

# Brains at work



## Czech Republic: A tradition of innovation

**THE CZECH ECONOMY CONTINUES TO BE AMONG THE REGION'S MOST BUOYANT, BOASTING RISING INVESTMENT AND ROBUST GROWTH. SWEETER STILL, INVESTORS HAVE REDISCOVERED THE COUNTRY'S APPEAL AS A HUB FOR INNOVATION AND R&D.**

At first glance, perhaps the most remarkable aspect of last year in the Czech Republic was that the minority government of Mirek Topolánek survived – political uncertainty is nothing new to Czech voters. In January the government marked one year in office, despite a diverse composition of coalition partners.

The Prime Minister says his government has worked hard to maximize the country's economic potential and its opportunities as an EU member. The country joined the borderless Schengen area in January and is already preparing for the EU Presidency, which it assumes next January. Priorities will include energy, agriculture and foreign policy, with Prague committed to further stabilization of the Balkans and visa-free travel across the continent.

On Feb. 27, Topolánek was a guest at the White House,

reflecting his support for the North Atlantic alliance, the initiatives in Iraq and Afghanistan, and his green light for a U.S. missile-shield system on Czech soil.

For ordinary Czechs, however, the most tangible benefit of the government's pragmatism has been the continued strength of the economy, which has been one of the most dynamic in the region, fueled in part by an increasingly profitable high-technology base.

"We are now concentrating on attracting foreign investment in services, high tech, IT, and high-value-added industries," says Deputy Foreign Minister Helena Bambašová, adding that her ministry has established a task force to oversee cooperation in R&D.

A buoyant economy has prompted the cherry-picking. In 2006, the Czech economy grew some 6%, a figure that will almost

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certainly be matched in 2007. According to the World Bank, economic expansion in the first two quarters of last year was 6%, aided by interest rates of just 3.5%, the lowest in the EU. Ludek Niedermayer, Vice-Governor of the Czech National Bank, has warned the economy will slow in 2008 with interest rates likely to rise. But he is optimistic that the situation will be better than in many neighboring countries. "Although the slowdown could be greater, for the time being I expect growth to be between 4% and 5%," he told Thomson Financial in January.

Other observers are equally upbeat. "So far at least, the country has emerged unscathed from the credit crunch. Banks remain strong and free from dependence on external finance, and confidence is strong," says Vanessa Mitchell-Thomson, Economist at the European Bank for Reconstruction and Development in London.



*Competition is rising for skilled labor in Prague, a perennial favorite with foreign investors.*

She points out that the Czech Republic was the first transition country to have "graduated" from the bank, which no longer actively operates there.

Indeed, living standards are higher now than at anytime in history, while Czechs of all ages have been enjoying the freedom and opportunities presented by membership of the EU – including travel and the right to work almost anywhere in Europe.

Foreign investment continues to come in: this year, inflows of some \$6.5 to \$7 billion are expected, around the same level as 2007. *World Investment Prospects to 2011*, a report published by the Economist Intelligence Unit, suggests average per capita FDI inflows between 2007 and 2011 could be \$528, the highest in Central Europe (Poland is expected to attract some \$311).

Underpinning this success is the fact exports rather than domestic demand has been the main engine of the economy. The Czech Republic has been enjoying a virtuous circle of large scale FDI – much of it in capital-intensive projects – leading to higher production and exports, leading in turn to rising GDP and living standards.

The Prime Minister says investors have rediscovered the country's core appeal as an innovation and R&D hotspot, something that first emerged in the 1930s (when Czechoslovakia was the world's sixth-largest economy and Skoda was a manufacturer of global standing).

Investors come "because of the tradition, our education system, the number of quality engineers; basically, they are discovering the background we've always had," Topolanek says, adding that the ratio of industrial production to GDP – at 33% – is the highest in Europe and a constant trigger for R&D and innovation. "The type of investment we are going to support is investment with a large added-value, know-how, R&D activities. This is where we're going to direct our incentives."

"We are now seeing demand from large foreign companies looking for a base for their activities elsewhere in the world," adds Bambasova, the Deputy Foreign Minister.

Many have come from outside Europe, including Japan which is now the fourth largest investor with some 196 companies, employing over 38,000 people in the auto, engineering and electronics industries. Meanwhile, DHL has made the Czech Republic its European HQ and global companies including Hewlett Packard, IBM, Honeywell and Accenture have a Czech operation.

One of the most important milestones was, characteristically, in the auto industry: the \$2 billion (\$1.76 billion) Hyundai investment signed in 2004, and due to begin operations in 2009. Not only is the investment helping reinvigorate what was once a high-unemployment region (Northern Moravia), multiplier effects feeding through to suppliers, the IT industry, R&D facilities at universities, and even local housing make it one of the most important FDI projects ever.

The Prime Minister agrees that such investors, and their multiplier effects, are critical to boosting the country's technical expertise. "The fact that we've become number one in the car-making industry [creates] a certain negative impact, because the assembly lines don't bring anything extra. However, these lines also bring the suppliers with them who produce top quality, sophisticated products and transfer their R&D here."

The country's favorable location – adjacent to Germany, Europe's largest economy – coupled with proactive government policy prioritizing investment in core sectors have also been key, enabling it to use the auto industry as a catalyst for attracting other high-value-added investments.

"[The Czech Republic] has been very successful at attracting investors to the high-tech, electronics and biotechnology sectors, and profitability has been very high," says the EBRD's Mitchell-Thomson.

However, with the Balkan countries in particular providing increasingly effective competition for FDI – and lower-cost Romania and Bulgaria now EU members – the Czech Republic cannot rest on its laurels. Despite its minority status, the government has prioritized the tackling of constraints on FDI. Chief among these are labor shortages in key areas, notably around Prague. Although unemployment remains around 6.5% nationally, companies are finding it difficult to obtain both skilled and unskilled personnel. A key priority is boosting training programs, particularly in areas of relatively high unemployment, to encourage people to switch careers.

"The government must urgently improve the labor code, ease labor mobility, lower the tax burden on employers, and ease



Mirek Topolánek, Prime Minister of the Czech Republic

restrictions on importing foreign nationals,” says Leila Butt, an Economist with the EIU in New York, adding that much of this will continue to be opposed by unions.

She further argues that the Czech Republic needs to improve its use of EU funding, much of which could be channeled into boosting domestic R&D capability. She points out that over the past three years, since joining the EU, the Czech Republic has only used around one third of the funds available, mainly as a result of institutional constraints, but political instability has not helped.

Over the long term, Prague also needs to boost the R&D and innovation capacity of domestic companies to improve the trickle-down effect from FDI. Observers say this should be done as part of a broader reform of the business environment, speeding bankruptcy procedures and accelerating company registration, identified as a constraint in the World Bank’s latest Doing Business report.

However, the government is aware of the problems and is taking steps to address them. With evident results: some 22,507 companies were set up last year, a rise of 27% over 2006 and the highest number for five years. Cekia, a provider of corporate databases and economic information, has attributed the increase both to the economic boom and to the steps taken by government to cut red tape and speed the process of business registration.

And Czech companies are proving their dynamism: last year, for the first time, Czech companies invested more than foreign ones “preparing not only the greatest number of projects, but investing the largest amount of money,” according to the Acting Head of CzechInvest, Alexandra Rudysarova. “The meaning of this is clear. The competitiveness of the Czech economy is growing and Czech companies are growing ever more successful on the market.” ■ **BY JUSTIN KEAY**

## Inviting investors

National investment agency CzechInvest has played a key part in attracting foreign direct investment (FDI) to the Czech Republic. With its close links to the Ministry of Industry and Trade, and an extensive network of offices in key global markets, it has worked successfully as a bridge between government and the global investment community.

Last year CzechInvest mediated 182 new investments valued at some CZK71 billion (\$4.1 billion), making 2007 the most successful year in its history. South Moravia, around the university city of Brno, emerged as the most dynamic region in terms of attracting new FDI, its low-wage, high-skill offer proving an even more powerful magnet than investor favorite, Prague. The organization also established 28 new technology centers for R&D on top of the 13 set up in 2006.

“Our labor force is technically highly qualified with universities a strong point. Many graduates have knowledge of foreign languages making the Czech Republic a great target for sophisticated investment,” suggests a CzechInvest spokesman.

As well as Japan, the U.S. has emerged as a key investor, taking the lead in establishing technology, R&D and business support centers in Prague and South Moravia in particular. The success has been noted: international consultancy firm AT Kearney noted recently that the Czech Republic had become No. 1 in Europe and No. 7 in the world for offshoring services, in which R&D and business innovation play key roles. It cited the country’s e-readiness, telecoms infrastructure, intellectual capital, extensive linguistic skills and cost efficiency as core reasons behind this growth.

■ **BY JUSTIN KEAY**

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## Rail growth demands rolling stock renewal

Czech Railways (Ceské dráhy, CD) continues a 160-year tradition of rail transport in the Czech Republic.

The following excerpts were taken from an interview with Josef Bazala, CEO of newly independent CD Cargo and a former CEO of Czech Railways.

***In the past two years the company has been turned around. What are the key elements of the strategy that has returned Czech Railways to profitability?***

I have worked at CD for the past five years. For two years I was preparing the strategy that has been implemented now, and for almost three years I was enacting it.

The strategy was based on two pillars. One focused on costs, primarily the cutting of staff costs, which we have reduced by 20%. We have also cut stock levels and improved contracts with those suppliers providing CD with products and services. Furthermore, we gradually separated all additional activities and services into subsidiary companies, there are about seven main ones. These companies now have other customers, too, and operate more independently, gaining new deals in the market. The strategic

***How competitive is the Czech rail system in the context of Central Europe?***

Czech Railways operates two basic lines of business: cargo and passenger transport. From the market point of view, and taking into account the rapid development of industry, cargo transport is more important and the market has already been completely liberalized. Rail freight transport has a larger market share here compared with other European countries, it is about 20% compared with less than 10% in much of Western Europe. However, our ambition is to continuously increase that share.

***What is needed to secure a greater share of freight traffic?***

For cargo transport to keep its position in the market, the rolling stock has to be modernized and equipped with modern wagons. With this aim, we are increasing our investment in rolling stock

every year. For example, we invested about CZK1.5 billion (\$86.9 million) last year to buy 300 new freight cars and for the complete modernization of 1,300 older cars, at the expense of lower profit.

There are some other essential steps to developing cargo transport. Because industry is moving into more sophisticated fields – it is no longer just the transport of raw materials – we need new, modern carriages for the transport of cargo, and logistics terminals. We need to build new logistics terminals that will enable the collaboration of road and rail transport and will ensure a just-in-time logistics system for our customers. Especially because industrial sectors rely increasingly on sea transport, so the transport of containers is growing. It will also be necessary to cooperate with other partners so that we can offer more complex logistics products in order to win new customers. ***CD Cargo is the fifth-largest goods transporter in the EU, with a significant share of the domestic market. Do you see potential for further growth?***

Definitely there's the potential to increase our market share. Only 60% to 70% of rail capacity is being used, so there is the possibility of increasing roughly 20% to 30%. However, it has to be noted that this increase can happen only

between the next five to eight years because it's our priority to complete the modernization of the rail corridors first. The majority of investment in the current rail infrastructure is into the actual railways.

***After more than a quarter of a century in the sector and five years in senior management at CD, which achievement are you most proud of?***

I have to admit that I don't tend to think about that as I'm more involved with the day-to-day operations. Now, as CEO of CD Cargo, my main objective is to create a strong cargo company, which is working and developing well, offering new transport solutions, and increasing its position in the transport market. In the Czech Republic, and in Europe generally, the situation is similar, the freight market is fully liberalized and so cargo transport will have to become more and more sophisticated.



Photo: CD

restructuring culminated with the founding on Dec. 1 last year of CD Cargo as a separate freight-transport business.

The second pillar was our business strategy which began by being strictly customer oriented. We introduced new services in passenger transport, such as high-specification Pendolino trains running on long-distance routes from Prague to Ostrava, Vienna and Bratislava. In regional transport we began the renewal and modernization of rolling stock: there are new regional carriages such as the CityElefant and the RegioNova. We gained 3% more customers in passenger transport. In cargo transport, the new policy brought about an increase of approximately 5%.

So, on the one hand we reduced costs, on the other we improved performance. Our results have been improving over the past three years. Last year resulted in a profit of CZK50 million (\$2.9 million), while the previous year we had a loss of CZK400 million.

# Czech tech goes global

VOCATIONAL EDUCATION AND BUSINESS LINKS WITH ACADEMIA ARE YIELDING DIVIDENDS: CZECH COMPANIES ARE CORNERING MARKETS IN SOPHISTICATED PRODUCTS FROM HEALTH CARE TO ANTI-COUNTERFEITING SOLUTIONS.

While the Czech Republic has been one of the most successful countries in Central and Eastern Europe at attracting foreign investment from multinationals, it also has a rising number of home-grown companies that are at the forefront of specialist sectors.

The Czech Republic has a particularly strong reputation in life sciences and biotechnology, and it's a reputation that goes back a long way. The father of modern genetics, Dr. Gregor Mendel, carried out his groundbreaking work in Brno in 1865. Since then Czech scientists have discovered the fourth blood type, created soft contact lenses, developed the anti-AIDS drugs Vistide and Truvada, the anti-hepatitis B drug Hepsera, and the ELISA diagnostic kit, which increases the likelihood of successful artificial insemination. No mean feat for a country with a population of just 10 million and neighboring some of the world's most well-funded knowledge industry.

Thanks to its world-class research institutes and a large pool of highly qualified life-science graduates, the Czech Republic has become one of the top locations for international biotech companies. Among them is UK-based global health-care business, Baxter, which says it was attracted by the "presence of strong academic institutions, such as the Charles University in Prague with its renowned biochemistry, biology, pharmacy, and medicine faculties." The firm "counted on such institutions to provide well-trained professionals to meet the company's local labor needs." Baxter's total investment, which began in 2001, now exceeds \$70 million and the company employs more than 230 staff in its high-tech cell-culture vaccine manufacturing operation.

But it isn't just foreign investors who are reaping the benefits of an educated labor force: a growing number of domestic biotech and pharmaceutical companies are making a name beyond the country's borders. Among them is Farmak, which focuses on the development of active pharmaceutical ingredients. It exports almost 90% of its production to 40 countries, including other EU states, Japan, the U.S. and Switzerland.

One Czech company with big plans is Walmark, which was set up in 1990 and produces dietary supplements, sports nutrition products and pharmaceuticals. It has expanded rapidly and now has subsidiaries in Slovakia, Poland and Hungary and exports to 20 countries around the world. CEO Tomas Macura said recently that the company plans to expand into Western Europe and aims to be one of the three largest manufacturers of food supplements in Europe by 2012 and to be the market leader by 2017.

Meanwhile, Exbio, a private biotech company that was spun off from the Czech Academy of Sciences in 1990, is working on immunotherapeutic drugs, manufacturing antibodies for worldwide distribution. It is engaged in the design of synthetic cells which are used for research and diagnostics, and in drugs to treat cancer. Antibodies produced by Exbio are sold to firms in more than 60 countries.

The Czech Republic is at the forefront of another cutting-edge technology – the production of holograms to protect against the



counterfeiting of banknotes, official documents, stamps and brands. Optaglio sells its products in 60 countries. Its success is due to the development of a modified lithograph, in conjunction with the Institute of Scientific Instruments in Brno, which allowed for the highly sophisticated production of holograms. It has also developed holographic powder which allows protection codes to be applied to surfaces the size of a grain of sand.

With a strong presence in software and IT, the Czech Republic has established itself as Europe's leading location for the outsourcing of IT services and has attracted a large number of multinational IT companies, including Microsoft and Skype.

But domestic companies are making inroads into this sector, too. Certicon is a private software company that started as a spin-off from the Czech Technical University in Prague. It is a co-founder of the National Centre for Applied Cybernetics, which is carrying out research into artificial intelligence and machine perception. The company is involved in a program of cooperation with Dutch firm, Vitatron BV, to develop software for heart pacemaker systems and is working with the German company, Robert Bosch, on the development of software for testing and diagnostics for a number of car brands.

The Czech Republic has also gained a reputation as a creative hub. Brno-based computer-games developer, Illusion Softworks Interactive Software, was recently acquired by New York-based Take-Two Interactive Software Inc., a leading publisher, developer and distributor of interactive entertainment software.

Established in 1997, Illusion Softworks has some 200 employees. Among the games it has created is Mafia, which has sold more than two million copies. Ben Feder, CEO of Take-Two, says the Czech company will be a valuable addition to its portfolio: "The acquisition of Illusion Softworks reflects our strategic focus on owning high-value intellectual property." ■ BY HELEN JONES

## A new era for air-traffic management

Crowded skies and congested airports are a reality for today's air traveler. But as airlines compete for scarce slots and holding patterns grow around hub airports, technology pioneered in the Czech Republic is at the cutting edge of global efforts to ensure safer and more efficient air-traffic management.

It was the predecessor of Czech company Era which developed air-surveillance technology based on "multilateration" techniques, rather than on traditional radar. In a multilateration-based system, three or more sensors on the ground communicate with transponders on board aircraft and, based on the timing of return signals, system software then calculates the aircraft's position.

Where radar needs several seconds to sweep the skies, a multilateration system relays information to air-traffic controllers in close to real time, with more accuracy and in more detail. Furthermore, radar works less well just when it is most needed, in poor weather. "Our technology sees where traditional radar cannot," says David Ellison, President and CEO of Era Corp.

Ellison adds that multilateration technology is more cost effective and reliable than traditional radar, which is expensive to install and operate.

In October 2006, Virginia-based Rannoch Corp. acquired Era and then, in testimony to the global strength of the Czech business, assumed the Era brand. "Era is a Czech-U.S. company that is the clear leader in its market," says Ellison. "Czech engineering excellence with the American growth-oriented management and marketing approach is a great combination."

As air travel expands rapidly, air-traffic authorities are increasingly turning to multilateration technologies, and Era is the world's leading supplier. Ahead of this year's Olympic Games, Beijing Capital International, the world's fastest-growing major airport, has deployed Era systems to monitor aircraft as they approach its parallel runways and to survey the ground surface of the airport.

"We have over 100 customers in 35 countries that depend on Era engineering for mission and safety-critical operations," Ellison says.

But it is the Czech Republic that has led the world in deploying the technology. Prague airport was the first to use multilateration for surface surveillance, while Ostrava airport installed Era's systems to provide controllers with information on aircraft approaching above the mountains around the airport.

Era's technology has a range of applications on the ground, too. Amsterdam's Schiphol Airport uses Era systems to track vehicles such as catering trucks and baggage carts. Other airports, including JFK, use it to obtain accurate, automated information for charging landing fees and for other services. Airports are also using Era systems for environmental management, in particular for monitoring the observance of night-time noise limits.

Because of the variety of challenges posed by the surge in air traffic, Ellison expects no let up in the demand for Era's state-of-the-art technology. "We believe the size of the market is over \$5 billion, and it is still early in terms of adoption and penetration. I'm confident we will make air travel safer, more reliable and more environmentally friendly." ■ BY MARK BERESFORD

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## Ceska Zbrojovka: craftsmanship counts

That Lubomir Kovarik is a seasoned transatlantic traveler is testament to the importance he attaches to the U.S. market. The General Manager of Czech small-arms giant, Ceska Zbrojovka (CZ), attended the SHOT Show in Las Vegas early in February and returned to Washington on Feb. 27 as part of the delegation of Czech Prime Minister Mirek Topolaneck, who was welcomed at the White House.

"The U.S. market is very important for us, perhaps our most important," Kovarik says. "Every year there are one million rifles and one million shotguns bought in the U.S. It's very different to the European market, principally in the possibility to buy guns. It's very open."

CZ has a long and accomplished history as a manufacturer of small arms. Established in 1936 in Uhersky Brod, eastern Czech Republic, as a producer of military small arms including aircraft machine guns and pistols, the product line was quickly expanded to include arms for civilian use, both for sports and hunting. With a product portfolio today that includes pistols, rimfire rifles, centerfire rifles, shotguns, combos, airguns, and law-enforcement equipment, CZ is one of the world's biggest producers, selling state-of-the-art firearms to customers in more than 100 countries.

But the U.S. remains a priority. Having previously supplied the market through a network of importers, in 1997 CZ established CZ-USA, based in Kansas City. In a further bid to shore up the market, in 2005 CZ-USA bought industry-leading handgun manu-

facturer, Dan Wesson Firearms. Attracted by its record of innovation and new product development, CZ is providing the management, manufacturing, marketing and sales resources needed to establish Dan Wesson as the premier manufacturer in the global firearms market.

Given the potential of the firearms market, Kovarik doesn't rule out buying other manufacturers or working closely with them as part of the company's expansion program. "If we want to build on our position, we have to work on new designs, new products, new solutions and new materials."

But it is CZ's reputation for craftsmanship, long-term reliability and accuracy that is the greatest source of satisfaction for Kovarik. And maintaining that production excellence and a spirit of innovation is central to the company's philosophy. As well as investing in state-of-the-art production facilities, CZ works closely with academia to guarantee a continuous stream of qualified personnel.

"This company's products are among the best in the world, and I'm sure we will increase our market share," Kovarik says. "We have the product, we have excellent people, and we have the knowledge."

The company also participates in tenders to equip law-enforcement agencies around the world. Tenders are currently live in its home market of the Czech Republic, plus Slovakia, Egypt, Turkey, Thailand, Russia, Poland, France, and Germany.

■ BY PETER DRENNAN

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**Ceská zbrojovka a.s.**, Uhersky Brod (CZ) founded in 1936 enters the new millennium with a long standing tradition. A long-standing manufacturer of small arms that permanently increases the volume of its production, the company also expands its assortment of small arms - both individual product types and modifications. The prominent feature of firearms made by CZ is their quality, longrun reliability and accuracy. These features bring a lasting interest to the purchase and use of these products. At present, Ceská zbrojovka represents one of the biggest small arms producers in the world, based on sales to about 100 countries around the world. The superb craftsmanship and innovative construction design ensures that if you choose a CZ product, you can be sure that your decision was the right one.



# “High technology for your comfort”

Josef Bazala, General Director of České dráhy



Czech Railways is a modern and dynamic company that transports more than 180 million passengers and 90 million tonnes of goods on board its trains each year, and thus ranks among the EU's leading transport providers. The company is currently undergoing restructuring, which is reflected in higher profits and growth in passenger numbers as well as in the volume of shipped freight. A year and a half ago, Czech Railways launched its first SuperCity Pendolino train, which travels at 160 km/h and provides the fastest connections between the largest Czech cities, Vienna and Bratislava. Together with modern suburban and regional trains, the SuperCity Pendolino offers maximum travel comfort.