

Innovating Regions in Europe

IRE subgroup on 'Regional clustering
and networking as innovation drivers'

Learning module 3

**An overview of Cluster
Policies and Clusters in the
New Member States of the
European Union**

<http://www.innovating-regions.org/>



FOREWORD

The IRE network has established a subgroup of regions which look at the development of clusters and networks at the regional level. The cluster subgroup is a pilot action of the European Commission's Entrepreneurship Action Plan (Key action 06.B – Fostering innovative clusters).

In order to facilitate members' understanding about the design, establishment, implementation and impact of cluster initiatives, the subgroup will undergo a learning process which is broken down into learning modules. The modules are delivered through six subgroup meetings, which will focus on the following key topics:

- 1. design of cluster initiatives – an overview of policies and praxis in Europe;*
- 2. internal and external cluster interaction;*
- 3. funding cluster processes;*
- 4. marketing regional-based clusters;*
- 5. monitoring and evaluating cluster outcomes;*
- 6. the future regional cluster policies.*

This report will go a little bit of the road and will present an overview of the situation in the New Member States of Eastern Europe. The report summaries the main messages and conclusions of a number of recent studies and reports on clusters and cluster initiatives in the named countries. The reports referred to are:

- **FINAL REPORT OF THE EXPERT GROUP ON ENTERPRISE CLUSTERS AND NETWORKS**
EUROPEAN COMMISSION
ENTERPRISE DIRECTORATE-GENERAL
- **INNOVATIVE CLUSTERS (2001)**
Drivers of national innovation systems
OECD
Enterprise, Industry and Services
- **Regional clusters in Europe (2002)**
Observatory of European SMEs
2002 / No. 3
- **Business cluster (2005)**
Promoting enterprise in central and Eastern Europe
OECD
- **EUROPEAN CHARTER FOR SMALL ENTERPRISES REPORT – LITHUANIA (2002)**
- **FORUM FOR ENTERPRISE DEVELOPMENT; BALTIC REGIONAL PROGRAMME; LATVIA COUNTRY ASSESSMENT (2003)**
OECD
- **The Cluster Initiative Green book (2003)**
Örjan, Sölvell, Göran Lindqvist, Christian Ketels
- **The Cluster Policies Whitebook (2004)**
IKED - International Organisation for Knowledge Economy and Enterprise Development

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1. REVIEW PER COUNTRY

1.1 Slovenia

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
Ministry of Economic Affairs	Cluster Programme (2000-2003) under the Industrial Policy	Raising awareness on clusters benefits Strengthening the government's cluster policy	<ul style="list-style-type: none"> - Promotion of a culture of enterprise co-operation & networks - Supply and production chains upgrading - R&D co-operation schemes - Joint marketing & branding - Organisation and IT infrastructure investments 	Public subsidy	15 cluster projects in 2002, i.e. <ul style="list-style-type: none"> -Tool making -Automotive -Plastics -Air-conditioning -Heating & refrigeration, -Transport & logistics

Cluster policy

In 1999, the ministry of the economy started a project entitled "Encouraging Company Linkage, Specialization in Production Chains and the Joint Development of International Markets under a Cluster System" aimed at determining a systematic approach to developing clusters. The concept was to identify those clusters strategic important for Slovenia. The mapping exercise produced conclusions that have affected the further process of cluster development in Slovenia. The overall conclusion was that no "real" cluster actually existed in Slovenia due to weak links among potential cluster participants and the early stage of cluster development infrastructure.¹ Instead of a uniform programme, the ministry of economic decided to adopt a wider package of measures to encourage co-operation and networking.

The Slovenian cluster development policy pursued three objectives. The first was to encourage co-operation and networking between companies in order to strengthen individual and joint abilities to develop partnerships in different business fields. For this purpose, the ministry of Economy co-financed joint projects carried out by at least three companies and at least one R&D institution in 6 different areas, technical improvements, product development, specialisation, supply chains, joint production and marketing. The second was to promote the development of cluster through increased investments in support infrastructure. The third was to initiate the formation of cluster in practise.

In 2000, as a response to these objectives, the ministry of Economy launched a pilot programme of cluster development in the absence of concrete experiences, knowledge and available instruments in the field of cluster development. The aim of the pilot

¹ It is important to point out that the definition of potential clusters in Slovenia was very ambitious; it suggest that clusters are not just group of companies and their suppliers and buyers but also include support organizations and R&D institutions and other knowledge agents, all engage in ongoing communication and other partnership-building activities.

programme was to develop a systematic approach to cluster development, to promote and strengthen the cluster policy and to gain experiences. An Automotive-, a transport and logistic- and a machine tooling cluster were the three chosen projects among six applicants.

In 2001, all three clusters redefined and/or upgraded their cluster strategies and drew up action plans for the next two years. While the automotive and tooling clusters oriented themselves towards creating conditions for innovation and technology progress, including the development of local supplier networks, the transport cluster chose a different approach. Due to high competitiveness among the companies involved, the first phase aimed at formulating a joint vision and marketing on the basis of assets, knowledge and skills. In 2002, the pilot projects began to implement their strategies in line with their plans. Preliminary results indicated an intensive growth both in terms of participants and intensification of joint activities. The pilot projects were completed in 2003 and the lessons learned provided guidelines to the ministry for encouraging the internationalisation of Slovenian cluster systems.

Based on the experiences gained in the Pilot programme the Ministry designed the outline of a cluster development process (Slovenian model), followed by measures and instruments for the various steps of the process. The cluster development process can be conceived in three phases. Cluster initiatives begin with an initiation phase, followed by early growth and dynamic growth. In the initiation phase, the involved companies, institutions and organisations develop a common vision e.g. a strategic cluster development concept and prepare an action plan for its implementation. The early growth period covers the implementation of the action plan which is mainly focused on building and strengthening the common ICT, technology and organisational platforms needed for the dynamic growth phase. In this final phase activities focus on building an innovative environment and developing a nodal position for the cluster in an international value system. It is obvious that only most promising and innovative clusters will enter the dynamic growth phase. In 2002 Ministry of Economy therefore started to design a separate programme to develop local networks. The program is designed for small companies (up to 50 employees) within a limited geographic area. The idea is to support the most vulnerable sector of the economy during Slovenia's EU accession and to start building local networks to strengthen more regional and national clusters and support cluster dynamics

Results

In 2000 when the first call for proposals was launched three projects were selected from six applicants. In 2002 a total of 15 applicants responded to the second call, with eight initiatives selected to receive government support for initiation phase. In the third round in 2003, out of 30 applicants nine were selected for initiation phase and five for the early growth phase. The tool making, automotive industry, plastics, air-conditioning, heating and refrigeration and transport logistics clusters are all ready for dynamic growth. Several cluster initiatives are in the early growth stage, including one based on environment technology. There are some promising initiatives in the field of wood processing, energy and tourism currently in the initiation phase. More than 350 companies and institutions and almost 55,000 employees are involved in the pilot projects and new initiatives. The most innovative clusters (tool making, automotive industry, plastics, and air-conditioning, heating and refrigeration) have highly developed technological capabilities and great potential to become development partners to the most advanced international industries. Opportunity undoubtedly lies in international cooperation and linkage through clusters and other network structures. Strong connections to Italian, Austrian and Germany clusters have already been established, in part through joint participation in the 6th European Framework Programme.

Automotive cluster of Slovenia (ACS)²

The Automotive Cluster of Slovenia aims to develop an intensive and reliable network of suppliers providing products of a higher rank of complexity and added value for global car manufacturers. In spring 2003, ACS membership included 22 companies and 5 research organisations and faculties.

Associated cluster activities include:

- Upgrading and maintenance of general infrastructure conditions for operations
- Acceleration and help in making contacts and co-operation between members in all areas of activities
- Implementation of strategy and a continuous process of adjustment to conditions on the domestic market and abroad
- Representation of the interests of companies, institutions and organisations and promotion of the cluster locally and globally
- Remaining current with and applying the norms and rules of ACS
- Remaining current with systematic, legal and economic issues and submitting purposeful actions
- Bridging the gap between science and industry (basic, applicable and industrial research)
- Providing access to common information and passing it on to members
- Acceleration of co-operation between members on improvement of product development
- Acceleration of co-operation between members on improvement of organisational operations, quality and technological processes
- Encouragement of research
- Locating foreign partners for implementation of common R&D projects
- Exchange of experience in clustering with other Slovenian and foreign clusters
- Lowering prices of various educational programmes, common presentations at conferences and accesses to different data bases
- Facilitating co-operation between public administration, politics and economy.

The development of ACS has in some views been growing over national (regional) frames and the Board has therefore been increasingly directing its activities towards establishing links abroad. This certainly requires an innovative approach in the activities of the cluster, which has been problematic and project-oriented from the point of view of common R&D projects. As far as innovations are concerned, the emphasis should be placed mainly on analytical monitoring of innovative activities and their effects (conditions for taking the opportunity, conditions for acquiring new information, accumulation of technological knowledge, benchmarking of products and processes, etc.). This is later reflected in the growth of sales (realisation), the increase of added value per an employee, the number of annually carried out R&D projects, investments in acquiring, training and education of employees, in the growth of communication among the ACS members and relevant environment and in attempts to reach business excellence.

Besides the above mentioned strategic goals in 2003, the Automotive Cluster of Slovenia continually carried out activities on common infrastructure projects, such as; information technology, promotion, common R&D and quality infrastructure, common R&D projects and supply chains, training and education and quality and business excellence. Investments in R&D projects, products and technologies amounted to about SIT 260 million (Approx. EUR 1 million), and represented funding and expert work carried out by the employees of association members. The Development Incentives received from the Ministry of Economic Affairs totalled about SIT 100 million

² ACS's Annual report 2003 from www.acs-giz.si

(Approx. EUR 400 000), which represented a value of 40% of justified costs of the Office operations and activities for common infrastructure and R&D projects.

1.2 Poland

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
Polish Foundation for SME Development & Promotion	SME Clustering and Networking Programme (1998) under the EU PHARE programme	Promoting cluster development	- Training of network brokers	Public funds	Preparation of cluster plans for the 16 voivodships. -High-tech cluster -Printing cluster -Rural cluster -Building and construction

Cluster policy

An official cluster policy is non-existent in Poland. However, current policies to support SMEs can and could play an important role in fostering networking and clustering. A policy supporting SMEs in Poland has been conducted since 1995 when a programme was launched in order to support SMEs. Along with that programme, the national fund of credit Guarantees was established and there are now several such regional and local funds in the country.

Both public and private SME supporting institutions are well developed in the form of business incubators, centre for technology and information transfer, loan-guarantee funds, venture capital funds, business support centres and technology parks. Platforms of dialogue and co-operation among firms are present in all regions of Poland: Chamber of commerce, chamber of commerce and industry, bilateral chamber, sector chamber and various associations and organisations. Examples of such SME supporting initiatives are...

- The national SME Service Network is a group of some 150 cooperation business counselling centres all over the country. Most of its members are regional and local development agencies, business support centres, industrial and commercial centres and local foundations and associations. All of them are non-profit and provide services directly to SMEs
- Regional financing institutions (RFIs) are partners in the implementation of SME policies. One part of RFI, the Consulting and Advisory Point provide SMEs with free advice on administrative and legal aspects of running a business as well as information on available sources of finance.
- There are 45 business incubators, 21 centres for technology and information transfer, 57 loan-guarantee funds, 29 venture capital funds, 142 business support centres and 4 technology parks located in Poland.

Although there is no cluster-based policy in Poland, the cluster concept is gaining the attention of politicians and some cluster specific measures are being introduced. Examples are the financial assistance programme of the Polish Agency for Enterprise Development for SME consortia, as well as grants for consolidation or joint-ventures, setting up groups of producers or supply/trading networks for the creation of joint marketing etc.

The first Polish cluster mapping exercise was undertaken by the Gdansk Institute for Market Economics. The institute found a number of significant industry concentrations, all but two situated in the more developed regions of Poland: in central Poland, in southern Poland and northern Poland. Two concentrations are situated in a structurally weak region in the northeast of Poland at the Baltic Sea. In terms of sectors, high technology firms were more likely to co-operate, had higher labour productivity and investments, as well as R&D expenditures per employee, but lower export activity. In this sector, a positive correlation was found between profitability growth, as well as technological advancement of firm's product and the intensity of cooperation with R&D, foreign knowledge-intensive business services. Moreover, the export was positively correlated with intensified co-operation. In the traditional sector, this correlation between co-operation intensity and efficiency was lower compared to the high-tech sector. The most significant positive correlation was between intensity of co-operation with business services and growth of demand, market share and profitability, as well as intensity of co-operation with the R&D sphere and the growth in market share. Below follows an emerging clusters in order to exemplify potential clusters in Poland.

High-technology embryonic cluster in the Gdansk region

The emerging control engineering cluster in the Gdansk Region comprises about 60 firms situated in the city of Gdansk and neighbouring towns. The different business areas within the cluster are manufacturing, operate services, trading firms and manufacturing service companies. The total number of employees in this sector is about 2200. Most firms in this cluster were suppliers to various traditional industries like shipbuilding, power utilities, air condition and automotive production. Major features of the emerging control engineering cluster are a common knowledge base (some firms are spin-offs where the founder in most of the cases comes from local universities); strong link to regional R&D institutions; informal co-operation among the cluster's firms; co-operative form of economic activity (almost all firms have partners, the majority with partners outside the region, 63 % of the firms have partners on the regional level as well); as well as quite strong vertical links between the firms and the industries they serve.

However, many cluster barriers and shortcomings to cluster development can be recognised in this embryonic stage of the cluster. Firstly, the existing regional business associations and chamber of commerce do not provide an effective dialog or co-operation platform since membership in these bodies is not as developed as it needs to be to create a formal co-operation within the emerging cluster. Most companies are members in national organisations outside the region. Secondly, knowledge transfer among the companies is predominantly found at the national level. Thirdly, co-operation with local authorities is very sporadic.

1.3 Hungary

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
National and regional government. At the national level, cluster development policy is the responsibility of the Ministry of Economy and Transport.	The PKG groups the five biggest Hungarian clusters and gives them financial and non-financial support (grants, real estate, information, etc.).	-Improving competitiveness of the enterprises -Developing co-operative production system and networking	-Automotive -Wood-furniture -Electronics -Food production -Textile	Under the Szechenyi Plan's RE-1 sub-programme 2001-2002, aiming at establishing regional clusters Central government allocates €1.4 million to Hungarian cluster	22 officially-recognized clusters

Cluster policy

The concept of clusters has been part of official Hungarian economic policy since the late 1990s. Under the Széchenyi Plan implemented in January 2001, intended to boost the Hungarian economy, Hungarian clusters received funding in an effort to support the domestic entrepreneurial community. Groups of firms could qualify for financial support if they complied with the cluster definition³ and could fulfil a number of other requirements under the RE-1 programme.

In 2002, the Orbán government elaborated the Széchenyi Plan, named after a famous 19th century Hungarian count and economic reformer. This was a strategy document outlining priorities for economic development to improve convergence with European Union by mobilising the business sector and the regions. The plan, according to which the state would co-finance implementations of development projects, did not encompass all areas of the economy, but for efficiency reasons concentrated on key priorities. It promoted enterprise support, regional development, housing construction, tourism, research and development, highway construction and infrastructure development. By concentrating 2-3% of Hungarian GDP on defined goals, it intended to set the Hungarian economy into motion, particular through the mobilisation of the domestic entrepreneurial community. However the main part of the Széchenyi Plan did not explicitly focus on cluster development. Nonetheless, the regional economic development sub-programme of the Széchenyi Plan aimed at combating Hungary's regional inequality, has a strong focus on SME development at regional level. One of the regional development programmes introduced was the Cluster Development Programme (RE-1).

The policy follows a top-down approach and looks at improving the competitiveness of the enterprises, developing co-operative production system and networking, strengthening the innovation capabilities of the subcontractors of the present multinationals and exchanging information and raising awareness.

³ "Clusters are company alliances, which are based on geographical proximity. Clusters are driven by competition; the relationship among companies in a cluster is characterised by rivalry, harmonisation of common, local interest and by existence of trust as social capital. Cluster enterprises are in informal contact. Their transaction cost can decrease by joint innovation adjusted to market needs through information flows within the network. With this, the competitiveness of enterprises or a given region rises."

Although studies on clusters show that top-down policies aiming to build clusters from scratch are often unsuccessful, public intervention has played a catalyst role in supporting budding clusters. Seen in this light, the Cluster Development Programme may be considered a suitable cluster-building model in Hungary. Of course this does not mean that clusters would not and will not emerge without official support but the Cluster Development Programme aimed to significantly accelerate this process. During the existence of the programme from 1 January 2001 to 2 August 2002, thirteen projects were allocated a total of approximately EUR 1.2 million. The most important results, apart from the birth of these officially sponsored clusters, was a change of mindset with regard to network-type co-operation, helping SMEs to work together and building social capital from below.

When the Széchenyi Plan officially came to an end with the change in government in 2002, the support for clusters was continued in the framework of the Technology Development and Innovation Plan of the Ministry of Economy and Transport. Cluster development in Hungary is also shaped by EU enlargement and Hungary's entitlement to receive EU funding.

Description of two publicly-supported cluster initiatives.

PANAC (Pannon Automotive Cluster)

PANAC was founded in Hungary December 2000 as a pilot cluster project. The founding document, a Letter of Intent for Co-operation was signed by Hungary's five most prestigious automotive companies (Audi Hungaria Ltd, Opel Hungary Ltd, Hungarian Suzuki Inc, LuK Savaria Ltd, Rába Automotive Holding Plc), representatives of financial and advisory service provider companies and the West Transdanubian Regional Development Council.

Although companies interested in the Hungarian automotive industry had formed several associations, and other types of organisations, these could not achieve the required level of communication among the different types of companies. PANAC is determined to fill this gap and play a coordinative role among the parties. PANAC views this as a critical task in its effort to strengthen the automotive industry in Hungary, one of the most important sectors in Hungarian economy.

Beyond the 73 official PANAC members, a larger group of approximately 100 companies has also been set up. These companies also receive information on the PANAC activities on a regular basis. PANAC is now known as a reputed information centre for the Hungarian automotive industry.

PANFA (Pannon Wood and Furniture Industry Cluster)

Wood is the main and most valuable natural resource of the Western-Transdanubian Region and its economic structure is dominated by the wood industry, with as many as 700 wood and furniture industrial manufactures operating in the region.

During the process of establishment of networking co-operation, which took up to the first two years since cluster establishment, as many as 81 member enterprises have already allied within the framework of the cluster and work together effectively. In short, Pannon Wood and Furniture Industry Cluster managed to raise the interest of a meaningful number of wood and furniture enterprises for conscious co-operation within just 2 years.

1.4 Slovak Republic

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
Ministry of Economic Affairs	Study for an Action Plan in the framework of the European Charter for Small Enterprises (2000)	Strengthening the technology capacity of SMEs Identifying cluster rudiments			-Textile and clothing -Wood processing -Electronics -Auto assembly and components

Cluster policy

Many Slovakian supporting institutions were established in the 1990s, most of them being managed by national government administrations and modelled on similar organisations in the EU. The EU PHARE programme, in particular, has been highly influential by setting policy agendas and by providing much needed financial assistance and policy advisors. These policies have supported both SME development and the attraction of foreign investment in Slovakian cluster. In addition, a number of regional development programmes are operated. In general, these programmes do not specifically target clusters but nevertheless support their development.

In 1993, the establishment of Regional Advisory and Information Centres were pioneered in all 38 districts of Slovakia. About 12 such centres and 5 Business and Innovation Centres are operating in Slovakia. Furthermore, in order to support SMEs, There are some major policy initiatives in the area of finance- and research access, education and training and internationalisation. The latter includes information on business contacts and cooperation opportunities.

After 2001, when regional policy powers became decentralised, the regions have played an increasingly central roll in the implementation of regional development policy. Each region is responsible for translating the regional development strategy into concrete measures. In particular, there are four programmes for priority regions under the 2000-2006. The programmes concentrate on developing the birth of new firms and entrepreneurship, and on improving the region's own existing firms. The programme in North West of Slovakia could be used in order to shortly exemplify a Regional Operational programme in Slovakia. This programme should emphasise entrepreneurship and the development of existing firms located in the region and is characterized by independent initiatives. The main development objectives are the forest and wood-processing and related industries. Much attention in this programme is paid also to the development of know-how, innovations and infrastructure.

Electronic cluster

The electronic industry had never been of great significance during socialist times. However, it has since been a strategic sector in the central parts of Slovakia. The biggest fields in which the cluster partners are active are automotive cable harness industry and electronic components. To give an example of important players, Alcatel SEL THL is seen as one of the success stories. It has introduced modern production methods and technologies; reduced job loses and contributed to the upgrading of the country's telecommunication systems. The following Strengths and weaknesses show where the cluster stands from a competitive and cooperative point of view.

Strengths

- World Class companies like Sony, Siemens, Alcatel, IBM and Bosch are operating in the country.
- An extremely cost-effective and highly educated workforce can be found at all levels.
- A central location that enables the companies to support costumers in Central, Eastern an Western Europe
- A good regional spread of electronic facilities, with companies located in 22 towns/cities outside Bratislava.

Weaknesses

- Almost 75% of the people employed in the electronic industry are in the automotive cable harness assembly at the lower end of the electronic manufacturing value chain
- The sector is highly cost sensitive and susceptible to changes in design that could have impact on the future of the industry.

1.5 Czech Republic

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
National Government	COOPERATION Programme under the SME support policy (2001-2004)	Creating & developing clusters	- Identification of key sectors of activities - Education - Development of common purchase, sales, marketing and education	Public funds – Czech Moravian Guarantee & Development Bank (max. €50.000 p.a. per cluster)	39 projects supported in 2002 -Engineering -Technology Park
	CLUSTERS (2004-2006)	Creating & developing clusters	- Search for companies suitable for association in clusters - Establishment and development of clusters	- 75% Structural funds - 25% National funds	14 mapping projects supported

Cluster policy

Many activities already exist in the Czech Republic in order to support SME development in general and the creation of entrepreneurial co-operation in particular. The most important initiative is the COOPERATION programme, elaborated by the Ministry of Industry and Trade. The aim is to link cluster development and support for SME. This is done by providing financial assistance to clusters that meet specific criteria, i.e. minimum 15 partners, activities focusing on the development of common purchasing, sales, marketing and education in the fields of building, craft production, services, trade and public transport. It is provided, with the assistance of the Czech Moravian Guarantee and Development Bank, as a payment representing up to 50% of the project implementation costs, with maximum of EUR 90000 per year. Since 2001, the interest for this type of support has increased substantially. In 2002, the programme supported 39 clusters using CZK 101.5 million (approximately € 3.4million) from the state budget. A few examples of supported projects are:

- Health instruments, a project focused on improving the market and buying position of associated firms.
- Hotels, an association supporting a unified strategy for advertisement and promotion
- Consulting, association of entrepreneurs and firms e.g. tax advisors and solicitors aimed at better informing potential clients of services available

It's necessary to add that most clusters in the Czech Republic have an informal and unofficial character. Clusters are not systematically and statistically surveyed and monitored. SME clusters and networks supported by the COOPERATION programme is therefore an exception.

The cluster development programme – CLUSTERS (hereinafter the “Programme”) lays down basic rules and conditions of providing support in the form of direct subsidies to the projects whose aim is to support economic growth and competitiveness in the economy through development of sectoral associations – clusters that can be created at regional, up-regional or cross-border levels.

Two types of projects will be supported within this programme:

- Search for companies suitable for association in clusters, assessment of viability and benefits of clusters;
- Establishment and development of clusters;

Support to search appropriate companies for the cluster will be provided in the form of subsidy for maximum eight months period after the registration of the application for support.

Support to establish and subsequently develop a cluster will be provided in the course of three years after the registration of the application for support in order to achieve its independent sustainable development in the following period.

So far 14 mapping projects have been supported. It is expected that 25-30 projects will be supported within the end of 2005.

The total budget is of 9 000 000€ divided as following:

2004	2005	2006
2 097 674	3 004 539	3 897 787

75% is funded by the structural funds and 25% comes from national funds

Applications for subsidies will be accepted on an on-going basis; CzechInvest (regional office) will receive an application for support and perform the basic assessment. Subsequently, CzechInvest (headquarters) will assess it based on selection criteria methodology and if need be, it will provide independent expert opinions on the project. Subsequently, the applications for support (including expert opinions) will be submitted to the Selection Committee. If the committee recommends a project, the Managing Authority – unless it reveals further formal or objectives reasons for rejection of the application – shall issue a Resolution on Granting Support, including conditions for granting the support.

The final recipient shall submit to the provider or relevant implementing agency up-dated information for evaluation of monitoring indicators of the project benefits for the period from the date of granting the support until the end of the third calendar year following the year in which the subsidy was paid out, in half year intervals in the format defined by the support provider.

The Moravian-Silesian Engineering Cluster⁴

In 2002, a study was carried out in order to examine whether or not a “clustering” strategy could provide an effective approach to developing the Moravian Silesian regions economy. 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.

⁴ http://www.clusterlink.com/ACENET/new/Pdf_g_p/Moravia_Silesia.pdf

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. Absence of a Service Culture – there still exists a production rather than customer focused culture in many companies
Developing Supplier/Customer Relationships
- 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

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 are outlined in the table below:

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

1.6 Estonia

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
Ministry of Economic Affairs & Communication	Competence Centre Programme (beginning 2003)	Creating science-industry competence centres	- Based on calls, no pre-selected areas of focus	Public subsidy: 50 - 60%. Private contribution: 40 - 50 %	
	Technology Programmes (planning phase)	Special focus on key technologies/scientific fields	- Identification of 3 key technologies (bio information & material technology)	Other mechanisms	

Cluster Policy

During the first ten years of being newly independent, Estonian economic policy was focused on macro-economic reforms and economic stability. The current policy is mainly based on horizontal measures, related to entrepreneurship, export promotion, innovation and R&D support, foreign direct investments and access to capital. The Estonian enterprise and innovation policy is implemented by two State-owned foundations: Enterprise Development Foundation "Enterprise Estonia" and Credit and Export Guarantee Foundation "KredEx"

Future development of state measures will partly be realised through the cluster approach, as revealed by the Estonian R&D Strategy "Knowledge-based Estonia". The strategy points out three key technology fields to develop: information technology, biotechnology, and materials technology. However, other economic areas could also benefit from the cluster approach.

The cluster approach is also used to support science-industry strategic co-operation. Early in 2003 the Division of Technology and Innovation of the Ministry of Economic Affairs and Communications initiated a "Competence Centre Programme" to support financially and conceptually the creation of technology competence centres between related industry and academy.

Estonia currently has no clear-cut cluster development policy and doubts have been voiced over the necessity of such policy. It is true that the priority areas defined in Estonia's science policy (IT biotechnology) can be interpreted as (potential) knowledge clusters. But this cannot be compared to production clusters existing in reality. Regarding the latter (e.g. the forestry and timber industry, engineering), sectoral studies have been conducted, which have shown that the ties between the enterprises within the clusters, as well as the enterprises' ties with research institutions, are weak

and no attempts for proposing a clear-cut policy for the support of the clusters have been made, using the argument that Estonia's case concerns operation within international (North European) rather than domestic clusters and therefore the policy of supporting the clusters cannot be efficient. Several sector studies (wood and furniture, machinery, ICT) have been carried out to observe the formation of clusters in Estonia. According to the studies the major gaps were found in the cooperation between firms and also with research institutions.

So far the state has preferred to support horizontal measures allowing to reach a wider range of enterprises with the same problems more quickly. At the same time the Estonian R&D strategy 'Knowledge based Estonia' foresees the development of three areas: ICT, Biotechnologies and material technologies. The design of the programme for fostering the development of the biotechnology sector started in 2003; foresight activities were launched also in ICT and material technologies last year.

The Estonian eVikings

The project aims to integrate Estonian leading IST research and development labs and companies through the everyday collaborative RTD projects much better with the European academia and industry, innovation networks. We also aim to facilitate international exploitation of abroad developed RTD results in Estonia and help the Estonian labs in disseminating their solutions in the Europe, world-wide.

Pilot phase of the project, supported by the European Commission, starts building up the Virtual Centre of Excellence for IST RTD by strengthening the existing innovation infrastructure opens additional synergies and enables to benefit in a cost-effective way from the main objective of the project - European integration in information society technologies research and technological development.

Objectives

The Estonian eVikings project concentrates its efforts, during the pilot phase under this contract, on:

- strengthening the links between the Estonian and European IST research and development communities, starting from the closest neighbours around the Baltic Sea, but keeping still focus on Europe as a whole;
- supporting the strife of the Estonian R&D labs' to become modern eVikings of the Information Society, through assistance to introduction of new European co-operative research and development projects (either European framework, bi- or multilateral);
- special attention is paid to updating and giving advice for better focusing of the national research and technology policies.

During this project pilot phase evaluation of the Estonian IT cluster is conducted and the technology foresight review compiled for Estonia. After that consensus-based independent national IT R&D policy recommendations are prepared for the national authorities and research agenda is established for the Virtual Centre of Excellence.

The Estonian eVikings project will support the above mentioned goals by strengthening the local, regional and European RTD co-operation on information society technologies by establishing a Virtual Centre of Excellence in IST RTD. While a uniformly high quality of research must be the leading criterion, a well-designed virtual centre will bring together excellence in different fields, creating a truly synergistic effect. Therefore, a multidisciplinary research agenda ought to be an essential characteristic for such centre.

The work plan of Estonian eVikings project includes major package of awareness, training and policy planning activities on successful establishment of new RTD projects

and exploitation of the results at international markets. All this brings the European dimension essentially through the full life cycle of the national RTD policy and R&D project planning.

1.7 Latvia

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
National Government	"Support to Industrial Cluster Restructuring" study under the EU PHARE programme (2000-2001)	To enhance industrial competitiveness and to establish a dialogue between the state and the industry	- Strategic advice - Identification & correction of market failures - Networking & collaboration-Platform for information exchange	Public subsidy	4 clusters identified

Cluster Policy

Since 2000, Latvian industrial policy has increasingly focused on clusters as an instrument to enhance industrial competitiveness. It looks at organising a dialogue between the State and industry to improve the overall business environment and at delivering more direct assistance to cluster development in areas that have been identified as priorities due to their potentials in terms of knowledge-intensive and competitive advantages.

The first initiative to identify and promote development of industrial clusters was the project "Support to Industrial Cluster Restructuring", funded by the EU Phare programme (2000.2001). In that respect, four clusters have been identified and supported by the State: Forestry, IT, Engineering and High-technology.

Main areas of state support are network co-ordination of industrial clusters; identification of persisting imperfections in the business environment; international PR/marketing and export promotion, and strengthening the collaboration between industrial enterprises and science/education sectors. Improving the co-operation between state institutions and ministries is another important issue for cluster development in Latvia.

With its limited natural resources and limited resources of R&D funding in a wide area of different technologies, the government has identified a handful of sectors in which Latvia has some comparative advantages over neighbouring countries: i) Information technology, ii) Pharmaceutical industry, iii) Material technology, iv) Biotechnology, v) Timber chemistry and vi) Composite materials. Some of these industries are actually a legacy from the Soviet period, when Latvia was heavily specialised in some industries and supported most of the Soviet republics from their production.

To further develop these industries the government is promoting the creation of so-called industrial clusters. A PHARE project finished in October 2001 identified four potential enterprise clusters for further development:

- Engineering clusters;

- Information systems clusters;
- Forest clusters;
- Composite material clusters.

The government is supporting the creation of these clusters by co-ordinating the activities of the cluster, implementing projects to further develop co-operation between the participating enterprises and international promotion activities and public relation campaigns. The Latvian Development Agency was restructured in 2001 to concentrate the available resources more efficiently on developing industry clusters. The LDA is also maintaining a constant dialogue with enterprises in order to identify and eliminate shortcomings in the entrepreneurial environment.

In an action plan for 2002 the LDA suggested support and development to three more clusters:

- *Information Systems Cluster*

After the initial PHARE project was finished, the work on establishing an IS cluster was taken over by the Association of Information Technologies and Telecommunications of Latvia (LITTA). Meetings of the cluster co-ordination council take place on a regular basis, where questions on the strategic development of the cluster are discussed with management representatives of the enterprises and organisations involved. In parallel, working groups have been set up to specialise in concrete areas of co-operation, such as:

- development of human resources;
- education;
- product development;
- business environment;
- marketing and public relations.

- *Scientific and High Technology Cluster*

This cluster is focused on the research sector and the links between research and industry. The idea is that by promoting the competitiveness of the research and development sector and its integration with other sectors of the economy, an internationally competitive cluster of research and development could be created in Latvia. The goal of the project is to create an innovative environment able to ensure sustainable formation and efficient use of education and research potential, and in the medium term to achieve significant growth of the share of knowledge-intensive and knowledge-based sectors in GDP.

- *Engineering Cluster*

The plan is to concentrate the development of the cluster in the area of automation and intelligent management systems. This is one of the most promising directions for this sector, in view of the growing global market demand and predictable growth of the local market, with existing companies possessing good skills, especially in the areas of electronic design, programming, and precision electro-mechanics.

- *Forest clusters*

Unlike the three previous clusters, the development of the forest cluster is influenced by slightly different factors. Since forestry is already a well established industry, the main problem is the raising of the value added in sectors related to wood processing,

which essentially are the only sectors in Latvia having a broad base of local raw materials. The forest cluster in Latvia could be described as a wide system of co-operation between industry, services, and the related sectors of science and education. Close co-operation and co-ordinated decision-making between public institutions related to forestry and wood industry sectors, as well as professional associations, are preconditions for successful development of the cluster.

There is an ongoing debate on the benefits and effectiveness of clusters and other incentive programmes introduced by the government, especially the free economic zones in Liepaja and Rezekne (which still have much room to grow), and have been slow in attracting foreign investors and in stimulating entrepreneurship.

1.8 Lithuania

Responsible Authorities	Cluster Policies or Initiatives	Main Objectives	Main Areas of Focus	Financial Support	Results & Examples of Clusters
Ministry of Economic Affairs	Preparatory work: "Analysis of Preconditions for Clustering in Lithuania and Guideline Development" (2002)	Identifying cluster rudiments Raise awareness on cluster benefits			

Cluster Policy

In the second half of 2002 the Ministry of Economy signed an agreement between the Ministry and a consortium of universities and a consulting company for carrying out a study with an aim of revealing the role of the state in the cluster development. As present, cluster support policy has not been developed at state level. However the preparatory work for developing such a policy is underway: studies in several industry sectors have been carried out in an effort to detect cluster rudiments, several workshops have been organised for businesses with the aim of presenting the cluster concept and its advantages, and encouraging companies to co-operate. There is a clear understanding at the Government level that the formation of clusters is a "bottom up" approach.

Lithuania fares well on the cluster front in the peer group. In the WEF global rankings it ranks 34th – highest among the EU8 - on the state of cluster development with a score of 3.3 on the 1-to-7 scale, where a higher score indicates more common and deep clusters. However, such a positive evaluation of the clusters in Lithuania, viewed in the light of low-tech export specialization, suggests that the clusters have formed in the low-tech, low-value added areas as opposed to the more innovative sectors. Textile industry clusters in Kaunas serve as examples of well organized but low-value-added industry segments.

The area of Vilnius - known Sauletekis is expected to become the location of the cluster Sauletekis Valley. The area is the campus of Vilnius, which offers a favourable location for the cluster because of a large concentration of study and research and good development prospects. The following institutions are based in Sauletekis at present: Vilnius University, Vilnius Gediminas Technical University, Laser technology company "viesos konversija".

For the development of the cluster, an 18-hectare reserve area is available. It is expected that Sauletekis Valley will become the area of close co-operation between modern universities and research institutes, existing and new high technology companies. Therefore, the following possibilities for the use of the free area are being considered:

- Establishment of high technology companies;
- Establishment of business and innovation support structures (e.g. incubator, innovation centre);
- Establishment of business services companies;

- Transfer of other university divisions (Faculty of Mathematics and Computer Science, Academic Library and other faculties of Vilnius University, Faculties of Electronics and Mechanics of Vilnius Gediminas Technical University, Aviation Research Laboratory, Laboratory of the Institute of Thermal Insulation Research, other laboratories and institutes of Vilnius Gediminas Technical University).

On the basis of the specialisation of the research institutions concentrated in the area and the competitive advantages of the city of Vilnius, the following businesses could be developed in Sauletekis Valley:

- Information technology;
- Laser technology;
- Semiconductor optical electronic technology;
- Nanotechnology;
- Environmental technology.

The project has the support of the public of Vilnius, academic and public institutions. At the moment, the working group has been created to take all the necessary actions for the establishment and development of Sauletekis Valley.