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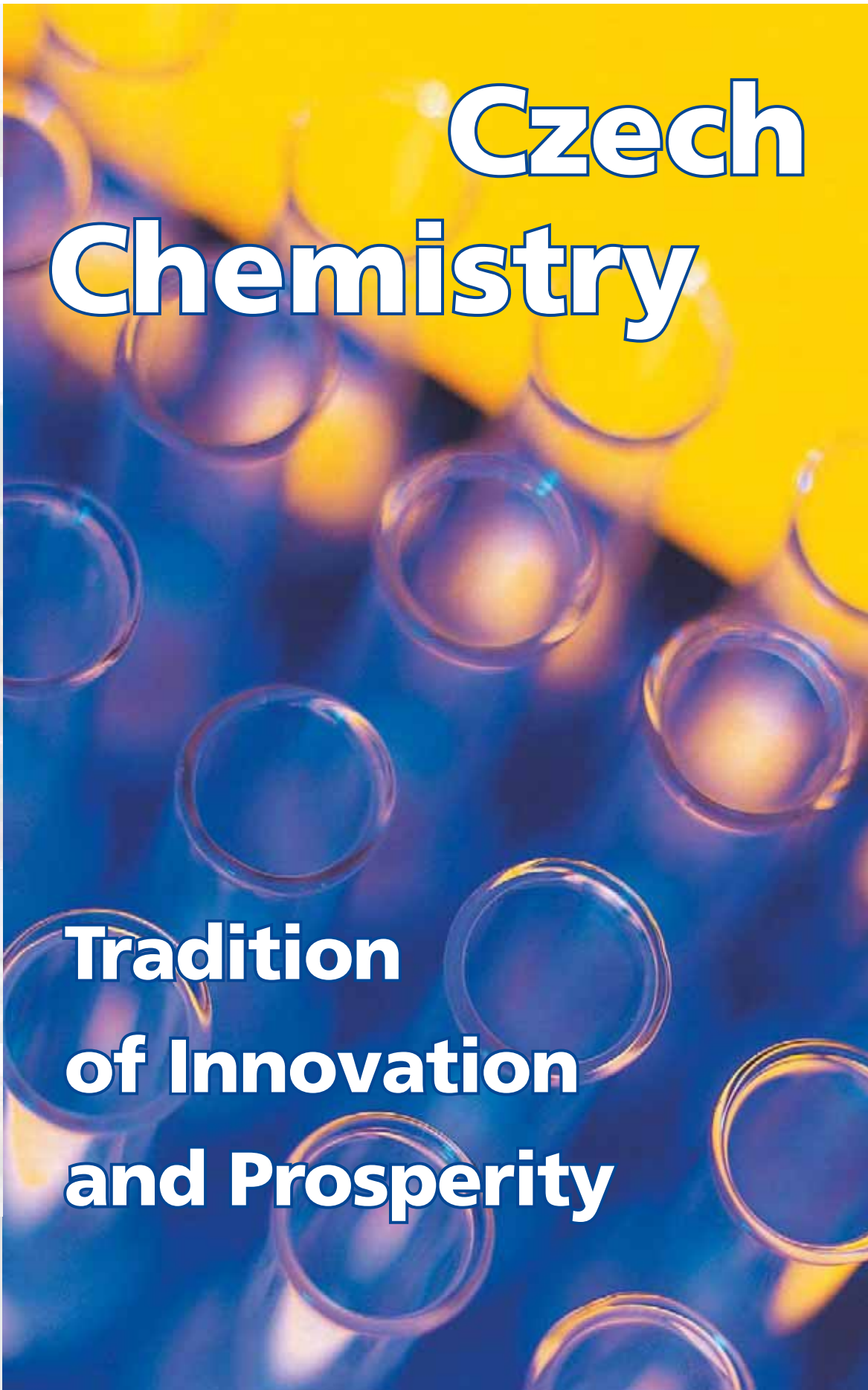

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The Association for Foreign Investment represents a group of Czech service companies with local experience that support the entry of foreign investors into the Czech Republic and provide a wide range of professional services to foreign investors entering the local market.

The primary aim of the AFI is to ensure that the entry of foreign investors into the Czech market is as smooth and easy as possible. Companies from the AFI group are experts in the fields of advisory services, consultancy, project services and auditing. These companies also offer investors related services **after the start of their business operations** in the Czech Republic.

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INVESTOR'S CALENDAR

July – September 2008

July

14. – 18.7. Semicon West
Trade Fair
San Francisco, USA

14. – 20.7. Farnborough Airshow 2008
Trade Fair
London, UK

27. – 31.7. Oshkosh Air Show & Exhibition
Trade Fair
Wisconsin, USA

September

15. – 19.9. INTEROP
Conference
New York, USA

16. – 18.9. Pharmatex 2008
Conference
Cork, Ireland

23.9. Doing business
in the Czech Republic
Seminar (Journées economiques)
Toulouse, France

25.9. Doing business
in the Czech Republic
Seminar (Journées economiques)
Lille, France

30.9. Investment opportunities
in the Czech Republic
Seminar
Barcelona, Spain

Czech Republic

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Recipe for Progress: Operational Programmes in the Czech Republic

Knowledge has always been the driving force behind human progress. In the distant past, science was merely a hobby of the rich and discoveries became useful instruments only through chance. After the relatively stagnant Middle Ages, learning gained importance thanks to enlightened rulers and began to spread throughout the world. The development of commerce and individual liberty brought forth the unprecedented acceleration of this process. It is no accident that the European Union has decided to invest a large volume of financial resources in this area.

In the period 2007-2013 the Czech Republic, which ranks among the "poorer" countries of the European Union, will have the opportunity to improve both its citizens' standard of living as well as the general quality of the environment. Approximately EUR 26.7 billion (CZK 752.7 billion) from European Union funds is intended for our country. Of this amount, the Czech Republic is investing roughly CZK 120 billion in education and support for science. Spent wisely, this significant sum can greatly impact the state of education in our country.

Preparing operational programmes is a demanding process requiring the corresponding personnel capacity and a great deal of time. Pessimists warn that utilisation of European funding could be delayed by deadlock on the domestic political scene, and that it is difficult for the European Commission to ensure sufficient capacity for approving individual programmes. In comparison with other EU countries, the Czech Republic has a relatively large number of programmes. Potential aid recipients are thus anxious about the train leaving the station without them, so to speak.

Despite the problems inherent in implementing structural funds, we can take an optimistic view. Most Czech operational programmes have already been approved by the European Commission.

The Ministry of Education, Youth and Sport is the governing body of two operational programmes. The Education for Competitiveness Programme has already initiated assistance with the modernisation of the education system. The fourth largest operational programme, Research and Development for Innovation, which has been approved by the Czech government, should respond to the weaknesses found in the current social and economic situation in science and research. Statistics indicate that most funding for science and research is spent in the business sector. Thus, the great challenge for the coming period is to bring firms into the university environment and involve them in research. We aim to achieve this through cooperation with the Operational Programme Enterprise and Innovation. Let's hope that entrepreneurship and invention will win the day, and that the interconnection of operational programmes will lead to the Czech economy's lasting, sustainable competitiveness.

Jan Vitula
Director
EU Operational Programmes
Administration Section,
The Ministry of Education,
Youth and Sport of the Czech Republic

Headline news

The international ratings agency Fitch has raised the Czech Republic's long-term foreign currency issuer default rating to "A+" from "A" and its domestic currency issuer default rating to "AA-" from "A+" with a stable outlook for both ratings. Fitch concurrently affirmed the Czech Republic's short-term foreign currency issuer default rating at "F1" and raised the country's rating ceiling from "AA" to "AA+".

The Czech Republic's economic performance is gradually approaching that of more advanced European countries. According to statistics published by the Vienna Institute for International Economic Studies, the country's performance, calculated on a per-capita basis according to purchasing power parity, slightly exceeded EUR 20,000 for the first time last year. This year, when the institute factors in 4.5% economic growth, per-capita GDP is set to increase by another EUR 900 (approx. CZK 21,000), with the country thus reaching 74% of the EU-15 average.

State aid provided through **investment incentives will in the future be granted only to firms using advanced technologies**, developing business support services and operating technology centres or test facilities. The state will provide aid in the form of wage subsidies.

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Politics and Legislation

The government has approved the draft of the act on the free movement of services. Small and medium-sized enterprises will thus have easier access to contracts in EU member states, where they will also be able to do business based on domestic business licenses.

According to the Education Ministry's proposal, three types of universities should exist in the future – research, teaching, and professionally focused schools. These will differ in the degrees they may award. Students will also be entitled to a monthly stipend from the state, which could total up to CZK 3,000.

The Constitutional Court has abolished the law that stipulates that the **first three days of sick leave are unpaid**. The court denied all of the opposition's other proposals to abolish the social portion of the government reform. The change takes effect on 30 June.

Amendment to the Employment Act. The long-discussed issue of **green cards** is headed to parliament. From next year, the state will issue green cards, which will make it easier for foreigners to work in the Czech Republic. If a local job applicant does not show interest in a position within 30 days, foreign workers will be allowed to apply for the given position.

According to the Education Ministry's proposal, three types of universities should exist in the future – research, teaching, and professionally focused schools.

Parliament approved the government's amendment to the road tax act in the third reading. The base rate discount will depend on the age of the vehicle and not on the Euro emissions norm. The amendment also introduces a road tax for vehicles starting at 3.5 tons. Some vehicles with environmentally friendly engines will be exempted from the tax. If the Senate approves the bill and it is signed by the president, the changes will come into effect for the 2008 taxation period.

Parliament has approved the new money-laundering act. The act lowers the minimum amount requiring the identification of a bank-transfer client (with the exception of so-called risk-free clients such as state authorities) to EUR 1,000. According to the current norm, banks are only required to demand documentation for transfers exceeding CZK 100,000.

Economy

The Finance Ministry has increased its economic growth forecast for this year from 4.7% to 4.9%. The economy is expected to grow at a rate of 5.1% in 2009. According to the ministry's new macroeconomic forecast, inflation will be higher than previously estimated this year at 6%.

The foreign trade surplus totalled CZK 8.1 billion in March, which represents a decrease of CZK 7.4 billion on the record results of March 2007. The drop was caused primarily by a lower surplus in machine and transport vehicle trade and an increase in the deficit in mineral fuel trade.

EU investments in the rest of the world grew by half last year. Compared with 2006, foreign direct investment from the EU in countries other than the Union's 27 member states grew last year by 53%, i.e. from EUR 275 billion to EUR 420 billion, according to preliminary results published on the website of the European Statistical Office.

The price of electricity for next year increased by 4% on the Prague Energy Exchange, reaching a new record high of EUR 68.90 (CZK 1,727) per MWh. The price of power for 2010 increased by 0.9 % to EUR 68.60 (CZK 1,720) per MWh.

Ever increasing **oil prices**, which have exceeded USD 133 per barrel, are also taking their toll on the **domestic trade balance**. In the first quarter the Czech Republic paid almost 40% more y/y, or CZK 22.7 billion, for oil imports.

According to the analytical firm JATO, **the Czech Republic was the sixth fastest growing automobile market in Europe** with vehicle sales increasing by 18.2% to 27,265 vehicles in the first two months of the year. Pan-European sales increased by 3.6% to 2.45 million vehicles.

In the first quarter of the year car exports fell by 14.7% y/y to CZK 48.82 billion. Exports of vehicles to European Union countries totalled CZK 39.25 billion, representing a y/y decrease of 20.3%

Business

Teva Pharmaceutical Industries of Israel is planning to invest USD 100 million in its Opava-based subsidiary **Ivax Pharmaceuticals**. This has been confirmed by Czech Prime Minister Mirek Topolanek, who added that the hitherto largest Israeli investment in the country would create approximately 400 new jobs.

In March **Biomedica** opened a new drug-production facility worth CZK 63 million. The company successfully applied through

CzechInvest for a subsidy from the European Innovation Programme and gained for the project 46% of eligible costs, i.e. CZK 24 million. In order to use state-of-the-art technology, Biomedica modernised a building in the Hořátev Technology Park.

▫ **Olympus**, a Japanese manufacture of cameras and medical instruments, is planning to open in the Czech Republic its first factory in the region. "Olympus will build a plant for the production of surgical devices in the Czech Republic," Olympus president Tsuyoshi Kikukawa said, according to the Japanese press agency Jiji.

▫ **Faurecia**, a supplier to the French automobile industry, will expand its activities in the Czech Republic and create 1,000 new jobs by the end of 2009. It will build a plant for the production of exhaust systems at which it will employ 300 people in Karviná. The company will also create 700 new jobs at its production facility in Písek by the end of the year, while concurrently shutting down both domestic plants of its Lecotex division.

▫ **Microsoft** has opened in Brno its first innovation centre in the Czech Republic. The centre will offer companies located in the technology incubator equipment for testing and development of the latest technologies.

▫ 14 May **Honeywell** opened a centre for the development and testing of turbo-superchargers in Brno. The centre will employ roughly 300 people.

▫ The export of a **Czech cement mill** from the firm PSP Engineering to Kazakhstan at a cost of CZK 2.4 billion has won the prestigious **Deal of the Year 2007**. The magazines Global Trade Review and Trade Finance, which focus on international trade, primarily valued the speed with which the project's financing was prepared. Credit was provided by the Czech branch of Fortis Bank in cooperation with EGAP.

▫ **Skoda Auto** is the winner of the tender for delivery of up to 3,500 new vehicles for the Czech Police. This was decided by an interdepartmental commission on Thursday, 15 May. The Mlada Boleslav-based automaker requested the lowest price of all three bidders – roughly CZK 1.1 billion (excl. VAT).

Denso, a Japanese automotive supplier, is planning to invest more than CZK 1.2 billion in the Czech Republic over the next two years.

▫ **Student Agency** is conducting talks with the French transport firm **Keolis** about the establishment of a joint venture that would focus on the operation of regional rail transport.

▫ The mechanical engineering firm **Robert Bosch** is planning to expand its plant in České Budějovice. The company will create an additional 300 jobs, primarily in the creation of systems for reducing diesel engine emissions.

▫ **REWE** Group has acquired the **Plus** discount supermarket chain in the Czech Republic from the **Tengelmann** group for EUR 255 million.

▫ **Denso**, a Japanese automotive supplier, is planning to invest more than CZK 1.2 billion in the Czech Republic over the next two years. The company will invest the money into expanding its plant in Liberec at which it will add 400 to 500 new jobs by 2011.

Miscellaneous

▫ In a ranking of **the most attractive Central and Eastern European cities** to which international retail chains are planning to expand in the next five years, **Prague**, which currently offers more than 857,000 m² of retail space, placed third behind Moscow and St. Petersburg. The ranking was compiled by the consulting firm Cushman & Wakefield.

▫ According to Eurostat statistics, the Czech Republic is one of three countries, behind Austria and Estonia that saw the **fastest growth in spending on research as a percentage of GDP between 2000 and 2006**. Sweden spends the most on research (3.82% of GDP), whereas the Czech Republic's research spending amounts to 1.54%. Slovakia, with research expenditures totalling 0.49% of GDP, is among the four weakest countries in the EU-27 in the regard.

Prague is the world's 12th most popular city for tourists, according to the recently published results of a survey conducted by TripAdvisor.com, a major travel portal.

▫ **Prague is the world's 12th most popular city for tourists**, according to the recently published results of a survey conducted by TripAdvisor.com, a major travel portal. New York, Paris and London topped the survey, followed by six European cities, four in the United States and Sydney, Australia. The Czech Republic was followed by, for example, Florence, Vienna, Budapest and Krakow.

▫ **Prague placed 12th** in Europe and fared better than any other Central or Eastern European city, as well London, **in the real estate investment-potential ranking** compiled by PricewaterhouseCoopers. Moscow and Istanbul ranked at the top.

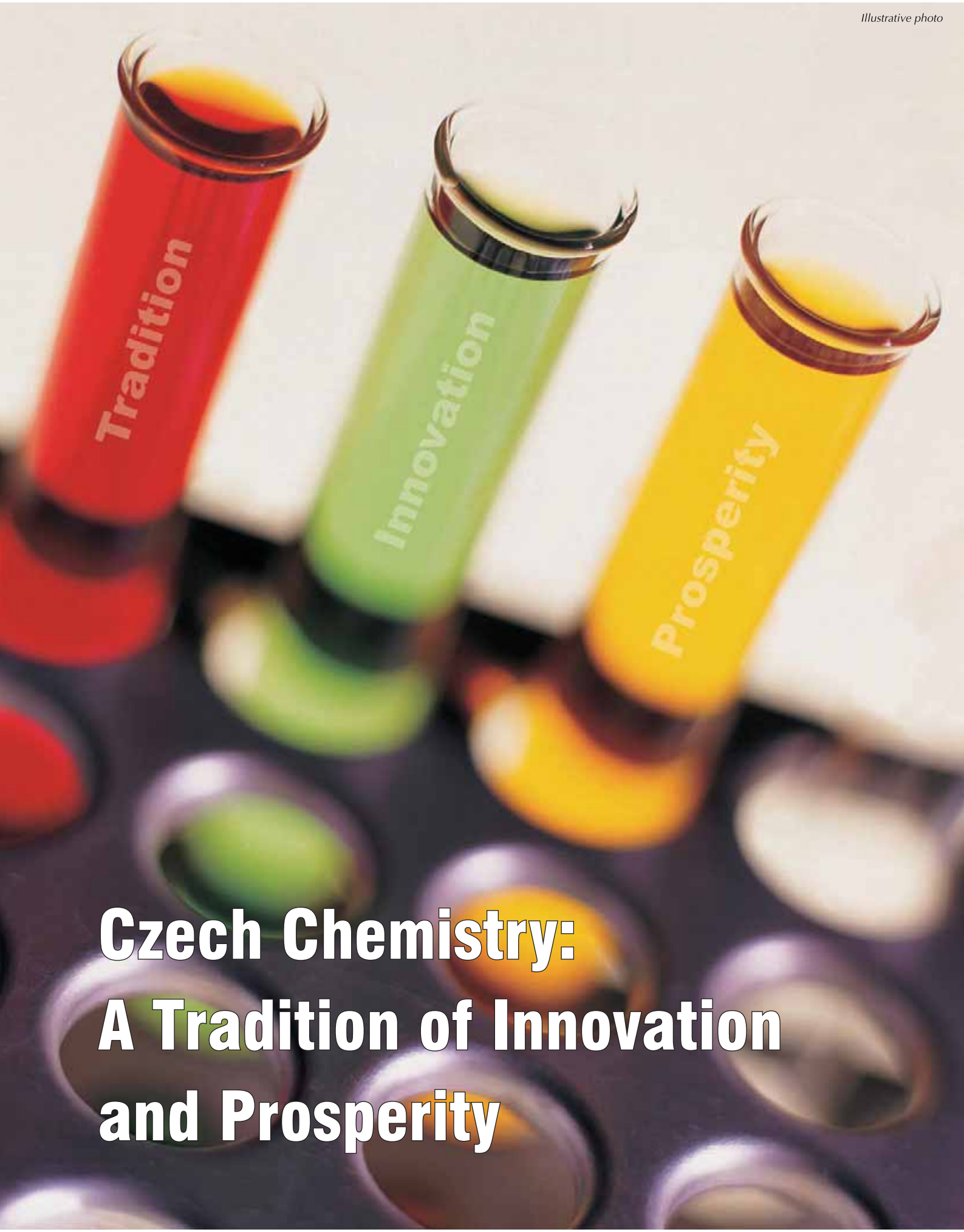
▫ **The number of IT experts in the Czech Republic is growing**. The number of computer professionals in the country grew last year by one-tenth to 96,300. Thus, 2% of all domestic employees work in the IT sector, according to a report published by the Czech Statistical Office.

▫ **The University of West Bohemia** will cooperate on the development of new vehicles with one of the largest automotive developers in the Czech Republic, **MBtech Bohemia**, which is part of **DAIMLER AG** and its **MBtech Group**.

▫ **The University of Technology and Economics** in České Budejovice is readying the construction of a new science and technology park with a business incubator and a multifunctional study pavilion. The costs of the project will reach approximately CZK 300 million.

▫ Mobil operators, providers of games for mobile telephones, Internet servers, banks and mediators of electronic payments can look forward to billions of dollars in advertising revenues. The research agency Gartner estimates that in 2011 the total volume of **advertising via mobile telephones** will reach a remarkable USD 12 billion. Revenues totalling USD 2.7 billion are predicted for this year, an increase of half a billion dollars over 2007.

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



Illustrative photo

Czech Chemistry: A Tradition of Innovation and Prosperity

Stable environment

The chemicals industry is one of the key branches of the manufacturing sector. Without modern chemistry, traditional fields such as medicine, pharmacy and food-production would be primitive, and newer sectors such as computer and information technology, environmental protection and space research would be practically unthinkable. The origins of the chemicals industry in the Czech Republic date back to the end of the eighteenth century and are linked to the production of sulphuric acid. The country's first chemical plant was established in 1778 in Velká Lukavice. Since that time, of course, the industry has undergone fundamental quantitative and qualitative changes that have substantially influenced how it operates. During the period between the world wars, Czech chemical companies were heavily involved in international trade. In the second half of the twentieth century, emphasis was placed mainly on the development of heavy chemistry. The 1990s saw the necessary restructuring and privatization of the chemicals sector. The current environment in the Czech chemicals industry can be characterized as stable, both from the perspective of the ownership structure as wall as the production base, which is qualitatively comparable with the foreign competition. The intermediate-product base in the Czech Republic is sufficiently well developed and domestic companies have been successful in exporting their products. The chemicals industry accounts for more than 15% of manufacturing, which is comparable with that of other European Union member states.

The Czech chemicals industry in figures

The chemicals industry is among the three most significant industrial sectors in the Czech Republic. The industry employs more than 100,000 people and accounts for 13% of the country's gross domestic product. The situation in the sector in 2007 can be viewed positively despite rising prices of petroleum and energy, which are among the key factors in the development of the entire sector. Positive factors contributing to the industry's improved results include the growth of competitiveness among companies and the inflow of foreign investment into the sector. Neighbouring countries, with Germany at the forefront, are among the most important trading partners in the area of chemicals. These countries' share in the total foreign trade in chemical products amounted to 57% in 2006, of which petroleum processing accounted for 90%, the chemicals and pharmaceuticals industries 48% and the rubber and plastics industry 57%. The chemicals-industry trade balance was passive, as imports continued to exceed exports.

During the fifteen-year period from 1993 to 2007, CzechInvest supported a total of 134 investment projects in the chemicals industry (the majority of the projects were in rubber and plastics manufacturing). These investments, which were worth USD 2.815 billion, created a total of 13,590 new jobs.

Zentiva in Prague

Key players in the market

Unipetrol Group is the most significant company in the Czech chemicals industry. The company focuses mainly on petroleum processing, distribution of fuel and production of petrochemicals. The group's member companies include Benzina, Česká rafinérská and Paramo, as well as the Research Institute of Inorganic Chemistry in Ústí nad Labem. Unipetrol employs approximately 4,000 people and its net profit in 2007 amounted to CZK 1.3 billion.

Another key player in the Czech market is **Holding Agrofert**, which associates seven Czech companies operating in the chemicals industry (e.g. Synthesia, Lovochemie, Deza and Precolor). **Lovochemie**, whose profit reached CZK 117 million in 2007, is the biggest fertiliser producer in the Czech Republic. Established more than a century ago and currently employing 621 people, the company specialises primarily in nitrogen and multi-compound fertilisers in both solid and liquid form. Based in Valašské Meziříčí, **Deza** was established in 1892 and is an important processor of raw benzol and coking tar. The company employs over 1,000 workers and it recorded a profit of CZK 485.9 million in 2007. With its annual processing capacity of 160,000 tonnes of crude benzol and 450,000 tonnes of crude coking tar, Deza is a significant firm in the world market.

With its long history and broad range of products, **Synthos Kralupy** (formerly Kaučuk) is one of the traditional representatives of the Czech chemicals industry. The company's profit in 2007 amounted to CZK 814 million and it currently employs nearly 900 workers. Styrene-butadiene rubber is used in the automotive, rubber and footwear industries, while polystyrene can be found in the electrical engineering, consumer-goods and food sectors. The acrylonitrile-butadiene-styrene polymer is used in the production of exterior and interior automobile components.

The Hungarian firm **BorsodChem**, which entered the Czech market in 2000, concentrates primarily on the production of aniline, which is used in the final production of MDI and rubber chemicals, as well as cyclohexylamine delivered mainly to foreign countries for the production of cyclomats and chemicals for treating boiler feed water. The company employs more than 400 people in Ostrava and its 2007 profit reached CZK 65.7 million.

Zentiva is part of a multinational corporation that focuses on the development, production and sale of modern pharmaceutical products. The company has been active in the Czech market since 2003 and employs over 1,000 people. The Zentiva group's products are intended for the treatment of pain, cardiovascular and central-nervous-system disorders, urinary and sexual dysfunction and respiratory illnesses. In the area of dietary supplements, the company is mainly involved in vitamin preparations.

Classification of the chemicals industry in the Czech Republic:

By its classification, the Czech chemicals industry differs from the definition in most countries of the European Union. Besides the chemicals and pharmaceuticals industries, petroleum refining and the rubber and plastics industry are also included in the classification in the Czech Republic. In general terms, the chemicals industry is defined as the sum of the aggregation of NACE 19 (manufacture of coke and refined petroleum products), NACE 20 (manufacture of chemicals and chemical products), NACE 21 (manufacture of pharmaceutical products and preparations) and NACE 22 (manufacture of rubber and plastic products).

Illustrative photo

Established in 1883, **TEVA Pharmaceuticals CR** (formerly IVAX) is one of the Czech Republic's oldest and most significant companies engaged in drug production. In 2006 the company became a part of TEVA, a multinational group headquartered in Israel and one of the world's leading producers of pharmaceuticals. The company's broad portfolio includes generic drugs, primarily anti-asthmatics, cytostatics, immunosuppressants, hypolipidemics and antihypertensives. In 2007, the company had 188 employees in the Czech Republic and its profit exceeded CZK 2 million.

Lachema was established in 1964 and has since focused on the production of drugs for treating serious modern ailments. In 1999 the company entered a strategic partnership with the multinational giant PLIVA, which itself became a part of the global drugs concern Barr Pharmaceuticals in 2006. The largest segment of the company's product portfolio comprises drugs used in the treatment of cancer. **PLIVA-Lachema's** current strategy is focused mainly on generic drugs, particularly cytostatics and drugs for supportive therapy.

Institute of Macromolecular Chemistry of the Academy of Science

Extensive research and development

Investment in research and development is a key element in maintaining competitiveness in the chemicals industry. The Czech chemicals industry relies on a substantial scientific base not only in the institutes of the Academy of Science and universities, but also in sectoral and company research centres. Prominent centres in this area include, among others, the Research Institute of Organic Syntheses in Pardubice, Synpo Pardubice, the Research Institute of Inorganic Chemistry in Ústí nad Labem, the Research Institute of Antibiotics and Biotransformation in Roztoky, the Institute of Chemical Technology in Prague, and the University of Pardubice. Joint laboratories of universities and industrial companies, such as the Research Centre for Complex Crude Oil Processing, are also important scientific platforms.

With 3,640 students, the **Institute of Chemical Technology in Prague** is the largest school in its field not only in the Czech Republic but in the whole of Central and Eastern Europe. The institute has four faculties and continues the nearly 200-year tradition of instruction in technical chemistry.

The Research Institute of Organic Syntheses is the largest research and development platform of its kind. Applied research and development of chemical technology has been one of the institute's key activities for more than 60 years. The institute has participated in projects primarily in the area of pigments, dyes, semi-finished chemical products and oxycellulose. A subsidiary, Synthesia, also offers products and services in the area of custom syntheses.

The Institute of Inorganic Chemistry of the Czech Academy of Sciences was established in 1972 and is involved primarily in applied research and education. The institute is currently working on projects focused on, for example, production of nanoparticle titanium oxide for liquidating yperite and for producing virostatics, which in future should fully protect humanity against the AIDS virus.

The Association of the Chemicals Industry of the Czech Republic was established in 1990 as a voluntary association of organisations related to the refinery, chemicals and pharmaceuticals industries as well as the rubber and plastics industry. The ACI has more than 100 members that in 2006 achieved revenues in the amount of approximately CZK 230 billion, which represented 61% of the chemicals industry in the Czech Republic. The ACI's members represent more than 80% of the workers in this industry and over 85% of total production in the aforementioned industrial sectors. The ACI actively represents and promotes the interests of the chemicals industry and is considered the most significant instrument of support for the chemicals business in the Czech Republic.

The Czech Society of Industrial Chemistry is a professional, non-profit science and technology organisation dating back to 1870. With more than 1,000 members, the Society's aim is to support research and development, facilitate cooperation in the fields of chemistry and natural sciences, and to improve the education of specialists.

The Czech Chemical Society was established in 1866 and is one of Europe's oldest organisations in the chemicals sector. Its activities are focused mainly on research and development, as most individual members operate in academia. The Society also organises educational activities, conferences, meetings, symposia and courses.

Czech ingenuity: from contact lenses to AIDS drugs

Czech scientists have contributed numerous inventions to the historical development of chemistry. Jaroslav Heyrovský and Otto Wichterle left their indelible stamp on the field, while Antonín Holý represents the pinnacle of Czech chemistry in the present.

The physicist and chemist **Jaroslav Heyrovský** (1890-1967) was the first Czech scientist to win the Nobel Prize, which was awarded to him in 1959 for his discovery and development of polarography and its use in analytical chemistry. Heyrovský's method makes it possible to determine even the most imperceptible elements of studied solutions. Heyrovský constructed a device called a polarograph and established a new scientific discipline, polarography. His Czech successors later introduced computerised polarography, which is used both in laboratories and in the field. Polarography serves, for example, to determine the content of harmful substances in blood or heavy metals in water.

Considered to be the founder of macromolecular chemistry, **Otto Wichterle** (1913-1998) is another important Czech scientist who was responsible for perhaps as many as 150 inventions. His most famous, the soft contact lens, is now used by approximately 100 million people around the world. On Christmas Eve in 1961, Wichterle, assisted by his wife, produced the first four contact lenses on a centrifugal casting device that he had built from a Merkur children's construction kit. The lenses were regular, with smooth edges that would not irritate the eye. Within a short time, the first generations of pneumatic-controlled semi-automated machines were prepared to mass-produce the lenses. A year later, they were being produced on fully automated electronically controlled machines and production spread throughout the world. Wichterle was also the first to develop the silon polymer fibre. Since 1993 an asteroid in our solar system has borne Wichterle's name. In that same year, he was nominated for a Nobel Prize.

Antonín Holý has long been involved in research related to the treatment of AIDS. In 2004 this Czech chemist from the Institute of Organic Chemistry and Biochemistry at the Academy of Sciences introduced a tablet that significantly prolongs the lives of AIDS patients by suppressing the virus in the early stages of the disease. The drug also has dramatically fewer side effects, as it replaces the large number of pills, sometimes as many as thirteen that patients previously had to take throughout the day. Furthermore, the drug protects against transmission of the virus from mother to foetus. Antonín Holý is credited with more than 400 scientific findings and holds 60 patents. Among other things, he is also involved in the treatment of type-B hepatitis and was awarded

Oldřich Dubský
CzechInvest

REACH for better protection of the environment and human health

An interview with Ladislav Novák, director of Association of the Chemical Industry of the Czech Republic (ACI)

Ladislav Novák

From the long-term perspective, what do you see as the main benefits of introducing the new REACH chemicals legislation?

One benefit should be better protection of the environment and human health in connection with the fact that more will be known about registered chemicals and this newly available information can be incorporated into methods of handling these substances. The most dangerous chemicals will be taken off the market. The negative impacts connected with the introduction of REACH are the enormous bureaucracy and extensive administrative and financial burden for European chemical producers and importers (personnel costs, expenses related to testing, etc.)

Are Czech companies sufficiently prepared for the introduction of REACH?

It generally holds that companies which have been involved with the REACH issue since the very beginning are sufficiently prepared. This is true of large companies as well as small and medium-sized firms. All companies greatly benefit from our project called "Adaptability and Improvement of Competitiveness of the Czech Chemicals Industry" by which the Association of Chemical Industry provides to firms, free of charge from resources of the European Social Fund and the Czech Ministry of Labour and Social Affairs, the maximum possible information on the REACH regulation and its implementation. The experience gained so far clearly shows that there is a certain number of primarily micro, small and medium-sized firms that have very limited or no knowledge of the REACH regulation. Implementation of the regulation will be difficult for these firms, and we are afraid that it could lead to liquidation in some cases.

What overall costs and administrative burdens can small and medium-sized enterprises in the Czech Republic expect in relation to the introduction of the REACH system? Will they be at a disadvantage in comparison with large enterprises?

Several studies of the impact that the introduction of REACH will have on the industry have been conducted in the Czech Republic, and they have shown the high costs of implementing the regulation here. It is clear that small and medium-sized firms are in a more precarious position in comparison with large companies, primarily from the perspective of personnel capacity and financial resources. Commission Regulation (EC) No. 340/2008 on the fees and charges payable to the European Chemicals Agency in connection with the REACH regulation takes into account the size of enterprises, in the sense of reduced fees for small and medium-sized companies as well as micro-enterprises, for either independent or joint registration, though such reduction of costs is rather insufficient in our opinion.

What is REACH?

REACH is an EU regulation on the basis of which producers and importers of chemicals must perform systematic assessment and management of risks that such chemicals could pose to health and the environment. The first steps in this process are preliminary registration and full registration, which should be undertaken by all EU-based companies that produce chemicals into the EU or import them into the Union (if the amount of such chemicals totals at least one tonne per year). Companies that do not carry out preliminary registration may not continue producing or importing after 1 December 2008 if they do not carry out full registration with the European Chemicals Agency (ECA). It is expected that approximately 300,000 chemical substances will be registered by 30 May 2018.

The Association of Chemicals Industry has long endeavoured to build awareness in connection with this legislation's impact on Czech companies. What tools and forms of promotion are you using in this regard and in what activities will you continue to be involved?

The ACI is the implementer of the aforementioned "Adaptability" project, through which more than 1,000 participants from over 300 firms have been informed of issues relating to REACH. Since the very beginning, the ACI has been publishing information about the regulation in the daily and professional press as well as on the association's website and in other media. In connection with the preliminary registration of chemicals, which runs from 1 June to 1 December 2008, the ACI is preparing a press conference and a more extensive campaign in the press. Besides broad educational and informative activities, we also decided to establish a consulting company, ReachSpektrum, which will provide a full range of consulting and legal services to those that for various reasons cannot or do not want to directly commit themselves to implementation of the REACH regulation.

What do you expect from the European Chemicals Agency? Will it be able to sufficiently stand up to lobbying pressure from producers of dangerous chemicals?

That, of course, is an important question. I would expect lobbying pressure rather from the other side represented by numerous non-governmental organisations that have never been satisfied with the final form of REACH. We believe that for the ECA to function effectively, it is important for all member states to have in the agency a representative delegation composed of specialists so that decisions taken by the ECA will be correct and responsible. It is almost certain that, at least at the beginning, the entire ECA will be under enormous pressure. Just consider that it will be necessary to register (albeit over 11 years) roughly 30,000 chemicals. The first phase of REACH implementation, i.e. pre-registration, will tell us a lot about how the ECA operates.

Oldřich Dubský
CzechInvest

In November last year, CzechInvest came to the decision that it would expand its focus on supporting foreign investment in the Czech Republic by bringing another key sector into the fold. As a result, nanotechnology is now one of the agency's priority fields, along with engineering, the automotive and aviation industries, electronics, IT, life sciences and business support services.

The term nanotechnology covers a broad range of fields and, unlike other segments, it can be defined only very generally. Nevertheless, most experts agree with the opinion that nanotechnology as a sector consists in an interdisciplinary field that includes the study and manipulation of phenomena and materials less than 100 nm in size on the metric scale. To illustrate just how tiny that is, a human hair is 80,000 nm thick. Nanotechnology already plays or will play an important role in many major sectors, such as mechanical engineering, electronics, biotechnology, medicine, power generation, and environmental protection, to name just a few. A vital source of information on Nanotechnology 2005 study and the related website at www.nanotechnologie.cz. This publication includes information on publicly funded research and development, and identifies academic laboratories, companies and other private-sector entities involved in the sector.

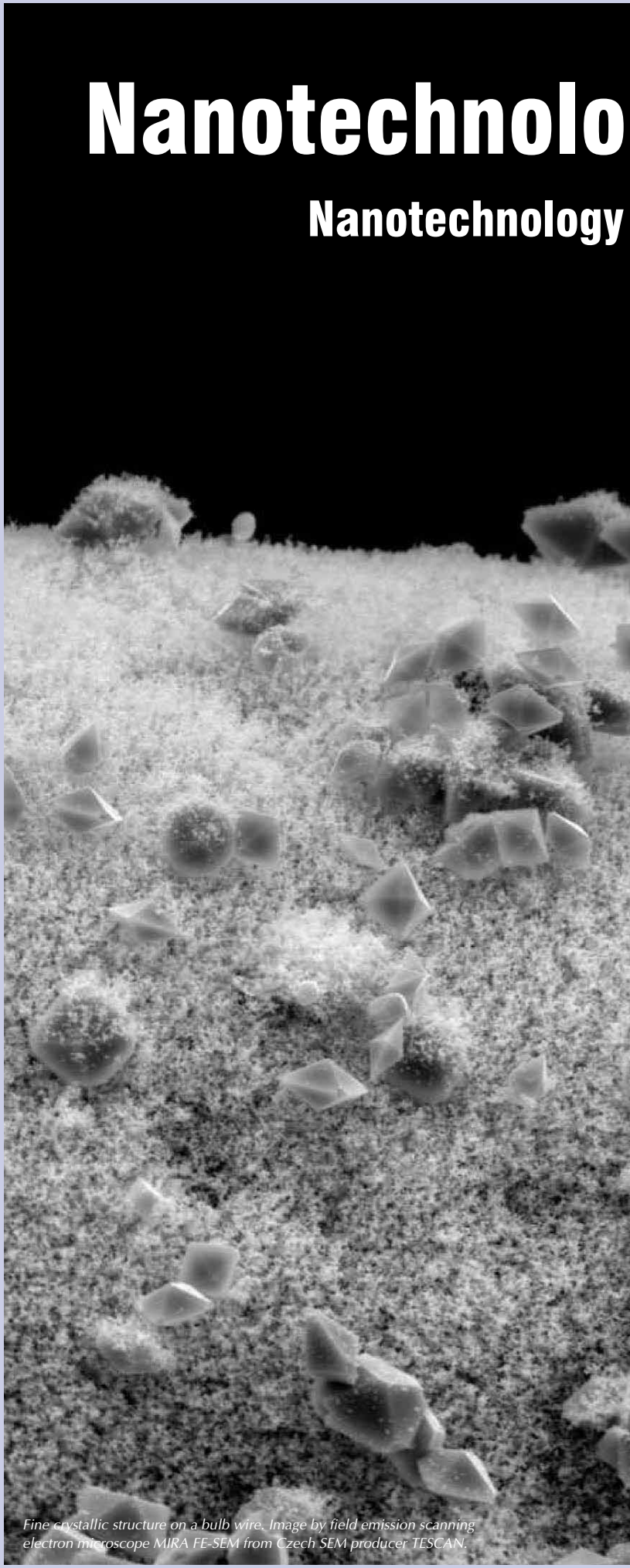
Strong support for nanotechnology

There are several institutions contributing to the development of research and practical application of nanotechnologies in the Czech Republic. The Academy of Sciences administrates the **Nanotechnology for Society programme**, which was approved by the government for the period 2006-2012. According to available information, 29 projects valued at approximately EUR 43 million (EUR 1 = CZK 25) had been registered in the programme by the end of 2007. The Academy of Sciences concurrently supports nanotechnology activities under the Information Society programme.

The Grant Agency of the Czech Republic is another significant provider of support. This agency focuses primarily on supporting basic research and by the end of 2007 had registered 51 "nano" projects worth EUR 5.7 million. Naturally, the Ministry of Industry and Trade also contributes to the development of nanotechnology through the Progress and Permanent Prosperity programmes, in which 27 projects worth a total of EUR 10.5 million had been registered as of the end of 2007. The Ministry of Education, Youth and Sport supports nanotechnology-related activities within the Research Centres, Basic-Research Centres and Information Infrastructure for R&D programmes, through which support had been provided to 34 projects worth EUR 12.4 million by the end of last year.

Promising players on the Czech market

In mapping the situation in the Czech Republic, it was CzechInvest's aim to acquire an overview of public and private entities operating in the nanotechnology sector. This resulted in the compilation of a list containing 17 institutes of the Academy of Sciences, 13 universities, four departmental contributory organisations, nine private research laboratories, six large manufacturing companies, 20 small and medium-sized enterprises, several trading companies, one specialist firm and seven other activities. The overview was used as a basis for a more detailed survey of the nanotechnology sector in the Czech Republic,



Fine crystallic structure on a bulb wire. Image by field emission scanning electron microscope MIRA FE-SEM from Czech SEM producer TESCAN.

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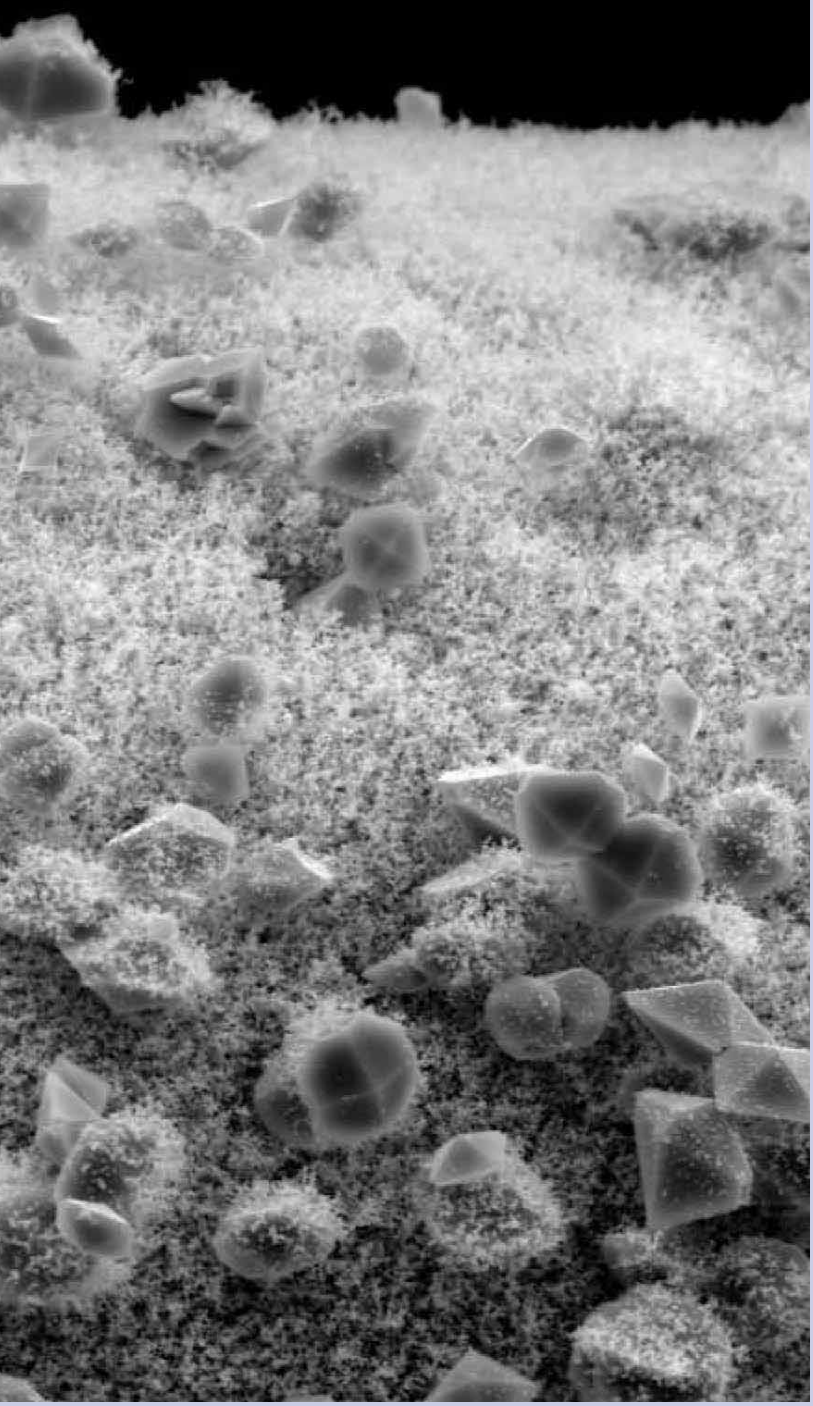

the purpose of which was to identify research institutions and private organisations having above-average potential in the sector along with an interest in establishing and expanding international cooperation. Finally, the information thus gathered was evaluated and CzechInvest, with assistance from its foreign offices, is now seeking out suitable partners for cooperation with local entities.

CzechInvest is currently communicating intensively with four Czech nanotechnology firms that have achieved not only better-than-average results, but are also capable of competing on the global market.

One of the few well-known Czech companies in this field is **Crytur**, formerly the state-owned enterprise Monokrystaly. Headquartered in Turnov, Crytur employs more nearly 60 people and has tripled its turnover to EUR 2.5 million in the past year. Crytur is a significant producer and supplier of detectors and detection units for scanning electron microscopes and monocrystalic materials for laser applications and dielectric surfaces for high-quality optics. The company's management has expressed interest in forming a joint venture with a foreign partner in an area relating to Crytur's production, such as diode systems for pumping lasers, assembly of laser systems, night-vision systems, etc.

Another successful Czech firm in the area of nanotechnology is **Optaglio**. Based in Řež u Prahy, this company possesses a unique technology – ultra-precise electron lithography, which is primarily used to produce holograms. Optaglio delivers holographic stamps and labels to more than 60 countries, primarily in connection with government orders. The company is currently looking for alternative applications for its electron lithography technology in the fields of photovoltaics, printed electronics and production of diffraction elements for industrial uses.

Generi Biotech of Hradec Králové is a promising bio-nanotechnology firm that was established as a classic spin-off through the separation of the molecular-genetic laboratory from the local university hospital. Within the scope of its commercial activities, the company produces special diagnostic kits for exotic pathogens and paternity-test kits. In the area of research, Generi Biotech is dedicated to the detection of various pathogens, gene expression and problems related to persistent wounds. From the perspective of long-term research, the company is focusing its attention on gene therapy and the use of nanostructures for targeted transport of drugs. A special project involves testing the electrical properties of DNA, particularly conductivity, with the aim of creating an instrument for testing damaged DNA without using blood tests. The company does not rule out cooperation with a foreign partner for any of its activities.

LIMTEK is a small yet promising firm that originated as the state-owned enterprise Metro Blansko. The company produces laser interferometers for applications in engineering, microelectronics, meteorological laboratories and universities. LIMTEK has exported its products to various countries in Europe and elsewhere for over 20 years without a single warranty claim. As LIMTEK consists of only a four-member team, it would gladly welcome a strategic partner that would acquire part of the company and contribute to the production of laser interferometers.

CzechInvest plans to continue seeking out nanotechnology entities that are suitable for international cooperation. In future, the agency wants to focus more of its attention on projects in the academic sphere.

Markéta Luhanová
CzechInvest

Smart Support for Smart Projects

Research and development in the Czech Republic

The importance of research and development as well as innovation for maintaining and developing the competitiveness of both companies and national economies has grown remarkably in recent years. Due to this, support for science, research and development is one of the Czech government's priorities.

Illustrative photo

For business entities, this represents an undoubtedly intriguing opportunity to obtain state aid for research and development, as well as for innovation.

It is currently possible to utilise three basic support schemes:

- support from structural funds represented primarily by the Operational Programme Enterprise and Innovation (OPEI) – see Czech Focus, 1/2008
- support for technology centres and centres of business support services
- tax allowance for research and development

In addition to these three basic schemes, other programmes of supports are already in place or are in preparation, though they are of less importance from the perspective of business entities.

Individual schemes suitably complement each other and in some cases may partially overlap. It generally applies that it is possible to draw support from only one source for one project. In other words, it is not possible for a project receiving support from structural funds to receive other subsidies from, for example, the programme to support technology centres. However, it can happen that the relevant activities may allow the utilisation of one type of support for part of the project, while another part of the project can utilise a different type of support.

An undeniable advantage of the programme to support technology centres and centres of business support services and other subsidy programmes within the EU structural funds consists in the provision of aid in the form of direct subsidies, i.e. the aid recipient receives financial resources from the state. A disadvantage is that this concerns a one-off disbursement which is connected with the commencement or expansion of the relevant activity and it is no longer possible to receive additional funding without making further investments following the full utilisation of the provided subsidy.

By comparison, tax relief in the form of tax allowances for research and development fa-

cilitates considerable tax savings. Thus, this does not involve the provision of funding by the state, but rather lower tax payments. Of course, the advantage here is realised over a longer period of time, as tax relief becomes advantageous only when it leads to a reduction of the recipient's tax obligations. On the other hand, it constitutes a benefit that is possible to realise over the entire period during which the supported activity is performed.

Tax allowances for research and development

Since 2005 business entities have been able to apply a special tax allowance for research and development. In essence, this tax allowance makes it possible for research and development costs to be applied twice for tax purposes. The first instance involves the given costs that the taxpayer actually expended, whereas the second instance involves the application of such costs within the allowance. The tax savings are thus realised in the value of research and development costs multiplied by the current income-tax rate.

The basic criterion for differentiating research and development from other (related) activities is the presence of an appreciable element of newness and elimination of research or technical uncertainty. At the same time, this should also involve systematic innovation activity.

A more detailed definition of research and development as well as the conditions for its application are given in the instructions published by the Ministry of Finance. **Activities that, according to the instructions, can be included in research and development are, for example:**

- production of prototypes
- trial operation or trial production
- development of software based on the innovative use of research findings, e.g. development of operating systems, programming languages, development of internet technologies, etc.
- medical and pharmaceutical research and development including clinical trials of drugs until the moment of issuance of a production
- license
- research and development in the area of services, e.g. development of risk models

Conversely, activities that, according to the instructions, cannot be included in research and development are, for example:

- feasibility studies
- standard software development
- activities of an innovation character that do not include an appreciable element of newness

In the situation where the taxpayer is considering whether the tax allowance can be applied, the differentiation of development from innovation is particularly important in practice. Innovations are not included in the definition of development, i.e. the allowance cannot be applied to them.

It is necessary to emphasise that the allowance is applicable only in the case of research and development conducted directly by the taxpayer. Purchased services in the area of research and development cannot be taken into account in the calculation of the allowance. This concerns a logical condition supporting the advancement of research and development in the Czech environment at the expense of purchased results of such activities from abroad.

Application of the tax allowance is not guaranteed in a range of specific cases. However, the legislation allows for the provision of an advance ruling, which increases its certainty when applying the allowance. It is possible to carry forward an inapplicable part to the subsequent three periods.

Support for technology centres and centres of business support services

Support for technology centres and centres of business support services is focused on building and, as the case may be, developing such centres. This support is provided by the Ministry of Industry and Trade on the basis of the relevant Framework Programme. The latest amendment of this programme was approved in 2007, whereas further partial modification is expected in 2008 or 2009.

The advantage of technology centres lies in the possibility to obtain subsidies for activities of an innovation character, i.e. activities that lead to the improvement or regular changes of products, production processes or technologies. This therefore concerns a suitable alternative to the above-mentioned support of research and development for activities that in and of themselves do not constitute development. With respect to the definition of a technology centre, it is possible to support a certain type of activity involving proprietary development.

Support for software-development centres is among the types of supported activities within the context of centres of business support services.

According to the new Framework Programme, the following forms of support can be provided in the area of business support services and technology centres:

1."Subsidy for business activities", which is intended for payment of wage costs for new employees working in newly created jobs directly related to the project. Depending on the region, the subsidy amount can be up to 40% of total wage costs over a two-year period.

2."Subsidy for employee training and retraining", which is intended for payment of costs associated with training new employees. Depending on the region, the subsidy amount can be up to 35% of training and retraining costs.

The conditions for utilising subsidies include the obligation to invest a minimum of CZK 10 million and to create 20-100 new jobs depending on the type of supported activity.

A very important restriction consists in the necessity to submit the aid application prior to commencing the investment. In other words, it is necessary to submit the application before expending costs, employing new workers or even concluding the related contracts. This requirement is in accordance with the European Community rules governing the provision of state aid.

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Illustrative photo

Starting a Business: Company Formation in the Czech Republic

A recent global comparative study carried out by the World Bank shows that it takes on average seventeen days to form a new company in the Czech Republic. However, significant changes were introduced into the process of company formation during previous years in order to improve the investment climate in the Czech Republic. As a result of these efforts, the process of establishing a business has become faster and more efficient. Investors who embark on the process of forming a company with a clear view of how the prospective company is to be organised and operated have a distinct advantage and can have their company established in a relatively short period. A brief overview of the process of establishing a company should thus be useful.

Investors can form four types of companies under the Czech Commercial Code. Of these, the form of the limited liability company (společnost s ručením omezeným) and the joint-stock company (akciová společnost) are the most preferred legal forms as they give their shareholders the advantage of having only limited liability for the company's obligations. There is, however, a substantial number of investors who run their businesses in the form of a general partnership (veřejná obchodní společnost) or limited partnership (komanditní společnost). The company formation process is generally comparable for all company forms and similar general rules are followed. We would like to outline these general principles, although the process varies in number of cases, according to its particular circumstances.

The process of company formation is basically divided into two phases. First, the Memorandum of Association, or the Founders' Deed in the case of a one-man company, is signed by the partners or the shareholders and second, the company is registered in the Commercial Register. In the meantime, several further steps have to be taken to meet the requirements stipulated by law.

Memorandum of Association

The process of setting up a company starts with the signing of a written Memorandum of Association that explicitly states the essential details of the established company and its organisation, such as its legal form, business name, registered seat, business activities, names of partners/shareholders and sizes of their ownership interests, registered capital if required, names of the persons appointed to the company's bodies and some other details. The Memorandum of Association of a limited liability company or a joint stock company has to be prepared in the form of a notarial record. Whereas, the only formal requirement in case of general or limited partnership is that the signatures of the partners on the Memorandum are certified by a local authority or a notary public.

Investors need to pay proper attention to the process of drafting the Memorandum, as this legal document, together with the Articles of Association, governs the entire future life of the company, from decision-making processes, business management and financial issues to the internal relationships between the partners or shareholders. Therefore they should have a clear vision of how the company is to be operated before they entrust their lawyer with the task of drawing up a Memorandum of Association. The task of the lawyer is then to adjust the default legal rules of corporate law so that they meet the needs of the particular investor as precisely as possible.

After the Memorandum is signed, it becomes legally binding only upon the shareholders and the company does not yet exist as a separate legal entity. Any person who undertakes any legal act, such as concluding a contract in the company's name, in the interim period before the company's incorporation becomes the sole party that is obliged under such legal act. This holds true for the lease contract for the premises where the company's registered seat will be situated. Such contract is usually signed by the founders of the company before

its formation because it is usually submitted to the registration court as proof of the company's registered seat. The company itself becomes obliged under the contract only if it ratifies the contract within three months after its incorporation.

Trade Authorisations

In the next step of formation, the company has to obtain the appropriate trade authorisations or – for several types of business activities – licenses, that entitle the company to undertake in a particular area of business. The application is filed with the local Trades Licensing Office. Standard unified forms published on the Internet (see the official website of the Ministry of Industry and Trade at www.mpo.cz) are used for this purpose. Trade authorisations are then issued within fifteen days from the filing of the application form. Trade authorisations or licenses have to be submitted to the registration court as an appendix to the registration form. For the purposes of the proper execution and supervision of the business activities that are subject to a trade authorisation, a responsible representative of the company has to be appointed. The responsible representative has to be free of criminal convictions and legally competent. Furthermore, he is required to demonstrate his qualifications by an appropriate diploma or vocational certificate. In the case of so-called unregulated trade authorisations, the appointment of a responsible person is not required.

Basic Scheme of the Company Formation Process

Signing of Memorandum of Association

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Lease Contract for Company Premises

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Bank Account

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Payment of Contributions

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Excerpts from the Criminal Records Register for Members of Executive and Supervisory Bodies

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Trade Authorisations

↓

Registration of the Company in the Commercial Register

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Registration with the tax, social security and health insurance authorities

Registered Capital

With the exception of a general partnership, all company forms are required by law to create registered capital comprising the contributions of the partners or shareholders. They are required to pay at least thirty percent of the contributions they undertook to make in the Memorandum before the company is incorporated. These payments are then deposited in a bank account that is opened with a commercial bank in the name of the future company for this purpose. The bank-account contract can be concluded with any commercial bank by the prospective executives or their agents on the basis of the Memorandum of Association submitted to the bank. Only after the contributions are deposited, the bank issues an account statement which is then submitted to the registration court together with the registration form. A person, usually one of the partners or executives, is also appointed as the administrator of the contributions. The administrator guarantees that all contributions are duly paid up or handed over to the company before its incorporation.

Executives

The members of the executive and supervisory bodies of the company are explicitly appointed by the company's founders in the Memorandum of Association. There are no restrictions regarding the citizenship of any member of these bodies. However, members have to be at least eighteen years old, legally competent and free of criminal convictions. As proof that the person is free of any criminal convictions, an extract from the Czech Criminal Records Register, similar document proving that a foreign national is free of criminal convictions in his or her home country or a written affidavit has to be submitted to the registration court as an appendix to the registration form.

Registration of the Company

In the final phase of formation, the company is registered in the Commercial Register administered by the regional registration court. The application is submitted by the company's executive body within ninety days from the signing of the Memorandum or the date when the trade authorisations were issued. For the purposes of registration, standardised registration forms were created by the Ministry of Justice. These forms are published on the internet (See the official website of the Ministry of Justice at www.justice.cz.). All of the aforementioned documents that demonstrate the content of the registration have to be attached to the application, some of them in electronic form for the purposes of their publication on the internet. The court shall register the company within five business days after the filing, provided that the filing is complete and contains all required appendices. If the company has not been registered within this period, it is presumed to be registered by the end of the fifth business day. An extract from the Commercial Register on the newly formed company is delivered to the company afterwards as evidence of its incorporation.

The company is further obliged to register with the local tax authority within thirty days following its incorporation. The law presently allows a company to choose to undertake such registration together with the application for trade authorisations at the Trade Licensing Office (see above) before the incorporation date. In addition to registering with the tax office, a company is also obliged to register with the local social security and the health insurance authorities within eight days following its incorporation.

Residency Permits

EU citizens and citizens of Switzerland, Norway, Iceland and Liechtenstein can freely enter and reside in the Czech Republic without any visa on the basis of the freedom of movement regulation. They can apply for a long-term residency permit, though they are not obliged to do so. National of other states who intend to reside and work in the Czech Republic are required to apply for a residency visa. For the purposes of conducting business, applicants are usually issued a residency visa for a period of ninety days to one year. After this period, the visa can be either repeatedly extended or a long-term residency permit can be issued for an additional period of two years. The foreign citizen is allowed to use an agent in the application process.

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Competition winner Přemysl Volf demonstrates examples of the Agentfly system to the expert jury

Trans it! competition uncovers substantial talents of Czech applied research at CTU

The Tripod Project, which supports cooperation between the Czech Technical University (CTU) and industry, organised the second annual Trans it! competition focused on seeking out and rewarding applied-research talents. The competition took place as part of Workshop 2008, the February showcase of the university's science and research activities.

"The aim of the competition is to assess the results of science and research conducted at the university from the perspective of applicability in commercial practice. We asked how the given technology could be applied, if there is a market for it, and how close it is to industrial implementation – whether it is only an idea, proof-of-concept, prototype or functional model," says Gabriela Jirátová, one of the competition's organisers. These questions were answered by the contestants in a questionnaire which also served as the competition entry form. In the second phase, the contestants were required to describe the benefits of their solutions before an expert jury, one-third of which consisted of university representatives with the remainder made up of representatives of companies, which this year included Linet (a leading global producer of hospital beds), ET NETERA (one of the fastest growing technology firms in Central Europe, according to the Fast50 ranking), Honeywell, Ernst & Young, Apple IMC, and others. Representatives of the Industrial Property Office also played an important role, as they assessed the newness and relevance of the submitted solutions while also broadening awareness in the area of industrial property rights. As a result, this year a prospective innovation in the area of geodesy was protected at the last minute with the prompt submission of a patent application prior to the publication of a forthcoming article.

From air traffic control to bone marrow transplantation

In assessing the competition entries, the jury focused on three criteria: innovative step, level of development and utility in practice.

1st Place: Přemysl Volf – Theoretical study and performance testing of developed algorithms for air traffic control

Přemysl Volf of the Department of Cybernetics at CTU's Faculty of Electrical Engineering described in his presentation a very interesting vision of the future. Aircraft would operate completely autonomously, exchanging data and changing course according to an automatic protocol when a collision becomes possible. Control towers and air traffic controllers would no longer be necessary. The algorithm that control's the planes' operation is part of the prototype Agentfly software which simulates air traffic conditions over the United States in a three-dimensional environment and in real time. The algorithms have great potential in light of ever increasing air traffic, which will eventually be impossible to control centrally. We are rapidly approaching this state of affairs, particularly over the United States, where in recent years the situation has started to be somewhat tense. The initial application of the system, which is being used by the United States Air Force Research Laboratory, is expected to be with unmanned aerial vehicles. "Right now, I wouldn't fly with it," Přemysl Volf admits.

2nd Place: David Steiner – Search for unrelated bone marrow donors

Bone marrow transplantation offers hope for patients suffering with blood disorders and certain types of cancer (for example, leukaemia). When searching for unrelated donors, the Czech

Competition winner Přemysl Volf with a representative of Apple IMC and CTU Vice-Rectors Ladislav Musílk and Miroslav Vlček

Bone Marrow Donor Registry uses an algorithm developed by David Steiner of the Department of Cybernetics at CTU's Faculty of Electrical Engineering. The algorithm searches extensive databases and prepares a transplantation donor list. It is able to work with incomplete donor information and further advances the possibility of parameterised searching.

David Steiner giving his presentation

3rd Place: Michal Platkevič – Medipix in very adverse conditions

Medipix is a detector developed through international cooperation between partners associated in CERN. It is a unique display device that functions similarly to an insect's compound eye. Each of its pixels can detect and display various radiation particles. A team of scientists, including Michal Platkevič, tested the possibilities of using Medipix in extremely adverse conditions, such as those found within a reactor. These tests were conducted in the Czech Republic, France and Switzerland, finally ending up in an application in the immense ATLAS detector at CERN. Platkevič's team is further cooperating on two projects involving the placement of these detectors in the spacesuits of NASA astronauts.

4th Place: Miroslav Jalový and Martina Jalová – Application of high-pressure membranes in the construction of hydraulic elements, manipulator grip heads and robots

Martina Jalová and Miroslav Jalový of the Faculty of Mechanical Engineering at CTU took fourth place. Their entry involved the development of high-pressure membrane elements with high rigidity and further possibilities of the application thereof in hydraulic systems and robotics. Legal protection of their solution is exemplary – a patent application has already been submitted – and Miroslav Paclík, director of the Patent Information Department at the Industrial Property Office and thus a committee member, thankfully acknowledged the endeavour to expand protection throughout the European Union.

5th Place: Martin Čadík – Perceptually faithful conversion of colour images to black-and-white

The fifth-place entry offered a view of the current problems associated with computer graphics. When converting colour images to black-and-white, important information is lost, particularly if the original image contains coloured fields of the same brightness, which are converted to the same shade of grey. Unlike ordinary mechanisms used in commercial programs, Martin Čadík's method works with local conversion between colours and the resulting images are thus much more faithful to the original. The method is computationally undemanding and enables the rapid conversion of pictures with high resolution.

Legal protection and publication are not mutually exclusive

Intellectual property has recently been a much discussed topic at CTU. In cooperation with the Industrial Property Office, last year the Tripod Project launched an e-learning course called Intellectual Property Protection, in which post-graduate students in all of the university's faculties can enrol. As a result, familiarity with intellectual-property issues is beginning to increase. A comparison of statistics from the Trans it! competition in 2007 and 2008 shows that the number of those submitting patent applications has increased substantially (from 0 to 18%). Nine percent of the contestants are at least considering legal protection, though a large number of respondents have yet to actively seek it (74% in 2007, 41% in 2008). A significant proportion of respondents (10% in 2007, 32% in 2008) aim to crown their respective projects through publication in critical journals and professional conferences.

Education in this area is thus of key importance. It is necessary to convince scientists that legal protection and publication are not mutually exclusive. It is mostly only a question of proper timing.

The Tripod Project, which is supported by the European Social Fund, was set up within CTU as a compendium of supported activities that create the optimal conditions for cooperation between the research and business spheres. More information is available at www.3pod.cz.

Michal Brnušák
Czech Technical University in Prague
Faculty of Electrical Engineering
Dept. of Telecommunications

Second-place winner David Steiner with a representative of Honeywell; Boris Šimák, Dean of the Faculty of Electrical Engineering at CTU; and CTU Vice-Rector Miroslav Vlček

Investment Steps Up a Gear

Focus on British investors in the Czech Republic

If you were asked to name the country where the propeller and gravure printing was originally invented, or where the first car was made in 1897, first aeroplane flew in 1910, or even the discovery of the contact lens, you probably wouldn't immediately plump for the Czech Republic.

Illustrative photo

Unless, that is, you already knew that this central European nation of just 10 million people had a tradition of innovative and high quality engineering skills decades before the Second World War sealed its fate as part of the former eastern bloc.

It's a heritage which has withstood the rigours of political history and which today, almost 20 years after the fall of communism, gives the country not only the leading edge over its neighbours but also among the nations of western Europe.

The Czech Republic can compete successfully with the best of them for prestigious manufacturing projects in sectors such as automotive and aerospace, capturing R&D investment in these as well as other newly-emerging sectors like software development.

Its impressive industrial history in engineering, electronics and life sciences is underpinned by a tradition of scientific research. The result? A large number of highly-motivated university-educated young people with a thirst for inquiry, meaning a world-class workforce.

High-tech engineering: Czech trump card

High quality engineering is undoubtedly the Czech Republic's trump card when it comes to large-scale investments. There can be very few countries – and certainly none of its size – which can attract four global car manufacturing companies that start production within just three years of each other. The Czech Republic currently boasts one of the world's highest concentrations of automotive-related manufacture, design and development activity.

In 2007, Skoda-Volkswagen and Toyota-Peugeot-Citroen Automotive together produced 900,000 cars, with the automotive sector accounting for 20 per cent of the country's manufacturing output and exports. That figure is set to increase by a further 300,000 in 2009, once Hyundai starts production at its new plant this autumn. The sector is additionally strengthened by the annual production of 6,000 buses and trucks.

The country therefore also provides excellent opportunities for supplier companies wishing to invest and is consolidating its position as a leading location for automotive-related design, research and development. It's a situation which has attracted the UK's Ricardo. At the forefront of diesel engine development for both Europe and the United States,

the Shoreham-based company has set up its new R&D centre in Prague. "What convinced us was the quality of Czech engineers and the long automotive tradition in the Czech Republic," says vice-president Martin Hill. "For this reason, we can promise further improvements in our results and achieve competitive prices." Ricardo is one of many investors for whom the Czech Republic's winning combination of recent EU membership, a workforce of high technical quality and overall cost-effectiveness has proved irresistible. While companies investing in foreign countries are invariably attracted by a large domestic market, this is not the case with the Czech Republic, overshadowed by its more populous neighbours of Poland and Germany.

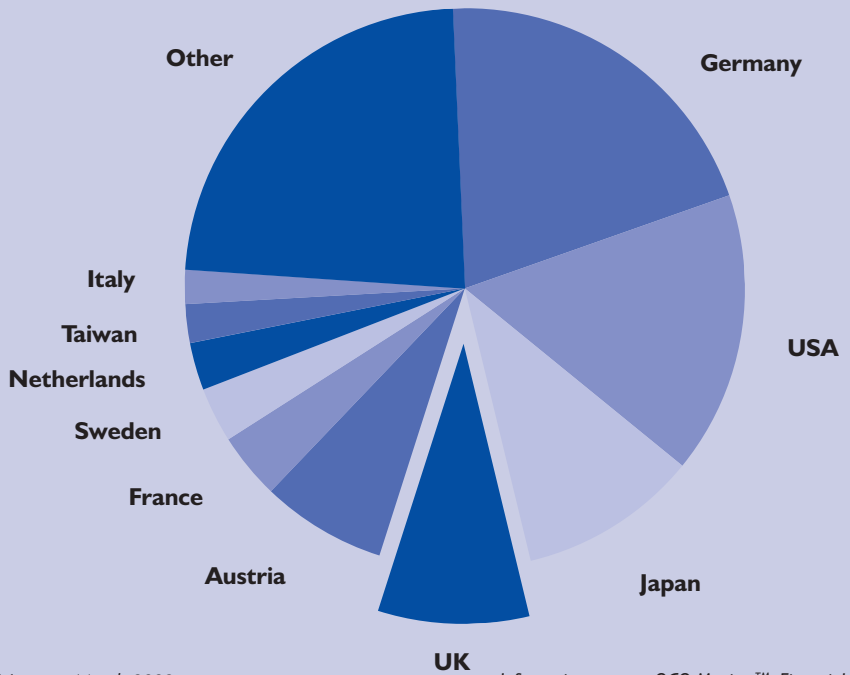
Growing interest of British investors

The UK is increasingly looking to the Czech Republic as an investment location – and especially for those higher end 'value added' activities which represent a positive new trend for the host. Based upon OCO-monitor's statistics UK is now in fourth place after Germany, the US and Japan, with approximately eight per cent of foreign direct investment (FDI) – and the figure is growing. In 2007, UK companies invested 248 million Euro of the overall total of 6,674 million Euro – up 30 million on 2006 and over five times that for the previous year. (Source: Czech National Bank, 2008)

It appears that the UK is now taking note of the Czech Republic's advantageous position as a small EU economy with unique technical competence and industrial tradition, backed by academic research, and thus a source of 'new brains' for new sectors. The UK's position today as one of the country's leading investors is a sea change from the 90s when it ranked just eighth among its peer nations in terms of levels of FDI. In those early days – mainly during the mass privatisation of old state-owned industries which was dominated by Germany – there were missed opportunities for British investors. Now, during this current 'second wave' of investment, it seems they are catching up.

Local FDI into the Czech Republic
Top Source Countries by Project Numbers (2003 – 2008*)

Business Activity	2003	2004	2005	2006	2007	2008	Total
Germany	26	33	36	33	32	3	163
USA	21	19	29	34	22	6	131
Japan	19	18	11	15	14	4	81
United Kingdom	10	13	20	14	10	2	69
Austria	7	16	9	15	9	2	58
France	9	2	7	6	4	3	31
Sweden	6	4	1	3	9	1	24
Netherlands	5	7	2	5	3		22
Taiwan	4	2	3	5	3	1	18
Italy	6	3	2	1	3	2	17
Other	30	31	29	46	40	10	186
Overall Total	**143**	**148**	**149**	**177**	**149**	**34**	**800**



** January-March 2008*

Information source - OCO Monitor™, Financial Times

'New wave' investments

The time when the Czech Republic was viewed as a location for low cost manufacturing is long gone. The country has come of age, with many global companies – British among them - seeing it as a place for high value-added investment in research and development and sophisticated manufacturing processes.

Somewhat ironically, it was the successful UK development agencies of the late 1980s on which the Czechs based their model when first developing an approach to FDI. They recognised the need to have a clear, deliverable offer that was attractive to companies, focused on their needs and backed up with excellent after-care service. As a result, the country won significant foreign investment in the 1990s, making it the early success story among the newly-liberated economies of central Europe. Major 'first wave' investors included such giants as Panasonic, Honeywell, Procter & Gamble, Visteon and Volkswagen.

There were also other inherent advantages which contributed to the country's attraction. What better introduction to the nation for a potential investor than a night at the Prague opera or dinner overlooking a fairytale castle? Companies quickly discovered that the Czech Republic had much more to offer to investors than just a low cost location – and it is this which has created the foundations for the new wave of investments arriving today.

Success breeds succes

Once a country is seen capturing first level investment such as Toyota-Peugeot-Citroen Automotive, then component suppliers and support services, including R&D, quickly follow. Success breeds success, and a whole range of other market sectors have established operations, including financial services, pharmaceuticals and retail.

New investments in the pipeline from the UK include a pharmaceutical research centre for **Chiltern International**, a central European headquarters for **LogicaCMG**, giant high street retailers **Tesco** and **Marks & Spencer** and their suppliers, and banks such as **HSBC** and **Barclays Capital**. A whole raft of smaller companies is likely to follow their lead.

Other 'new wave' British investors in the Czech Republic include **iPlato**, a software applications development company specialising in mobile and wireless solutions for businesses. This London-based operation initially invested in Prague before moving to Pardubice in 2004. "The main decision for the move was that we felt that other Czech cities had similar access to the talented workforce," says Tobias Alpsten,

managing director. "Other advantages for us include a very nice, inexpensive office in the old city centre and a strong relationship with the city and regional government which we as a small business find so important. Our employees enjoy a balanced lifestyle away from the hectic city, but access to the world through our client base located in the UK, Australia, Germany and Saudi Arabia."

Another new British investor is **Invensys APV**, one of the world's leaders in delivering engineering technologies and equipment for the dairy, beverage, brewing, pharmaceutical and petrochemical industries. The company provides tailor-made process systems, engineering, control and software products. Its new development centre in Brno, South Moravia, will employ 120 specialists, mostly local graduates. Invensys APV is also collaborating with the Mendel University of Agriculture and Forestry and the Brno University of Technology to strengthen its research capability.

Meeting needs for top quality investments

Today, investors base their decisions on a wide and sophisticated range of options. The quality of lifestyle and a responsible approach to the environment are factors they consider as important as the cost of property or local taxes.

The Czech government has taken major strides in creating laws and tax changes to help businesses to be more competitive, many to harmonise with other EU member states. However, corporation tax is among the most advantageous in Europe. Currently at 21 per cent, it will further reduce to 19 per cent in 2010. The government's support of new technologically-advanced activities is borne out by accelerated depreciation of new fixed assets and 100 per cent tax deductible R & D expenses.

Service sector investment is rising, placing the country in the vanguard of establishing new trends for global FDI. By attracting high value service-based investment and persuading early investors not only to stay and reinvest but also to invest in R&D, the Czech Republic has moved seamlessly and successfully from first to second generation investment. Those who doubted the nation could maintain its record breaking investment levels of the turn of the century have been proved wrong.

Continual reaction to change will remain a key component for success in the arena of foreign investment. International partnerships and co-operation between universities and research centres is regarded as critical for the next generation of investments. Here, the UK already features strongly, with British and Czech universities proposing joint projects to create a Central European industrial design & rapid prototyping centre or certified training programmes for specialists in aerospace companies capable of maintaining UK-operated aircraft from repair centres in the Czech Republic.

The quality and innovation of the workforce, especially in engineering, and a thirst for research are again giving the country the leading edge, reflecting the 1920s and 1930s when it was among the ten most developed economies in the world – a position it may yet regain in relative terms.

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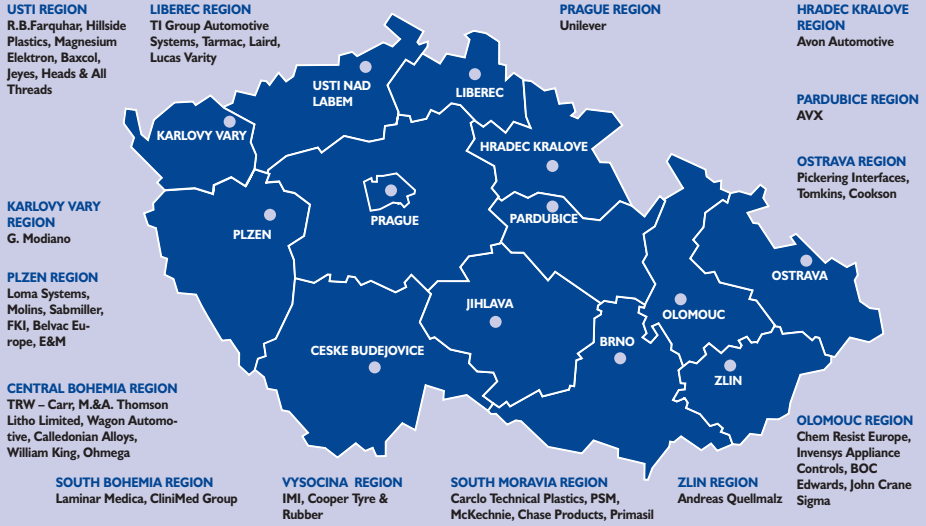
iPlato office building in Pardubice

Selected British Manufacturing Investors



Source: CzechInvest 2008, Foreign Companies in Czech Republic 2008

Selected British Nonmanufacturing Investors

Source: CzechInvest 2008, Foreign Companies in Czech Republic 2008

The Changing Face of Opportunities in the Czech Republic

Interview with Rodney Yeadon, Managing Director, Alpha Management Consultants

Rodney Yeadon and his colleagues

Rodney Yeadon came to Prague in 1991 to determine whether his previous employer, PA Consulting Group, should establish a permanent presence in the former Czechoslovakia. Besides giving PA a positive answer, Rodney set up his own company, Alpha Management, to offer local services for foreign companies needing support for investments in the region. To date, Alpha has worked for more than 100 foreign companies ranging from the very large, such as Tyco, Terex and Bombardier, to smaller businesses employing a handful of local staff. Alpha's services cover all aspects of inward investment from the business-concept stage to post-implementation. These services include location studies, establishment of companies with full support, project management of new manufacturing facilities, recruitment of management and workers, training, management of grant applications and dealing with all local bureaucracy.

Recent years have seen the emergence of opportunities to provide ongoing management support to foreign-owned local companies. Clients are asking what comes next and how they can do better. These issues are approached through Alpha's "one-page strategy" and performance improvement products. Alpha is building on it success in the Czech Republic with a new office in Wroclaw, Poland, and a branch in Brno.

Why did you decide to come to the Czech Republic?

After taking early retirement from PA Consulting Group, I felt that a career in consultancy at a high level around the world could be applied to enthusiastic Czech companies and that the opportunities for Western companies in the region were enormous.

You have been involved in the Czech Republic for some 15 years. Will this continue?

We expect to stay in the Czech Republic as our base location but will target companies that are now looking at southern Poland, Slovakia and Romania, where our experience can be applied to good effect. Czech employees are excellent. We have a small team of dedicated and enthusiastic employees and our clients are also very complementary about the Czech work ethic and productivity. Of course, good selection, training and clear targets and rules are important.

Which of your projects could serve as examples for other potential investors?

There are so many but one that I cherish is the investment of RB Farquhar in Chomutov. RB Farquhar is a family-owned business located in the northeast of Scotland. In 2002 they took an enormously bold decision to locate a satellite factory in the Czech Republic to tackle the Western European market for their products (complete bathrooms for hotels). The initial staff consisted of 50 workers and one owner from Scotland. The project has been so successful that after five years and three grants from the Ministry of Labour, RB Farquhar will employ 500 by the end of this year producing 10,000 bathrooms for the UK and Irish markets. The reasons that the project is successful are simple: tight management, an excellent workforce and local suppliers resulting in lower ex-factory costs. Western Europe is still available and the start-up experience means that the business model can be replicated in the Middle East or elsewhere in the future. Alpha is pleased to have been involved in all aspects of the investment project implementation. Small beginnings, huge success!

Do you plan any expansion of your activities in the Czech Republic?

Yes, we have invested in strategy and performance-improvement products that can be delivered locally. We work with colleagues from the UK who are experts in individual fields. Locally, we provide the language and implementation capabilities.

Czech wages are going up. Is this a threat? Are you considering moving eastwards?

There is no threat provided businesses improve their performance and productivity in line with or better than wage inflation. Staff and workers are more productive now than in previous years. Clients looking for lower-skilled operations and large numbers of workers are tending to look elsewhere. This is not a threat for the higher-value Czech business economy.

Unemployment has gone down in most parts of the country. Is there any particular region you recommend to new investors?

No. In fact the reverse is true. It is essential to match the incoming investor's labour and staff needs with the availability in the target location. We are advising more clients as to the optimum location for investment; one current client was so impressed by the negative answer for a site in West Bohemia that he has decided not to build a second factory but to increase his present output by 100% at his existing location in North Bohemia. Each labour requirement needs a careful location study.

How do you see the Czech Republic in five or ten years?

The outlook is very encouraging in spite of possible recessions in western countries. The Czech Republic has a long way to go yet in building upon its educated population and on 15 years of investment and know-how. In ten years the country will be on the same level as any of the other EU states.

What would be your advice to foreigners who are now relocating to the Czech Republic?

As individuals, they should consider that the experience works both ways. Expertise gained elsewhere may not work exactly in the Czech Republic and local people may have different expertise to offer and have the benefit of understanding local realities. It is up to incomers to be grateful for the differences and the new experiences and even if the bureaucracy is a pain from time to time, remember what it was like at home: different but equally painful. Enjoy the experience!

What is your favourite place in the Czech Republic?

The most difficult question is the last one. The Czech Republic is full of surprises but I think that central Prague is my favourite. The changes over the years and the accelerating pace of change are exhilarating. The cultural opportunities are wonderful.

ed.

R&D centre in Hostivice

Ingersoll Rand finds success in the Czech Republic

Headquartered in New Jersey, in the United States, Ingersoll Rand (NYSE: IR, www.irco.com, www.irco.cz) is a significant mechanical engineering firm and global provider of the most various innovations and solutions in its field. Following its recent acquisition of the company Trane, IR has 64,000 employees at 120 manufacturing plants around the world producing a broad spectrum of products including mobile refrigeration and air-conditioning units (Thermo King), stationary refrigeration and air-conditioning equipment (Hussmann, Koxka, Trane), compressors, pneumatic and electrical tools and pumps (Ingersoll-Rand), microturbines (Power Works), golf carts (Club Car), security technology (Interflex, Schlage, Kryptonite, Locknetics, Recognition Systems) and a range of other products in the annual volume of USD 17 billion.

Ingersoll Rand currently has two manufacturing plants in the Czech Republic, specifically in Kolín and Uničov, and a newly built complex in Hostivice u Prahy, where the company's R&D centre and Ingersoll Rand University are located.

Important milestones in the history of Ingersoll Rand in the Czech Republic

Ingersoll Rand has been present in the Czech Republic since 1997, when it acquired from Westinghouse the company Thermo King, a producer of mobile truck-mounted refrigeration units that had been operating in Kolín since 1992, when the firm took over the Research Institute of Refrigeration Technology in Prague. The excellent results of this acquisition led Ingersoll Rand to make further investments in the Czech Republic.

Another important year in the company's history was 2001, when the Torrington ball-bearing plant was built in Olomouc. That same year saw the acquisition of the Superstav factory in Dobříš, which was incorporated into the Bobcat division, and the start of production of compact loaders and excavators. Other significant investments were gradually made in Dobříš, including the establishment of a research and development centre and, later, a new manufacturing plant and training centre. The entire Bobcat division was sold to Doosan in 2007.

An important compressor factory was built in the Uničov industrial zone in 2002 and Ingersoll Rand's latest investment in the Czech Republic involved the construction of the complex in Hostivice, which was put into operation in 2007.

It is necessary to add that development of the company's business operations in the Czech Republic and its decision to place its investments in the heart of Europe were substantially influenced by support from CzechInvest and the Czech investment-incentives scheme.


Thermo King air-conditioners on trams in Utah

Two in the heart of Europe

All of Ingersoll Rand's activities in the Czech Republic are currently being performed by two companies: Ingersoll-Rand CZ and Ingersoll-Rand Equipment Manufacturing Czech Republic.

Ingersoll-Rand CZ comprises a manufacturing plant built on a greenfield in Uničov over roughly seven months. Production began in August 2002. Today this plant specialises in assembly and testing of stationary screw and piston air compressors in the performance range of 1-350 KW and, since 2004, assembly of piston compressors for mobile refrigeration. The plant is also a European distribution centre. More than 98% percent of production is intended for foreign markets, and the company is certified according to ISO 9001:2000, ISO 14001:1997 and OHSAS 18001:1999 standards.

Ingersoll-Rand Equipment Manufacturing Czech Republic includes a manufacturing plant in Kolín and the new complex in Hostivice. In Kolín the company manufactures primarily air-conditioning units for buses and light rail vehicles under the Thermo King brand and various components such as heat exchangers for other Ingersoll Rand factories, as well as Hussmann and Koxka stationary refrigeration and distribution cold-storage units. The Kolín plant is undergoing continual modernisation through investments in new technologies.

The complex in Hostivice is favourably located near Prague-Ruzyně international airport and highway links to Western Europe. This location was selected because Ingersoll Rand employees and customers from around the world often meet at the R&D centre and Ingersoll Rand University, which are also located here.

Unique R&D centre

The origins of today's R&D centre can be traced back to 1949, when the Research Institute of Refrigeration Technology was established in what was then Czechoslovakia. As previously mentioned, in 1992 this R&D centre, still under its original name, became part of Thermo King, which in 1997 was acquired by Ingersoll Rand and became a new unit called Ingersoll-Rand Equipment Manufacturing Czech Republic.

Test-facility control room at the R&D centre

Ingersoll-Rand plant in Kolín

The institute's location in Prague's densely built-up Smíchov district made its further development impossible and thus it was decided to relocate it to completely new facilities in Hostivice, where at the beginning of 2007 a complex of two buildings entered operation. The administrative building can provide outstanding facilities for up to 90 employees. The second building, which houses testing facilities and laboratories, features state-of-the-art equipment, such as a vibration laboratory with electromagnetic stands and hydraulic multi-axis systems enabling the testing of objects weighing several tonnes, a climate chamber including an ATP test room, calorimetric testing facility for measuring the performance of refrigeration units for trucks and large cargo boxes, and testing facilities for refrigeration and air-conditioning units and performance and service-life trials. At the R&D centre strong emphasis is placed on quality and the environment. The centre is certified according to ISO 9001 and ISO 14001 standards.

The centre particularly ensures applied research and development focused on the future of mobile and stationary refrigeration and air-conditioning. Part of the workplace is the aforementioned ATP, which is charged with certification of transport and shipping equipment for international shipment of perishable goods. The Czech Republic is a signatory of the ATP international agreement concluded in Geneva in 1970 and this research centre is entrusted with the activities of the Czech transport ministry's ATP testing facility and is entered in the official UN list of certified facilities.

Employee education above all else

Ingersoll Rand dedicates significant attention to further education. Ingersoll Rand University (IRU) plays a key role in this programme.

IRU opened its doors in May 2003 and has been providing world-class education to Ingersoll Rand managers ever since. IRU is a true corporate university with both instructor-led and online courses that are tailored to meet the needs of its students.

IRU's programmes are designed to develop leadership and strategic competencies that are in line with the company's strategic needs. These programmes focus on cultivating global leaders and developing strategic skills that are common across the enterprise and/or region. The university's strategic programmes run in four colleges: Leadership and General Management, Sales, Marketing and Operational Excellence.

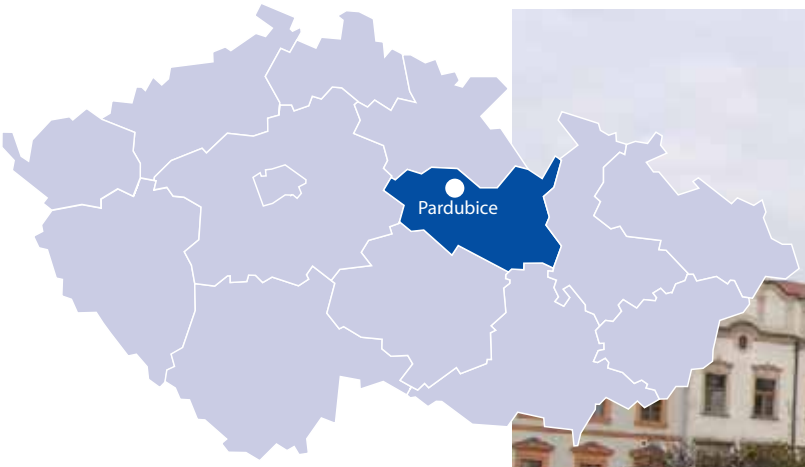
IRU has education centres in Davidson, North Carolina; Prague, Czech Republic; Bangalore, India and Shanghai, China. IRU – European Served Area (ESA) has offered programmes in Prague since 2005. In February 2007 IRU-ESA moved into the new Research and Development Centre in Hostivice. The university also provides regional programmes. In addition, its services include managing and brokering educational programmes to meet the specific development needs of the ESA region.

Available Managed Services Courses in 2008 include: Communication Skills for Effective Management, Finance for Non-Financial People, Front-Line Leader 2008, Matrix Management, and Project Management Fundamentals.

Ingersoll Rand

Zdenek Kaiser
Executive Director,
Business Development,
Ingersoll Rand Czech Republic

The Investor-Friendly Pardubice Region




Pardubice – Pernštýnské náměstí

Impressive history with a taste of gingerbread

The Pardubice Region is situated in eastern Bohemia and it is divided into four districts – Pardubice, Chrudim, Ústí nad Orlicí and Svitavy – and has half a million inhabitants, which is approximately 5% of the Czech Republic's population. The city of Pardubice is the region's bustling capital. Lying in the Labe Basin and thus practically in the heart of eastern Bohemia, the city is not only the administrative centre of the Pardubice region, but also a centre of education, culture and sport.


Original Pardubice gingerbread

Pardubice features a range of picturesque hideaways, cosy cafes and wine cellars, as well as a wealth of cultural experiences. The local theatre scene is among the best in the Czech Republic, while the Eastern Bohemia Museum and Gallery possesses outstanding collections. Various festivals liven up the streets of the city throughout the year. Pardubice is also a heaven for sports enthusiasts, as the city is home to premier-league hockey and basketball teams as well as the extraordinarily demanding Great Pardubice Steeplechase, first run in 1874, and the Golden Helmet motorcycle speedway race, which dates back to 1929.

Gingerbread is a symbol of the city of Pardubice. Famous for its quality, this locally produced treat has even received protected designation of origin from the EU, meaning that it can be produced only by firms from Pardubice. However, these producers must follow the right recipe, which is composed of honey, flour and pepper. It is of interest to note that the Czech word for gingerbread, pernik, is derived from pepř (pepper), as the original form was peprnik.

Another important regional city is Litomyšl, which in 1999 was added to the UNESCO World Cultural Heritage list. The local chateau, which dates back to the sixteenth century, is one of the Czech Republic's most significant landmarks. Also worthy of note is the chateau brewery, where a boy name Bedřich Smetana was born to the family of the brewer František Smetana in 1824.

Another of the region's historical attractions is undoubtedly the stud farm in Kladruby nad Labem, which is mentioned as far back as the sixteenth century, when Emperor Rudolf II awarded it the status of court stud farm. The local tradition of horse breeding has continued into the present. Kladruby is not the region's only city that horse lovers should visit, as Slatiňany is also well known for its stud farms and equestrian museum.

Home stretch of the Great Pardubice Steeplechase

In the northeast corner of the region, Králicko also offers memorable experiences. Here visitors can marvel at the unspoiled natural wonders of the Králický sněžník, the third largest mountain range in the Czech Republic. Nature enthusiasts needn't be reminded that Klepý, one of the range's highest peaks, is adjoins the drainage areas of the Black, Baltic and North Seas.

Prosperity attracts investors

The Pardubice region has a long tradition in the most various branches of industry. While the chemical sector is dominant, local industry is nevertheless very diverse, ranging from general engineering, construction, and electrical engineering to clothing, textiles and food-production.

Agriculture (including forestry and fisheries) also plays a role in the regional economy, as do commercial and public services. Viewed according to the branch classification of economic activities (NACE), we see that services account for 60.5% of the local economy, industry 33.75% and agriculture 5.75%. However, by number of employees working in given sectors, the breakdown is somewhat different, with services accounting for 41.5%, industry 52.3% and agriculture 6.2%. It is thus apparent that over half of the Pardubice region's workforce is employed in industrial sectors.

Basic data

Area	4,518 km^2
Population (2007)	511,400
Population density	112 persons/km^2
Unemployment rate (2007)	5.43%
GDP (2006)	EUR 4,597 mil.
Regional capital	Pardubice

Source: Czech Statistical Office 2007, City Invest Czech 2007-2008

In 2006, the region's per-capita GDP amounted to CZK 257,090 (CZK 636,156 per employee). The region's economic prosperity is in large part due to the Berlin-Prague-Vienna high-speed rail corridor that traverses it and the presence of a category I international airport with both civil and military operation.

Pardubice is also a strategic location for tourists who want to truly get to know the Czech Republic. Prague, Moravia and the Krkonoše Mountains are within 100 kilometres of the city and can be reached comfortably thanks to the aforementioned international airport and main railway, whereas a trip to Brno or Plzen takes about the same amount of time by car. Those looking to travel farther east can catch a flight to Moscow from the city's airport, which offers from regular flights to the Russian capital.

The region's overall development is also aided by the fact that Pardubice is home to a prominent medium-sized university offering a broad spectrum of study programmes to over 9,000 students in its seven faculties – Chemical Technology, Economics and Administration, Jan Perner Transport Faculty, Arts and Philosophy, Health Studies, and Electrical Engineering and Informatics.

In light of the above, it is no wonder that the Pardubice region is popular among both Czech and foreign investors.

Strong industrial tradition and modern industrial zones

Pardubice's first industrial zone was established in 1995, thus building on the city's strong industrial tradition. The nearby international airport, a dual-use civilian/military facility that lies only two kilometres from the zone, represents a significant advantage for investors. The civilian part of the airport is operated by East Bohemian Airport, which now dispatches a substantial number of civil, charter and, of course, cargo flights. The city's other advantages include land fully prepared for investment, good transport accessibility – Prague is only 100 km away by car – with the possibility to combine all forms of transportation (road, rail, air and planned water routes), and the planned construction of TechnoPark Pardubice directly in the industrial zone. This project is to be completed in June 2008 and will include a science and technology park as well as a business incubator that will provide primarily start-up firms and science and research entities with the facilities they require. Other regional cities that boast successful industrial zones are Chrudim, Letohrad, Moravská Třebová, Polička, Svitavy and Třemošnice.

New life for brownfields

Brownfields, i.e. buildings and complexes that have fallen into disuse and no longer serve their original purpose, can be found throughout the Czech Republic, and the Pardubice region is no exception. These sites represent potential for further development, as their renovation has a positive social and environmental impact. New uses have been found for a range of brownfields in the region as mostly private companies are breathing life into disused and often dilapidated buildings.

A good example of this is provided by Foxconn CZ, which began conducting business in the Czech Republic in 2000 on the site of the bankrupt HTT Tesla Pardubice. The company first purchased and renovated the original buildings and, due to expansion, soon built more. With almost 5,000 employees in Pardubice alone, Foxconn is one of the biggest industrial enterprises in the Czech Republic and is also the country's second biggest exporter behind Škoda-Auto. The company has also built a shared-services centre here as well as a high-tech repair centre for IT components and is currently completing its second manufacturing plant in Kutná Hora.

Investors find success in Pardubice

Foxconn is not the only successful investor in Pardubice. A range of other companies are prospering in the region. For example, Panasonic manufactures car radios here, while JTEKT specialises in precision mechanical parts for vehicle transmissions, KYB Manufacturing produces shock absorbers, and Ronal is known for its light alloy wheels. The region's high concentration of automotive companies is largely due to the presence of the TPCA factory in nearby Kolín, as well as the carmakers in Hyundai in Nošovice and KIA in Žilina, Slovakia.

Selected investors in the Pardubice Region (1998 - March 2008)

Company	Sector	Country	Investment (EUR mil.)
Panasonic Mob. & Aut. Sys. Czech	electronics	Japan	233,38
FOXCONN CZ	electronics	Thaiwan	78,67
RONAL CR	automotive	Switzerland	62,38
AVX Czech Republic	electronics	Japan	48,89
Rieter CZ	automotive	Switzerland	30,05
KORADO	other	Czech Republic	27,54
Fibertex	textile	Denmark	26,85
KIEKERT - CS	engineering	Germany	26,25
Westvaco Svitavy	other	USA	24,84
KYB Manufacturing Czech	automotive	Japan	23,67
VERTEX FABRICS	other	Germany	23,08

Source: CzechInvest, 2008

Pardubice Industrial Zone

Among the significant investors in other sectors, we can name the radiator manufacturer KORADO; SOMA, a purely Czech producer of printing technology; Karosa Iveco, a well-known bus manufacturer; and BRÜCK AM, which focuses on machining metals.

Hana Kučerová,
Pardubice Regional Office, CzechInvest

TechnoPark Pardubice

The construction of a technology park in the industrial zone in Pardubice's Staré Čivice district is of great importance to the Pardubice region, the cities of Pardubice and Chrudim and the University of Pardubice. Covering an area of more than 10,000 m², TechnoPark Pardubice will make it easier for technology firms to set up shop in the region. The park is supported by a grant from the European Union's Prosperity Programme. The purpose of this investment is to attract to the industrial zone firms with potential to conduct their own development, testing and prototyping activities. TechnoPark Pardubice's first tenants are expected to begin operating in the zone in the third quarter of this year.

The park offers space for laboratory and development activities, as well as for more demanding work involving production of prototypes. An undeniable advantage of the project is the possibility to lease technical facilities without the necessity of an initial investment.

More information is available at www.techpark.cz

Tomáš Hruška,
TechnoPark Pardubice

TechnoPark Pardubice

Cheer for Czech design at Design Match 2008!

Design Match 2008 CZE:SVK:HUN:AUT, a unique, biennial international design project, started its tour a few weeks ago at the National Gallery's Veletržní palác in Prague. As its name implies, the project can be understood as a design competition, though its organisers point out that it is primarily a friendly contest.

Design Match 2008 (Photo: Pavel Kunc)

Design Match 2008 consists in the creation of objects on the same theme by designers from various countries. Visitors to the event can thus compare the designers' differing approaches to creation, arrangement and materials, or they can simply see the type of production performed in the participating countries. "We want visitors, both laymen and experts, to have the opportunity to experience design in a completely new exhibition context that is entertaining and motivating. We first undertook Design Match in Slovakia in 2006," says Veronika Loušová, manager of CZECHDESIGN.CZ, which organises Design Match. "Design permeates every aspect of life. We use toothbrushes that someone designed and industrially produced. We drink from glasses that originated in the mind of a designer and buy gifts of, for example, porcelain designed by students. With the exhibition, we are not saying that design is only an art. Rather, we are saying that it is also an industrial discipline. Good design and efficient production help to propel companies to the world's top rank. When people see a design in a gallery instead of in a shop and they read the designer's commentary and see his or her approach, they appreciate it more, as it suddenly ceases to be merely a consumer good. This can impact not only their aesthetic perception as consumers. At this time of European surplus and ecological problems, people should rediscover their lost relationship to ordinary objects and find a balance between quality and quantity," adds Ms. Loušová.

View of the Veletržní palác gallery (Photo: Pavel Kunc)

Inspiration from the time of the Austro-Hungarian Empire

It is no accident that Design Match 2008 involves the Czech Republic, Slovakia, Hungary and Austria. The event is unified around these countries' common Austro-Hungarian heritage. The creator of the concept for 2008 is co-organiser Ferdinand Chrenka. "During the time of the Austro-Hungarian Empire, there were many revolutionary innovations that advanced design. As an example, we can take bentwood Thonetka, which still serves as a source of inspiration today," says Mr. Chrenka.

Thonet chair no. 14 also introduces the part of the exhibition dedicated to household design and includes chairs from the present. The household exhibit is followed by a quiet space with books and graphics. In addition to parlour games, hunting and hiking, the leisure-time exhibition highlights wheeled sports and features a replica of an antique high-wheel bicycle. The pinnacle of the exhibition is a spa with colonnade and an exhibit of drinking vessels and porcelain.

Kala drinking cups, Štěpán Kuklík (Czech Republic), (Photo: Pavel Kunc)

Light fixtures referencing the Křižíkova arc lamp. From left: Orbital light, Lucie Koldová (Czech Republic); mayfly inspired light fixture, Péter Borkovics (Hungary); reinterpretation of the classic lampshade, Polka (Austria); table lamp, Ladislava Repková (Slovakia), (Photo: Pavel Kunc)

Kapka PET-bottle concept, Milan Novosedliak (Slovakia), (Photo: Pavel Kunc)

Forceful presence of Czech designers

"We value the range of works presented in the exhibition. There are students' prototypes as well as items already in production," says Veronika Loušová, commenting on the presence of Czech designers. Visitors can see completely new glasses from Rony Plesl for the Bernard brewery, the prototype Eta Nobel vacuum cleaner by Zdenek Veverka, which will soon be introduced into production, and Petr Siebert's mountaineering helmet. An interesting study featured 3D models of the Křídník writing aid from the Design-Brothers studio's 3D printer. Three-dimensional printing is commonly used for final testing of future products.

You can encounter the Kapka porcelain service from Jiří Laštovička and Tescoma's kitchen-knife block in shops. In the spa, visitors can sit on benches from the company mmcité, while Štěpán Kuklík's drinking cups for Imperial hotel and František Vízner's vases for Moser are also on display.

From the field of graphics, the book Czech Design 01, published by Prostor, is of interest not only to graphic artists. Czech Television's new visual and UP závody's visual style created by Marek Cimbálník are featured on an LCD display. Four young Czech designers – Iveta Pecuchová, Zdeňka Imreczeová, Martin Havel and Anna Šafková – are presenting their vision of fashion.

"The exhibition features the works of 120 designers. Among the foreign products we should mention, for example, the Just in Case catering system from Austria, which won the Red dot prize, a Hungarian scale for newborns, and Popular luggage from Slovakia," says Jana Vinšová, manager of Design Match. Judging from the number of people attending the exhibition, there is generally great interest in design within Czech society. In coming months, the project will move on to Bratislava, Budapest and Vienna.

Veronika Loušová
Manager, CZECHDESIGN.CZ

More information is available at 2008.designmatch.cz

Hiking is represented by trekking boots by Josef Náprstek. From left: cycling backpacks, Zsuzsanna Sárossy (Hungary); example from a collection of backpacks, M.S.design (Slovakia); light foldable table, Jakob Illera (Austria); mountaineering helmet, Petr Siebert (Czech Republic), (Photo: Pavel Kunc)

The last part of the exhibition is dedicated to the spa industry. In the foreground is the futuristic dining collection by Martin Bu (Slovakia) and the Kapka tea service by Jiří Laštovička (Czech Republic), (Photo: Pavel Kunc)

2007 Business Project of the Year Awards Presented to the Most Successful Czech Entrepreneurs

On 22 May 2008 Minister of Industry and Trade Martin Říman presented the 2007 Business Project of the Year awards to CRYTUR, the Science and Technology Park at Tomáš Baťa University in Zlín, VVUÚ, CPIT Technology Pavilion of the Technical University in Ostrava and the Packaging Producers Cluster.

Announcement of the awards took place during the 77th Žofín Forum

The purpose the Business Project of the Year awards is to recognise high-quality, competitive and, above all, feasible projects of Czech entrepreneurs who successfully submitted applications for aid. Such entrepreneurs thus demonstrated not only their ability to come up with new ideas and to consider the future development of their business, but also their persistence and willingness to dedicate their time and resources to gaining significant assistance for their further operation.

The announcement of the winners took place as part of the 77th Žofín Forum on the topic "EU funds – Call for Czech Entrepreneurs". The most successful entrepreneurs were presented Business Project of the Year awards by Minister of Industry and Trade Martin Říman, Miroslav Elfmark, director of the MIT's structural-funds section, Alexandra Rudyšarová, acting CEO of CzechInvest, and partners of the Association for Foreign Investment, represented by Rostislav Štajer, marketing director at Metrostav, and Bedřich Štogl, director of ČSOB's EU Centre.

Awards were presented in five categories:

- Project with the Greatest Innovation Potential
- Science and Technology Park of the Year
- Training Project of the Year
- Business Incubator of the Year
- Cluster of the Year

The Project with the Greatest Innovation Potential category recognised projects that fundamentally and qualitatively advance production to a higher level. The winning project in this category was **CRYTUR** – Oxidation Technology for Monocrystal Production. CRYTUR is a company based in Turnov and its core activity is research and development in the area of natural and technical sciences and production of other chemical substances and preparations. The aim of the winning project was to introduce a new technology for producing monocrystals used in high-tech applications for high-performance lasers and for imaging systems such as X-ray cameras, tomography and electron microscopes. Projects submitted by **Optaglio** and **Seko EDM** were also nominated in this category.

The nominees in the **Science and Technology Park of the Year category** were the **Třeboň Innovation Centre, the Řež Science-Technology Park and Business Incubator, and the Science-Technology Park and Technology-Transfer Centre at Tomáš Baťa University (TBU) in Zlín**, which was the eventual winner. The park at TBU will concentrate firms engaged in the development of innovative products based on polymer materials for the health-care and food-production industries. The purpose of the centre is to coordinate activities between the academic and industrial spheres.

The winner in the **Training Project of the Year category** was the **VVUÚ Training Centre** for the area of operational safety and fire and explosion prevention. The main mission of VVUÚ formerly Vědeckovýzkumný uhelný ústav (Science-Research Coal Institute), is to resolve issues of safety technologies used in deep mines. Other projects nominated in this category were **FEIFER's Training Centre** for CNC machines and **PAVLŮ-Complex's Training Centre**.

The winner in the **Business Incubator of the Year category** was the **CPIT Technology Pavilion of the Technical University in Ostrava**. The aim of this project is to create an environment for firms with innovation potential and to support their establishment and development. Construction of the centre should also lead to the creation of opportunities for young research workers, particularly top graduates of the Technical University in Ostrava. **The Březno Technology Park and Incubator** and the **Řež Science-Technology Park and Business Incubator** were also nominated in this category.

The Cluster of the Year award was the last to be presented. A c for cluster members is a stronger position in relation to competitors and clients, and thus better negotiating conditions and reduction of costs associated with shared activities. The nominees in this category were the **CLUTEX Technical Textiles Cluster, ENVIPACK Cooperative, and the Packaging Producers Cluster**, which was the eventual winner. This cluster is a grouping of mainly small and medium-sized enterprises operating in the packaging industry and related fields in the Hradec Králové, Pardubice and Vysočina regions. Each of the member companies specialises in a particular production technology in the area of packaging. The cluster's mission is to support and develop the packaging industry by strengthening competitiveness and innovation activities.

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Fourth Annual Czech-Japan Science and Technology Days Another Success

The fourth annual Czech-Japan Science and Technology Days (CJSTD) took place in Prague from 13 to 15 May 2008. The aim of the event, which was held under the auspices of Prime Minister Mirek Topolánek, was particularly to enhance Czech-Japanese cooperation in the area of science and research. In his opening address, Mr. Topolánek stated his deep appreciation for the event. "Thanks to today's forum, we have the possibility to establish contacts and cooperation between academia, technicians and firms in our two countries. It is decidedly in our interest that such meetings continue to take place," Mr. Topolánek said.

Signing of Agreenment on Cooperation - TUAT Rector Hidefumi Kobatake and CTU Rector Václav Havlíček

The organisation of the event was handled by CzechInvest in cooperation with the Ministry of Foreign Affairs, Ministry of Industry and Trade, Ministry of Education, Youth and Sport, the Academy of Sciences of the Czech Republic, and other relevant institutions. The first two days of CJSTD 2008 included a broad range of activities, including a day-long seminar, an excursion to the Nuclear Research Institute in Řež u Prahy for the Japanese participants, a tour and lunch at the chateau in Nelahozeves, and a visit to the Staropramen brewery in Prague's Smichov district. The last day of the event was reserved for individual meetings, a tour of Prague and a concert performed during the Prague Spring music festival.

The Japanese delegation was led by Toshiyuki Mineno, Vice-President of Nippon Electric Corporation (NEC) and President of NEC Europe, who represented the Japan Business Federation, Keidanren. The opening of the event at Černín Palace featured the participation of Prime Minister Mirek Topolánek, Japanese Ambassador Hideaki Kumazawa and other important guests, such as Deputy Minister of Foreign Affairs Tomáš Pojar, Deputy Minister of Industry and Trade Jiří Koliba, Deputy Minister of the Environment Jan Dusík, and Deputy Minister of Education, Youth and Sport Vlastimil Růžička, who was also the leader of the Czech participants.

The presentations in both main working sessions concerned systems of state management of science and technology and reforms and priorities thereof, as well as increasing the effectiveness of financing research and development in both countries. These sessions' participants included Alexandra Rudyšarová, CEO of CzechInvest, and representatives of ministries, professional associations, research institutes and private firms from the Czech Republic and Japan.

Specialist lectures given by representatives from both countries were focused primarily on new technologies and the results of research and development and their applicability in practice. Panel discussions dealt with issues related to recent findings in the area of research and development in priority sectors such as:

- new sources of energy and environmental protection
- biotechnology, pharmacology and healthcare
- new materials, nanotechnologies and new applications in aviation and space research
- information technologies, telecommunications, cybernetics and robotics

Very interesting addresses on issues related to European research programmes and participation opportunities were delivered by Ivan Wilhelm, a representative of the Ministry of Education, Youth and Sport, and Aleš Fiala, a representative of the European Commission.

That same day, an official bilateral meeting with the leader of the Japanese delegation, Toshiyuki Mineno, was held with the participation of Deputy Ministers of Industry and Trade Jiří Koliba and František Nestával; Ambassador Karel Žebrakovský; Pavel Kafka, Vice-President of the Confederation of Industry of the Czech Republic, and Jiří Lébl, advisor to the CEO of CzechInvest.

The official part of CJSTD came to an end on May 14 with an evening meeting of all participants at the residence of the Japanese ambassador to the Czech Republic, Hideaki Kumazawa, where Miroslava Kopicová, gave the closing address. During the evening Professor Petr Zuna, president of the Engineering Academy of the Czech Republic, presented Professor Sananari Mochizuki of Tokyo University of Agriculture and Technology with a decree naming him a member of the academy.

A range of significant personalities in the field of research and development from the Japanese public and private sectors came to Prague and became familiar with the Czech Republic's level of maturity and results in this area. At the closing meeting the Japanese representatives expressed their appreciation for the event, judging it successful and useful, and recommending its continuation. The Czech-Japan Science and Technology Days promote the Czech Republic and its technical advancement. The Czech Republic is the only country in Central and Eastern Europe to organise such an event with Japan.

Residence of the Japanese ambassador in the Czech Republic

The personal participation of the Czech prime minister unambiguously confirmed the country's interest in cooperating with Japanese partners in this area, which in turn was confirmed by the results of the event. One specific outcome of the meeting was the conclusion of an Agreement on Cooperation between the Czech Technical University and Tokyo University of Agriculture and Technology, which was signed at Černín Palace by CTU Rector Václav Havlíček and TUAT Rector Hidefumi Kobatake.

Josef Lébl,
Advisor to the CEO CzechInvest

More information is available at www.czechtechnologydays.org

A Human Resources Revolution in the Czech Republic

In recent years the character of the Czech economy has changed substantially. Relatively strong growth accompanied by dynamic changes in the economy's structure is generating a new set of issues that had been previously unknown here. The primary problem in the labour market does not consist only in a lack of highly skilled workers, but also in an insufficient number of blue-collar workers. If the Czech Republic wants to be successful in attracting high-quality investment projects in the future, it must be able to flexibly respond to the requirements of the labour market. Therefore, a high degree of cooperation between institutes of learning and private companies is one of the basic prerequisites of a flexible supply of human resources for industry and business support services.

CzechInvest and human resources development

CzechInvest is fully aware of this problem and is endeavouring to improve the situation and to create better conditions for the development of existing investors in the Czech Republic as well as for new, high-quality investment projects. Therefore, before the end of 2007 the agency decided to undertake activities related to human resources development, the primary purpose of which is to initiate or support cooperation between schools and investors. The human resources development project has two fundamental phases. The first phase consists in bringing together relevant partners that are interested in cooperation and in establishing the appropriate prerequisites. Selection of educational institutes and private-sector entities is based on a survey conducted in individual regions for which this activity is being implemented. The second phase consists in providing to entities that have decided to establish cooperation assistance in the form of consulting, either through an information service or through the sharing of experience gained from successful projects. Activities involving human resources development are targeted at individual sectors of the manufacturing industry and at business support services.

Human resources development activities under CzechInvest's leadership

This year CzechInvest is implementing pilot projects for the manufacturing industry in the South Moravia and Vysočina regions. A meeting of potential partners in Brno at the beginning of June contributed to the establishment and enhancement of cooperation between selected technical schools and industrial investors. Earlier this year, activities were also undertaken for the business support services sector in the Moravia-Silesia region, thus building on the success of a previous pilot project in South Moravia. In the case of the services sector, a project was launched in Prague which arose from an initiative of large multi-national firms. Based on a survey of partners' satisfaction, these activities can be considered successful. Even though CzechInvest is aware that the problem of flexibility in the education system is a systemic matter whose solution requires extension changes in legislation modifying the way schools function, the agency's activities to a greater extent contribute to the compatibility of the education process with the needs of employers.

Learning to innovate in the Czech Republic

Kids and Science is a project intended to help young people understand what science and technology really are, what these fields mean in their lives and how important they will be for them in the future. Whatever career they choose, practically everything in their professional lives will depend on science and technology. The project also helps young people to come up with their own ideas to improve the world around them. They soon realise that, with their imagination and energy and some coaching from their teachers, they too can use science and technology to make life better. Kids and Science programs (see www.kidsandscience.org) are for young people aged 10-14 who can be sure that Kids and Science will be there to help them in the years to come.

The project involves young people and their teachers in the school environment. Together, they look at the everyday world around us and gain an understanding of why things are as they are and how they came about. Then they brainstorm about how to make things better and come up with ideas for new inventions.

The challenges presented by Kids and Science take the young people outside of the school to places such as universities and companies where experts help them develop their ideas. The combination of young people's ideas and expert assistance can and does yield wonderful results.

The winning team in the Best Presentation category – Kids and Science project

The Kids and Science project has been conducted for a number of years in the Netherlands and has changed the way that thousands of young people think. With support from CzechInvest, this year a trial run of the project took place at a school in Liberec, Gymnázium & SOŠPg Jeronýmova, in English and with the participation of the project's creator, Richard L. Wife. A class of 26 students came up with twenty very interesting and original ideas. Even though not all of the ideas were new to the experts, they were the result of the students' own creative process. Seven of the new concepts were chosen for further development in teams, which allowed the students to learn to work together, respect and help each other, communicate effectively with adults and clearly present their inventions and ideas. Over the course of the week, it was clearly and convincingly demonstrated that the young people involved have boundless imaginations. Developing ideas together also fostered a spirit of teamwork, the results of which were admired by members of the lay public and the media during the closing presentation.

Based on this extraordinarily positive experience, a project called Development of the Technical Creativity of Youths and Students in the Liberec Region has been prepared.

Michal Stieber, CzechInvest

Partnership to Support Foreign Direct Investment in the CR

ASSOCIATION FOR FOREIGN INVESTMENT

CZECHINVEST
Agentura pro podporu podnikání a investic

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.

Thanks to the Partners of the project we can organise e.g. the following events:

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Investor of the Year

Podnikatelský projekt roku
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These Partners support the competitiveness of Czech economy as well as the positive image of the Czech Republic abroad:

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