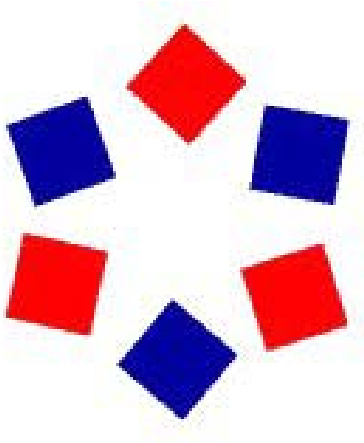
Good Practice in Cluster Management



The Moravian-Silesian Engineering Cluster (Czech Republic)

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1 Description of cluster

1.1 The Moravian-Silesian region

The Region of North Moravia and Silesia (pop. 1.275 million) is the most densely populated region in the Czech Republic (excluding Prague). It is located in the North East corner of the Republic and borders with Poland and Slovakia. In the future this region is expected to regain its historical importance as a north/south and east/west meeting point for trade and industry.

Ostrava (pop 324 000) is the largest city in the region and the administrative centre. Ostrava is located 20 km from the Polish border, 55 km from Slovakian border, 350 km from Prague and 310 km from Vienna. There are other important cities around Ostrava in the circle with radius of about 50 km. Frýdek – Místek (pop 61.000), Havírov (pop 87 000), Karviná (pop 65 000), Opava (pop 61 000). Workers on all levels are technically skilful, are used to work intensively and there is vibrant "working ethics" in the industry.[1]

Historically the region has been home to a wide and diversified industrial base. Apart from metallurgy and mechanical engineering, supported by coal, there exist companies producing automotive components, pumps, textile machines and instruments as well as many involved in wood processing and furniture manufacturing, electronics and electrical engineering and pharmaceuticals and chemicals Some important companies of the region are:

- Tatra, a.s. (CZ) - trucks producer (Multiple winner of Race Paris –Dakar). (http://www.tatra.cz/)
- Trinecké železárny and Moravia steel, a.s. (CZ) - metallurgy and mechanical engineering (http://www.trz.cz
- Nová Hut, a.s. and Vítkovice, a.s. (CZ) - metallurgy and mechanical engineering (http://www.novahut.cz
- Vítkovice, a.s. - metallurgy and mechanical engineering (http://www.vitkovice.cz/)
- ŽDB Bohumín a.s. (CZ) - e.g. carbon steel drawn wires and wire products (http://www.zdb.cz)
- Bekaert (Belgium) metal fibres, wires for industry, building products. (http://www.bekaert.com/)
- Autopal Nový Jicín (Visteon, USA) lighting systems and air-condition units (http://www.autopal.cz)
- HL Autokola (Hayes Lemmerz S.P.A –USA) Cast aluminium wheels for cars (http://www.hayes-lemmerz.com)
- Válcovny plechu, a.s. (CZ) hot and cold rolled sheets and strips (http://www.vpfm.cz/).

[1] (More about the region you can find on: http://www.rdaova.cz/RIS/Eng/Ris/Region/ram1.htm)

- JÄKL Karviná a.s. (CZ) steel thin-walled welded tubes, sections and open sections (http://www.jakl.cz/).
- OSTROJ Opava, a.s. (CZ) machines and equipment for coal underground mining (http://www.ostroj.cz/).
- MSA, a.s. (CZ) company producing a wide range of industrial valves (http://www.msa.cz/).
- Biocel, a.s. (CZ) magnesium-bisulphite bleached wood pulp sold as VIAN (http://www.biocel.cz/).
- Galena, a.s. (IVAX-CR, CZ) producer of pharmaceutical chemicals (http://www.galena.cz/).
- Optimit, a.s. (Semperit, A) e.g. industrial hoses (http://www.semperit.at/engl/e_index_semperflex.htm).
- LANEX, a.s. (CZ) technical textiles, bulk bags, ropes and cords (http://www.lanex.cz/).
- Autocont CZ, a.s. (Cz) leader in IT supply (http://www.autocont.cz/)
- Siemens Automobilové systémy s.r.o. (Siemens) electronic automotive equipment (http://www.siemens.com/)
- Famous companies in brewing industry are Ostravar (Interbrew - Belgium) (http://www.prazskepivovary.cz/content/cz/vyrobky/ostravar), Radegast (SAB Miller - RSA) (http://www.radegast.cz/).

The main research Institutions, located in the region are:

- Nová hut , a.s. e.g. steel production technologies, non-destructive testing methods (http://www.novahut.cz
- Trinecké železárny, a.s. e.g. R&D in production of coke, pig iron, steel and rolled materials (http://www.trz.cz).
- VÍTKOVICE - R&D, spol. s r.o. e.g. R&D in steel making, material research (http://www.vitkovice.cz)
- VÚHŽ, a.s. e.g. R&D in iron- & steel making, metallurgical products, foundry (http://www.vuhz.cz)
- Coal and Mining R&D Institute (VVUÚ, a.s.) e.g. R&D in the field of mine technology (http://www.vvuu.cz)
- Institute of geonics e.g. R&D of processes in the Earth's crust (geonics) (http://www.ugn.cas.cz/)
- Science & Technology Park Ostrava (under construction, not a real R&D institute, space for innovative and R&D oriented SMEs) (http://www.vtpo.cz)

Education (universities and colleges:

- VSB – Technical University of Ostrava (http://www.vsb.cz/en/)
- University of Ostrava (http://www.osu.cz/ou_1e.htm)
- Silesian University (http://www.slu.cz/indexen.htm)
- Business School of Ostrava (http://www.eco.cz/vsp/eng/index.htm)

1.2 Rationale

In the 1930's Ostrava, now the capital of the Moravian Silesian region, was a prosperous and competitive industrial centre with powerful coal and steel producers supporting a range of innovative and technologically advanced heavy engineering companies. Many prosperous international industrialists lived and owned businesses in the region. When the communists came to power in the late 1940's the industrial tradition continued, but without the competition and investment that had driven the regions success, industries started to stagnate. By the early 1990's any competitive advantage that existed had largely disappeared. In its wake was a region with dying industries, heavily over-manned and under-invested having to deal with ancient and inefficient capital equipment, a hugely changed market place and environmental conditions that require massive remedial investments. As job losses started to climb in these once proud companies the service sector absorbed the best of the workers and unemployment remained below the national average. However, by the late 1990's unemployment started to rise as large employers faced an inability to compete in the global economy and those who were successful required new and different skills that many redundant workers were unable to provide. Today, in a region of 1.2 million, unemployment has passed 100,000 and is rising.

The following table summarises the nature and scale of the challenges facing the region:

Comparative National and Regional Statistics

	Czech Republic	Moravia Silesia	Index
Population	10,300,000	1,275,000	12.4
Workforce (3.03)	5,273,000	637,691	12.1
Unemployment	488,800	102,174	21
Unemployment % (8.03)	9.4%	17.7%	188
GDP per Capita € (02)	14,109	11,716	83
Average monthly Wage (€ 03)	610	564	92
FDI stock (02)	USD 36,787 million	USD 1,246 million	3.4
FDI per capita (02)	USD 3,571	USD 977	27

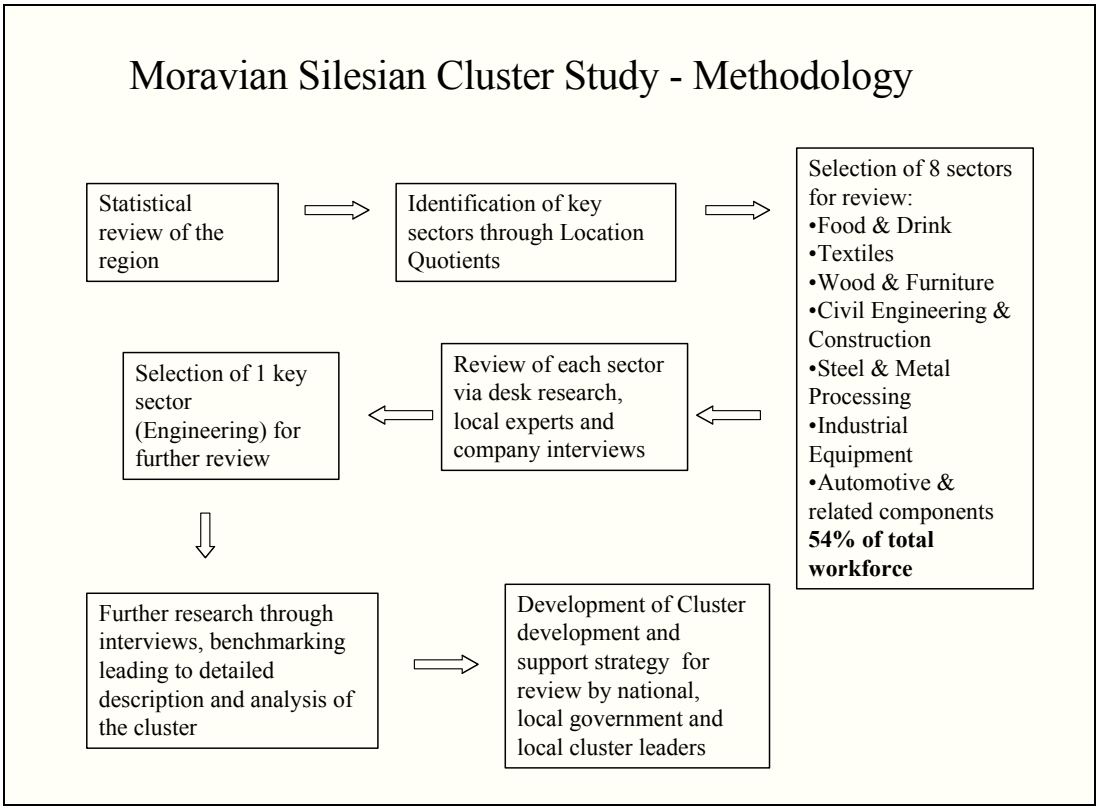
Source: CzechInvest

In an attempt to improve the situation in the Region, the Czech government has spent much time and money in an attempt to help local industries adapt. Some new FDI has arrived (mainly through privatisation or acquisition with only limited Greenfield investment) to create new and much needed jobs but the jobless trend continues to rise. In late 2001 the Czech Ministry of Industry and Trade, through CzechInvest its award winning Investment Promotion Agency, commissioned consultants to examine whether or not a "clustering" strategy could provide a different and more effective approach to developing the regions economy. PE International undertook the study between January and October 2002.

2 Cluster characteristics

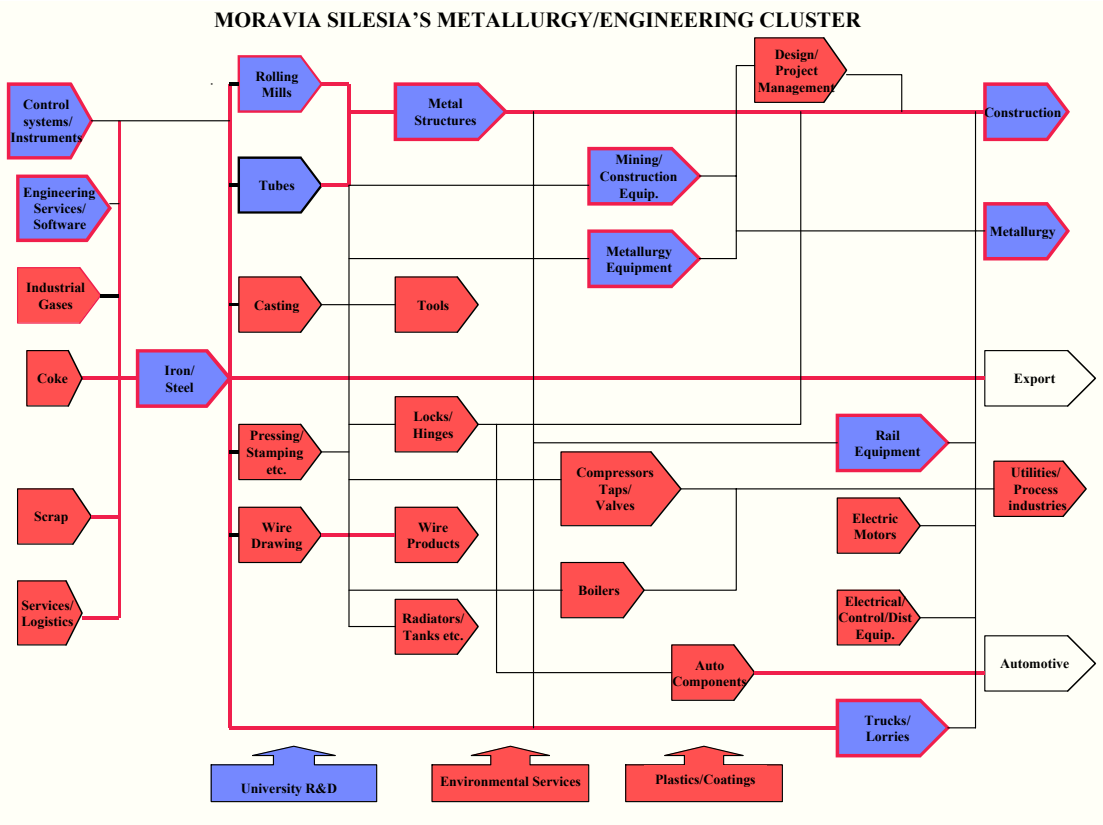
2.1 Target groups / Industries

The lack of regional statistics posed a problem for the pre-study. For example, key competitiveness indicators such as exports by sector and company are not available on a regional basis. The methodology finally chosen to identify potential clusters involved the calculation of location quotients. Following analysis of these statistics 8 potential clusters were identified for review through a combination of desk research, focus groups and individual company meetings. An outline of the strategy is shown in the chart below:



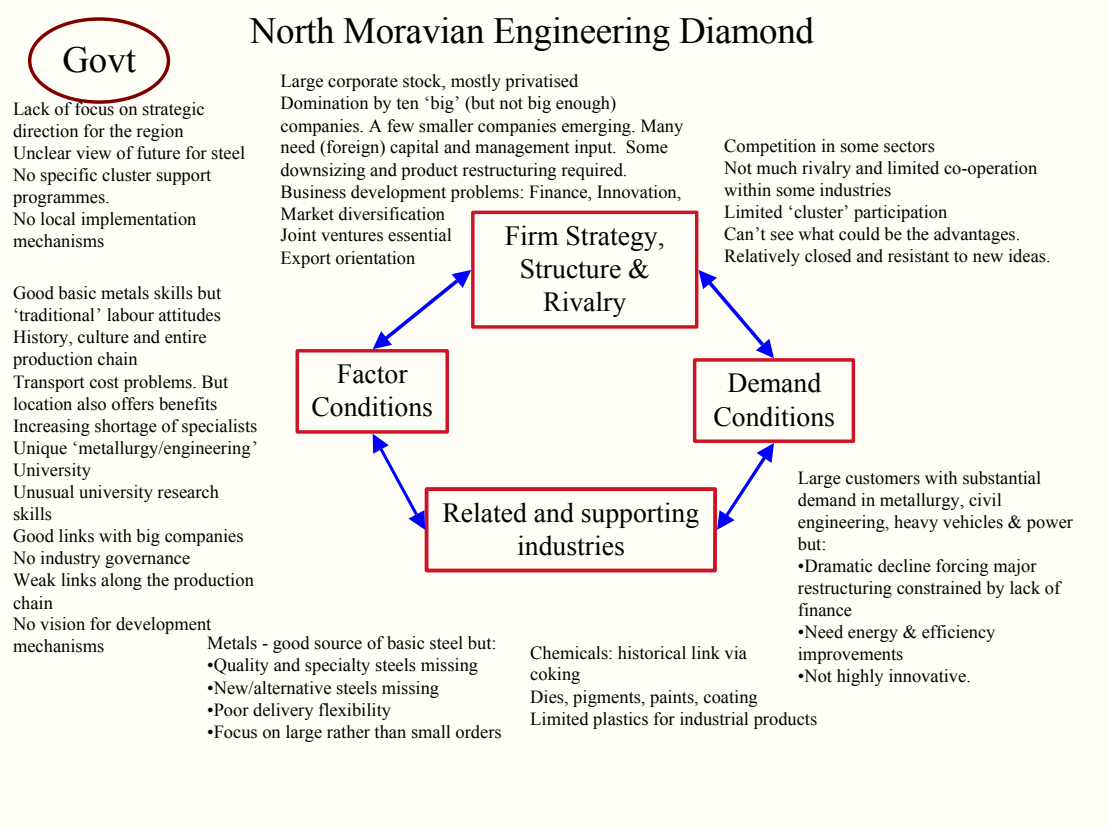
From the 8 potential clusters there were several that had potential for development. However by far the largest and most important, in terms of its impact on the regions economy was what the consultants designated as the engineering and metallurgy cluster.

This core cluster contains some 600 companies employing in total about 46,000 workers. In addition, this figure jumps to 800-900 companies and 60,000 workers if the full range of related and supporting industries is included. A cluster Map is shown in the table below:



This is a significant size and it could be argued that it would be unrealistic to create a development strategy for such a diverse group of industries. Further work will be required to identify more manageable groupings for future projects. For example, it would appear that there is a construction services sub cluster as well as an automotive components group.

However the research identified a number of key issues that were important to all companies. Many of these were summarised in the diamond created as a result of the analysis.



Key issues facing many of the cluster companies can be summarised as follows:

- Over-manning and Low Productivity, in particular in locally owned companies with no exposure to international management best practice.
- Under-investment caused by low profitability and difficult access to finance.
- Market Diversification/ Inappropriate Product Portfolio based on a poor understanding of the marketplace and the competitive environment
- Large debts caused by the privatisation process, poor payment performance from customers and lack of access to working capital.
- Lack of Marketing Orientation means that many companies produce what they can make rather than what the market wants. In many instances this problem is exacerbated by lack of market knowledge or customer contacts.
- Absence of a Service Culture – there still exists a production rather than customer focused culture in many companies
- Developing Supplier/Customer Relationships – many companies work as third or lower tier suppliers and thus have little contact with or understanding of the needs of their ultimate customers.
- The need to use R&D to innovate rather than simply to solve existing problems
- Cash Flow Difficulties caused by low profitability and poor banking services

A further issue that became apparent was an increasing dislocation of the local labour market. This was clearly illustrated by the inability of several local engineering companies to find qualified welders despite significant government investment in training and retraining.

2.2 Objectives

The vision of the cluster is to represent and promote the interests of its members and to help grow employment and wealth. The formal objectives of the cluster as laid down by the board and the range of activities planned to achieve these objectives are outlined in the table below:

Objectives		Actions
1. Improve cooperation among companies in the Cluster	→	1.1 Networking events (specialist speakers, company visits, seminars, training)
2. Promote cluster strengths and diversity nationally & internationally through implementation of a cluster marketing plan	→	2.1 Produce MSEF Marketing Plan 2.2 Trade fairs & missions 2.3 Presentation at the Investors Forum Ostrava 2.4 Engineering Capacity Register (expand and improve interface) 2.5 Public Relations+Adverts + cluster promotional literature (Brochure, CD, Presentation)
3. Encourage interaction between the cluster and Ostrava Technical University	→	3.1 Graduate projects and internships in member companies 3.2 Ad hoc R&D support + Innovation Focus Group
4. Upgrade capacity and skills and competitiveness of engineering companies	→	4.1 Promote apprenticeships in schools 4.2 Joint training for selected apprentices 4.3 Benchmarking Index, Supplier Development Programme, Investors in People, performance improvement programmes 4.4 Cooperation with local labour office to conduct an Engineering Labour Market Survey 4.5 Venture Capital - support and training programme
5. Attract government support to the cluster and Moravian Silesian engineering in general	→	5.1 Identify information on national and international government support programmes 5.2 Lobbying to local, regional and national government to address specific issues that impact the membership and engineering in general

2.3 Organisation and stakeholders

2.3.1 Executive Board

The Executive Board is a statutory body of the engineering cluster and manages the cluster's activities. It consists of 9 members who are elected and withdrawn by the Assembly of Members. The period of performance is three years. The Executive Board elects the President. The members of the Executive Board have divided areas of responsibility for key activities of the cluster. The companies in the board represent sectors of large manufacturing companies, SMEs, services like designing, consultancy, business associations and local utilities. The cluster management staff report to the Executive Board.

2.3.2 Management

A review of activities over the past six months now provides the board with a greater understanding of the skills and profile of staff working in the cluster if the objectives set are to be delivered. The core tasks of the management group are:

- Maintain, publish and upgrade the engineering capacity register
- Provide a sourcing enquiry service to members and potential customers of the cluster
- Create, manage and promote a multilingual and eventually interactive WEB site for the cluster
- Management and administration of the cluster in accordance with Czech administrative rules for associations and preparation of management information reports for the board
- Work with cluster members and outside partner organisations to identify projects for SF and government funding and preparation of funding proposals together with partners where appropriate.
- Conduct an annual survey of members and analyse cluster performance trends in terms of sales, exports, employment and value added and produce an annual report.

There is a need for a minimum of two staff members. Job descriptions have been drafted for these two posts. Subject to agreement by the Board and the availability of financial support from sponsors, the jobs will be advertised in December this year (2003) with a planned start date of January 2004.

2.3.3 Budgets and sources of Revenue

The principal source of sustainable revenue for the cluster is its members. Members pay membership fees and additional funds for specific activities. Some members may decide to sponsor certain activities. However, there are few successful cluster organisations in Europe that have started without a helping hand at the beginning.

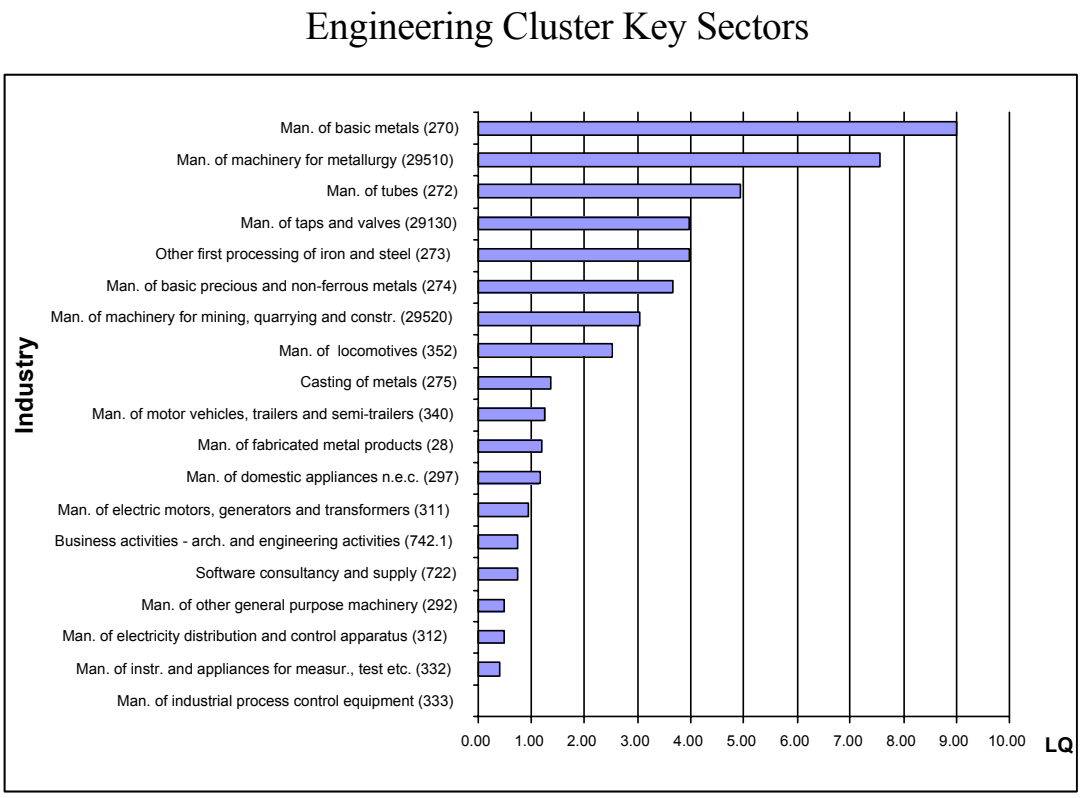
Thus, in 2004 and 2005, it is planned that the cluster will receive substantial sponsorship from the Regional Governors office and the Union for the Development of the Moravian-Silesian Region. This is a two-year commitment at the end of which it is intended that the cluster be self-financing.

Accession to the EU will also provide the opportunity to access further support through structural funds. The Union has applied for substantial resources from these funds to support the engineering cluster and other clusters in the Region. These funds will be available mid 2004 and will, should the application be successful transform the ability of the cluster to move forward.

2.4 Members – companies & support organisations[2]

It is estimated that there are approximately 600 companies who work directly in engineering in the region. Of these there are 37 paid up members of the cluster organisation and a total of 133 companies agreed to participate in the Engineering Capacity Register. The following tables and charts give some information on the profile of the sector.

The sector can best be illustrated from the table showing the Location Quotients of the various sub activities:



In addition a recent analysis of the profile of companies in the Engineering Capacity Register provides further information on the structure of engineering in the region. These are provided in the appendix at the end of this report.

3 The development process of the cluster

The initial proposals tabled by the consultants had the broad objectives of increasing company competitiveness and supporting diversification. They recommended the creation of a regional competitiveness centre, which would focus on supporting companies to upgrade their performance through a number of complimentary programmes. This was rejected as too radical in the short term although there is a chance that a national competitiveness agency of

[2] For a list of companies and organisations, see the List of members in the Appendix

some sort may find favour in the years to come. Instead, in late 2002 the government accepted a 12-point programme, which it is planned will be implemented in the coming 12-18 months as financial resources permit.

The first of these was the organisation of a conference (January 2003) attended by the Minister of Industry and Trade where the findings were presented to over 100 senior executives from companies within the cluster. This has subsequently led to the creation of a cluster governance body, (March 2003) the Moravian Silesian Engineering Cluster (MSSK) with an initial membership of 37 companies and a full time staff member. A regional engineering capacity register has been created (June 2003) with over 130 company profiles. This will be used as a marketing tool both to promote the cluster to potential investors and export customers as well as to improve local supply chain linkages within the region. Other programmes that are in the planning stage include the "excellence in engineering" programme. This will use benchmarking and the EFQM excellence methodology to help companies develop focused performance improvement programmes, which will be supported by both new and existing government support mechanisms. It is planned that these will include a technology venture fund to support spinouts and commercialise local R&D, support for increasing exports, the launch of Investors in People using engineering companies as part of a national pilot. Increased emphasis will be placed on the attraction of foreign investors whose supply needs are aligned as far as possible with the skills and capacity of local companies. Labour market supply and demand will be reviewed.

Finally a fully -ledged marketing campaign is currently being planned in 2004 for the cluster that will promote the regions key strengths as being aligned with those of the cluster and aims to change the image of the regions engineering companies both inside and outside the region.

Much depends for the moment on the support of the Union and the Regional governor's office as well as the ability of the cluster to generate revenue from members and from outside activities like project management. As the arrival of structural funding becomes clearer it may be possible to attract additional funding which will in turn permit more and more activities.

4 "Hot topics" for success

The planned actions have been grouped into 4 main areas, which represent the 5 key objectives agreed by the cluster board in June 2003 as described above. These are presently also considered to be the cluster initiative's "hot topics".

4.1 Membership services

These services are critical to the success of the cluster. First there is a need to increase membership to ensure that the cluster is fully representative of the region's engineering profile. Then there is a need to make sure that the cluster organisation delivers services that have real impact and benefits for members. But the cluster should not compete with other business support organisations or associations. It should aim to add measurable value to cluster activities in a much focused manner,

While all activities of the cluster organisation are focused on supporting members, membership services focus primarily on the following activities:

- Provision of useful and topical information regarding markets, opportunities, funding and other developments that will impact/support members via a newsletter and the web site. Clearly in the light of accession, the whole issue of developing successful applications for structural funds projects represents an important opportunity for both the cluster and individual members.
- Servicing enquiries from members regarding trade, legislation, training, funding, technology
- Recruitment of new members via promotion and networking activities
- Production of an annual report on cluster activity and performance based on the results of an annual membership survey
- Organisation of networking events for members including:
    - Special seminars for information dissemination and training
    - Company visits (national and international)
    - Social events – linked to business events (engineering company of the year award, innovative company of the year etc as an example)
    - Identification of and support for collaborative ventures (marketing, sourcing, product development) through provision of administrative and, where funding is available, expert services to support such enterprise.

4.2 Marketing

Marketing of the cluster is intended to promote the quality and opportunities represented by the cluster to targets both inside (local government, media, non members, other interested organisations) and outside the region (national and international companies interested in sourcing from or investing in the region, influencers such as national government, media, consultants and embassies).

As such, the cluster promotes the generic product “Moravia Silesia” and more specifically Engineering in the region. Clearly however the main focus must lie with the interests of members and the development of profitable opportunities for them. Limited budgets means limited and very carefully targeted activities on the marketing front.

4.2.1 Trade Fairs

In terms of international promotion of the cluster there are two strands of activity. The first will be visits to trade fairs where the cluster will represent all members and the sector through promotion of the ECR. Attendance is planned at the following events in 2004/05: Hannover, Brno, Ostrava, VDMA Germany, Poznan. At these events the cluster will take a small stand either alone or together with a member. It is planned to take advantage of CzechTrade support in these activities. Members may also be asked to contribute. However the base cost of attending these events is covered by the clusters own budget.

4.2.2 International Events and Conferences

With support from CzechInvest international offices and a growing contact network among engineering trade organisations in Europe cluster staff, perhaps with cluster members will be invited to participate in conferences and trade meetings.

4.2.3 Publications

To support international visits and to generally promote the cluster in Czech and internationally a brochure will be produced outlining key strengths and opportunities represented by the cluster and the advantages of working with cluster members. Since the target marketing is both national and international three language versions will be produced (Cz, Eng, D)

A semi annual newsletter will also be produced as a tool for maintaining contact with supporters, visitors, clients, investors and intermediaries.

4.2.4 Engineering Capacity Register

The ECR is a core output of the cluster in the short term. Although it contains details of many non-members it provides critical mass to the marketing of the cluster and enables greater depth of promotion of the regions strengths and capacities. It also enables the cluster to measure its performance over time and thus evaluate progress. It is thus important to grow the membership of the register as widely as possible and this will be a key task of the cluster staff.

The cluster register was created using software inherited from CzechInvests sourcing division. It is not ideal for the cluster and needs to be replaced with more flexible software that will permit easier analysis and expansion of the data records. This is not an expensive task and once completed should enable the cluster to expand the information collected and companies to update records on-line. It will also permit the cluster to show summary records on the MSSK web site.

However, a paper version of the register will always be important and thus the continuation of the publications budget will involve the production of printed and CD register versions in CZ, E and D.

The point about the register however is not its existence but its potential to deliver sourcing or investment enquiries to the cluster and its members. Therefore a key role of staff will be not only to respond to enquiries about sourcing from potential clients but also to solicit sourcing opportunities for the cluster through contacts with investors and trade associations in and outside Czech. It is this activity that will add value to the register.

4.2.5 Public Relations

Public Relations activities have two key thrusts. In the wider context it is to help develop a positive image of the region and its engineering strengths and capacities. However with limited budgets a certain focus is required. Thus the specific aim of the clusters PR activities will be to drive sourcing and investment enquiries or opportunities to the cluster and its members.

Advertising will necessarily be limited but there are other options in addition to distributing brochures. Thus the cluster will place articles with selected national and international trade and business publications to help generate interest in and awareness of the cluster.

A web site will also help. The web site for MSSK is currently embryonic. It will be further developed over the next two year. It will eventually run in three languages starting with Czech as a service to members and then moving to English and German. It will be regularly updated and will enable on-line searches of the capacity register. An important element of success will be the manner in which the site is linked to search engines relevant to engineering. To enable good exposure this will be an important element of the sites maintenance.

A final aspect of the clusters PR programme will be a lobbying service to represent the interests of members at regional and national government. Clearly with a staff of two this cannot be a full time job but the cluster will be expected to develop networks in government and work with members to achieve priority results where the cluster board accepts a project as a priority.

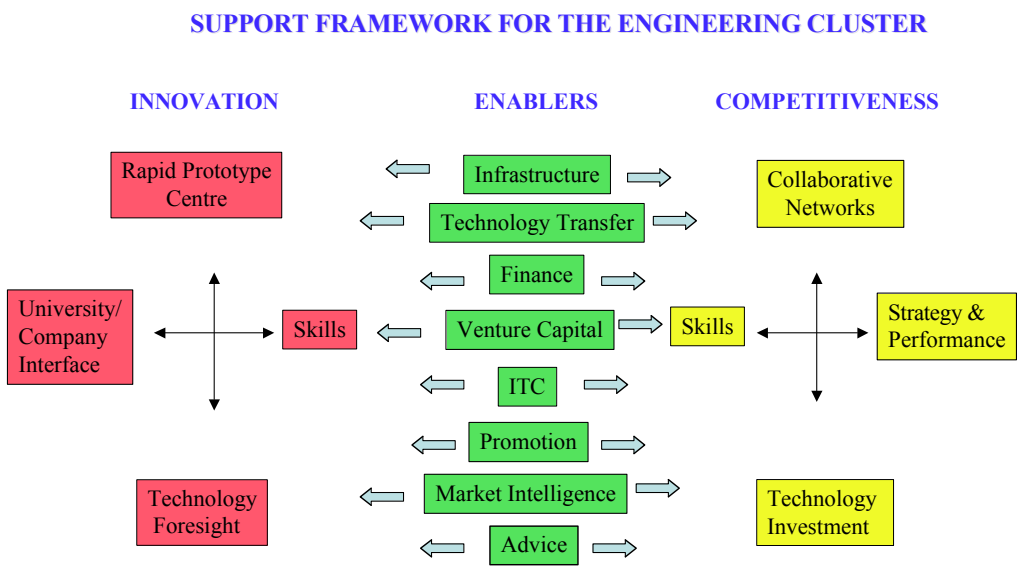
4.3 Innovation

Innovation is a critical component of competitiveness and the cluster will encourage and where possible facilitate innovative networking among members. However, the key to innovation in the region is the Technical University.

Thus with support from the cluster an embryonic working group focusing on innovation has been set up and will work together to identify key areas where there are opportunities for faculties and companies to work together to produce new or upgraded products and processes that are competitive and produce higher value added outputs.

Cluster members participate in the group. The role of cluster staff will be to provide administrative support to the working group. There may be several groups focusing on different areas if the general approach agreed is effective.

Innovation however requires funding and the key role of the cluster will be to support members or groups of members in identifying potential financiers and providing support in the preparation of funding applications. In terms of innovation the cluster is currently working with the Technical University to examining the possibility of creating a Rapid Prototyping Centre. The diagram below indicated the relationship between the centre and the other areas of support activity proposed for the cluster.



4.4 Skills

There are many organisations in the region involved in training and skills development. They include the universities, technical colleges, labour offices, the RPIC and private trainers. Despite this potentially strong supply there are still skill-shortages occurring among engineering companies. While many shortages identified are technical in nature the softer management skills are also in short supply according to members.

It is thus clear that there is a gap in supply that needs to be addressed.

With its limited resources, the cluster cannot deal with this issue alone. The management group will develop partnerships with key regional actors that will evaluate and address the key issues of engineering skills demand and supply and create innovative programmes based on international best practice to improve skills within the engineering sector. The role of the cluster will be to identify specific issues, facilitate labour market surveys among engineering companies and to ensure that the resulting project reflect members requirements.

However the cluster staff will, on the basis of requests from members, work to create specific training or skills development initiatives that will benefit a number of members using government and other funding sources to defray costs.

In January 2004 the Ministry of Labour and Social Affairs has agreed to fund a small study among cluster members to look at the issue is skills requirements in the engineering sector. This will provide the cluster with information that will enable it to apply for support to address the training and skills that are considered to be priorities by members. Again, Structural funds support through ESF is likely to be important.

5 Appendix

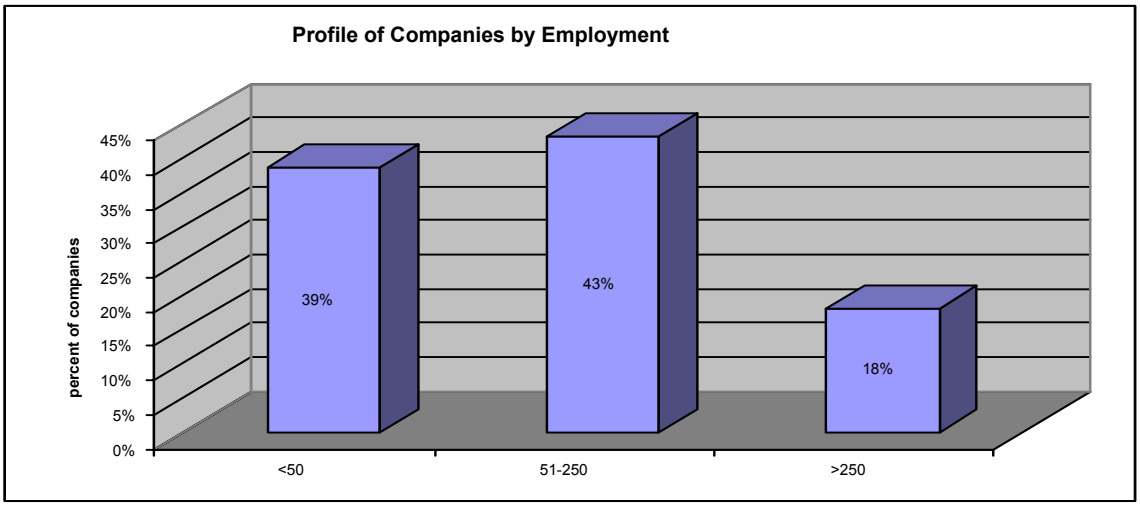
5.1 List of cluster members

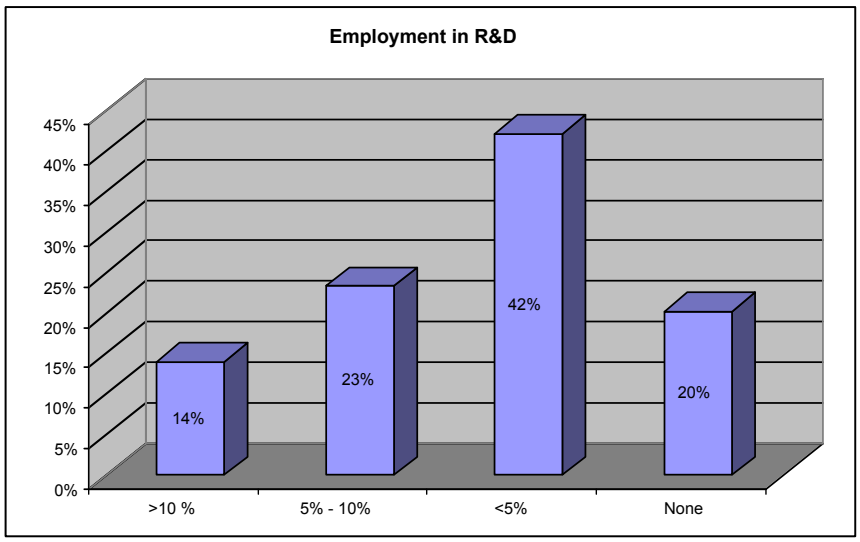
LIST OF MEMBERS OF THE MORAVIAN-SILESIAN ENGINEERING CLUSTER

	Name of Company/Organisation	City
1.	Alfa Plastik, a.s.	Bruntál
2.	AŘ Systém a.s.	Ostrava
3.	BEST QUALITY, s.r.o.	Ostrava - Vítkovice
4.	Caiacom s.r.o.	Ostrava
5.	ČKD VAGONKA, a.s.	Ostrava - Vítkovice
6.	Dodávky automatizace, spol. s r.o.	Ostrava - Vítkovice
7.	ecmg consulting, s.r.o.	Český Těšín
8.	FERRCOMP, a.s.	Frýdlant n. Ostravicí
9.	FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV, státní podnik	Ostrava - Radvanice
10.	GDX Automotive s.r.o.	Odry
11.	HUTNÍ PROJEKT OSTRAVA akciová společnost	Ostrava
12.	Hydac spol. s r.o.	Planá n.Luž.
13.	Ing. Ivo Stýskala	Frýdlant n. Ostr. - Pržno
14.	INGELECTRIC A.S.	Ostrava - Pustkovec
15.	Jan Počta - CSM	Ostrava
16.	KOMAS spol. s r.o.	Opava - Komárov
17.	Květoslav Bašista	Krnov
18.	LICHNA TRADE CZ, s.r.o.	Frýdek - Místek
19.	Lichtgitter CZ spol. s r.o.	Horní Suchá
20.	MEDIUM SOFT a.s.	Ostrava
21.	MT spol. s r.o.	Karviná - Hranice
22.	NOVÁ HUŤ - Válcovna za studena, spol. s r.o.	Ostrava - Vítkovice
23.	Odvětvový svaz hutnictví železa	Praha
24.	RESTA spol. s r.o.	Havířov
25.	Sdružení pro rozvoj Moravskoslezského kraje	Ostrava - Mar. Hory
26.	Severomoravská plynárenská, a.s.	Ostrava
27.	Silva ART, spol. s r.o.	Český Těšín
28.	STROJFERR, s.r.o.	Frýdlant n. Ostr.
29.	STRUEBER & Co. s.r.o.	Budišov n. Budiš.
30.	TŘINECKÉ ŽELEZÁRNY, a.s.	Třinec
31.	TŘINECKÉ ŽELEZÁRNY - strojírenská výroba, a.s.	Třinec
32.	VÍTKOVICE, a.s.	Ostrava - Vítkovice
33.	VÍTKOVICE Lahvárna, a.s.	Ostrava - Vítkovice
34.	VÍTKOVICE STROJÍRENSTVÍ, a.s.	Ostrava - Vítkovice

35.	VÍTKOVICE - Údržba, spol. s r.o.	Ostrava - Vítkovice
36.	Vysoká škola báňská - Technická univerzita Ostrava	Ostrava - Poruba
37.	ZAM-SERVIS s.r.o.	Ostrava

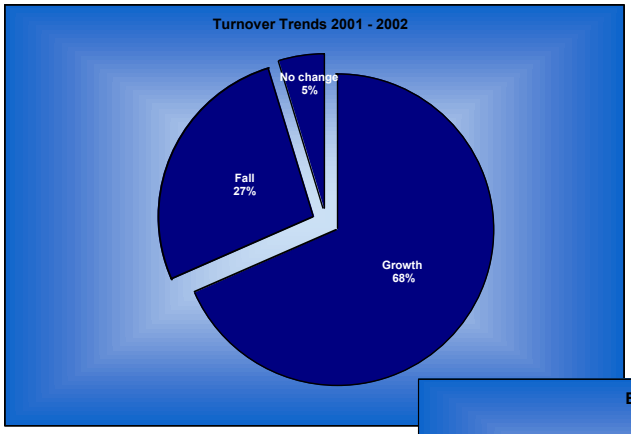
5.2 PROFILE OF THE ENGINEERING CAPACITY REGISTER





In all, for those companies who responded (66) to the question about R&D there are over 500 people working in R&D which represents across the board 2.2 % of total workforce.

However, 37% of companies have at least double this proportion of workers employed in R&D and 14% have over 10% of their workforce undertaking R&D.

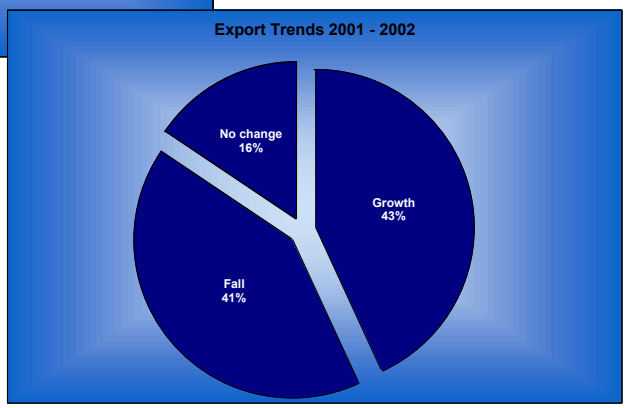


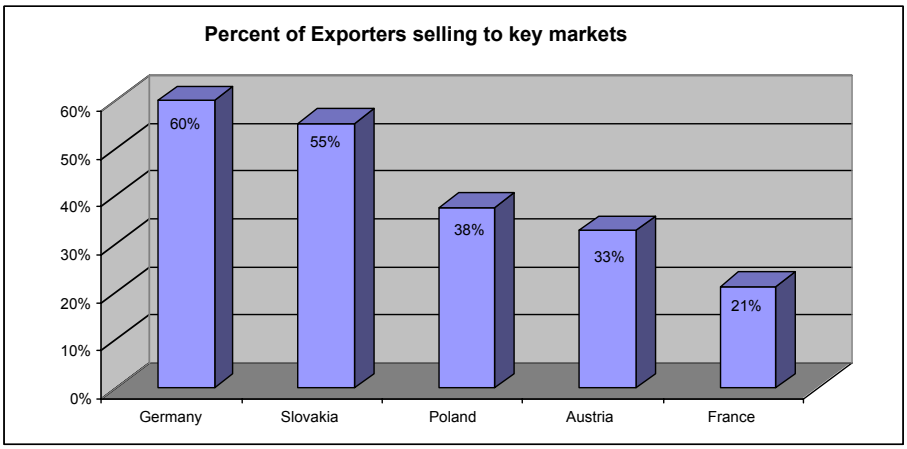
Over the past two years more companies have grown or expanded than have declined.

In particular turnover has grown for 68% of companies (base 63) and under one third of companies saw turnover decline. The fastest growing company saw turnover increase by 650%

Despite difficult international conditions Moravian Silesian companies are also managing to hold on to export markets. Over 42 markets are serviced by companies from the region and in 2002 over 40% of companies saw their exports increase over the previous year with 59% showing no change or better in export markets this is a good indicator of the regions engineering companies ability to compete.

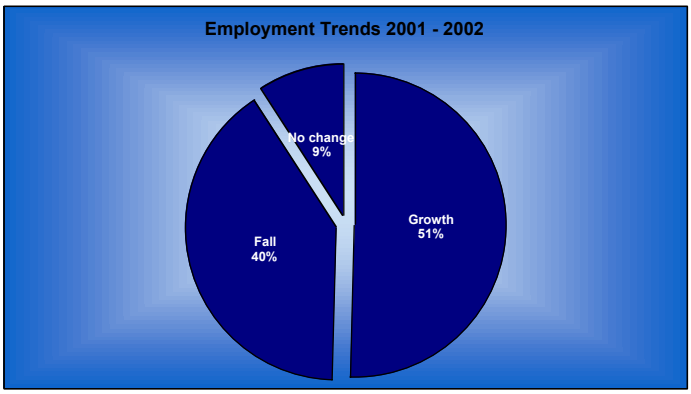
75% of companies in the register (base 92) currently export and of these 33% generate over 50% of their turnover from foreign markets



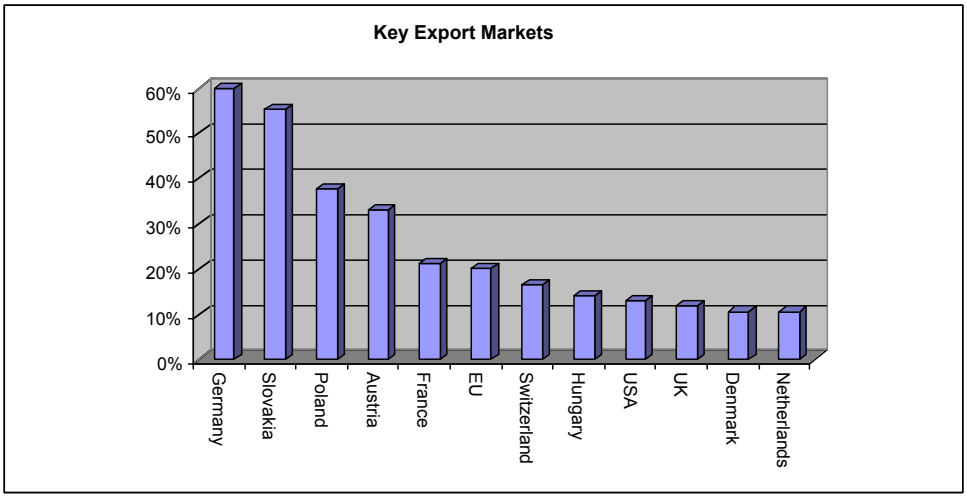


The key markets for Moravian Silesian companies are near neighbours. 60% of all exporters do business with Germany with Slovakia and Poland close behind

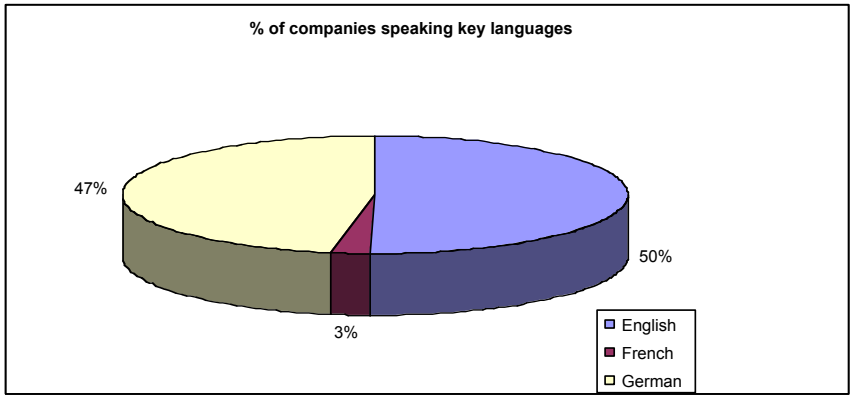
This indicates the strength of the region as a strategic location for companies wishing to reach key international markets



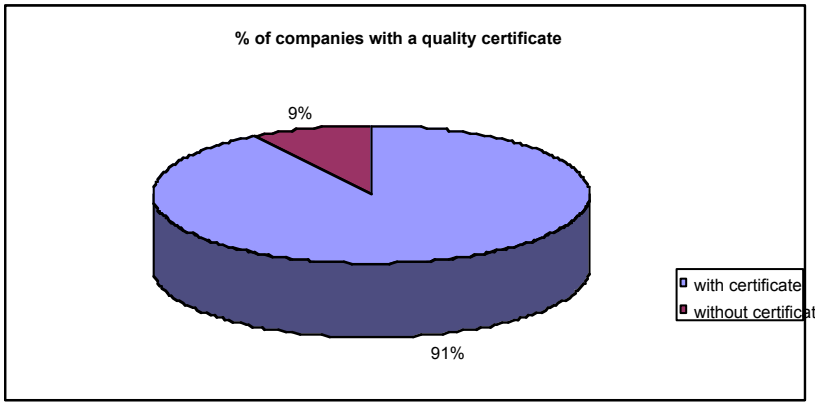
Increased turnover has led to increased employment among some companies. Over 50% of companies increased staff numbers with the highest growth being 75% increase in staff numbers.



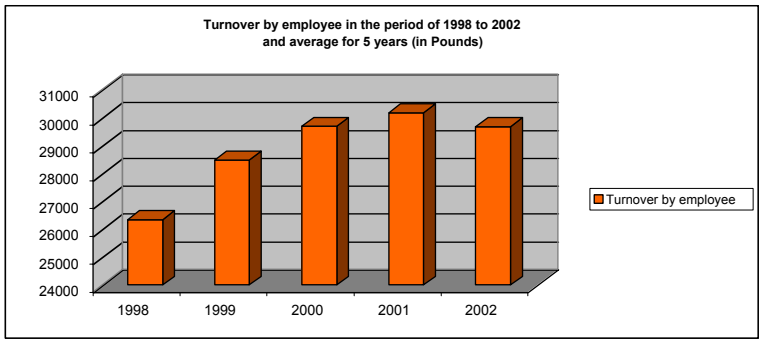
Not just near neighbouring markets can be serviced from the Region. Even Japan and Korea buy from Moravian Silesian companies. Overall some 40 countries buy engineering products and services from the Region.



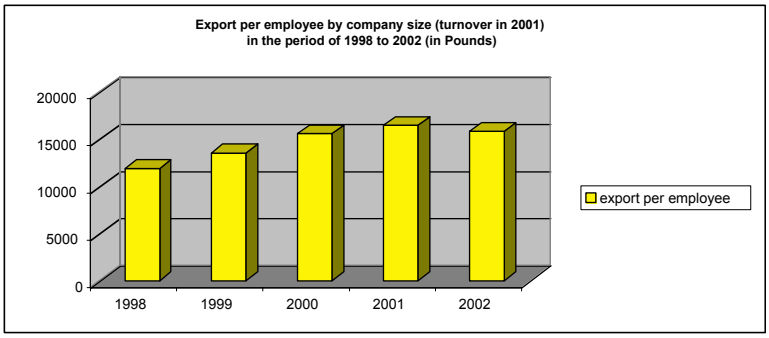
Like most of the Czech Republic, language skills are strong. Most companies have many employees who speak either German or English

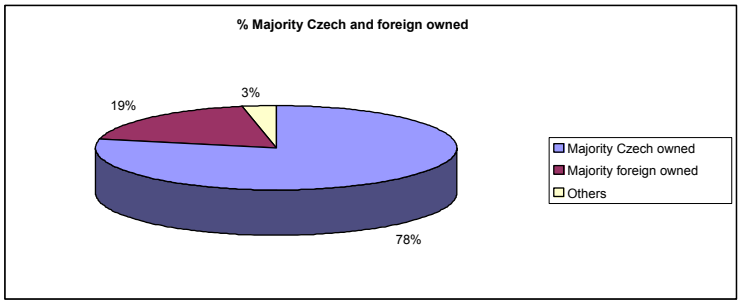
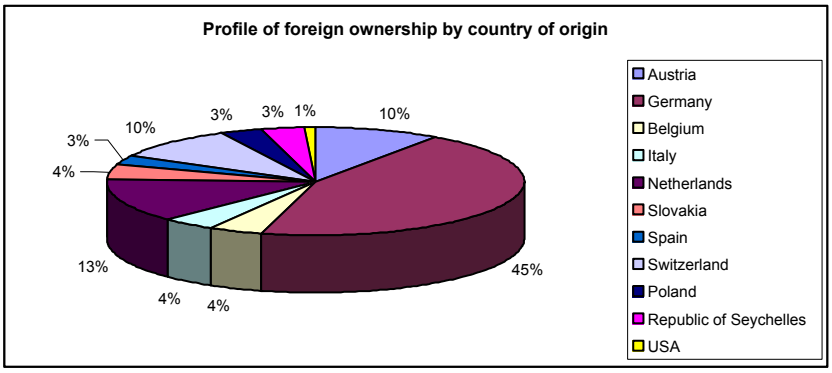


The majority of companies in the Region have quality certificates. In general these are ISO. However there are also companies who are undergoing EFQM recognition.



Productivity is growing in the region but times are tough





Most engineering companies are Czech owned. The largest investor is Germany