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2012

CZECH Engineering

Supplement of Czech Business and Trade





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Czech Engineering

Supplement of
Czech Business and Trade 3-4/2012

CONTENTS

ANALYSIS

Engineering – Growing Importance of More Complex Orders 4

WE SUCCEED

Results of the Machine Tools and Forming Machines Industry 10

INVESTMENT

Engineering – Favourite Investment Sector 13

ENTERPRISE

Competitiveness of Czech Machines on the Rise 14

Bohemia Line – Your Partner in the Area of Wood
working Machines 15

Czech Manufacturers of Agricultural and Forestry Machinery
Hold Their Own Even on Tough Markets 20

LEGISLATION

Machine Equipment Safety 18

FAMILY BUSINESS

Decade with the Hallmark of Prosperity 26

SURVEY

28

ANNIVERSARY

More than Power Generation Control Systems 30

PRESENTATION OF FIRMS:

AGADOS, spol. s r.o.; Česká exportní banka, a.s.; EKOBAL s.r.o.;
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Engineering – Growing Importance of More Complex Orders

(ČEKIA is a leading provider of economic information about Czech and Slovak firms. It is a part of the supranational Bisnode Group), www.cekia.cz

Vladimír Melichar, ČEKIA Analyst



Engineering is one of the important fields of the Czech processing industry, and it is also one of the most demanding industries with high requirements for the quality of input factors and energy consumption.

The field includes the manufacture of a broad range of products used for mechanical or heat working of materials or for other operations (e.g. spraying, weighing, packaging, handling etc.). Engineering production includes the manufacture of machinery (including parts and accessories) useful for most branches of the processing industry and other fields of the national economy (e.g. agriculture, transport, forestry, metalworking, metallurgy, mining industries, textile, paper-making and food industries, construction etc.). The development, manufacture, and sale of this equipment indicate the current state and future development of the national economy. The field of investment engineering includes all companies that operate as suppliers for the listed areas of busi-

FIELD OF MACHINE AND EQUIPMENT MANUFACTURE IS DIVIDED INTO FIVE GROUPS (NACE28)

- 28.1 – Manufacture of general-purpose machinery
- 28.2 – Manufacture of other general-purpose machinery
- 28.3 – Manufacture of agricultural and forestry machinery
- 28.4 – Manufacture of metal-forming machinery and machine tools
- 28.9 – Manufacture of other special-purpose machinery

ness, but without companies that supply their goods to end customers – consumers. Investment engineering as a whole is characterised by a substantial product diversification.

Long Tradition

Engineering has a long tradition in the Czech Republic. In the period between the world wars, Czechoslovakia was one of the ten most important engineering countries in the world. Throughout the past 150 years, a number of radical changes have taken place in this field of business, both on the level of technology usage and production structure as well as within the business base. A major change

occurred after 1989, when the engineering companies were forced to deal with the unfavourable situation resulting from the loss of traditional markets, influx of new, foreign competitors (with appropriate capital and know-how) to the Czech market, or changes in ownership structure.

Positive Trend Continued in 1st Half of 2011

As follows from the analysis of the Czech Capital Information Agency (ČEKIA), which was published in October 2011 and which is oriented at the field of manufacture of machinery (NACE 28), the importance of the field within the processing industry (and within the whole economy) grew until the outbreak of the global economic crisis. This share diminished with the onset of the recession. Revenues amounted to 6.1% of the GDP in 2009 (a decrease of 0.9 percentage points compared to 2005). The machinery industry employed 10.3% of the total workforce in the

processing industry in 2010 and made 2.9% of the entire national economy of the Czech Republic. The field contributed 12.4% and 9.7% to the Czech Republic's overall exports and imports respectively in 2010. In the period between 2005 and 2007, revenues in the field of Manufacture of machinery and equipment n.e.c. showed an average year-on-year growth of 18.7% from CZK 209.6 billion in 2005 to CZK 295.1 billion in 2007 (i.e. overall growth of 40.8%). Due to the economic crisis, revenues started to decrease in the second half of 2008 (the overall year-on-year decrease in 2008 amounted to 2.2%). The slump continued in 2009, when revenues suffered a year-on-year decrease of 24.1%. The market was revitalised in 2010, and the engineering industry posted a year-on-year growth of revenues of 11.4% from the sale of its own products and services of industrial nature. The positive trend in the field continued in the first and second quarters of 2011, when the growth (compared to the same period of the year before) reached 14.5% and 13.3% respectively. The account-



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Automotive industry

- Turbocharger wheels and blades
- Turbocharger components



Glass industry – glass-wool

- Spinner discs for glass-wool fiberizing



Aerospace industry

- Rotors and guide wheels of auxiliary power units
- Components of aircraft air conditioning systems
- Rotors and guide wheels of the TJ 100 turbojet



Health sector

- Knee replacements

Power industry

- Gas turbine blades and vanes for IGT (Industrial gas turbines)



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ing added value showed a trend similar to the revenues. During the period of 2005–2008, the average recorded number of employees (natural persons) in the field grew from 125.8 thousand to 141.9 thousand workers. The development of employment rates in 2009 and 2010 was influenced by the economic crisis, which led to a year-on-year decrease in the numbers of employees by 18% and 6.9% respectively. The number of employees in engineering hovered around 11% of the overall number in the processing industry during 2005–2010. The average gross wage in the field grew by 28% (to CZK 23 634 in 2010) between 2005 and 2010.

Engineering Posting Long-Term Positive Balance

The majority of fields in the processing industry in the Czech Republic is export-oriented. This is also true for the engineering sector, which has been long (since 2002) posting an active trade balance (CZK 80.2 billion in 2010). The positive foreign trade balance of the engineering industry has been growing continuously since 2000. This trend was not influenced in a significant way even by the global economic crisis, which manifested itself mainly by decreasing turnovers of foreign trade. From the point of view of the territorial structure of foreign trade, the biggest trade partner is traditionally Germany followed by Italy, France, Slovakia, Russia, Poland, and China. Prices of industrial products in the field grew by 16.9% between 2000 and 2009, and a year-on-year decrease of 1.6% was recorded in 2010.

Production of Agricultural and Forestry Machinery Likely to Expand

According to data from ČEKIA, or its company database, MagnusWeb, there were 6 468 commercial entities registered in the Czech Republic at the end of August 2011 that had Manufacture of machinery and equipment n.e.c. (according to the NACE 28 Classification of Economic Activities) on file as their main economic activity. Not counting natural persons (entrepreneurs) and legal entities in liquidation, the business base included 2 982 entities, with the majority registered in Prague (16.9%), followed by the South Moravia (14.1%) and Central Bohemia (10.3%) Regions. Most companies within the field list Manufacture of other general-purpose machinery – NACE 28.2 – as their main business activity. This group is formed by 49.3% of all companies. Then it is NACE 28.9 – Manufacture of other special-purpose machinery (27.7%) and NACE 28.1 – Manufacture of general-purpose machinery (11.1%). The transformation process, which started within the sector in the beginning of the 90s of the 20th century, is nearly finished. There are only four state firms in the field now, none of which has a decisive share in the main production characteristics of the field as a whole. The introduction of investment incentives provided the precondition for stimulating the influx of foreign capital into the sector and for the building of new production capacities in industrial zones whose production contributed to the growth of the segment. Future expanding segments are likely to include, for example, Manufacture of agricultural and forestry machinery (NACE 28.3), which should see the continuing renovation of existing technical equipment of not only domestic agricultural enterprises (supported by EU). The NACE 28.22 segment (Manufacture of lifting and handling equipment) shows some promise in the continuing renovation of the majority of lifts in the Czech Republic, which find themselves at the end of their lifespan or their technological parameters only hardly satisfy relevant safety regulations. The situation in the automotive industry is important for the sector's sales.

The sector is largely formed by small and medium businesses, with 103 companies employing over 250 employees. Based on available information, over 80% of enterprises are owned by domestic entities (mainly natural persons). Despite the dominance of domestic owners, the decisive capital of Czech companies in the field are owned by foreign entities (especially from Germany, Japan, Belgium, France, Switzerland, and the Netherlands).

Field Sensitive to Economic Cycle

Engineering is characteristic for its relatively high degree of sensitivity to the economic cycle. The state of the Czech economy, as well as that of our biggest foreign trade partners, thus directly influence the demand for products of investment engineering. Machinery and equipment, by investment-intensive company facilities, are among the first products whose purchase gets postponed, limited or even cancelled during a period of negative expectations. In 2009, the worsening situation of manufacturing companies hit, in connection with the global economic crisis, also companies oriented at engineering production. The situation in the field was also influenced by a decrease in the number of orders in the EU (especially in the EU 15 countries), which belonged to the main export territories of the Czech Republic's engineering industry. In reaction to the impacts of the crisis, the majority of important manufacturing entities came up with more thorough controls of all investments or imposed major limits on investments. On top of that, there is a relatively high risk of uncollectibility or late debt settlement in the sector, which makes it necessary for companies to employ advance payment systems and collateral systems. Czech engineering enterprises should direct their export to new territories, such as Russia, on a larger scale. Opportunities offered in the area of the Russian engineering industry are very interesting because modernisation of this sector is one of the priorities of the Russian Federation. What is more, Czech engineering still has a good name in Russia. However, Russia and the other post-Soviet countries are not the only perspective market. There are also, for example, China, India, Latin American countries or the Near East. Germany remains the dominant client of the sector. The Czech engineering industry has a certain weakness in the fact that it is overly oriented at supplying components or individual machines to general suppliers (mainly from Germany), and the





SUSPENDED MINING LOCOMOTIVE DLZ210F



SUSPENDED MINING MANIPULATOR DMZ50F



MINING GROUND LOCOMOTIVE DLP140F / DLP140F13T



MINING ROPEWAY FOR PERSONAL TRANSPORT DLDOXF-XX

Company FERRIT Ltd., Czech Republic was established in 1993. Through its activity, the company has joined the tradition of Czech mining engineering and utilizes the contacts and experience of its working team, which has long experience gained in business and development departments company Ferrit rank among largest producers of mining monorail diesel-hydraulics locomotives in the World.

Mining machineries produced by Ferrit Ltd. are working in the mines not only in Czech Republic, Slovak, Poland but in the mines in Russia, Ukraine, Kazakhstan, Estonia, China, Mexico, Turkey, Vietnam and Slovenia too. In each of those territories Company Ferrit Ltd. has own representatives, who are responsible for service, deliveries of equipment and spare parts.

The subject of Ferrit Ltd. activities are constructions of mechanical-drive machinery designated to work in environments with a danger of explosion of coal dust and methane.

Company Ferrit Ltd. offer the following products:

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- Suspended diesel-hydraulic locomotive DLZ210F
- Mining diesel-hydraulic manipulator DMZ50F
- Hydraulic transport vehicles with load capacity from 1,6t to 36t
- Set of cabins for personal transport
- Breaking carriages type BTs
- Suspension monorail line MPD24F
- Rope way for personal transport

For railway transport:

- Mining railway diesel locomotive DLP50F, DLP140F, DLP140F13t
- Ground rail locomotive PLP50F

For excessive loads transport:

- Diesel coolie car locomotive NZD600/900
- Electro-hydraulic power unit EHT180

Roadheading machine PSU900

- Arched mine support machine
- Mine profile bender
- Universal coal crushers

capability of manufacturing complete investment units (such as production lines for the industry or energetics) is still relatively small. The most balanced products of the field include air conditioning equipment, fuel pumps and lubricants for piston engines, parts for piston engines with inner combustion and engines and generators for alternating current, aggregates etc.

Outlets on Domestic and Foreign Markets

Production in the area of engineering includes a broad range of products that find application in most fields of the processing industry and other sectors of the national economy. The engineering industry manufactures machines used in agriculture, manufacture of means of transport, forestry, metalworking, mining industries, textile, paper-making and food industries, construction etc. In view of the fact that the engineering industry operates mainly as a supplier for the listed segments, engineering production is largely influenced by development in these sectors. Industrial production in the area of engineering was growing continuously from 2000 until 2008, when the field profited mainly from the Czech Republic's accession to the EU, rapid pace of growth of the numbers of new orders and the overall boom of the Czech economy. However, a year-on-year decrease of 28.3% came in 2009 due to the economic crisis. The following year saw a revitalisation represented by a year-on-year growth of 15.3%. The development of the numbers of new orders also offers an overall overview of the state of the field. According to Eurostat data, Czech producers were quite successful in finding outlets on domestic and foreign markets between 2000 and 2010. Overall, the number of orders for domestic entities in the area of engineering grew by 144.4% from 2000 to 2010. Of selected aggregated commodities from the area of engineering, production of liquid filtering or purifying equipment recorded growth in the Czech Republic, with 738 231 pieces manufactured in 2009 (compared to 4 387 pieces in 2000).

Risks and Opportunities

The positive development of the investment engineering field is largely dependent on the revitalisation of the entire Czech economy as well as the economic situation of our biggest foreign trade partners. In connection with the expected boom in the next period, the engineering industry may be negatively influenced

by the Czech crown's unfavourable growing exchange rate towards foreign currencies or the growing cost of energies and input materials (relatively high sensitivity of the sector to these factors). Gradual revitalisation is taking place in the area of new investments, with apparent overall restarting of industrial activities and trust in general. Mid-term perspectives of the field depend on functional enterprise and research programmes, which would benefit from integrating university research. Strong ambitions in the area of productivity are only possible when seeking out new production opportunities, which is feasible on the condition of employing higher levels of science

and its technological application. Of course, this also requires a higher concentration of capital capable of establishing an economic base for the required level of research and development. With regard to the ever-growing demand for cost optimisation in the majority of production industries, the importance of more complex orders realised through deliveries of investment units has been growing recently – the transaction includes everything from preparing an investment plan, construction proceedings, project realisation (using own capacities or sub-deliveries from other entities) to training for buyer's employees and an offer for general repairs.

NACE 28 – Position of important producers on the market (revenues in thousands of CZK)

Manufacture of general-purpose machinery (NACE 28.1)

Company	Owner's country of origin	Revenues 2010
ŠKODA POWER s.r.o.	United Kingdom	8 696 211
VÍTKOVICE HEAVY MACHINERY a.s.	Czech Republic	3 697 112
Daikin Device Czech Republic s.r.o.	Japan	1 646 281
Parker Hannifin Industrial s.r.o.	Germany	1 495 751
POCLAIN HYDRAULICS,s.r.o.	France	1 289 636

Manufacture of other general-purpose machinery (NACE 28.2)

Company	Owner's country of origin	Revenues 2010
Carrier Refrigeration Operation Czech Republic s.r.o.	Luxembourg	4 406 636
OTIS a.s.	Germany	1 523 153
Slovácké strojírny, a.s.	Cyprus	1 280 280
GEA Heat Exchangers a.s.	Germany	1 007 796
Huisman Konstrukce, s.r.o.	Netherlands	772 376

Manufacture of agricultural and forestry machinery (NACE 28.3)

Company	Owner's country of origin	Revenues 2010
ZETOR TRACTORS a.s.	Slovakia	2 973 740
FARMTEC a.s.	Czech Republic	1 379 154
A. Pöttinger, spol. s r.o.	Austria	612 593
LETOVICKÉ STROJÍRNY, s.r.o.	Czech Republic	366 845
Farmet, a.s.	Czech Republic	335 245

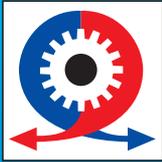
Manufacture of metal-forming machinery and machine tools (NACE 28.4)

Company	Owner's country of origin	Revenues 2010
TOS VARNSDORF a.s.	Czech Republic	1 103 232
Šmeral Brno a.s.	Czech Republic	981 012
KOVOSVIT MAS, a.s.	Czech Republic	932 202
TOSHULIN, a.s.	Czech Republic	771 752
TAJMAC-ZPS, a.s.	Italy	753 290

Manufacture of other special-purpose machinery (NACE 28.9)

Company	Owner's country of origin	Revenues 2010
Groz-Beckert Czech s.r.o.	Germany	1 772 664
Vítkovické slévárny, spol. s r.o.	Czech Republic	1 276 217
Caterpillar Global Mining Czech Republic, a.s.	Germany	1 276 020
Ammann Czech Republic a.s.	Switzerland	1 251 010
Krušnohorské strojírny Komořany a.s.	Czech Republic	836 659

Source: Czech Capital Information Agency, a.s. (MagnusWeb company database)
EUR 1 = CZK 24.60 (average exchange rate in 2011)



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EN AC-21000, AlSi12 (b) | EN AC-44100, AlMg3, Al – Zn

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Casting technology – gravitation casting (CGU and CGH casting machines, separate stands with hydraulic control, weight of castings 1 – 20 kg), low-pressure casting (CNS 10.23 casting machines, weight of castings 1 – 40 kg).

MACHINING DIVISION:

construction desing and production, machining, mainly aluminium castings

FOLLOW-UP OPERATIONS:

trimming, grinding, blasting, heat processing, environmentally friendly impregnation, varnishing, semi-assembly

Results of the Machine Tools and Forming Machines Industry

Petr Zemánek, Association of Engineering Technology, www.sst.cz

Manufacture of machine tools and forming machines has certain specific features due to which an economic recession, whatever its roots may be, and the subsequent recovery always come slightly later, and thus do not precisely reflect the trends of the overall national economic development. Major reasons include the relatively long production and delivery times of machines and the long-term planning for ensuring full-capacity operation of plants, including the financing of this approach.

Production and export statistics for Czech machine tools and forming machines for recent years clearly draw the picture of a multiple-year growth, starting in 2005, and the subsequent slump in 2009 when compared to the previous years of boom. As can be seen in the attached charts, exports had been growing gradually until 2008, when the maximum in the amount of CZK 14.62 billion was reached. The economic crisis caused a slump of almost 25% in 2009 – machines valued at CZK 11.185 billion were exported that year. 2011 already showed growth in both exports and imports, with exports increasing by 20.1% compared to 2010. The value of exported machines reached CZK 12.741 billion that year. The growth is even

more apparent in the import category. Machines valued at CZK 8.465 billion were imported in 2011, which means an increase of 60.5% over the previous year.

Record Exports

Results of the machine tool industry for 2011 and for the first quarter of 2012, as well as orders at full capacity until the end of 2012, indicate continuing record exports. This development is the result of efforts by Czech exporters to adapt the focus of exports to the current situation on the international market, which has not been very easy until recently.

Despite the fact that Europe is still fighting lingering problems, especially in the banking sector, which have been the root of the crisis of the Euro and of the significant decline in investment activities, Germany remains the most important destination for machine manufacturers. If we were to look at the situation from the German point of view, Czech companies have taken the very proud 4th place among the importers. German exports and imports have traditionally hovered just below 30%. There are no significant fluctuations in year-on-year comparisons, rather between quarters within the same economic year.

Important Markets for Czech Manufacturers

However, it must be said that the shares of Russia and China in Czech exports have been growing significantly. Russia is gradually becoming the most promising market for machine export. The need to replace engineering equipment in reconstructed and newly built Russian enterprises has increased considerably. This market is also interesting for Czech manufacturers, because Russian partners have an increasingly clearer idea of what types of machines and what technologies they need, which represents a significant incentive for business cooperation. Chinese companies ever more frequently demand large and non-standard machines, mainly because they are already capable of supplying regular, universal machines from their own production to their domestic market. They have even achieved a dominant position among Asian competition.

Slovakia still holds its position as one of the four most important destinations of Czech engineering export, which is undoubtedly based on relations surviving from the time when we were a single country. A special position is occupied by India, which shows a great absorption potential, but presents a relatively complicated market when it comes to processing orders. As opposed to China, India has a decentralised market, which makes it more complex. Poland and the Ukraine are also interesting markets that can surprise by realising enormous orders, as well as by the laboriousness of small business cases.

The second and third places in imports are occupied by Japan and Austria. However, imports from Taiwan and South Korea, which offer large machines at attractive prices, have been increasing for several years now.

The above comments imply that the foundation of success for Czech engineering companies has definitely been the fact that, in good time, they have been able to pick up the trend of moving exports destinations from Europe to dynamically developing territories whose markets show a strong absorption potential. It was no less important to learn the mentality of, in our eyes, often exotic partners with vastly different cultures that also influence business negotiations. As it is, current clients are very demanding: they demand quality products, modern technologies, acceptable prices, and perfect service. It is necessary to remain competitive in all of these areas.





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- Turning machining centers
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 - Special job-order production of parts
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 - Special training for adjustment of machines

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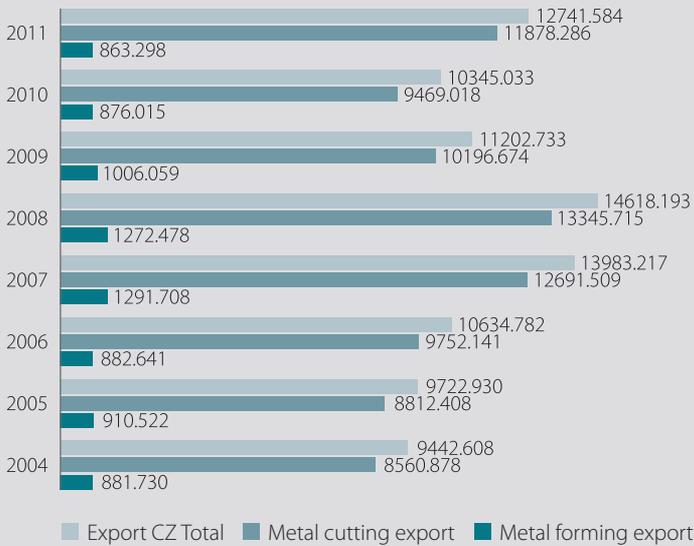
MULTICUT 500 - Multioperational turning-milling centers

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- Max. turning length: 1500, 3000 mm
- Spindle drive output: 74 kW

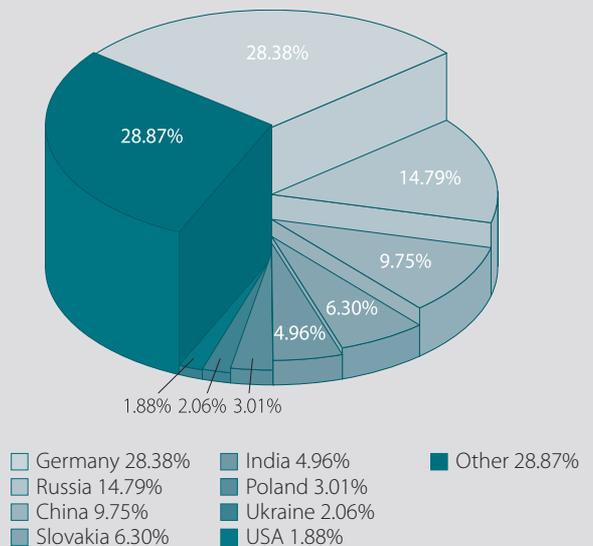
MCU 630VT-5X - Multioperational five-axis vertical machining centers

- Table clamping surface - dia.: 630 / 800 mm
- Max. table load: 850 kg
- Spindle drive output: 35 kW

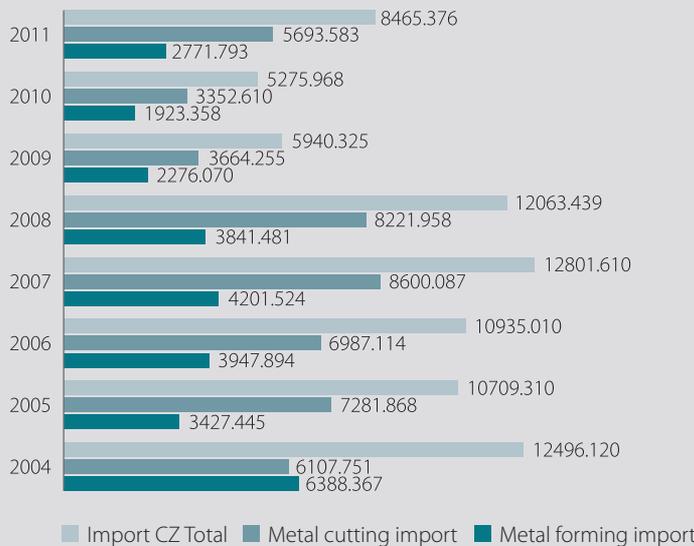
MACHINE TOOL EXPORT IN MIL. CZK
(without spare parts, accessories, overhauls)



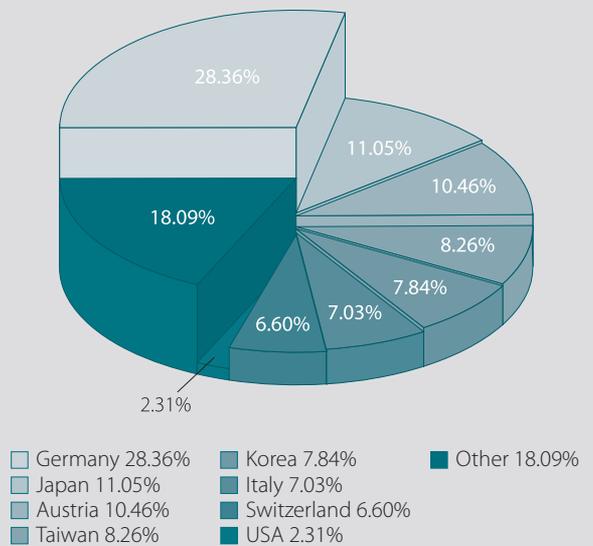
MACHINE TOOL EXPORT FROM CZ ACC. TO THE TERRITORIES IN 2011



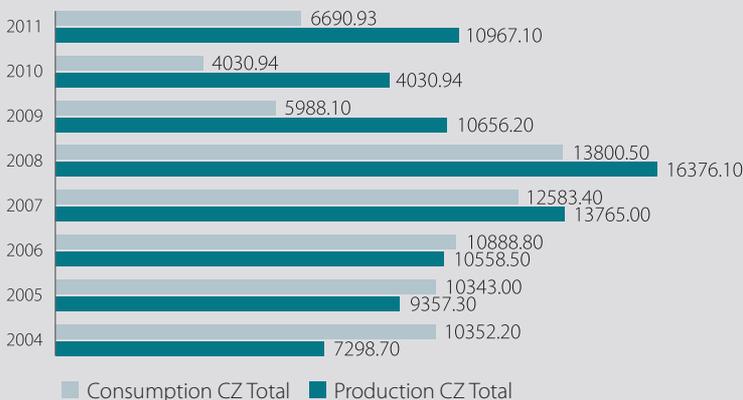
MACHINE TOOL IMPORT IN MIL. CZK
(without spare parts, accessories, overhauls)



MACHINE TOOL IMPORT INTO CZ ACC. TO THE TERRITORIES IN 2011



MACHINE TOOL CONSUMPTION AND PRODUCTION IN MIL. CZK (without spare parts, accessories, overhauls)



PRODUCTION IN 2004 - 2011 IN MIL. CZK



Source: Association of Engineering Technology EUR 1=CZK 24.60 (average exchange rate in 2011)

■ Engineering – Favourite Investment Sector

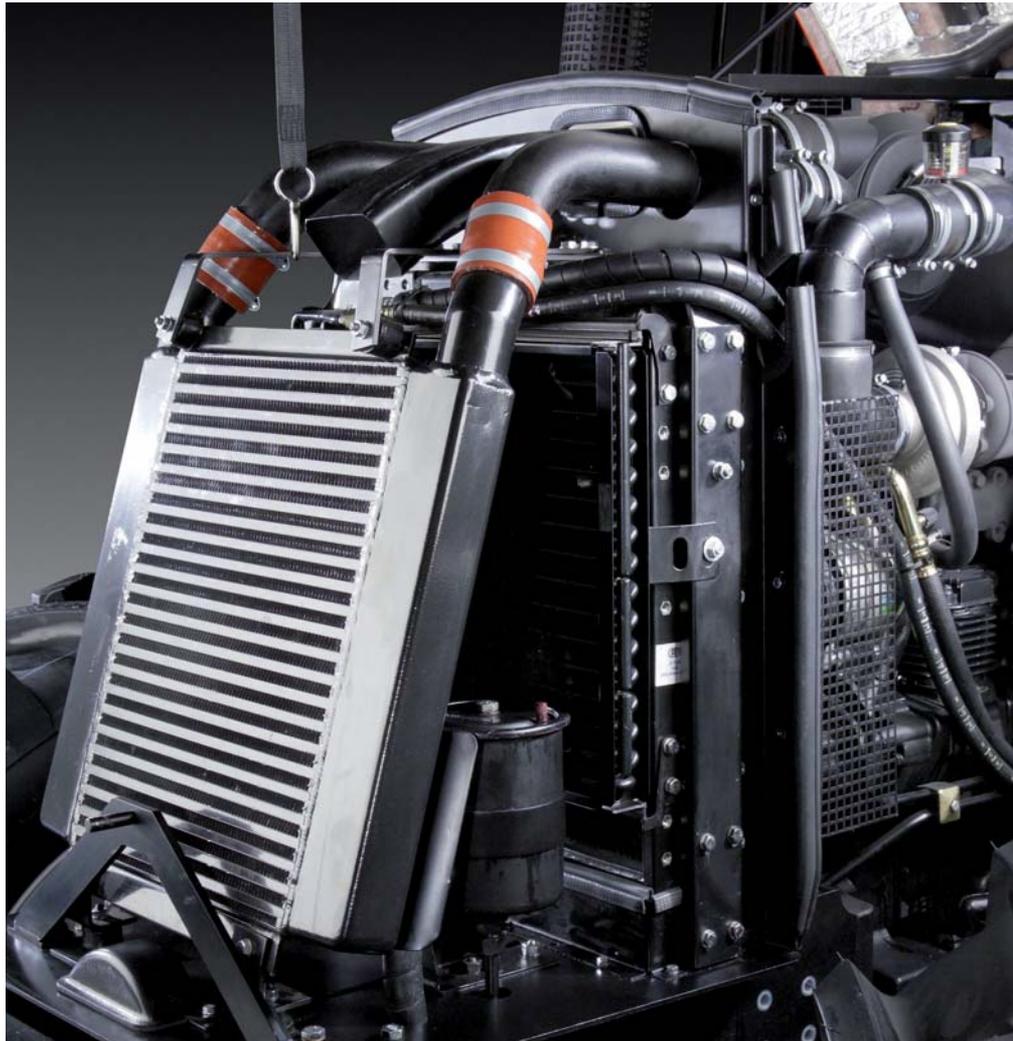
Adéla Tomíčková, CzechInvest, Investment and Business Development Agency, More at www.czechinvest.org

Investments in the amount of almost CZK 60 billion. (approx. EUR 2.4 billion) and nearly 21 thousand new jobs – that is what investors to engineering brought to the Czech Republic in the past few years. If we were to include the manufacture of means of transport, engineering would be, by far, the most sought-after area for foreign investments in the Czech Republic.

In 2011, most of the money, almost CZK 15.5 billion. (approx. EUR 620 mil.), was invested in manufacture of means of transport. This was significantly contributed to by the third highest investment of 2011, which came from Robert Bosch GmbH and which amounted to CZK 1.4 billion. (approx. EUR 56 mil.). New projects in the field of engineering in the Czech Republic were realised last year by, for example, Behr Ostrava, Das Corporation, and KSR UK.

Focus on Research and Development

Engineering investments in the Czech Republic have been going through an interesting development. According to statistics from the CzechInvest Agency, which endeavours to attract foreign investments to the Czech Republic, investments are shifting from production projects to research and development. Nevertheless, production still plays an important role. 21 production investors decided to invest in the Czech Republic in 2004 as opposed to two companies that invested in research and development. In 2009, only 6 companies invested in production and 26 entities invested in research and development. Another turnaround came in 2011, when 12 out of 23 projects involved investments in research and development. However, this development does not indicate a return to production, it means instead that the Czech Republic has a sufficient quality workforce available. A shift back to research and development is expected now, mainly because of the amended law on investment incentives, which expands the scope of recipients of support. The new legislation means that investment incentives in the Czech Republic are available not only to investors launching or expanding production in the processing industry but also to technological centres and strategic service centres.



“Besides our advantageous location in the middle of Europe, quality infrastructure and qualified workforce, we can now offer, thanks to the amended law on investment incentives, another important benefit to investors who are considering an investment in the Czech Republic,” explains Miroslav Křížek, the Director General of CzechInvest, and adds: “The engineering industry is one of CzechInvest’s priority sectors. We endeavour to do our best to be very forthcoming to new and existing investors.”

New Conditions for Investors

Investors in the processing industry, strategic services and technological centres (existing investors and new entrants alike) can enjoy income tax abatement for ten

years, instead of the previous five. The availability of financial support for creating new jobs and for training and re-training remains unchanged, and the same applies to the investment incentive in the form of transferring the ownership of land and the related infrastructure at an advantageous price. The concept of a strategic investment project is an absolute innovation. For capital investments in projects in this category, the level of financial support may be up to 5% of costs, in addition to the standard investment incentives. This support is available for projects in the processing industry and for technological centres. Decisions concerning support for eligible projects will be made by the Government of the Czech Republic.

Competitiveness of Czech Machines on the Rise

Petr Zemánek, Director, Association of Engineering Technology, www.sst.cz

Despite the overall picture of the Czech economy, which is not in the best shape at this time, the current news of the development in the field of machine tools and forming machines is cheerful.

The number of member entities in the Association of Engineering Technology (SST) has grown to 48 companies. Statistical results from 2011 show that the competitiveness of Czech machines on world markets is on the rise. This is, undoubtedly, a success for a small country like the Czech Republic, despite its long and illustrious tradition of engineering, when it can be placed 11th on the list of the world's most important exporters in the field in the first decade of the very demanding 21st century. This fact is all the more gratifying when considering that the current statistics only cover the production of sophisticated, numerically-controlled machines equipped with advanced technologies.

Participation at Important Events

The majority of our manufacturers are strongly oriented towards exports, which is a continuing trend. This implies that one of the key activities of SST is support for the participation of member companies at important international trade fairs and exhibitions. The attached table offers an overview of trade fairs in 2012 that have either official support from the Ministry of Industry and Trade or have been included in a joint project of the Czech Chamber of Commerce

and the CzechTrade Agency called "Specialised Exhibitions and Trade Fairs".

The quality of Czech production was tested last year at the most important international exhibition of machine tools, EMO Hannover 2011, and it can now be said that Czech companies more than held their own. The key event for Czech engineering companies is the International Engineering Fair in Brno (MSV), which SST employees work very hard to prepare. As it is, SST is the trade fair's traditional co-organiser and, in close cooperation with the Veletrhy Brno company, always prepares a fine accompanying programme. MSV 2012 will have a significant international dimension, because the fair's partner country will be India, which is an extraordinarily interesting territory for export with a dynamically growing economy. The trade fair will feature an Indian national exhibition called "India Show", in which hundreds of Indian companies are expected to participate. This is India's premier form of official commercial and economic presentation abroad, and it will be attended by Mr Anand Sharma, India's Minister of Industry and Trade, in the capacity of an honorary guest.

Accompanying Programme at MSV

The flagship of SST's accompanying programmes this year will be again the "Educational Centre – Competition for Young Programmers of CNC Machine Tools". It will be the fourth year of a popular competition

intended for students of secondary technical and vocational schools. Students choose between milling or turning, prepare their own computer program, and then use it to create a specific workpiece. Other important accompanying programmes will include SST's press conference, an international conference of the Department of Management and Economics of the Faculty of Mechanical Engineering of the CTU in Prague from the "Integrated Engineering" series on the topic of "What Leads to Success on World Global Markets", and, in particular, the Czech-Indian Technology Forum, which SST expects to interest many of the Indian participants at the "India Show" exhibition.

Incoming Events

Besides the aforementioned accompanying programmes, SST is also active in the Ministry of Industry and Trade's "Incoming Programme". For this year, the Association of Engineering Technology has chosen two countries: India and Brazil. Both of the chosen countries represent very attractive markets for Czech manufacturers of machine tools and forming machines.

Russian engineering companies tend to have a strong representation at MSV on a regular basis. Additional partners from other fast developing countries of the former Soviet Union are also starting to make an appearance. This year again, SST expects an extraordinarily strong mission of representatives of important Russian engineering companies, during whose stay SST plans to organise visits for them to manufacturing operations of selected potential Czech partners. At this time, activities of SST are oriented towards, for example, Tatarstan, with which a contract for the opening of a Czech Machine Showroom has been signed in Kazan.

The establishment of the Kazakh-Czech Technology Centre (KČTC) represents one of the many tangible results of the collaboration between the Czech Republic and the Republic of Kazakhstan. This is a joint project to build and operate a training and production centre for machine tools and forming machines in Astana. Member companies of the Association of Engineer-

Trade fairs in 2012

1	CCMT, Nanjing	16th - 20th April
2	FAMTECH, Karachi	8th - 10th May
3	Mecanica, Sao Paolo	22nd - 26th May
4	Metalloobrabotka Moscow	28th May - 1st June
5	FIMAQH, Buenos Aires	29th May - 2nd June
6	Mechanical Engineering + Metalworking, Kazan	19th - 21st June
7	Hardex Johannesburg, JAR	15th - 18th August
8	IMT Brno	10th - 14th September
9	KAZTECH Almaty	21st - 23rd September
10	Maktech Eurasia 2012 Istanbul	2nd - 7th October
11	IIF Kiev	20th - 23rd November
12	Machine Tool Indonesia	5th - 8th December

ing Technology will supply machine equipment, and the machines will also serve for presentations, training of local employees, and custom manufacture to satisfy orders from Kazakh clients. The Centre's trouble-free operation is a precondition for securing other purchases of Czech machines by Kazakh engineering enterprises.

When reading the overview of this year's participation at international exhibitions and trade fairs, one cannot overlook SST's thorough efforts to shape the structure of our participations so that the trend is developed and strengthened. The list contains many traditional events, but there are also Asian, South American, and African destinations. Despite a certain slowdown of the initial rocket-like dynamics of economic development of BRICS countries - Brazil, Russia, India, China and South Africa - remain at the centre of our exporters' interest.

Czech machine tools do not build only on the many years of honest tradition of quality or on their pricing policies. Their manufacturers monitor the development on world markets, as well as pay much attention to the development of modern



Multi-spindle multi-function automatic machine TMZ625CNC by the TAJMAC-ZPS company

technologies and innovations. SST also tries to support the development of applied research and an as-fast-as-possible implementation of research results in production practice. A young team of researchers has successfully participated in investigations of national and international research projects through the Research Centre of Manufacturing Technology at the Faculty of Mechanical Engineering of

the Czech Technical University in Prague. We are also successfully developing collaboration with research institutions in Brno, Plzeň and Liberec. The commercial success and competitiveness of Czech machines is largely based on the traditionally friendly and open approach of Czech manufacturers towards clients and on the flexibility with which they can satisfy their specific requests.

Bohemia Line –Your Partner in the Area of Woodworking Machines

Bohemia Line is an export alliance established in 2003. It associates important firms that manufacture woodworking machines and technologies for wood processing.

The goal of the Alliance is to use the interconnectedness of the production programmes of individual entities to supply demanding customers with comprehensive technologies for the processing of solid wood. Assembly and commissioning of the technologies is a matter of course, as well as warranty and post-warranty service. A group formed in this way allows us to offer a comprehensive range of products and services to big wood-processing companies and, with the help of CzechTrade, collectively to present our firms on foreign markets. In the past, members of the Alliance have taken part in trade fairs oriented towards wood-processing technologies, such as "TechnoDrev", Forest and Woodworking in St. Petersburg and "LesDrevMash" in Moscow. Our many years of experience in the wood-processing machine manufactur-

ing industry guarantee quality and reliable services to wood-processing firms.

We asked the Head of the Alliance, Ondřej Maršalský of Marshal-CZ:

What are the Alliance's current priorities?

The development and manufacture of machines supporting the use of solid wood in the furniture and construction industries.

What can your members offer foreign partners?

Machines, equipment and technology lines for secondary wood-processing. Consulting and project studies for the production of semi-finished products for manufacturing furniture, windows, doors, construction carpentry products and wooden houses. Also projects, their realisation and the supply of machines for the aforementioned operations.

Have the firms associated in Bohemia Line been successful on foreign markets?

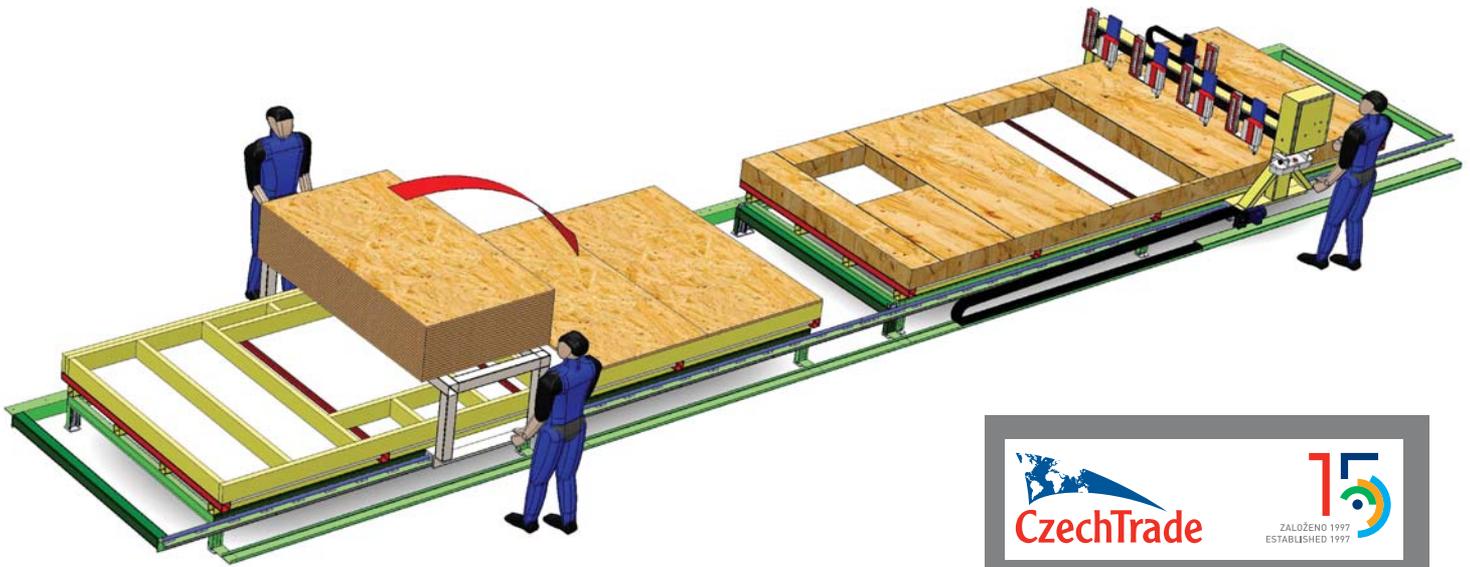
It is very difficult today. We can say that, after 2008, the export of our machines has seen a significant decline. One reason is the general slump in demand for investments, and the second reason is an increase in the promotion of export from countries such as Germany, Italy and China.

Your Alliance takes part in important trade fairs abroad. What important events will you be attending in 2012?

Our product-promotion activities have also suffered. Despite that, one of our partners took part in the XYLEXPO exhibition in Milan, and all members will attend the Lignumexpo exhibition in Nitra in autumn, and, through our business representatives, we will participate in LESDREVMASH in Moscow and LISDREVMASH in Kiev.

Can you evaluate current results achieved by members of the Alliance?

We have partially compensated for the decline in exports by increasing our activities on the



domestic market. We have developed new products and innovated some existing products oriented towards domestic customers. While this activity does not fully compensate for the decline in export, it allows us to maintain our production and development of machines.

Do you collaborate with research institutions or universities?

Our collaboration with the Mendel University in Brno and the Czech University of Life Sciences in Prague takes the form of information exchange. MARSHAL-CZ, together with representatives of both these universities, actively participates by its presentations at conferences organised by the Czech National Building Centre, at conferences by organisers of exhibitions oriented towards wood-processing machines and wooden houses, and in seminars organised by associations of wood-processing companies.

MARSHAL-CZ, together with the Czech University of Life Sciences in Prague and GATR, s. r. o., is also participating in a project called Innovation of Production Technologies for Passive and Zero Buildings Based on Wood.

Can you identify any strong trend that has an impact on your field of business?

First and foremost, it is the decrease in domestic capacities of wood-processing and the manufacture of products based on solid wood, caused by a shortage of this raw material. Even though the volume of wood grows back evenly, it is becoming increasingly more difficult to obtain for domestic manufacturers, because of unwise decisions and because of lobbying supported by foreign manufacturers. It is not unusual for a production line

to be running at 30% of its capacity or when its owners are forced to halt production. Big supranational companies are purchasing technologies and machines from their domestic manufacturers, with strong economic support from their national governments.

Alliance Members:

MARSHAL-CZ (www.marshal-cz.cz/)

MARSHAL-CZ, s. r. o., was founded in Czechoslovakia in 1989 with the goal of providing customers with complete services, starting with the area of solid-wood gluing, to technology designs and their implementation. The firm specialises in the manufacture of woodworking machines and equipment that facilitate the use of solid wood in the furniture industry and, above all, in the construction industry. It also manufactures joinery machines for manufacturing windows, doors and frame constructions. Other products include small window centres, slotting cutters, profiling cutters, bottom cutters and formatting saws. In the past few years, the company has also focused on developing and manufacturing machines and equipment for the manufacture of assembled, low-energy and passive houses based on solid wood. To achieve this goal, the company has developed and started to manufacture a technology based on the perfect sorting of cut timber, cutting out faults, the subsequent gluing and manufacture of glued, semi-finished products for wooden houses. The company has its own Research and Development department.

TOS Svitavy (www.tos.cz)

TOS Svitavy was founded back in 1948. The company specialises in the preparation of



CzechTrade encourages the establishment of sector-focused Export Alliances. Their members join forces to share experience and knowledge, develop a common presentation abroad, and tap resources that would not be available to them if acting individually. The groups of companies associated in alliances can offer a complex supply of goods and services in a specific field. For more information visit: www.export-alliances.com

complete technology projects and studies, including their implementation: one-shaft and double-shaft rip saws, four-side planing and profiling moulders, formatting saws, bottom cutters, universal chucks.

Balínek Trade, s. r. o. (www.balinek.cz)

The company manufactures and supplies technologies for solid-woodworking. Based on many years of experience and the continuous development of technologies, it offers its own production programme – a wide range of machines (window and door frame presses, dropper pinning machines for euro-prism, turnstile presses for furniture batten-board gluing, continual presses, presses for the manufacture of construction prisms).

STÖRI MANTEL, s. r. o. (www.stoerimantel.cz)

STÖRI MANTEL specialises not only in the manufacture of woodworking machines but also in offering expert consulting, together with complete deliveries of the required technology units. The company's production programme includes: one-blade FLS rip saws, optimising KP saws, UK cross-cut saws, palette and cover production lines, nailing machines, mechanisation and production lines.

The specialisation of Kovar s.r.o. is the single-piece manufacture of special containers, which guarantees that each product is adjusted to the specific requirements of demanding clients. Most of its output (approx. 90%) goes to other countries, mainly Germany, the Netherlands, Austria, and Finland. The final users of the containers can be found all over the world, from Australia to Brazil and Africa to Malaysia.



SPECIAL CONTAINERS

The name itself indicates that these special containers are adjusted to the specific requirements of customers. This means that the customer may specify all the parameters, from the size of the container (up to 16 x 3.5 x 3.5 m) to its equipment, including openings, doors, and surface finish.

Special containers are used to house various equipment, such as energy sources, control systems, distribution boxes, engines, pumps, transformers, co-generation units, water treatment plants, heating boilers and fuel containers, fuel tanks, sorting lines and other machines, complete with accessories. The container will provide the customer with a fully mobile site for housing his machines and equipment that will be well protected against unfavourable weather conditions.

KOVAR S.R.O.

The company operates in its own premises, which comprise the welding plant (2900 sq. m), assembly halls (3200 sq. m), three varnishing cabins, and storage rooms.

DESIGN PROGRAMMES

KOVAR s.r.o. creates its own production drawings, which are presented to the customer for approval. In our Design and Construction Department, we use the AutoCad2011, AutoCadInventor 2011, and SolidEdge programmes.

CERTIFICATION

All manufacturing processes at KOVAR s.r.o. comply with ČSN EN ISO 9001:2009, ČSN EN ISO 14001:2005 and OHSAS 18001:2008 standards. Kovar s.r.o. is in possession of the Certificate of Manufacturer Qualification for steel welding according to DIN 18800-7 and the "European Welding Technologist" Certificate.

OFFSHORE CONTAINERS

Special containers certified according to EN 12079 under the survey of Lloyd's register, especially used in Oil&Gas offshore industry.

CONVERSIONS

After the completion of a sea voyage, a standard marine container can be rebuilt according to the customer's specifications. Rebuilt marine containers have a variety of uses, for example they can serve as storage rooms, transport cases, control and distribution rooms.

OTHER CONSTRUCTIONS

The containers may be fitted with accessory constructions, such as staircases of different heights, landings and bridges, pylons and under constructions. These constructions can be either zinc-coated or varnished in the colour of the container.



Machine Equipment Safety

Zdeněk Šenovský, Machine Equipment Specialist, TÜV SÜD

Ensuring safety is an indispensable and important part of quality management, which is supported by a number of legal regulations within the entire EU. Our current understanding of product safety can be characterised as follows: "Whoever wishes to manufacture or import products must be aware of all risks associated with their use and of all technical and legal aspects that limit or eliminate these risks."

Product Safety

Assessment of machine equipment safety, which must be in Czech, includes, according to the nature of the machine, monitoring of its features with regard to its lifespan, composition, packaging, assembly instructions, deployment, and use, including specifications for usage, maintenance, and liquidation environment. Impact of radiation on other products is also assessed, provided the products are expected to be used together. Safety assessment also evaluates methods for demonstrating the machine, its marking, user manuals, and other data provided by the manufacturer.

Legal Framework in the CR

Several principal Czech regulations can be named that contain these safety requirements. Machines and machine equipment are mostly affected by Law No. 22/1997 Coll. and Government Order No. 178/2008 Coll. that provide for the way technical requirements are stipulated for machine equipment that may endanger personal health or safety, property, or the natural environment. These regulations further lay down the rights and obligations of persons who introduce these products to the market, and the rights and obligations of legal or physical entities authorised to perform activities related to the creation and application of Czech technical standards or to national testing.

Legal Framework in the EU

A number of regulations and harmonised standards is devoted to the issue of product safety within the European Union, which are adopted in the Czech legisla-

tion as government orders and CSN EN standards. The harmonised standards can be divided into A-type standards, which provide basic definitions and general topics that can be applied to all machines. B-type standards include standards dealing with a single safety aspect or a single type of a safety device that may be used with a number of machines. The last type of EN standards is C. These standards define detailed safety requirements for specific machine types or for a group of machines. If a machine conforms to relevant harmonised standards, the condition of compliance with basic safety requirements defined by the given standards is deemed to have been satisfied.

Risk Analysis and Most Frequent Shortcomings

The basic solution for ensuring a required or expected level of safety for machine equipment and for manufacturing processes lies in risk analysis methods and procedures. It is the Risk Analysis and its application that demonstrate major deficiencies. Risk Analysis is often completely absent or is only formal. It is not used as a tool for safe construction; instead, it tends to be prepared only after the machine is manufactured.

While assessing equipment safety, inspectors come across situations in which construction imperfections are dealt with using complicated safety provisions, such as coverings and electronic safeguarding elements. Parts beneath coverings which are used for servicing often have sharp edges, which jeopardises the safety of service personnel. Some risks are addressed only by a notice in manuals, despite an existing and usable construction solution. The scope and completeness of documentation also pose problems, as well as missing information in manuals and missing calculations and technical tests.

Basic Requirements for Machine Equipment Operation

Basic requirements for machine equipment operation include the already men-

tioned Risk Analysis and then revisions, regular inspections and checks, maintenance and repairs. A company is obligated to be in possession of current user manuals and to train operators and service personnel. There must be a definition of activities forbidden to the operators and the employer. When older equipment is being put into operation, it is necessary to carry out a Risk Analysis, a revision of the equipment, an occupational safety and health inspection, and possibly to update the manuals.

If a company wishes to be sure of complying with all the requirements for safe operation of machine equipment, it is advisable to have a third, independent party to carry out the inspection, one that would verify compliance with all legal and safety requirements and recommend corrective measures in the case of deficiencies.

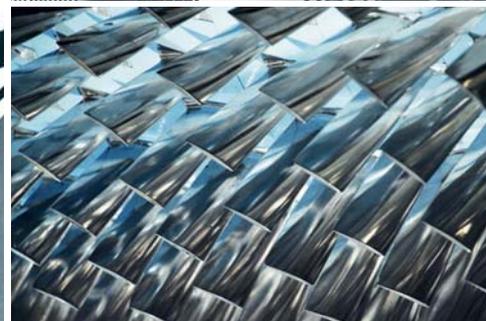
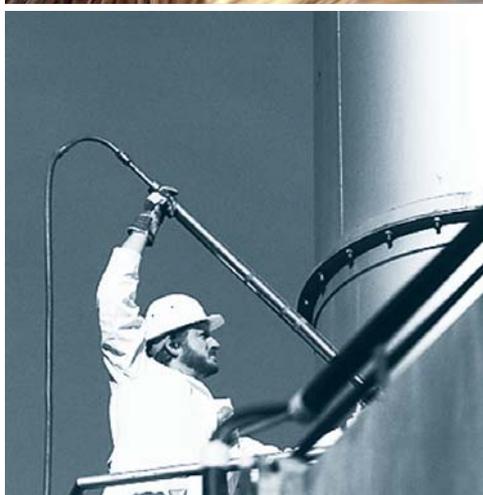
Safety in Large and Small Organisations

Large organisations usually have sufficient safety provisions in place in their main working areas. However, deficiencies often arise when it comes to the safety of spaces out of reach of operators. Even these deficiencies in the operational safety of machine equipment need to be eliminated. Frequent problems include, for example, unsuitable marking or interchangeability of accessory plugs, unsuitable markings of hydraulic and pneumatic distribution system, or unsuitable marking and accessibility of the air shut-off valve. Only seldom are all the dangerous sites of moving parts properly secured.

Small organisations tend to have even graver deficiencies in their safety provisions. Serious dangers are often not dealt with at all or are addressed in an unsatisfactory way. Mechanical dangers are frequently "eliminated" by inappropriate covering, which makes the hazard even greater – for example, the danger of a collision turns into a danger of a cut. A significant role is played by insufficient awareness of the relevant regulations and requirements stipulated therein. For example, companies often do not know that binding means for lifting are an independent item of machine equipment, with all that it implies.



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Czech Manufacturers of Agricultural and Forestry Machinery Hold Their Own Even on Tough Markets

Manufacture of agricultural and forestry machinery (NACE 28.3) is to become one of the expanding segments of the Czech engineering industry in the future. "Czech firms have been increasing the level of their participation in international business, and import of foreign equipment has been growing at about the same rate as the success of Czech manufacturers on foreign markets," says Dušan Benža, Director of the Secretariat of the Czech Agricultural And Forestry Machinery Association (A.ZeT).

Could you evaluate the development in the area of manufacture of agricultural and forestry machinery in the CR?

There are about 100 manufacturers of agricultural and forestry machinery in the Czech Republic. The Czech Agricultural And Forestry Machinery Association (A.ZeT) associates 45 firms, and its members include all leading domestic manufacturers. Overall production of member firms amounts to approximately CZK 18 billion, which represents 75% of overall domestic production. A.ZeT members also account for over 80% of overall Czech exports, which amounts to CZK 12 billion.

Three years ago, the global economic crisis had an impact on agriculture as well, and it also affected our agricultural machinery market. The recession had different forms in individual countries: it was not that intensive in countries with strong national support for

agriculture (France, Germany), as it was in others. From the point of view of sales of agricultural machinery, 2008 was a record year, and sales could not be expected to grow as much as they had done in the years before. However, the slump of 2009 was dramatic. Farmers postponed their investment plans and limited their purchases of machines. The economy has been slowly recovering since 2010, the downward trend has turned around, and sales have started to grow. According to findings of the Association of Agricultural Machinery Importers and the Czech Agricultural And Forestry Machinery Association, 2 321 tractor units were sold in 2011 as opposed to 1 878 units in the year before that, i.e. a growth of 23%; 194 units of combine harvesters were sold during the same period as opposed to 136 units the year before, i.e. a year-on-year growth

Before 1990, the former Czechoslovakia was among the ten biggest exporters of agricultural machinery worldwide. Following the collapse of the markets in the former Eastern bloc, our manufacturers have been able to gradually find space on West European markets. Besides the traditional ZETOR tractors, well known in Europe and overseas, main export articles include mowing machines, front-end loaders, manure spreaders, soil-tilling machines (cultivators, gates), trailers and semi-trailers, and a whole range of small agricultural mechanisation products, including tools. Production of more specialised equipment is also successful, such as stump grinders or refineries for oil-seed processing. Leading Czech manufacturers and exporters include AGROSTROJ Pelhřimov, FARMET Česká Skalice, LASKI Smržice, RomiLL Brno, STROM Export Praha, ZDT Nové Veselí. Manufacturers of equipment for animal farming also enjoy success on European markets (AGE České Meziříčí, FARMTEC Tábor and others). Main machinery imports include machines not manufactured in the Czech Republic. These are combine harvesters, higher power tractors (over 120 kW), and presses. Unfortunately, these machines also include harvest cutters today, which we used to manufacture and even export, but the production stopped. Manufacture of machines for harvesting red beets suffered the same fate; we are now fully dependent on imports. The majority of imported tractors in the last ten years was of the following brands: John Deere (23%), New Holland (13%), and Case IH (11%). The most popular combine harvesters are Claas (36%), New Holland (24%), and John Deere (21%).

of 42%; however, this does not mean a full recovery yet – a year-on-year comparison of sales for the first six months puts us approximately at the level of 2006.

The manufacturers who dedicated a part of their capacities to cooperation production have suffered more severe consequences because diminishing demand forced the final manufacturers to move parts of the cooperation home in order to utilise their own production capacities. Manufacturers of final machines, who are less dependent on cooperation production, are in a better shape because they could keep their employees by withdrawing external cooperation to their own operations. Manufacturers of smaller machinery, for the purchase of which it is easier to find money, are also less affected. Sales of spare parts have seen a significant increase as well.

What successes can the members of your Association present? Are Czech firms from your industry successful in entering foreign markets?

The production potential of Czech agricultural engineering exceeds the absorption capacity of the domestic market. Export is thus an important strategic direction for us, and support for Czech exports is one of A.ZeT's main activities. Czech firms have been increasing the level of their participation in international business, and import of foreign equipment has been growing at about the same rate as the success of Czech manufacturers on foreign markets. We only monitor the financial aspects of foreign trade because nobody in our country collects foreign-trade statistics about the numbers of traded units. Similarly to domestic sales, foreign trade suffered a slump of 30% between 2009 and 2010 when compared to the year before. Foreign trade recovered in 2011, and the level of exports and imports has stayed approximately the same: in terms of money (about CZK 13 billion), the amount of import is comparable to that of export.

Czech firms that can offer competitive products have already established themselves on the European market, exhibited at important trade fairs, such as SIMA Paris, AGRITECHNICA Hannover, and other exhibitions in Europe, and conduct business with foreign firms, including common entry to markets of third countries. It is the participation of our firms at the mentioned trade fairs and references to good technical parameters, quality, and reliability of Czech machinery that fill us with optimism with regard to possibilities Czech manufacturers have even on the tough common European market.

Naturally, the biggest business partners are our neighbouring countries, Germany, Austria, and Slovakia and also France and Poland. This really depends on what is being offered, e.g. Zetor has traditionally been successful in Scandinavia and in the Baltic states. Individual manufacturers are also beginning to re-establish their partners in former Soviet Union countries – Russia, the Ukraine, Baltic states – and continue to gradually gain a foothold in the new EU countries – Romania and Bulgaria.

The quality of Czech products is comparable to the European level. This is also evidenced by the fact that, for commercial reasons, there are many machines and a lot of equipment on European fields and in European stalls that have been developed in the CR and manufactured in Czech plants with colours of their foreign business partners. Not every Czech firm is willing to ac-

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Our focus is development, manufacture, and supplies
of transport systems, and related engineering activities.

The company was founded in 1996



References:

Prague Public Transit Co. – underground

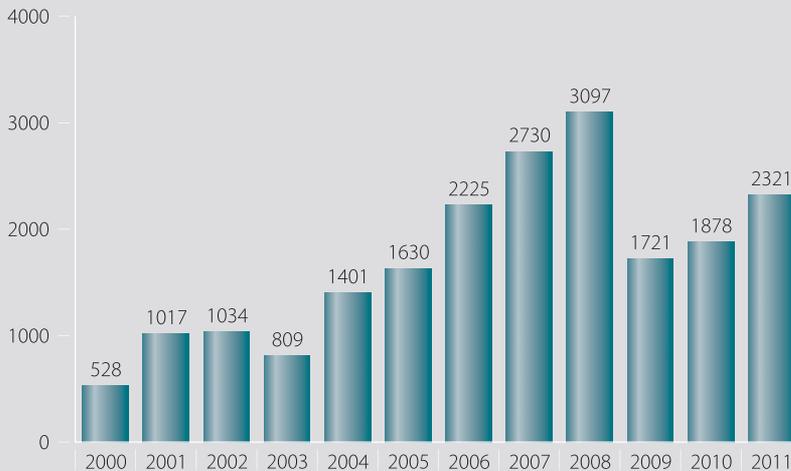
Czech Airlines Prague

Technistone Hradec Králové

Transa Chrudim

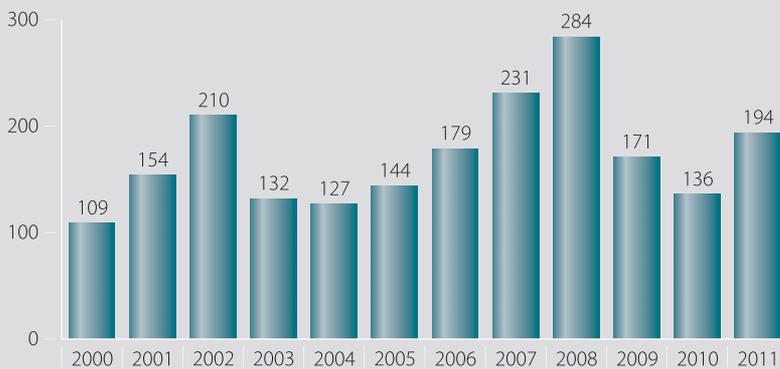
Kaučuk Kralupy nad Vltavou

OVERALL TRACTOR SALES IN THE CR*



*total sales from domestic and foreign production

OVERALL COMBINE HARVESTER SALES IN THE CR*



*only import, there is no domestic production

cept this model. It is, however, a general trend, and if such cooperation secures Czech jobs and allows us to enter foreign markets, then why not.

Our industry can take pride in the excellent standard of top management – in recent years, the following managers received prestigious awards: Karel Ždárský, Director and Chairman of the Board of the Farnet joint stock company, who was named the businessman of the year of the Region of Hradec Králové and placed in the top five of the national competition Businessman of the Year 2008, Lubomír Stoklásek, Director-general and Chairman of the board of Agrostroj Pelhřimov, who received the title Manager of the Year 2011. It is not a coincidence that the two firms are the biggest Czech exporters of agricultural machinery.

Your Association also presents itself at important domestic and foreign events. Could you mention some specific events for 2012?

We have long-term cooperation agreements with the organisers of a couple of leading domestic exhibitions of agricultural machinery, namely Veletrhy Brno, a. s., and Výstaviště České Budějovice, a. s. The set of international trade fairs TECHAGRO / SILVA REGINA / ANIMAL VETEX in Brno can easily compete with the best events of its

kind. It has developed an excellent international renown and is second best to only two of the most important events in the field in the European context: SIMA Paris and AGRITECHNICA Hannover. A.ZeT initiated the founding of the trade fair in 1994, has always been one of its co-organisers, participates in formulating its concept and in preparing the accompanying programme. Our member firms occupy a significant portion of the exhibition space. In recent years, TECHAGRO has become the most successful project of all the trade fairs organised in the Czech Republic.

We also try to present Czech manufacturers abroad. The most important events in our industry, not only in European but also in a global context, are the SIMA trade fair in Paris and the AGRITECHNICA trade fair in Hannover. We have not missed a single year at the latter fair since 1995. We also promote selected events to become state-sponsored foreign trade fairs. In this respect, we have repeatedly succeeded with SIMA in Paris and AGROMEK in Heming, Denmark. However, we also organised joint participation in Kiev, the Ukraine, Poznan, Poland, at AGROSALON in Moscow (it is our most important event of the year in 2012 because the Paris and Hannover events only take place in odd years), and twice even at EXPO AGRO in Argentina. Where we are unable to secure sponsored participation, we try to organise joint participation of Czech firms even without state support: traditionally, we have had Czech participation at both Hannover events, i.e. AGROTECHNICA and EuroTier. At the very least we prepare a Czech informational stand, which is the case for trade fairs EIMA in Bologna or FIMA in Zaragoza.

Do you cooperate with similar foreign associations?

Between 1994 and 2000, our association was a member of the European Committee of Associations of Manufacturers of Agricultural Machinery CEMA (Comité Européen des Groupements de Constructeurs du Machinisme Agricole). Our manufacturers could benefit from an easier access to important marketing information related to markets for agricultural and forestry machinery in member countries. Other CEMA activities included coordinating professional European trade fairs, collecting statistical data, and preparing background materials for the creation of technical regulations. The main disadvantage was the significant financial burden, and the fact that some activities were intended only for the then member countries of the EU. Later on, CEMA ceased to coordinate trade-fair events, which was why we cancelled our membership in this European association. However, bilateral relations and personal contacts with representatives of individual national associations and leading European firms have been maintained. We have above-average relations with associations in Slovakia, Hungary, and France. We have also established close cooperation with the International Liaison Center for Agricultural Machinery Distributors and Maintenance CLIMMAR (Centre de Liaison International des Marchands de Machines Agricoles et Réparateurs), so we are always in touch with the happenings on the European stage.

HORIZONTAL MILLING AND BORING MACHINES MACHINING CENTRES

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WRD 130



WHN(Q) 13/15 CNC



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WRD 170 (Q) and WRD 130/150 (Q) horizontal milling and boring machines are used especially for highly efficient universal chip machining of non-rotating, mainly large and heavy workpieces.

WHN 110/130 (Q, MC) machines are used mainly for productive and efficient universal chip machining of non-rotating medium-sized and medium-heavy workpieces.

The **WHN(Q) 13/15 CNC** is the company's most successful machine. It is intended for precision milling, coordinate drilling, boring and cutting.

The **WH(Q) 105 CNC** is a modern high-power machine with continuous control.

WRD 170 Q



NEW GOALS NEED NEW SOLUTIONS

Do your members utilise European subsidies for their projects? What programmes do they mainly participate in?

In 2009, we have been successful with our application to the Ministry of Labour and Social Affairs and received a subsidy to realise a project through which it was possible to ensure training of employees of the association's participating entities. The project, called the "Comprehensive Educational Project for Members of Agricultural And Forestry Machinery Association", registered as CZ.1.04/1.1.02/23.00400, was co-financed from the European Social Fund as a part of the Human Resources and Employment Operational Programme and from the budget of the Czech Republic. Altogether, the project contributed approx. CZK 3.7 mil. to improving the qualification of employees from our member firms.

The project was planned for three years, and realisation started in August 2009 and was completed in July 2012. The objective of the educational activities was to improve the qualification of participants and their adaptability to changes in firms and on the labour market. The target group included over 200 employees of various professions: managers, salesmen, salaried employees, and administrative employees.

Association members also make use of other subsidies with most of them originating in the Operational Programme Enterprise and Innovation, which is oriented at supporting the development of commercial environment and at transferring research and development results into commercial practice. Within this programme, firms mainly participate in the Marketing Programme, which offers subsidies for participation at foreign trade fairs and exhibitions and information about foreign markets. Another popular programme is Innovation which helps to introduce innovative products created on the basis of enterprise research and development activities or through technology transfers to markets.

Are you aware of any strong trends or expectations that influence the agricultural and forestry machinery industry?

It is extremely complicated to attempt a reliable long-term prediction. The crisis did not manifest itself only in the declining numbers of or-



ders but also in the fact that it is difficult to predict economic development. Of course, there may be a recovery but also a downturn. The Czech economy is small and open, and it is dependent on export. Naturally, we would appreciate if there was a repeat of the development during the last two years, i.e. if the information from the banking sector was confirmed that the farmers' interest in buying is growing again, and the positive trend in mechanisation purchases continued at the same rate and was of a more lasting nature. However, agriculture is a sector extremely dependent on political decisions, both at the national and Union level. Of late, there have been some unfavourable domestic decisions regarding the abolition of the so-called green diesel or the introduction of a tax on still wines. Regular competition is also being disturbed by policies of supermarket chains – with the

existing legislation, farmers are excessively dependent on the chains. The future of financing the Common Agricultural Policy (CAP) after 2013 is bound to become a controversial question that will divide EU member states. The Common Agricultural Policy, with its unbalanced and unjust interventions and subsidies, disrupts free competition and discourages hundreds of Czech farmers from working, even from the production of meat, cereals, milk, fruit and vegetables, i.e. areas in which Czech agriculture is capable of competing. In view of differing approaches, there is the question of the degree to which a reform can be pushed, a reform that would decrease the overall amount of finances for the CAP, increase support for the development of the countryside, improve the quality of life in the country, and, at the same time, lower production subsidies. The reform should also be accompanied by an overall relaxing of regulation in the sector and should not bring asymmetrical solutions that would disadvantage some member states (including the CR).

DEVELOPMENT OF FOREIGN TRADE – MANUFACTURE OF FORESTRY AND AGRICULTURAL MACHINERY (IN MIL. OF CZK)



Source: Ministry of Industry and Trade of the Czech Republic, EUR 1=CZK 24.60 (average exchange rate in 2011)

More about the Czech Agricultural And Forestry Machinery Association at www.zetis.cz



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Wrapping Modular System (WMS)

In EKOBAL, spol. s r.o., we have been working hard on our strong position since 1990.

Our specialisation is the development and manufacture of wrapping machines for group and transport packing.

We always find a solution that will suit the customer's needs, while fully meeting modern trends. Our experience is that each client has individual needs.

That is why we have developed a new **wrapping modular system (WMS)**. The WMS is a new generation system, which can be used in all industry for pallet wrapping by stretch film at the end of manufacturing cycle.

In the case of change in production conditions, the module system makes possible to have the wrapping machine adjusted to the new needs. For example, the machine's enlargement and enhancement can be done at the client's site. Any changes or new components adding can be done in a very short time, which is greatly appreciated by our clients.

The fully automatic **Rotomatic Profi Double** wrapping machine is an answer to growing demand on wrapping capacity. The machine's performance is up to 130 wrapped pallets/hour, which reliably exceeds current limits. The actual wrapping process has been shortened to 28 seconds for the wrapping of a standard EURO pallet. Rotomatic Profi Double exceeds the limits of customary parameters.

Client requirements have prompted us to develop a special equipment capable of reliably recording stretch film, at the same time displaying wrapped pallet weight and condition before dispatch. Those data are stored online as an evidence for potential cases of goods loss, damage, or packaging material consumption. Our clients using the **WMS Profi Evident** machine value its very fast return of investment, which in some cases of logistic companies is less than 6 months.

We have gathered many years of experience and market knowledge in designing and manufacturing the **DYNTEST** and **WRAPTEST** testing device. Both devices are unique in their capabilities and are the only of their kind in all Europe. DYNTEST is a device that makes it possible to objectively test pallet wrapping firmness during transport. WRAPTEST is capable to test and compare theoretical and physical properties of stretch film. Another project's objective is provable increasing of the efficiency and optimisation of used stretch foil for pallet wrapping.

From what has been mentioned above, it is evident that, in accordance with our company strategy, Ekobal places great emphasis on clients actual needs. These devices and continuous improvements are bringing our strategy of the totally satisfied customer to fruition.



Rotomatic Profi Double

Decade with the Hallmark of Prosperity

Libuše Teprtová



Jan Kučírek, Jr., Director of the Company

KOVOSREAL s.r.o. is one of the leading Czech thin sheet metal processing companies. This is a family company, which has been operating on both the Czech and international markets for a full 10 years. To its original production programme – metal furniture and tool boxes – it has added further activities. Today, KOVOSREAL is known especially for its manufacture of semi-finished products, cooperation, powder painting, and tool manufacture.

Ten years ago, Jan Kučírek, the founder of the firm, realised (and his idea proved correct) that if members of his family took over the firm's management and other managerial functions and tasks, this would be a prerequisite for the responsible management of their joint company on a long-term basis. His son, Jan, Jr., today the Director of the Company, also came to the conclusion that the greatest asset to augment the value of the family business was its name, the image created in the minds of its customers and the quality of its products and services. Over the past decade, the firm has extensively broadened its production programme. The family promptly responded to market de-

mand and has adjusted its programme to meet this. That is why KOVOSREAL began to seek possibilities of cooperation, by starting to manufacture metal semi-finished products for various branches of industry. Today, its programme is divided into three main sections: CNC production, powder painting and coating, and tool-making.

Families Generate More Capital

In economic terms, the past decade has been busy and variable. It has left a favourable imprint on this young family firm, consisting of four members of two generations. In the past few years, it has increased its profit nearly four-fold. "We invested in new technologies, which pushed our production one more step up the ladder. We persuaded our customers of our qualities and maintain good relations with them. We have managed to find capable and loyal employees, who make a perfect team, both as regards skill and personal relations, and support our efforts to promote the firm still further. We have about 70 employees, some of whom also have members of their families working for the firm," says Director Jan Kučírek, Jr.

Social Responsibility as a Priority

The credibility and success of the firm is supported by the way it behaves towards its environment. Although fitted out with modern equipment, the workshops for the treatment of metal objects are carefully monitored for the strict observance of all safety rules, especially with regard to chemical processes. Environmental regulations and standards are respected by all and at all levels of management. The firm's responsibility towards the environment has been proven, for example, by the fact that all the recyclable materials are used in production as secondary raw materials. As regards social support, KOVOSREAL has decided to assist handicapped children, for example, in the form of gifts to the Life to Children Civic Association and UNICEF. Also, two football teams in the vicinity of the town of Duchcov, the seat of the firm, wear jerseys featuring KOVOSREAL's blue-and-white logo. The family firm holds the Reliable Company Certification and ISO 9001 and ISO 14001 Certifications. It has also obtained the OH-SAS 18001 Work Safety and Health Protection Certificate.

Interest from Abroad

KOVOSREAL successfully exports its products to the German market. The standard of its production technologies and the quality of products enable the firm to obtain important, long-term orders. "Last year we broadened our long-term cooperation with Festool GmbH and became its leading supplier of components for hand-operated electric tools. Another interesting contract we have is with AIB Kunstmann GmbH, for whom we manufacture boxes for substitute power sources. Our aim is to penetrate the automotive industry with our first-rate quality of surface finishing," plans Jan Kučírek, Jr.

The young director has a clear idea of how to promote the firm. In addition to investing in a new paint shop, the major target he wants to concentrate on is the people – the employees – to whom credit is due that KOVOSREAL maintains a responsible and honest approach to its customers and thanks to whom it has surmounted the hard times of the economic recession. And owing to whom it can formulate and fulfil its visions.

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KOVOSVIT MAS, a. s.

www.kovosvit.cz

Turnover: (in EUR): 50 mil.

Number of employees: 654

Are you aware of any strong trends influencing your field of business?

That really depends on the point of view and on what trend you might have in mind. Our field of CNC milling machines has recently seen a general trend of growing demand for multi-functional machines and deliveries of complete solutions for customers, i.e. not only machines but also other equipment for automation,

logistics, workshop layout design etc. Our company has made an effort to adapt to this trend and offer the customers what they require in the area of multi-functional products as well as in the area of industrial engineering.

Have you been successful in entering foreign markets? What territories do you export to?

We have. Our main export territories include Russia and countries of the CIS, Poland and other European Union and Western European countries, such as Germany, Switzerland,



KOVOSVIT MAS
machine your future

Netherlands, Belgium, Scandinavian countries etc. Our export accounts for over 50% of our production.

What greatest recent successes can the company pride itself on?

Understandably, I cannot talk about this openly because some of the projects have yet to be concluded, but it is mainly the big projects for Russia and CIS countries.

PBS Velká Bíteš, a. s.

www.pbsvb.cz/

Turnover: (in EUR): 35.4 mil.
(as of 31 December 2011)

Number of employees: 721
(as of 31 December 2011)

Are you aware of any strong trends influencing your field of business?

PBS Velká Bíteš, a. s., is made up of three production divisions – Aircraft Technology Division, Industry Division and Precision Casting Division. The individual divisions operate in different fields of business. The Precision Casting Division is mainly oriented at manufacturing precisely cast blades and wheels for turbochargers, and blades and segments for gas turbines from super-

alloys based on nickel and cobalt. Great emphasis is placed on the quality and price of castings in both of these areas. However, many manufacturers of turbochargers and gas turbines currently focus on improving efficacy and economy of their products, which is reflected in the construction of individual product parts.

Have you been successful in entering foreign markets? What territories do you export to?

PBS Velká Bíteš, a. s., the Precision Casting Division, has successfully established itself with its products on foreign markets. Besides companies in the Czech Republic, we supply castings to Germany, Italy, Austria,



the USA, Canada, Switzerland, Russia, the United Kingdom, and Slovakia.

What greatest recent successes can the company pride itself on?

PBS Velká Bíteš, a. s., the Precision Casting Division, has invested over EUR 6 mil. in new machinery and technologies during the past five years in order to hold its ground in the strong competition in the foundry industry and to offer its existing and potential new customers from among supranational turbocharger and gas-turbine manufacturers quality and fully competitive production conditions. PBS Velká Bíteš, a. s., is currently one of the most modern European foundries.

BANES, spol. s r. o.

www.banes-sro.cz/

Turnover: (in EUR): 3.7 mil. (2011)

Number of employees: 100

Are you aware of any strong trends influencing your field of business?

We could definitely mention the pressure on prices, i.e. our customers' requests for lower costs, which is caused by the strongly competitive environment and the current economic crisis.

Have you been successful in entering foreign markets? What territories do you export to?

Export currently contributes 15% to our overall sales. The greatest part is realised to Germany and Austria. We have recently been able to secure other opportunities for further expansion of supplies to these markets. We would like to focus on other European countries in the future as well.

BANES

...snoubíme mikromy ze sekundami

S O B Ě S L A V

What greatest recent successes can the company pride itself on?

We can mention, for example, receiving an award for long-term improvements in company performance from the CERT-ACO certification firm during the 12th state-wide conference, ENVIRO 2012, which took place on 31 May 2012 in Kladno.

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Řetězárna a.s. is a company with a tradition of more than one hundred years in the manufacture of welded chains and chain accessories. Skilled employees, long-time experience, modern machinery and equipment with the introduction and application of a quality assurance system in accordance with ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 give our customers certainty that they will purchase a quality product from us. The quality is also assured by the χ 45 certificate, which has been awarded only to several dozen companies in the world.

Our present production includes:

- a) tested chains in grades 2 and 3
- b) tested chains of higher strengths in grades 4,5,6,7,8 and 10 and sizes from 4 to 36 mm
- c) untested chains
- d) sling chains in grades 2, 8 and 10
- e) components of sling chains in grades 2, 8 and 10
- f) alloy steel forgings up to 4 kg, carbon steel forgings up to 7 kg
- g) chains for tyres of vehicles and machines (snow chains, protection chains, skidder chains)
- h) drawn wire

We manufacture these products to ČSN, DIN, EN and other Standards. Currently, the company exports 88% of its output to more than 36 countries. It cooperates with leading European manufacturers of chain products.



www.retezarna.cz

More than Power Generation Control Systems

ZAT Has Been a Global Supplier of Automated Control Systems Solutions for Technological Processes for 50 Years

Czech-based ZAT a.s. is an established company, delivering automated technological processes in the Czech Republic and abroad. In the automation segment, this company celebrating its 50th anniversary this year, ranks among companies with the longest tradition. ZAT operates its own development, designing, manufacturing, and installation capacities and it services electronic devices, control systems and their components. Its core activities focus on power generation, control of industrial and transport systems, supplies of complete industrial plants, including complex supplies and systems integration.



Ing. Ivo Tichý

ZAT Control Systems

50% of the company's current production is represented by nuclear power generation. ZAT supplies nuclear power plants with specific and complex solutions for controlling primary and secondary circuits and auxiliary plants, providing functions with various security classifications including those related to the operation and impact of operating nuclear plants. "ZAT plans to further expand its presence in the nuclear power generation segment. In future, we expect to participate in the renovation of nuclear power plants and in the construction of new blocks of nuclear plants in the Czech Republic and abroad, for example, in the finalisation of construction of the Temelín Nuclear Power Plant," says Ing. Ivo Tichý, member of the ZAT Board of Directors. The major customers of ZAT include operators of large power

generation blocks and their major suppliers, such as ČEZ a.s., ŠKODA JS a.s., I&C ENERGO a.s., as well as SE ENEL a.s. in Slovakia.

The company also supplies control systems for technical processes requiring high reliability and safety of operated devices for conventional power plants. The company delivers small-scale solutions as well as whole blocks. "We are currently competing for a contract for an upgrade of exciter sets in the Felton Power Plant in Cuba and the SOMA Power Plant in Turkey," adds Tichý. Other projects include systems for heating plants, railways, open-cast mines, as well as automated systems for the machine-building industry, etc.

A New Control System Developed by Czech Designers

ZAT is one of a few companies to have developed and integrated into their solutions, their own control systems. In 2011, the company launched on to the market its SandRA (Safe and Reliable Automation) control system, equipped with a special application for controllers of exciter sets. The exciter sets supplied by ZAT are supported throughout all the divisions of the company, from development and production, testing and commissioning, to guarantee and after-guarantee maintenance. "Apart from our own development activities, we also support research and development by cooperating with Czech technical universities and research institutes," says Vladislava Česáková, member of the ZAT Board of Directors. If requested by a customer or investor, ZAT can also use the systems of other manufacturers, such as Siemens, GE Fanuc, Saia, etc. Software by HP, DELL, IEI, Advantech, and Kontron, supporting ZAT visualisation applications based on Wonderware and Reliance products, are used to design master computer systems.

ZAT Abroad

Foreign contracts currently represent approximately 35% of the total sales volume of the company. Foreign activities of ZAT mostly consist of the installation and commissioning of supplied devices and their maintenance. The systems manufactured by the company control technologies all around the world, e.g. in South America, Mongolia, as well as Finland, Sweden, Slovakia, and the Czech Re-

public. "When delivering our control systems and maintenance, we want to be as close as possible to our customers; which is why we have a trade agency and branch office in Slovakia. This year we plan to open new branch offices in Cuba," adds Česáková.



Ing. Vladislava Česáková

Investment in the Future

At the moment, more than 75% of the company's employees are secondary school or university graduates. Every year ZAT invests EUR 1.6 mil. in new products and innovations. Despite the economic recession, support provided to young and well-educated employees, as well as long-term research and development investments, generate profit for the company. In the 2011 financial year (ending 31 March 2012), the company recorded a year-on-year sales increase of 20%, and a 30% increase in profit.

Business with a Human Face

In 2001, ZAT became the only company to possess an exclusive patent right for the manufacture of special medical devices enabling the application of the mesodiencephalic modulation method. This method is used to facilitate the treatment of painful and difficult-to-treat complications of diabetes and micro-circulation malfunctions. "Our efforts in developing and advocating – on the territory of the EU – the practical use of the new MDM physical method to provide efficient treatment of disease complications, that are otherwise only difficult or lengthy to treat, represent the social contribution of our company, as we see it," concludes Vladislava Česáková. ZAT also supports disabled athletes, as well as cultural, social, and sporting events in the areas where its employees live.

50
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years of
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with a young face

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of complex automation solution
for power-engineering
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- Automation for Generation in Heat Power Plants
- Technological Process Automation
- Production of Industrial Electronics
- Repairs and Maintenance
- Special Medical Equipment

Headquarters

ZAT a.s., K Podlesí 541, 261 80 Příbram, Czech Republic

www.zat.cz

WE PROVIDE OUR CZECH AND FOREIGN CLIENTS WITH THE BEST FINANCIAL CONDITIONS FOR THEIR CO-OPERATION AND THUS INCREASE THEIR COMPETITIVENESS ON INTERNATIONAL MARKETS

Czech Export Bank specialises in supporting exports from the Czech Republic. The bank, which is fully owned by the Czech Republic, supports international transactions in which firms of the Czech Republic are involved. It provides Czech firms and their foreign partners with comprehensive financial services connected with foreign trade and investments abroad.

Financing is provided on the basis of the rules in compliance with the OECD "Arrangement on Officially Supported Export Credits". Most of the provided products are insured by the Export Guarantee and Insurance Corporation (EGAP).

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