construction), owners of the neighboring real estate and entities having easement rights over the neighboring property assuming that their ownership/easement rights may be affected by the construction and possibly other entities defined by special legal regulations. Again, all participants in the building-permit proceedings may raise comments and protests in the proceedings and also file appeals against the issued building permit. Until such appeals are settled, the building permit cannot take legal effect.

As in the case of zoning-permit proceedings, there are also some cases in which a building permit is not required at all or can be replaced by, for example, building consent or a public law agreement concluded with the respective building authority.

In summation, an investor may lay the cornerstone and begin construction of a new commercial property only after the full administrative process has been crowned with the building permit taking effect or issuance of an alternative.

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The greatest danger for a firm is not its competition, but the dissatisfaction of its own employees who are lacking motivation. The world of work is in constant flux, whether in the Czech Republic or elsewhere. The success of a company's business strategy does not depend only on the quality of its structure and processes, but primarily on the requirements that its employees must fulfil. The management of companies around the world are increasingly aware of the crucial relationship between a company's performance and the people that it employees.

Organisations that undervalue their corporate culture and a positive atmosphere in the workplace are obviously more prone to losing good people who have become exhausted in their positions or whose needs have not been met. Strengthening the motivation of employees is one of the key goals of today's human resources professionals. Surveys focusing on job satisfaction are very closely linked to this topic and comprise a modern tool in the area of human resources based on the principles of sociological and socio-psychological research.

## **Employee surveys**

## as a source of feedback

Surveys provide crucial and often hard-toobtain feedback from a very important source – employees – by mapping the general level of workers' satisfaction and key attitudes that determine occupational behaviour. For a parent company that has branches in the Czech Republic, for example, such surveys offer valuable information serving as the basis of integral elements in the HR area that reinforce the entire company's identity.

Employees are questioned in detail about their opinions on the firm's current situation and thus become key actors with the possibility to be heard and to influence events. The attention they receive in this respect is repaid to the firm many times over. Surveys gauging the employees' level of satisfaction give rise to the possibility of targeted measures in the area of human resources.

Using surveys, it is possible to determine employees' concerns while mapping the corporate culture and the means of communication within the company, as well as the quality of the work environment, which plays a key role in the company's efficiency. Satisfaction surveys reveal the role played by the corporate culture and how well the company's strategy is being implemented and the extent to which its goals are being achieved. It is thus possible to obtain concrete findings on the most various occupational indicators and to determine the extent to which these motivate employees, if at all, and to subsequently assess whether the company is making adequate use of them.

- The most commonly assessed factors in employee-satisfaction surveys are:
- work environment and atmosphere
- internal communication
- the current management's leadership style
- financial evaluation
- non-financial evaluation
- employees' future prospects for advancement and further development within the organisation
- possibility of further education

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#### The importance of good preparation

The preparation and realisation of a survey can take several weeks depending on the number of respondents and scope of the survey. Before a survey commences, it is important to state the initial hypothesis, i.e. to determine the reason why the employeesatisfaction survey is being conducted. Is there a particular apparent problem or specific reason to believe that the employees are dissatisfied? All of these aspects should be discussed at the management level and incorporated into the questionnaire's individual themes.

A survey can take the form of a printed or online questionnaire, or can involve in-depth interviews based on a questionnaire with openended questions.

The survey process thus includes the formulation of a questionnaire and the technical parameters for obtaining results, addressing the respondents or carrying out interviews, and setting deadlines for collecting the completed questionnaires, processing and evaluating the data contained therein, and presenting the results to the company's management.

It is necessary to survey groups of respondents according to various criteria (position, age, length of service with the firm, gender, etc.). This enables precise targeting of newly determined measures. The survey results should make it possible to design a long-term personnel programme with which the employees should be familiarised.

The return rate of the questionnaires and the success of the project depend to a significant extent on the method used to inform the employees of the project. It often happens that a company's management fails to effectively communicate the necessity of such a project to the most important target group. Employees must be made aware of the importance of their feedback; otherwise the survey could actually be counterproductive.

#### The advantage of external agencies

It has been shown that surveys have a higher return rate if they are conducted by an independent external firm in close cooperation with the client company. Employees are more open with an impartial interviewer, resulting in a more objective survey.

The agency conducting the survey handles the entire process of questioning the employees and processing data, thus ensuring the necessary impartiality, openness of respondents, anonymity and data authenticity. These are all necessary factors in ensuring quality results and a high level of objectivity. When selecting a suitable service provider, it is necessary to take into account such provider's professional capabilities, methodology and practical experience, as well as the scope of the provided services.

A properly conducted survey allows detailed quantitative and qualitative evaluation in various categories. The result of the entire project consists in a report containing the processed results viewed from various angles and final recommendations. The results are presented to the company's management.

#### What surveys say about Czech employees

Most companies around the world are faced with the problem of inefficient use of their employees' working time. For example, in Great Britain employees effectively use only a little more than half (51%) of their time reserved for work. Statistics show that in Czech firms this figure is 59%. The reasons for this can be revealed by employee-satisfaction surveys. The main causes are low morale, insufficient motivation and poor internal communication.

Without feedback from employees, it is impossible to effectively build a targeted programme to promote motivation and loyalty among employees. This is important, as there is a clear link between satisfied and motivated employees and loyal, satisfied customers. Employees of Czech firms also admit that their job satisfaction has a direct impact on their performance.

Satisfaction surveys often reveal the lack of attention companies pay to internal communication. Employees cannot be expected to work with enthusiasm if they are not aware of the company's direction, the principles of its strategy or what it wants to achieve on the market. Another common stumbling block is poor interdepartmental communication, which negatively impacts employees' efficiency, motivation and morale. Fortunately, it is relatively easy and inexpensive to make improvements in this area. All it takes is giving your employees the chance to speak out.

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## The attraction of similarities

## Focus on Benelux investors in the Czech Republic

It is said that Czechs are Slavic Germans. But based on numerous encounters with investors from the Netherlands, it is apparent that Czechs are really Slavic Netherlanders. The Dutch themselves have said that they have a lot in common with their Czech counterparts. This is possibly one of the reasons why the Czech Republic is visited by large numbers of Dutch tourists and why the Dutch comprise the second most active investment community in the country according to the Czech Nationa Bank, immediately behind the Germans. In short, similarities are attractive.

Benelux, which can be considered the forerunner of today's European Union, came into being in 1948 as a customs union of Belgium, the Netherlands and Luxembourg. The Benelux countries have a total of four official languages: Dutch, French, German and Luxembourgish. A common characteristic of these countries is that small and medium-sized enterprises account for a large proportion of GDP, which is explained at least in part by a well-developed and longstanding system of university education and a sophisticated system of support for startup and spin-off firms.

Despite a significant decline of its manufacturing sectors, the Benelux countries have managed to preserve remarkable diversification in industry. Of Belgium's traditional manufacturing sectors, the automotive, chemicals, pharmaceutical, aviation, metallurgy and general engineering industries remain dominant. In the Netherlands the food, chemicals, pharmaceutical and engineering sectors are also of primary importance, whereas Luxembourg's industrial strength lies in its steel, chemicals and pharmaceutical industries. Logistics, financial and business services account for the lion's share (roughly 70%) of GDP. Foreign investments flowing out of Benelux relatively faithfully reflect the local structure of firms and sectors.

#### **Initial investments came from Benelux**

After 1990, Belgians and Netherlanders were the first to find the courage to invest in post-communist countries and thus in the Czech Republic. In the early 1990s some firms, such as Primus Laundry in Kopřivnice, invested in regions with high unemployment and thus helped the industrial revival of those regions. With their early entry into the Czech market, these firms were able to make the most of the numerous advantages they found here. Businesspeople from the Benelux countries have a reputation for being frugal, austere, uncompromising and bold. This attitude is also reflected in the area of foreign direct investment. Even though, at the beginning of the 1990s the Czech Republic was seen as a low-cost destination with an abundance of available and relatively highly skilled workers due to the country's high rate of unemployment, every investment in the former eastern bloc was considered risky. In the investors' view, however, the positives outweighed the perceived negatives and the country's high-quality technical and social infrastructure, together with the Czech Republic's geographic proximity to Benelux, played an important role in decisions to invest here. A further impetus in this decision-making process was the introduction of the investment-incentives scheme at the

end of the 1990s. The Czech Republic's accession to the European Union in 2004 brought a level of certainty to particularly Benelux-based mediumsized enterprises that were considering expanding to Central Europe. The Czech Republic's future adoption of the common European currency, investment incentives, support from EU structural funds, tax system, university system and new projects undertaken by the Czech government in the area of technical and transportation infrastructure are among the most discussed topics at meetings between CzechInvest's representative and investors.

## Attractive investment segments: from breweries to banks

Among the most well-known Benelux investors in the Czech Republic are primarily the Belgian bank **KBC**, which owns one of the largest Czech banks, **ČSOB**, the Dutch bank **ING** and brewing giants **In-Bev** and **Heineken**, which control a range of beer brands, and the **Albert Heijn group**, operator of the network of **Hypernova** hypermarkets and **Albert** supermarkets in the Czech Republic.

The biggest Belgian manufacturing investment in the Czech Republic supported by Czechlnvest is Glaverbel's project in Teplice. In 2003 **Glaverbel** merged with the Japanese

firm Asaihi Glass and today it holds a leading position in the global glass industry. Another significant Benelux firm operating in the Czech Republic in the past decade was **Philips**, which in 1999 invested in a factory producing CRT displays in the Moravian town of Hranice. Unfortunately, due to the development of the consumer-electronics market and the rapid development



of LCD technology, this investment was not successful in the long term.

There are currently 73 Benelux-based investors operating in the Czech Republic whose investments were supported by Czechlnvest. In terms of the size of investment, the most significant of these include ADP Nederland (financial and accounting operations), Meister (aviation), Draka (electrical engineering), Barco (electronics), Lefevre (plastics), Bekaert (metallurgy), Ontex (sanitation technology), Senior Investment and Bosal (automotive industry) and Unilever (foodproduction). Firms from Benelux are not investing only in manufacturing projects in the Czech Republic, but also in research and development. This is exemplified by the Dutch pharmaceutical firm Synthon, which has created several dozen high-skilled jobs in the Blansko region. By 2007 Benelux firms had invested in the Czech Republic a total of USD 1.69 billion and directly created more than 11,500 jobs.

Renewable sources of energy and environmental technologies also comprise a strength of the Benelux economy. Investors have very often expressed serious interest in directly operating environmentally friendly energy sources in the Czech Republic or in the production of such sources, whereas in the absolute majority of cases this involves the manufacture of solar panels. Furthermore, the Czech Republic is a popular destination for projects involving the recycling of used materials (most often paper, metals or textiles). Naturally, most of these firms are interested in financial aid from EU structural funds, as the European Union ranks similar environmentally friendly technologies and their development among its priorities.

Financial and business services, banking and insurance comprise the largest part of the Benelux economies. The most well-known banks that have invested in the Czech Republic are the aforementioned KBC and ING, though the Czech Republic represents a promising market for other, less well-known financial institutions, such as **ABN Amro**, **Atradius**, **Aegon** and **Fortis**. These banks do not operate here in the area of retail banking, but rather in corporate banking.

Besides manufacturing and services projects, development of industrial properties is an attractive business segment for Benelux firms in the Czech Republic. The best example of this is the Dutch company **CTP**, which has been active in Central Europe since 2000. The company directs its operations in the Czech Republic, Slovakia and Romania from its headquarters in the Czech city of Humpolec. CTP is an important partner for incoming investors and is currently one of the biggest firms in the Czech industrial-property market. It is clear that the provision of such services increases the Czech Republic's attractiveness in the eyes of the global investment community.

## Something else in common: Investment inflows to Benelux and the Czech Republic

Czechlnvest's Benelux office is located in Brussels in the Czech House, which had its grand opening in October 2007. The Czech House is the seat not only of the Czech Republic's Permanent Representation to the EU, but also the representative offices of the country's individual regions, lobbyists, Czech firms and the Czech Centre, CzechTourism, Czech-Trade and Cebre agencies, as well as the Czech Embassy in Belgium. CzechInvest cooperates with the embassy's economic section and CzechTrade primarily on marketing activities in Benelux.

Like the Czech Republic, the Benelux countries are attractive for foreign investors. The Netherlands Foreign Investment Agency cooperates with other regional development agencies in the area of attracting investors. In Belgium, which is divided into regions, responsibility for luring foreign investors to the country is shared by three agencies: Invest in Brussels, Flanders Investment & Trade and Invest in Wallonia. Invest in Luxembourg is charged with bringing investors to the smallest Benelux country. Even though Benelux is among the world's wealthiest regions, all three countries invest heavily in attracting investors and promoting themselves in business communities around the world and it seems that these efforts have paid off handsomely. According to statistics from 2007, Belgium, Luxembourg and the Netherlands, together with the Czech Republic, rank among the world's top countries in terms of volume of acquired investments.

> Aleš Hála, Benelux Office, Czechlnvest

#### ) Observations from CzechInvest's Benelux office:

- The absolute majority of Dutch investors already operating in the Czech Republic are satisfied with their projects in the country and appreciate the quality of the Czech workforce.
- The Dutch are mostly very well informed about the economic and social situation in the Czech Republic.
- They are always very well prepared for meetings, often possess very detailed information and give consideration primarily to the economic aspect and profitability of the given project.
- Meetings are mostly brief and businesslike. Dutch businesspeople get down to business quickly after arriving at the meeting venue.
- The Dutch possess excellent language skills

   practically all managers and even lowerlevel employees are able to converse very well in English and are often fluent also in German or French.
- If the meeting runs into the afternoon, your Dutch partner may invite you to lunch, which usually consists of sandwiches and (unlike the Czech beverage of choice) karne melk, i.e. acidophilus milk, is the preferred drink.
- Like Czechs, Belgians and the French, Netherlanders love football, which is also a suitable topic for non-work-related conversation.
- Even though the Netherlands is a very liberal country that tolerates minor drugs and prostitution, these are not suitable topics of conversation with business partners.

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## The pearl of the Czech Republic: South Bohemia



Sharing a border with both Austria and Germany, the Czech Republic's South Bohemia region was attractive to settlers in past eras due to its favourable location. This advanced industrial region grew out of the originally melancholy region of Klostermanovská Šumava, a land of forests and fish ponds. South Bohemia's natural beauty and rich history continue to ensure the development of the local travel industry, which comprises one of the pillars of business in the region.

℅ Basic data	
Area	10,057 km²
Population	1,214,356
Unemployment rate	3.9%
Average wage:	EUR 902

Sources: Czech Statistical Office, Ministry of Labour and Social Affairs

## A region of world-famous beer and unique monuments

South Bohemia is divided into seven districts – České Budějovice, Tábor, Písek, Strakonice, Jindřichův Hradec, Český Krumlov and Prachatice, whereas the city of České Budějovice is the region's cultural and administrative centre.

České Budějovice lies at the confluence of the Vltava and Malše Rivers, thanks to which it was an important trade centre on the Salt Road in times past. When speaking of České Budějovice it is important to mention its fame among beer connoisseurs, as the city is home to a pair of leading breweries, the world-renowned Budvar and the well-known Budějovický měšťanský pivovar (previously Samson), which is the oldest brewery in České Budějovice. The region's brewing tradition extends beyond České Budějovice, however, as celebrated breweries can also be found in Český Krumlov (Egenberg), Protivín (Platan) and the picturesque Třeboň (Regent), where the brewery trade dates back to 1379.

České Budějovice is a very picturesque city with the Czech Republic's largest and arguably most beautiful quadratic town square, whose dominant feature is the Samson fountain. The city's historical centre has a range of interesting monuments and a large number of pleasant pubs (the famous Masné Krámy being particularly noteworthy), clubs and galleries. České Budějovice is also known for the oldest horse-powered railway line in Europe, the basis of the modern railway network built in 1825-1832. The line ran 120 kilometres from České Budějovice to Linz. The remains of this early technical marvel are housed in the city's railway museum.

Another jewel of South Bohemia is Český Krumlov, which has been on the UNESCO World Heritage List since 1992. This unique town is widely admired particularly for its winding lanes, romantic nooks with inimitable Czech pubs and a remarkably well-preserved complex of baroque buildings with an imposing castle above the meandering Vltava. Excellent exhibits of world-renowned artists, concerts, music festivals and theatrical performances are held here often. The city is also home to the world's oldest baroque theatre. With its unique atmosphere, Český Krumlov is a small yet cosmopolitan city surrounded by a luscious, unspoiled countryside.

Třeboň, a city of fish ponds, summer festivals and bicyclists is yet another remarkable municipality in South Bohemia. The city offers extensive spa services and beautiful surroundings with trails traversing the enchanting spaces between fish ponds and the area's natural wonders.

## The region's economy: a triumphal mix of industry and agriculture

South Bohemia has long enjoyed an unemployment rate that is significantly lower than the national average. Among other distinguishing features, the region has the Czech Republic's lowest population density and accounts for 5.5% of the country's gross domestic product. The most significant investors in the region are mainly firms from Germany, Austria and the Netherlands. South Bohemia's economy is to a great extent based on





using locally sourced raw materials, which has underpinned the development of the local timber, paper, glass, ceramics and construction-materials industries. The textile industry, represented by firms such as Otavan and Jitex, and the pencil manufacturer Koh-i-Noor also play a significant role. The food industry, which involves meat-packing as well as the processing of local agricultural products (for example in the brewery and dairy industries (the local firm Madeta is the Czech Republic's biggest milk processor), has built a strong position in the region. Currently, the most important sectors in terms of added value are manufacturing (predominately production of vehicles and equipment as well as food and beverage production), vehicle repair and personal-needs products (particularly for households) and activities in the area of real estate and leasing. Industrial production is concentrated mainly in the České Budějovice agglomeration and in the Tábor, Písek and Strakonice districts. Agriculture is focused on vegetable production, primarily cultivation of cereal crops, oil-bearing plants and potatoes, whereas livestock production is mainly geared toward cattle and pigs. Aquaculture has a long tradition in South Bohemia, which produces half of the Czech Republic's fish in ponds covering a total of 25,000 hectares.

## A hub of prestigious educational and scientific institutes

South Bohemia is relatively isolated geographically, which conceals its significant advantages for investors in comparison with other regions in the Czech Republic and Europe as a whole. Thanks to the difficult natural conditions in which the region was settled, a large proportion of the population became used to changing occupations and work habits several times throughout their lives as the need arose, when regular employment was not available in surrounding regions. From the time of Empress Maria Theresa in the 18th century great emphasis was placed on education and skills with particular focus on the Czech lands, which formed the industrial heart of the Austro-Hungarian Empire. This trend continues today, and for investors it is not a problem to find a sufficient number of highly skilled employees for any sector, whether in agriculture and food production or the manufacturing industry. In the case of specific requirements for workers, investors can expect effective cooperation from local labour offices, Czechlnvest agency and the South Bohemian Regional Office, whose employees are able to provide professional assistance while helping incoming firms ease into their new environment.

South Bohemia boasts a range of high-quality educational and science-research institutions. Among the most significant of these is the University of South Bohemia in České Budějovice with seven faculties (Natural Sciences, Economics, Philosophy, Pedagogy, Theology, Health and Social Studies, and Agriculture) and the Institute of Physical Biology in Nové Hrady and the Institute of Fish Farming and Hydrobiology in Vodňany. The region is also home to the Biology Centre of the Academy of Sciences of the Czech Republic (ASCR), whose individual institutes are engaged in scientific research in the areas of general and applied entomology, hydrobiology, parasitology, molecular and cellular biology, genetics, physiology, soil biology and other fields. Other successfully operating facilities in the region include the Microbiology Institute of the ASCR in Třeboň, the Botany Institute of the ASCR, also in Třeboň, and the Faculty of Management of the University of Economics Prague in Jindřichův Hradec. Other institutes of an educational or science-research character, particularly in technical fields, are currently being established in South Bohemia. We can take as examples the establishment of the University of Technology and Economics in České Budějovice, cooperation between the Sezimovo Ústí Professional Training Centre and the Czech Technical University in Prague, and cooperation between the Secondary Industrial School of Automotive Technology and the University of West Bohemia in Plzen.

### Favourable conditions for investors

An investor that wants to establish operations in the region can expect full support from the regional authorities as well as from individual municipalities, which are willing to accommodate investors to the maximum possible extent. Support begins with services for potential or incoming investors. Based on a brief definition of requirements, a search will begin for the most suitable location for the given investment with consideration given to all criteria, such as transport accessibility, sufficient labour supply, management facilities, local infrastructure, possibility of further development in future, etc. Of course, the region offers a broad range of developed properties that investors may use immediately. An interesting alternative for investors is the possible use of brownfields, which comprise a significant part of the South Bohemia region's business properties. A large proportion of these disused properties are found in relatively interesting locations with great development potential. This primarily concerns buildings formerly used for agricultural, military or residential purposes.

Like the rest of the Czech Republic, South Bohemia has one of the densest railway networks in Europe, which in combination with its network of Class I and II highways enables fast, high-quality transportation throughout the region. In future, this network will be supplemented with the planned D3 and R3 highways and construction of a fourth rail corridor. A number of border crossings provide easy connection with Austria and Germany. South Bohemia also features an international airport and several regional airfields. České Budějovice Airport offers significant potential with its expansive developed areas and ambition to become an important transport hub in the greater region.

South Bohemia currently supplies surrounding regions with energy generated by the Lipno hydroelectric plant and Temelín nuclear power plant. With such energy infrastructure in place, it is not a problem to satisfy the needs of highly demanding operations for the price of minimal modifications in the existing distribution network. The region is generally considered to have a high standard of living, which is due in part to its relatively pristine environment, its attractiveness as a tourist destination and extensive residential construction.

Among the other favourable aspects of the region that have attracted numerous investors, we can mention the industrial zone in Písek, where a range of significant international companies, such as Faurecia, AISIN (automotive) and Schneider Electric (electrical engineering) have set up operations. The automotive sector is well represented in České Budějovice, where Robert Bosch built its headquarters with participation from Czechlnvest. Beyond the automotive industry, we must mention Viscofan, a producer of food packaging based in České Budějovice.

South Bohemia is clearly a place that should be on the itinerary of any visitor to the Czech Republic, as it offers a full range of natural and cultural attractions for tourists and a wealth of opportunities for investors. Simply put, it is not hard to fall in love with this pearl of the Czech Republic.

## **Algae: The Future of Energy**

In the portfolio of renewable energy sources (wind, solar, biomass, geothermal,) biomass or, more precisely, dendromass has the greatest development potential. Research of these energy sources is being conducted by a range of Czech scientific institutes, including for example the University of South Bohemia in České Budějovice.



We can generally consider the following as raw materials for second-generation biofuels:

- 1. agricultural by-products
- 2. energy crops
- 3. by-products from logging
- 4. fast-growing trees
- 5. grasses and perennial grassy vegetation
- 6. municipal solid waste (MSW)
- 7. algae and microalgae

Algae, which eliminate many drawbacks, hold great promise. Algae are cultivated in marine areas, whereas microalgae are suitable for the Czech Republic's geographic conditions. At this time there are no known negatives or barriers in the area of large-volume applications and the only obstacles to massive applications of algae cultivation are investment costs and the currently deficient technology of large-scale production.

Significant aspects that make algae a favourable future source of energy:

- fastest-growing vegetation on Earth
- algae need CO<sub>2</sub> for growth (recycling of CO<sub>2</sub>)
- practically no interference with food production
- possible continuous, year-round production cycle
- no diseases or pests, or relatively easily treatable diseases
- no agricultural limitations such as required crop rotation
- up to 99% lower water requirement compared to conventional plants

- controlled, predictable and "certain" production for subsequent continual processes
- algae are suitable for all methods of technical
  - processing and production:
    - methane
    - gasification into SYNGAS
    - oil for FAME
    - starch for ethanol production
    - hydrogen

The first two factors are of fundamental importance, as they place algae in the first line of source biomass for energy production. It can be said simply that algae need only light, CO<sub>2</sub>, heat and water for growth. The input energy for propagation comprises natural sunlight or low-power artificial light. The fact that algae consume  $CO_{\gamma}$  (the most significant greenhouse gas) makes algae a commercially very interesting subject for large-volume production. From this perspective, there are two basic possibilities for producing algae in open and closed systems. It is clear that open systems are less demanding in terms of investment costs. On the other hand, they have many disadvantages related to direct contact with their surroundings (seasonality, susceptibility to disease, etc.). Closed systems comprise either panel or tubular photobioreactors.

There are more than 100,000 types of algae and microalgae. Among other things, these are differentiated by the their tolerance of different environmental conditions (sensitivity to fluctuations in heat, light, etc.), varying growth rates, oil volume and different elementary composition, which more or less determines how the given alga will be further processed. Some algae are rather more suitable for oil production, whereas other types are more appropriate for use in gasification processes and hydrogen production. Due to its broad applicability in the area of medicine, Spirulina is a relatively well-known alga. Another widespread type is Chlorella, with which the Microbiology Institute of the Czech Academy of Science has extensive experience in cultivation in an open-type reactor. The Czech Biofuel Technology Platform is initiating research focused on large-volume production of these algae. Initial analyses have confirmed the favourability of these algae with regard to both biogas yield of 0.5 m3/kg of dry matter (0.365 m<sup>3</sup>/kg of methane) and suitability for gasification processes (heat of combustion is 23.65 MJ/kg of dry matter; calorific value is 22.21 MJ/kg of dry matter). A comparison of algae with other types of biomass from certain "conventional" sources, including their energy potential, is provided in the table.

In research facilities in the Czech Republic, algae are considered a significant future source of energy. The Czech Biofuel Technology Platform is endeavouring to coordinate research in the area of large-volume biomass production. Emphasis is gradually being shifted from macrobiologists to chemical engineers and experts in the field of energy-efficient light sources.

> Leoš Gál, Biofuels project manager, Association of the Chemical Industry of the Czech Republic

#### Illustrative photo

## **CzechInvest supports**

## human resources development

Quality human resources comprise one of the main, decisive conditions for economic growth and competitiveness in every country, and it is therefore necessary to ensure effective development of investments in human capital. CzechInvest, the Investment and Business Development Agency, is intensively involved in activities related to human resources development in the Czech Republic.

At CzechInvest, activities focused on human resources development have been divided into two areas: the manufacturing industry and business support services (customer-support centres, shared-services centres, software-development centres, ICT expert and solutions centres, high-tech repair centres). Czechlnvest was encouraged to develop its activities in the area of human resources development by the need to change the system of secondary and higher-professional education, i.e. the transition from the general nature of secondary education to specialised vocational instruction, including industrial fields. In the area of business support services, the impetus was the need for employees having better language skills as well as improved communication and other soft skills. Effective cooperation between schools and companies not only guarantees the availability of capable graduates and savings of costs related to supplemental training, but also helps companies to achieve greater competitiveness on the domestic and foreign markets.

Activities for the manufacturing industry immediately involved several goals, one of which was to increase the ability of educational institutions to flexibly respond to the current needs of the labour market while establishing and deepening effective cooperation between schools and companies. Czechlnvest first selected pilot regions where the specific activities aimed at human resources development were to be conducted. The first region selected was South Moravia, followed by Vysočina. After mapping the business environment in these regions, the main sectors dominating the manufacturing industry were determined. In South Moravia these sectors are mechanical engineering, which has a long tradition in the region, and electrical engineering. In the Vysočina region, mechanical engineering and the automotive industry are the key sectors. Suitable secondary technical schools and companies were selected with regard to these sectors. After mapping the educational and business environments using a questionnaire and analysis of its results, preparation of an introductory seminar began. Another important aspect was that CzechInvest examined the existing successful and effective cooperation in this area and opportunities for its further development and financial support.

Once all necessary data had been gathered, informative seminars were held in which, among other things, participants presented very inspiring case studies of successful cooperation between secondary schools and firms, and a presentation was given on possibilities of financial assistance to support cooperation from structural funds, among other sources. The seminars also included meetings of school and company representatives, which offered further opportunities to establish contacts leading to future cooperation.

Activities aimed at business support services comprised Czechlnvest's first project in the area of human resources development. The educational institutions addressed within the project were primarily business academies, secondary industrial schools and higher professional schools specialising in economics. Again, the aim was to initiate and support cooperation between secondary schools and companies in the tertiary sphere. The pilot project was implemented in South Moravia. The process that preceded the closing informative seminar was similar to that conducted in the area of manufacturing. These activities focused on business support services were later conducted in North Moravia and Prague, where CzechInvest received several positive reports signalling the beginning of active cooperation between schools and firms.

It can generally be said that the seminars and presentations met with a positive response, which was convincing evidence of these activities' worth and motivation to organise similar projects in future.

## >> Events



Dramatic developments in the world economy in recent months have brought not only global financial uncertainty, but also an unavoidable slump in European markets. Neither of these factors, however, prevented three hundred guests from a range of leading Czech companies, property developers, regional and national politicians, and representatives of the state administration from attending the celebratory announcement of the 2007 Business Property of the Year awards. As in past years, the event was organised by CzechInvest in cooperation with the Association for Foreign Investment and the Ministry of Industry and Trade of the Czech Republic.

Held at the Karlín Musical Theatre which fittingly is a converted brownfield site, this year's award ceremony took place under the auspices of Minister of Industry and Trade Martin Říman. The event could not have happened without the support of partners, such as ČSOB, Sumitomo Corporation Europe, Metrostav and Zátiší Group, which are traditional participants in the Partnership to Support Foreign Direct Investment in the Czech Republic.

The 2007 Business Property of the Year competition featured four main categories as well as a special prize for the business-property manager of the year. In addition to three traditional categories – Zone with the Greatest Economic Benefit, Brownfield of the Year, and Business Property with the Greatest Benefit for Innovation and Research – this year's event featured a completely new category, Industrial Park with the Greatest Economic Benefit, which is intended mainly for property developers providing rental spaces. At the beginning of the 1990s state aid was necessary for the construction of business properties.

> Today this role has completely heen taken over by private development firms. This particularly concerns rental spaces, which currently comprise the most popular type of business properties among investors. This new category thus illustrates the Business Property of the Year competition's continuing endeavour to reflect current market trends.

The Plzen Science and Technology Park, Most-JOSEPH Industrial Zone, CT-Park Ostrava and a brownfield site revitalised by the company Zambelli-technik near České Budějovice were the properties that made the greatest contribution to business development in the Czech Republic last year. Jaroslav Krch of the Most-JOSEPH Industrial Zone was named the business-property manager of the year.

"Well-prepared business properties are the key to gaining new investments. Without industrial zones, science and technology parks, and first-class office spaces, the Czech Republic would not have been able to maintain its position among the world's leading countries in terms of the inflow of foreign investments over the past several years," says Alexandra Rudyšarová, CEO of Czechlnvest.

"For this year's presentation of the Business Property of the Year awards, we are meeting in Prague's Karlín district, which in the past ten years has undergone dynamic changes due to the activities of developers and as a result of the flood in 2002. The fact that the ceremony is taking placing in this part of the city is a bit symbolic. Even though Karlín is only a short distance from Prague's historical centre, it still contains areas that were of a purely industrial character in the past," adds Jan Bobek, chairman of the Association for Foreign Investment.

Evaluation of properties in the Zone with the Greatest Economic Benefit category was based on the number of new investments in





each zone and their demanding nature according to the OECD coefficient with respect to the unemployment rate in the given region. These criteria were best fulfilled by the Most-**JOSEPH** Industrial Zone, which currently offers 200 hectares of prepared land. Since 2003 this zone has been the site of a CZK 1.5 billion factory operated by Nemak, a Mexican producer of automobile-engine components. A range of new, important investors decide to set up operations in the zone in 2007. Second place in this category went to the Nádraží Šakvice Industrial Zone, which dates back to the 1970s. Prior to 1989, this zone was home to a trio of firms involved in metallurgy or food production. All three are still in operation today, though with new owners and new names. Approximately 2,500 people currently work here in sectors that have a long history in the region. The Ostrava-Mošnov Strategic Industrial Zone took third prize. Located near Leoš Janáček Airport, only 25 km from the centre of Ostrava, this zone is occupied by a range of investors from, for example, Germany, Italy and South Korea.

In the Brownfield of the Year category an independent panel of experts evaluated particularly the quality and execution of projects, the concept of revitalisation of brownfield sites and their function in relation to their natural surroundings. The top honours in this category went to Zambelli-technik for its regeneration of a former wood-pattern shop from the 1960s. The company selected the site, where it currently employs 150 people, when searching for new spaces for its further development. Even though the building had been neglected for more than 40 years, regeneration costs were 40% lower in comparison with building a new facility. The second-place winner was CTZone Brno. This project involved

the regeneration of a complex that dates back to 1844, which CTP began extensively renovating in 2005. Only 1.5 km from the historic centre of Brno, this once dilapidated and contaminated site is now a modern commercial zone. KORNET Kraslice, which was established in 1873, impressed the panel with the current renovation of its historic production hall, thus taking third place. The company received funding for the project from EU resources.

"Brownfields represent significant potential for the future, which will attract the attention of investors. I believe that this concerns the promise of interesting and positive development of cities in our country," says Bobek. "A range of AFI members are participating in projects related to the revitalisation of obsolete industrial sites."

The key factors in the category Business Property with the Greatest Benefit for Innovation and Research were the quality of individual properties, their technical equipment and the level of cooperation with educational institutions. The Plzen Science and Technology Park took first place in this category thanks to its 4,700 m<sup>2</sup> of top-rate spaces and the establishment of MBtech's automotive development laboratory. The deciding impetus to build the park was the announcement of the Prosperity Programme within the European Operational Programme Industry and Enterprise. Second place went to the ČKD Praha Technological Innovation Centre. This modern centre of industrial innovation and business incubation, which is housed in a converted factory hall, currently offers start-up firms top-quality facilities at favourable prices. Third prize was awarded to the Business Incubator of VŠB-TU Ostrava for a project involving the construction of comprehensive infrastructure to support innovative business in the Moravia-Silesia region. The regional technology-transfer centre is also participating in the project.

CTPark Ostrava is among CTP Invest's fastest growing projects. Roughly thirty companies are currently operating in the zone and employ more than 2,500 people there. The complex

is situated near an expressway and is only twenty minutes from Leoš Janáček Airport. The zone itself comprises buildings for business support services and administration, as well as rental spaces for logistics and industrial production. Green spaces also make

up a large part of the site. It is thus no wonder that CTPark Ostrava came out on top in the category Industrial Park with the Greatest Economic Benefit. The economic benefit in this case is determined by the occupancy rate of rental spaces adjusted by the OECD coefficient according to the demanding character of individual companies' operations. Another key criterion was the region's unemployment rate. With a built-up area covering 380,000 m<sup>2</sup> and spaces for production, logistics and services, VGP Park Horní Počernice was deemed worthy of second place. More than twenty firms are currently operating in this park. IIG took third place in this category for its preparation of a factory in Vyškov for a Dutch plastics manufacturer. Unlike most other property developers, IIG constructs business properties according to the requirements of specific investors.

The success of a business property depends primarily on its manager's professionalism and ability to achieve concrete results. These are attributes possessed by Jaroslav Krch, who was named Business-Property Manager of the Year. As the manager of the Most-JOSEPH Industrial Zone, Mr. Krch is primarily responsible for negotiating with investors, preparing land for investment, promotion and marketing. During his tenure at the JOSEPH zone, no fewer than five companies have decided to implement projects there at a cost of CZK 2 billion.

"The entire Karlín district, where the awards ceremony was held, has a long industrial history that resulted in a number of disused brownfields which in recent years, however, have been converted into functioning spaces for business and residential use. Revitalisation of brownfields and support for technologically demanding investments, such as in research and development or services, are among CzechInvest's top priorities," concludes Rudyšarová.

> Martin Michalov, Association for Foreign Investment



Praha Technological Innovation Centre; Rostislav Štajer, Metrostav; Václav Lukeš, VŠB-TU Ostrava

## Czech Technology Days – international conference to support cooperation in science, technology and innovation



The series of international science and technology conferences called Czech Technology Days (CTD) is entering its fourth year. The main organiser of this event is CzechInvest, in cooperation with the Ministry of Industry and Trade and Ministry of Foreign Affairs of the Czech Republic. The primary goals and results of CTD include establishing ties between academic institutions in the Czech Republic and their foreign counterparts - exchanges of doctoral candidates and science workers, initiation of joint projects and successful transfer of such projects' results to industry. One of the recent successes of CTD involves a joint project in the area of biotechnology between Mararyk University in Brno and ETH Zurich. This project had its origins in the 2008 Czech-Swiss Technology Days. Another positive outcome took the form of an agreement on cooperation and bilateral financial support between the National Science Council of Taiwan and the Grant Agency of the Czech Republic, which was concluded in autumn 2008 during the second annual Czech-Taiwanese Science and Technology Days conference.

The organisers of CTD have found similar success with partners from Japan, Korea and Israel. Japan is among the leading investors in the Czech Republic and cooperation between certain domestic institutions, such as the Czech Technical University, and Japanese partners has in many cases brought about outstanding results in the fields of cybernetics, robotics, energy, new materials and aerospace research. The conference that took place in May 2008 was opened by Prime Minister Miroslav Topolánek, whose address called for reform of research and development in the Czech Republic. "I hold this event in very high regard. Thanks to today's forum, we have the opportunity to establish contacts and cooperation between scholars, technicians and firms in our two countries. It is in our interest to continue with these meetings," said Prime Minister Topolánek.

The 2007 Czech-Korean Science and Technology Days event in Seoul led to cooperation between the Technical University of Ostrava and Dongguk University in Seoul, while contacts with Hyundai are also developing favourably. The Industrial Property Office of the Czech Republic and Taiwanese entities are also enjoying very effective cooperation. "The participation of the Industrial Property Office in these and similar events is particularly valuable in that it allows us to convince foreign colleagues, scientists and potential investors that in the area of patents, trademarks and industrial property rights they can expect in our country a legal environment that is fully comparable with that in the rest of the developed world. This is one of the basic conditions for foreign investments in the Czech Republic involving the latest technologies and scientific know-how," says Ing. Karel Čada, president of the Industrial Property Office.

The conferences usually take place over three days, the first of which involves an official meeting during which specialists from science and research institutes, firms, and universities give presentations in key sectors that are determined in advance according to the technological focus of the partner country. The next two days are focused mainly on practical issues as well as visits to laboratories, technology parks and centres or university campuses. Abundant space is set aside for bilateral meetings between Czech scientists, industrialists and other members of the delegation with their counterparts from the partner country.

These meetings should fulfil the mission and goals of CTD, which are to present the technological maturity of the Czech Republic, provide opportunities for cooperation particularly in research, development and innovation, encourage partners' interest in investing in advanced sectors of the economy and engage the future potential of the research base supported by European funding, among other sources.





More information on Czech Technology Days is available at www.czechtechnologydays.org



## Magdalena Souček: Czech business is moving in the right direction



In your opinion, what kind of international reputation does the Czech Republic have?

The Czech Republic's biggest plus is definitely its educated people. Its highly qualified work force is a key reason why the Czech Republic has long ranked among the world's most attractive countries for investors.

Early investments in the Czech Republic were bigger and employed larger numbers of low-cost workers. This has changed. What's coming now are IT companies, technologists whose work requires more brains than brawn. That means more R&D and shared service centers. In most cases, these smaller investments comprise a crucial contribution to the necessary shift away from competing with the rest of Central Europe for short-term assembly investments to competing with the developed economies of Western Europe for a mixed portfolio of investments. In one interview you said that you started Arthur Andersen's Czech branch after 1989 in your grandmother's apartment. The country has certainly made great strides since then. Now, twenty years on, where do you see the greatest progress having been made? How has Czech society changed?

The Czech business environment is moving in the right direction, but there's always room for improvement. European Union accession in 2004 – when we joined the globalised world – spelled a big change for Czech business. Today it is easier to register a company, get a business license, and a whole range of processes are working more efficiently. The legislative and tax environment has improved as well, though for a lot of people it's still rather complicated and tough to navigate. Laws may be okay, but proper implementation is a big problem. Corruption and lack of transparency are still prevalent and businesspeople face them on a daily basis. Another problem is that the Czech Republic has not yet introduced the euro; high prices have become an issue as well.

## If you had to lure a foreign investor to the Czech Republic, what would you say to him? What are the country's biggest advantages?

We can see overall improvement in the conditions for doing business. The Czech Republic is certainly attractive owing to its educated work force. The language knowledge of Czechs is also at a reasonably good level. The tax system was recently improved, which is very important to foreign investors. But if we look at the level of costs and real wage increases, which are tied to the strengthening crown, most of the attractiveness is lost. The strong crown is also one reason why global companies might leave the Czech Republic to move further east. It's getting to be too expensive for them here.

## If you, as a foreign investor, had to choose an industry in which to invest, what would it be and why?

As I have already mentioned, I would try to utilize the capabilities of educated people, bringing more work requiring brains rather than brawn.

As president of the American Chamber of Commerce, you fought for a better business environment in the Czech Republic and closer cooperation with international chambers. Did you accomplish what you set out to do? What position do these organizations have in the Czech Republic today?

We're all trying to improve the business environment in the Czech Republic. The chambers have the same goals and should be allies and cooperate effectively. However, there is still room for improvement since politics often clouds the economic judgment of our government. The chambers represent prominent foreign firms that are investing here and bringing a number of opportunities to the Czech market. It is important that their voice be heard.

To what degree do the corporate cultures of the Czech Republic and the United States differ? What are the similarities?



## Magdalena Souček

Magdalena Souček is without a doubt one of the most important businesswomen in the Czech Republic. She emigrated to the United States from the former Czechoslovakia in 1980. She studied economics and business management at university in Boston. She says of herself that she is conservative and believes in loyalty to the firm. The career she began as an assistant at the consulting firm Arthur Andersen is a testament to this belief. After 1989, she returned to the Czech Republic with a mandate to establish a branch office of the firm in Prague. In 2002 she successfully incorporated the Czech branch into the international Ernst & Young network. In October 2008, she assumed the role of Ernst & Young Managing Partner in the Czech Republic. Among her other accomplishments, she served for two and a half years as president of the American Chamber of Commerce in Prague and in 2007 was awarded the title Most Important Woman in Czech Business. One of the judges had this to say about her: "Magda is often the first point of contact for foreign investors. Indeed, she is a kind of business ambassador for the Czech Republic. She has a lot to do with the country's reputation abroad."

Truth be told, the business environments in the Czech Republic and the United States are quite different. There continues to be a lack of legislative support in the Czech Republic. While the Commercial Code may not be bad, the interpretation is often not appropriate, resulting in some unfair judgments. The Czech Republic is more bureaucratic, with contracts and documents for everything. In the US, a "gentlemen's agreement" is sometimes still enough.

And the other example is the basis of American business – small business – which is not yet a priority in the Czech Republic. We believe entrepreneurs benefit the economy and we try to support entrepreneurship here with the Ernst & Young Entrepreneur of the Year programme.

## You often have occasion to meet with university graduates and students. What do you think of the quality of Czech university education and of today's graduates?

The quality of Czech university education is quite good and graduates can boast excellent theoretical knowledge. However, they still lack sufficient practical experience and self-confidence. We can see that at the EY Academy, a programme where students have a chance to learn about advisory services. Students are eager to participate and see the profession first hand. One other thing that I would like to mention is the decreasing level of English-language skills among young people compared to previous years.

#### What are Czech employees like?

Czech employees have a lot to offer. They're well educated and have relatively good foreign-language knowledge. Given sufficient motivation, they know how to work hard and can deal with unexpected situations. Someone said Americans live to work and Europeans work to live. I personally prefer something in between.

## You are a woman and in your firm you try to maintain the fifty-fifty rule. How are Czech women as managers? It's not a secret that we don't find too many women in high-level positions in the Czech Republic.

You're right. The higher you look, the fewer women you see. It is maybe more difficult to succeed as a woman in the Czech Republic than in the United States. Women should sell their achievements more. They often assume that men will notice their merits. The approach of "I will slave away, and everyone will notice" can easily fail.

## If you had to recommend a nice place in the Czech Republic to one of your foreign colleagues for a short trip or to spend some free time, where would it be?

The Czech Republic offers visitors a whole range of opportunities. My foreign colleagues mostly get to know Prague, but those who stay longer should definitely find time to explore the countryside and enjoy the unique atmosphere of smaller towns. I would absolutely recommend Český Krumlov and the Valtice and Lednice area. Of course, there are plenty of other beautiful spots and everyone can find something special based on their own interests and taste.

## And on the other hand – if you had to suggest a nice place in the United States to a Czech colleague, what would you say?

In this case, I'm somewhat biased by my personal experience and the place where I lived – New England. But I would definitely also recommend San Francisco and the west coast of the United States. The natural scenery is beautiful and San Francisco has a kind of genius loci that you continue to think about long after you've returned home.



# The enchanting Czech mountains: sport, spas and legends

Though at first glance it would not seem so, Czechs are one of the most enthusiastic nations of skiers in Europe. Almost everyone in the country skis and skiing is a mandatory part of physical education at primary schools. Since the Czech Republic is fringed by mountains, which comprise the country's natural border, it should come as no surprise that very few of its citizens do not take the opportunity to enjoy this winter sport. If you want to experience the unforgettable intimate atmosphere of the picturesque Czech mountains with their fabulous myths and legends and spoil yourself with soothing spa treatments, you can start packing now!

Most of the Czech Republic's winter sports centres are located in protected landscape areas, which offer stunning panoramas and unspoiled natural beauty. Downhill and cross-country skiers and snowboarders can generally expect four to five months of good snow conditions. The nation's ski centres offer high quality services – kilometres of cross-country trails, slopes of various levels of difficulty, snowparks, toboggan runs and bobsled tracks. Of course, visitors will also find equipment rental and maintenance shops, ski schools and hundreds of cosy mountain restaurants with traditional Czech cuisine.

## The good spirit Krakonoš keeps watch over skiers

The Krkonoše Mountains are the tallest in the Czech Republic, with the range's domi-



nant peak, Sněžka, rising to 1,602 metres. This popular ski area lies in the northeast of the Czech Republic on the border with Poland. These mountains feature prominently in Czech fairytales, mainly thanks to Krakonoš, the wellknown good spirit of mountain lore, who inhabits and watches over the Krkonoše. No one knows the exact origins of this legend, though it may have been created by earlier inhabitants of the mountains to explain the ever changing weather in the Krkonoše. Today you can encounter the legend of the bearded man on skis carrying a staff at practically every step in the Krkonoše, on placards around mountain trials, in souvenir shops and in pleasant Krkonoše pubs. The legend gives the tallest Czech mountains a sense of magic and is loved particularly by children.

The Krkonoše Mountains offer a range of beautiful ski centres. One of the biggest of these is Skiarena Krkonoše, which was established by combining four large ski areas – Pec pod Sněžkou, Černá hora, Janské and Malá and Velká Úpa. Besides skiing and snowboarding, visitors to Janské Lázně can enjoy the services of spa facilities that provide a very pleasant end to a day spent on the slopes.

Toboggan runs give even non-skiers a chance to enjoy the crisp winter atmosphere. Černa hora and Janské Lázně offer the 3.5 km Zvonková cesta, which tobogganers have been riding



for more than a century. The bobsled tracks in Špindlerův Mlýn and Harrachov provide yet another exciting possibility for spending one's leisure time.

These last two centres are particularly popular among skiing enthusiasts. Špindlerův mlýn, where a range of Czech films and fairytales have been shot, offers 26 km of slopes and more than 100 km of cross-country trails. Harrachov is well known by fans of ski-jumping. A number of world records have fallen on the local ski jumps and top-level jumpers regularly take part in World Cup competitions here. Snowboarders can enjoy themselves at the snowpark in Svatý Petr, which features a full range of obstacles and ramps, as well as a cross track and space for acrobatic skiing.



Excellent conditions for cross-country skiing and pleasant family trips

In spite of its size, the Czech Republic is a global power in terms of the length of its cross-country ski trails, which often even traverse mountain peaks and are clearly marked and continually maintained. Particularly unique is the Krkonoše cross-county route, which stretches over 520 km, including 70 km approved for racing.

Another favourite destination for cross-country skiing is the Jizerské hory mountain range, which neighbours the Krkonoše. Here visitors will find the well-known Jizerská route, which annually welcomes the best Czech and international cross-country skiers to the prestigious Jizerská 50 race. And the city of Liberec, which

is located on the boundary between the two aforementioned ranges, will host the World Championship in classic skiing in 2009. If you visit this beautiful city with children, you will find not only great skiing in the winter, but also the Babylon waterpark, one of the biggest in the Czech Republic, offering pools and waterslides as well as four roller coasters, the thrilling space-bowl, 100 metres of climbing frames at a height of more than ten metres above the water surface, romantic caverns, whirlpools, water jets, geysers and other attractions.

Families with children can also enjoy excellent conditions in other Czech mountain ranges – Jeseníky, Krušné hory, Šumava, Orlické hory and Beskydy. The most famous area in the Jesiníky is perhaps Červenohorské sedlo, which offers several kilometres of ski slopes and is the starting point of very highquality cross-country trails. Praděd is another very pleasant centre that, like the Krkonoše, is the home of numerous legends. Roughly 20 km from Prague, Skiareál Klínovec is the biggest ski centre in the Krušné hory range. This centre contains a snowpark where it is possible to use a U-ramp and various small and larger ramps and jumps that are suitable even for smaller children, for whom there is also a mini-park equipped with a free ski lift. Other interesting Krušné hory centres include Boží Dar, which is currently the highest mountain village in Central Europe. Cross-country trails extending 100 km take skiers part of the way to the German border. Visitors can also try snowtubing in their free moments.

In other locations, skiers and those who simply want to enjoy the beauty of the Czech mountains will find high quality facilities and stunning views at centres such as Špičák, Zadov, Deštná and Lysá hora.

## Spa treatments

The Czech mountains also offer a unique combination of winter sports and relaxation in spa facilities. For example, the foothills of the Krušné hory are home to the celebrated "spa triangle" comprising the three most well-known Czech spa towns — Karlovy Vary, Mariánské Lázně and Františkovy Lázně. Treatments in the local spa facilities are beneficial to every demanding athlete. Karlovy Vary is famous for its twelve natural thermal springs and curative peat, which is used to treat people suffering from locomotion disorders. The city is world famous thanks to the liquor produced by the local distiller Becherovka, which is sometimes called the thirteenth curative spring. Františkovy Lázně is known for its neoclassical architecture and famous Františkový spring, while the Jeseník spa is notable as it was the site of the world's first water-therapy institute. Whether you are a diehard skier, a fan of myths and legends or someone who simply likes to be pampered at a world-class spa, the Czech Republic's mountains have what you are looking for.

Illustrative photo

## **Czech suppliers** and the origin of the universe

A few months ago in the Swiss Alps, CERN (European Organisation for Nuclear Research) began operation of the world's most expansive particle accelerator, the Large Hadron Collider. The purpose of the LHC, which will be put back into this spring following repairs of a malfunction, is to shed light on the origins of the universe using a range of technologies, some of which were developed and delivered by Czech firms.

Physicists at CERN are seeking answers to questions pertaining to the nature of matter and its structure and origin, how complex objects such as stars, planets and even humans came into being, and how the universe was born and where it is going. The answers to these questions will lead to new, fundamental findings that are crucial for physics and other fields of science, as well as for extending human life and raising its quality. The Czech Republic has been a member of CERN since 1992. More than 400 Czech workers and students from 15 science institutes are involved in cooperation with CERN. During the country's 17 years of membership, these Czechs have co-authored 1,607 specialist publications and 1,175 papers presented at international conferences, i.e. roughly 100 publication and 73 papers annually.

A broad spectrum of Czech firms took part in the recent launch of the LHC beneath the Alps. In 2007 these firms achieved a record volume of deliveries to CERN (results for 2008 are not yet available), exporting to Switzerland goods worth 5.8 million Swiss francs, an increase of 1.5 million francs over 2006. Equipment that made its way to CERN primarily included top-quality electronics, Czech automobiles and mechanical structures. In terms of the return rate of invested resources, the Czech Republic placed second behind Switzerland.

### Appreciation for Czech firms

One of the notable firms that has taken part in supplying CERN was Žďas of Žďár nad Sázavou, which delivered 180 carriers for the particle accelerator's at a cost CZK 60 million. That this company received a gold medal from CERN for the best mechanical-engineering product is further proof that Czech products provided to the organisation are of the highest possible quality.

Another Czech-based company recognised for excellence is ON Semiconductor, which was awarded the prestigious CERN industry prize for its development and production of a dual-purpose technology for pixel detectors of nuclear particles. Based in Rožnov pod Radhoštem, ON Semiconductor is planning to become involved in other CERN projects. "We are proud to be participating in this prestigious international research project and that we could show the world the quality and technical talent of our team of specialists," says Petr Zdebel, senior vice-president of ON Semiconductor.



## From pressure tanks to cars

The database of CERN suppliers now contains more than 180 Czech firms, the most significant of which operate primarily in the fields of electrical engineering, electronics, computer technology, vacuum technology, metal structures and automobile manufacturing. For example, the Děčín-based firm Ferox supplied pressure tanks for helium in the value of CZK 54 million and Válcovny za studena of Králůc Dvůr provided special steel at a cost of CZK 35 million. In addition, the best European minds travel in Czech cars supplied by Škoda Mladá Boleslav.

Czech firms will be able to succeed in other areas and projects at CERN, which is always looking for construction firms to build structures such as tunnels and buildings with technical installations, as well as suppliers of electrical-engineering technologies and electronics, mechanical-engineering products and computer, vacuum and detection technologies often requiring new, high-tech production technologies. Operations at CERN also require a range of industrial services such as building maintenance, postal and communication services, power supply, printing and cleaning services. Czech companies can thus participate in all public tenders and requests for proposals, and establish contacts with already participating companies from other EU member states.

Source: www.czechtrade.cz ed.

## **O** Selected concluded contracts for Czech industry

Pressure tanks for helium	Ferox Děčín	CZK 54 mil.
Special steel	Válcovny za studena Králův Dvůr	CZK 34.8 mil.
CMS detector carriers	Žďas Žďár nad Sázavou	CZK 60 mil.
Calorimeter absorbers	Tatra Kopřivnice	CZK 45 mil.
Disassembly		
of the accelerator vacuum system	ZVVZ Milevsko	CZK 33 mil.
Computer systems	MIB Suisse SA	CZK 29 mil.
Forty automobiles	Škoda Mladá Boleslav	CZK 20 mil.
Cables	Gity Brno	CZK I I mil.



## GE takes Czech aircraft-engine manufacture Walter Engines under its wing

In June 2008 GE Aviation completed its acquisition of Walter Engines, a Czech manufacturer of small turboprop engines and components for the aviation industry. This acquisition expanded GE's offer for clients in the aviation sector, enabling it to enter the segment of light, twin-engine turboprop aircraft, which has undergone dynamic development in recent years.

The newly renamed Walter Aircraft Engines has a tradition dating back more than one hundred years and enjoys an excellent reputation throughout Europe for its inexpensive, robust and elegantly designed aircraft engines. The company has produced more than 37,000 engines and its M601 family of powerplants is currently used in 1,500 planes representing over thirty types of aircraft. The first M601 turboprop engine was produced in 1975 and since then these engines have accumulated more than 16 million flight hours.

"Walter has significant experience in the turboprop-aircraft segment, which is fully in accordance with our strategy to ensure GE Aviation's improved position in this dynamically developing sector," says David Joyce, president and CEO of GE Aviation. "Within this acquisition GE is providing Walter Engines with strategic resources and technical know-how involving new materials and 3D modelling. Conversely, Walter Engines is helping GE to better understand the light-aircraft segment and the requirements of clients in this segment."

Walter Engines can be proud of its long history, during which it has managed to achieve a high standing and reputation as a professional, successful firm. The company's origins date back to 1911, when it was established under the name

Walter and began production of automobiles, in which it was engaged until the 1950s. In 1923 Walter produced its first aircraft engine, which marked the beginning of the company's development and subsequent manufacture of such engines. Following nationalisation, the company's name was changed to Motorlet though it returned to its original name in 1995.

A change to Walter's structure in 2005 resulted in the part of the company involved in aviation production being spun off as Walter Engines.

GE Aviation Czech, a subsidiary of GE Business & General Aviation, purchased Walter Engines' assets. With 400 employees, the company will continue operations under the name Walter Aircraft Engines as a division of GE Aviation. Earlier this year Walter Engines moved from Prague's Jinonice district to new production facilities in the city's Letňany district.

### An ideal product for new markets

Walter Aircraft Engines has enormous potential particularly in relation to emerging markets where GE Aviation had not previously operated. At the EAA AirVenture Oshkosh 2008 trade fair, which took place in August, GE Aviation presented the new M601H-80 turboprop engine, which should find use in agricultural aviation and as a replacement engine. "The new M601H-80 is built on the M601's solid turboprop design as well as on GE's significant presence in the segment of distribution services and aviation for agricultural services," said Brad Mottier, vice-president and general manager of GE Business & General Aviation.

GE Aviation and Walter Aircraft Engines began work on the last M601 derivative last year and since then have made huge progress, including testing of components at GE and at Walter Engines. The engine should receive certification by the end of 2009.

> Petra Sejpalová, Public relations, GE



## Partnership to Support Foreign Direct Investment in the CR





The **Partnership to Support Foreign Direct Investment in the Czech Republic** is a joint project of the Association for Foreign Investment and the Investment and Business Development Agency CzechInvest. The project is intended for stable companies that offer highly competitive services and products and that are interested in supporting the high-quality investment climate in the Czech Republic while promoting the Czech Republic abroad. Programme activities support, to the maximum degree possible, communication between partners and foreign investors, Czech companies, representatives of the state administration and AFI members.

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