



CLUSTERCOOP

WP3

**Enhancing Policy Framework conditions for cluster support and
cluster cooperation**

Cluster policy in the Czech Republic



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND

1. Executive summary

This analysis is aimed to describe and evaluate the activities which have been done since 2002 when the cluster development started in the Czech Republic. The document is completed by CzechInvest and the Ministry of Industry and Trade of the Czech Republic. Both institutions are responsible for cluster development in the Czech Republic.

The document is divided in 5 chapters. The first chapter summarizes the aims of the analysis. In the second chapter the methodology is described. We have used the methodology agreed by the project partner consortium. The documents used to develop this analysis are related to the cluster development process in the Czech Republic, such as the National Cluster Strategy, the National Cluster Study, other relevant analyses which had been processed by CzechInvest, Ministry of Industry and Trade and their subcontractors. In the third chapter the Cluster policy of the Czech Republic is described. The 4th chapter shortly describes future of cluster development of the Czech Republic. The last 5th chapter includes visualisation of the SWOT analysis and conclusion of the analysis.

The core action of the document is the analysis of the cluster policy in the Czech Republic. We have defined 4 milestones in cluster policy development in the Czech Republic. The initial phase of cluster development process in the Czech Republic was determined by the implementation of the cluster concept. As the consequential milestone we appointed the approval and implementation of the National Cluster Strategy followed by the realisation of the National cluster study. The next steps of the national cluster development policy followed from the approved National Cluster Strategy. The cluster development supporting programmes ensued. The first cluster supporting programme Clusters was launched in 2004 as one of supporting programmes from Operational Programme Industry and Enterprise. The aim of the programme was to support financially the process of facilitation and development of clusters. The programme further developed and enriched activities supported in foregoing programme Clusters.

The active cluster development policy supporting the implementation of the cluster concept in the regions, the establishment of clusters after the mapping and facilitation phase followed by targeted support for the sustainable development of clusters has significantly contributed to the development of more than 30 active clusters in the Czech Republic.

2. Methodology used

2.1. Documents reviewed

- CzechInvest. CzechInvest Annual Report 2002. Source: <<http://www.czechinvest.org/data/files/vyrocní-zpráva-2002-39.pdf>>.
- CzechInvest. CzechInvest Annual Report 2003. Source: <<http://www.czechinvest.org/data/files/vyrocní-zpráva-2003-38.pdf>>.
- CzechInvest. CzechInvest Annual Report 2004. Source: <<http://www.czechinvest.org/data/files/vyrocní-zpráva-2004-15.pdf>>.
- Iveta Neužilová. "National Cluster Strategy 2005 - 2008." Ministry of Industry and Trade of the Czech Republic, 16 Jan. 2006. Web. 8 Sept. 2011. Source: <<http://www.mpo.cz/dokument6216.html>>.
- CzechInvest. National Cluster Study. Prague.
- Ministry of Industry and Trade. The National Cluster Development Strategy 2005 - 2008. 16 Jan. 2006. Web. 12 Aug. 2011. Source: <<http://www.mpo.cz/dokument6216.html>>.
- Deloitte. Evaluation of Results and Impact of Realisation OPIE 2004-2006. Prague: Deloitte, November 2008.
- Technology Centre of Academy of Science of the Czech Republic. Evaluation of OPIE 2004-2006 R&D projects and their impact of innovational potential of regions of the Czech Republic., November 2008.
- Operational Programme Industry and Enterprise 2004-2006. 16 Mar. 2006. The Ministry of Industry and Trade. 12 Aug. 2012. Source: <<http://www.mpo.cz/dokument11962.html>>.
- Annual Report of Operational Programme Industry and Enterprise 2008. 20 Oct. 2009. Ministry of Industry and Trade of the Czech Republic. 12 Aug. 2011 Source: <<http://www.mpo.cz/dokument65564.html>>.
- Programme of Support CLUSTERS. 1 Apr. 2006. The Ministry of Industry and Trade of the Czech Republic. 12 Aug. 2011. Source: <<http://www.mpo.cz/dokument17303.html>>.
- Operational Programme Enterprise and Innovations (OPEI) 2007 - 2013. 1 Sept. 2010. The Ministry of Industry and Trade of the Czech Republic. 21 Aug. 2011. Source: <<http://www.mpo.cz/dokument78086.html>>.



- Proposal of the National Development Plan of the Czech Republic 2007 - 2013. Ministry of Regional Development of the Czech Republic. 20 Aug. 2011. Source: <<http://www.strukturalni-fondy.cz/CMSPages/GetFile.aspx?guid=45fc8d6d-7007-4bc9-8f17-d172d12e2fa0>>.
- Programme Cooperation - Clusters 1st Call. 3 Oct. 2008. CzechInvest. 12 Aug. 2011. Source: <<http://www.czechinvest.org/data/files/spoluprace-klastry-i-vyzva-1195.pdf>>.
- Jasanský, Jaroslav. National Innovation Strategy of the Czech Republic. 23 Jan. 2006. Ministry of Industry and Trade of the Czech Republic. 1 Oct. 2011. Source: <<http://www.mpo.cz/dokument11662.html>>.
- National Innovation Policy of the Czech Republic for 2005-2010. 29 June 2005. Research and Development Council of the Czech Republic. 2 Oct. 2011. Source: <<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14438>>.
- Ministry of Industry and Trade of the Czech Republic. Priorities of Ministry of Industry and Trade of the Czech Republic for competitive business sphere in next cohesion period 2014 – 2020. Prague: 2012.

2.2. Interviews conducted

Mr Petr Tůma, analyst of Section of EU Funds, Research and Development of Ministry of Industry and Trade Czech Republic. - Mr. Tůma is responsible for evaluation and analysis of operational programmes managed by Ministry of Industry and Trade. During the process of cluster analysis development Mr Tůma was contacted to provide information about evaluations cluster development policy which had been realised. These surveys were used to develop chapter 3.2.3. Impact of Cluster development 2004-2006.

3. Cluster policy in the Czech Republic

The cluster concept was first launched in the Czech Republic in 2002 when CzechInvest implemented the pilot project called Clusters in North Moravia.

The project's main aim was to explore potential for industrial cluster development in a representative region of the Czech Republic. Moravian- Silesian region was selected because of its long industrial and business tradition with high potential for cluster development.

The project was funded from Phare. The project was implemented in 2002 with the total costs EUR 182,986.¹

The project Clusters in North Moravia was divided in two phases. The first phase focused on industrial sectors identification with growth potential for cluster development. In the second phase there were businesses localized and interviewed to discover their interests in cluster concepts and conditions of cluster creation.

During the first phase machinery engineering was identified as an industry with competitive advantage and with the potential to form a cluster. Businesses located in the Silesian – Moravian region were interviewed to detect their interest in creating a cluster. The cluster was created in March 2003 – it was named the Moravian-Silesian Engineering Cluster and became the first cluster established in the Czech Republic.

This successful case showed potential of cluster concept implementation in the Czech Republic and that activities promoting this new tool of regional economic development on national, regional and local level could be initiated.

The conclusions of the project were used to design a system of the state-assisted cluster development.

Development of sectoral and regional clusters became one of the aims of the newly created Enterprise Development Division of CzechInvest in mid-2003. The most important sectors were biotechnology and life sciences. The life sciences sector in the Czech Republic was mapped in detail and a list of firms, universities and R&D institutions involved in this sector was created. In late 2003 CzechInvest initiated a workgroup to start preparing materials and steering documents to create the Life Science Cluster which led to creation of Life Sciences Cluster.

¹ CzechInvest. *CzechInvest Annual Report 2002*. Source: <<http://www.czechinvest.org/data/files/vyrocnni-zprava-2002-39.pdf>>.

3.1. The National Strategy for Cluster development 2005 – 2008²

First successful application of the cluster concept in Moravian – Silesian region in 2002 and examples of successful clusters together with study visits led to the preparation of a strategic document for the cluster concept implementation in the regions of the Czech Republic - the National Strategy for Cluster Development. This document defines the strategic objectives, measures and resources to support cluster development up to 2008 and specified the roles of the Ministry of Industry and Trade, CzechInvest and regions in the implementation.³

3.1.1. Strategy framework

3.1.1.1. Time frame

The government of the Czech Republic has approved the National Strategy for Cluster development on 13 July 2005 to support innovation and competitive business in regions of the Czech Republic. The National Cluster Strategy was launched for the years 2005 – 2008.

3.1.1.2. Coherence with other policies

Clusters represent national and regional tool for boosting competitiveness. The National Strategy for Cluster development 2005 – 2008 was consistent with the Strategy of economic growth of the Czech Republic and with the National Innovation Strategy. Support of clusters was in line with the Concept of supporting SMEs 2005 – 2006 and Concept of Innovation of industry and enterprise 2005 – 2008. The cluster strategy aimed at removing isolation of SMEs, supporting interaction, networking and knowledge and experience exchange – regional and industrial.

The Strategy summarized main reasons, basic principles, measures and aims of the application of successful economic model of clusters in the Czech Republic. The Strategy reflected international experience of cluster initiatives development in developed countries all around the world.

3.1.1.3. Definition of cluster in context of the Strategy

The Strategy defined clusters using the OECD definition as local concentrations of horizontally or vertically linked firms that specialize in related lines of business together with supporting organizations.

² Iveta Neužilová. "National Cluster Strategy 2005 - 2008." Ministry of Industry and Trade of the Czech Republic, 16 Jan. 2006. Web. 8 Sept. 2011. Source: <<http://www.mpo.cz/dokument6216.html>>.

³ CzechInvest. *CzechInvest Annual Report 2004*. Source: < <http://www.czechinvest.org/data/files/vyrocnizprava-2004-15.pdf>>.

The cluster concept was focused on linkages among participants of the value added chain in production process, providing services and creation of innovation. In the Czech Republic cluster concept was relatively new, however, international praxis shows that clusters enable, recognize and strengthen business supporting infrastructure in such a way that existing economic development interventions could so far not achieve. Clusters are systems where innovations are realized by synergic effects, critical mass, consensus and motivated cooperation.

3.1.1.4. Aim of the Strategy

General aims of the Strategy as approved by the Government of the Czech Republic were:

- Deeper dialogue with the whole industrial branches, not only with particular businesses, with the help of better understanding the strengths and weaknesses of business in the regions
- Integration of a number of programme measures from different national sources to a complex set of support focused on primary demands of specific industries
- Identification of key business clusters and industries in each region of the Czech Republic which have the potential to generate perspective jobs and improve efficiency of businesses supporting competitiveness and innovation and contribute to the development of regions of the Czech Republic
- Supporting groups of SMEs that cooperate to identify opportunities to share costs and remove traditional barriers of growth, such as access to finance and information technologies, own research and development and launching new products to market
- Supporting clusters and networks based on cooperation focused on research and development and innovation which leads to new products and processes
- Effective compilation of national support programmes for businesses groups with growing potential to achieve maximal economic effectiveness with limited state resources
- Constructive dialogue among government, regions and relevant institutions and agencies
- Together with local businesses, universities and R&D institutions clusters ensure suitable supporting activities in areas where the effects would be most effective.

3.1.1.5. Target group of the Strategy

According to the Strategy the private sector holds the initial role in cluster concept implementation. Entirely the cluster initiatives driven by perspective businesses would obtain financial support for cluster creation and its further development.

The National Strategy of Cluster Development was mainly targeted on innovative businesses, especially SMEs, R&D institutions and institutions of tertiary education, regional representatives, ministries and representatives of national institutions.

Table 1 Target groups of the National Strategy of Cluster Development and their expected effects

Strategy's target group	Expected effects
Innovative businesses, especially associations, chambers of commerce	Better access to customers, better business opportunities
	Environment which eliminate risks following innovation and facilitates the innovation process
	Better and quicker access to know-how and new ideas
	More specialized expertise services and infrastructure
	Innovation stimulation: more effective return of investments
	Direct access to range of suppliers with lower transaction, transport costs
	Better conditions to creation of new businesses, acceleration of innovation, restructuring and diversification
Universities, research and development institutions	Cooperation with private sphere: increase level of knowledge about business praxis and better understanding of their demands and needs, better employment of graduates in specific industries
	Cooperation with R&D institutions and universities with business community increases productivity and value added of these institutions.
	Proximity to businesses enables localized targeting of institutional research and development. This makes university outputs more attractive for customers within or beyond the cluster.
Ministries and state institutions	Complex strategic programme: prevent duplicities in support policy. Cluster strategy could increase the impact of state aid to enterprises because they offer an integrated framework
	Improved communication among government, regional authorities, businesses and tertiary education institutions
	Better targeting of scarce financial resources to motivated perspective businesses with defined common aims and strategies, not ad-hoc support of particular businesses
Regions	Additional sources of regional and local advantage: cumulate growth and create critical mass
	Specialization as effect of cluster cooperation creates inimitable competitive advantage of each region, which has clear profile and becomes attractive for investors
	Identification of priority industries and related supporting activities to create clusters as regional competitiveness and competence poles
	Stimulation of development of traffic and logistic infrastructure, job creation, ICT development, investments, innovations, industrial real estates and promotion in regions

Better promotion of region's strengths to investors
Coordinated and concentrated public support of regional economic development.

3.1.1.6. Main activities

The Strategy's main activities were:

- To coordinate and targeted usage of clusters to boost cooperation among Ministry of Industry and Trade, Ministry of Regional Development, Ministry of Labour and Social Affairs and the regions of the Czech Republic – integrate programme measures of other strategies and concepts of SMEs, innovation, R&D, exports, education and infrastructure.
- To facilitate communication with regions, universities, private sector
- To identify and support of industries with necessary growth potential and willingness to increase competitiveness.
- To develop the framework for analysis, monitoring and effectiveness of cluster initiatives, their impact on regional and national economy, benchmarking of clusters with Czech and foreign clusters
- To manage a national cluster study in the Czech Republic identifying industries with export potential in regions. Develop a study of industrial structure in the Czech Republic, which contributes to planning of support programmes from Structural funds.

3.1.1.7. Allocated funds for the Strategy

Financial resources of the National Strategy for Cluster Development implementation are provided by the Operational Programme Industry and Enterprise for the programming period 2004 – 2006 and by the new operational programme for programming period for 2007 – 2013. The financial framework is illustrated by Table 2.

Table 2 Financial framework of the National Strategy for Cluster Development for years 2005 - 2008

Financing	2005 budget	2006 plan	2007 prediction	2008 prediction	2005—2008
Total amount (mil. CZK)	36	120	120	140	416
Total amount (mil. EUR)	1,5	5	5	5,7	17,2
SF EU funds (mil. CZK)	27	90	90	105	312
SF EU funds (mil. EUR)	1,1	3,7	3,7	4,3	12,8

State budget funds (mil. CZK)	9	30	30	35	104
State budget funds (mil.EUR)	0,4	1,2	1,2	1,4	4,2

3.1.1.8. Involved institutions and their roles

Ministry of Industry and Trade of the Czech Republic was determined as the managing authority of the cluster concept. CzechInvest Agency was appointed as responsible for the implementation of the determined measures. Other state institutions, regions, regional chambers of commerce and development agencies were involved in the process of cluster concept implementation, as well.

Table 3 Institutions involved in the National Strategy of Cluster Development 2005-2008

National Strategy for Cluster Development 2005-2008⁴								
Aims		Measures	Time schedule	Responsibility	Realization			
					2005	2006	2007	2008
Cluster concept promotion	1	Education	continuously	CI	X	X	X	X
	2	Cluster web	continuously	CI	X	X	X	X
	3	PR and promotion	continuously	CI	X	X	X	X
Support for facilitators and cluster managers	4	Support for facilitators and cluster managers	12/2006	CI	X	X	X	X
Cluster mapping	5	National Cluster Study realization	6/2006	CI, MIT, MRD	X	X		
	6	Cluster mapping projects	continuously	CI, MIT	X			
	7	Improved regional statistics	continuously	CI, MIT				
Development of clusters	8	Cluster development	continuously	CI, MIT, MRD, MT	X	X	X	X
Evaluation	9	Evaluation	4/2006	CI, MIT				X

⁴ Explanation of abbreviations: CI (CzechInvest); MIT (Ministry of Industry and Trade of the Czech Republic); MRD (Ministry of Regional Development of the Czech Republic).

The concept of clustering was adopted on national level, but it was still relatively new and unknown among its beneficiaries on national and regional level. It became inevitable that promotional activities had to be initiated.

CzechInvest organized workshops where more than 220 representatives of regions, 60 representatives of universities, associations' leaders and more than 60 representatives of ministries and other state institutions were acquainted with the cluster concept and possibilities with its implementation in the Czech Republic. There were satisfaction questionnaires distributed during the seminars, which showed that workshops met with positive reactions (4.36 in the scale 1-5).

CzechInvest organized programme for training and certification of cluster facilitators. The programme had the following aims:

- To ensure that there is confidence among possibly sceptical companies and other regional stakeholders that they and a cluster initiative can help them produce a measurable benefit.
- To encourage consultants to invest their time and promotional efforts in working with groups of companies to get them to a stage where the 'mapping' exercise can take place.
- To ensure that CI has available a group of articulate and experienced consultants on whom it can call for input on the programme, support in promoting and delivering the programme and in sorting out problems when they arise.

The certification process had two phases:

1. In the first phase there were potential facilitators addressed and selected according to qualification sent in CVs and motivation letters. Trainings and Workshops and Study visits were organized. The first part of certification was finished by oral and written exams.
2. Second phase of certification took 4 – 6 months. Trained facilitators were monitored and evaluated by trainers and experts. After successful passing of both phases facilitators were given a Master Cluster Facilitator Certificate and became a member of the National Register of Facilitators.

During the certification project CzechInvest educated and certified more than 80 cluster facilitators who immediately actively participated in cluster creations in regions.

New web sites on clusters were launched to spread the information about clusters more effectively. CzechInvest translated *'The Cluster Initiative Green Book'* into Czech as a useful guide for clustering. Together with international experts from Cluster Navigators and PHAE Group limited its own Alliance Guideline which summarized information about clusters and other forms of collaborative alliances. There was also a study of cluster effects and antimonopoly law.

There were annual Cluster Newsletters sent to those who were interested in news in cluster development in the Czech Republic and about clusters internationally.

CzechInvest organized two Cluster Conferences in years 2005 and 2006 where international specialists from developed countries presented their experience with cluster concept implementation. More than 600 participants attended both conferences.

As a result of all these promotional measures, , first industrial clusters and cluster initiatives started to emerge in different regions of the Czech Republic.

3.1.1.1. Expected results

Expected results of the Strategy are illustrated in Table 4. The table demonstrates measurable outputs of the Strategy which were defined in the Strategy and their realisation.

Table 4 The realisation of the National Cluster Strategy⁵

The realisation of the National Cluster Strategy					
	Measurable outputs	Expected results		Realisation	
		Units	Amount	Amount really achieved	Were estimated outputs reached?
1	to support cluster mapping projects in traditional and new industries	projects	20	68	Yes
2	to support projects of establishment and further development of competitive clusters	projects	13	12	No
3	to support businesses, mainly SMEs increasing competitiveness as a result of involvement in cluster initiative	businesses	500	680	Yes
4	to generate co-financing from public and private resources, which should be 5-times higher than resources invested by Ministry of Industry and Trade from the OPIE programme Clusters	EUR	5*6675848	n/a	X

⁵ Source: "National Cluster Strategy 2005 - 2008." Ministry of Industry and Trade of the Czech Republic, 16 Jan. 2006. Web. 8 Sept. 2011. Source: <http://www.mpo.cz/dokument6216.html>. Internal statistics.

5	to support projects which lead to intellectual property rights creations and are results of cluster members' cooperation within cluster	projects	20	n/a	X
6	to facilitate cooperation among businesses and R&D and educational institutions within cluster	days	1 500	n/a	X
7	to identify and support common innovative and R&D projects among SMEs and between SMEs and R&D and educational institutions	projects	100	n/a	X
8	to increase export activities of businesses engaged in cluster initiatives by supporting export oriented common projects	projects	25	42	Yes

3.1.2. Main programmes

The Operational Programme Enterprise and Industry contained the fundamental form of support for clusters, namely the programme Clusters in the area of support 1.4 Development of information and consultancy services. The aim of the measure was to improve the institutional framework for the provision of high-quality services to the industrial sector through the establishment of collaborative networks of enterprises and innovative sectoral and regional clusters (further details in 3.2.).

Another significant document mentioned in the National Cluster Strategy was the National Cluster Study.

3.1.2.1. National Cluster study⁶

National Cluster Study was prepared on the basis of National Cluster Strategy which was consistent with the Strategy of Economic Growth and National Innovation Strategy.

The National cluster study was launched in September 2005 and finished in February 2006.

3.1.2.1.1. Target group of the National cluster study

The results of the study were to be used and employed especially the Ministry of Industry and Trade and CzechInvest. Parts of the Study were published on CzechInvest's internet pages.

⁶ Source: CzechInvest. *National Cluster Study*. Prague.

3.1.2.1.2. Allocated fund for the National cluster study

The National cluster strategy was financed from Phare funds and cost 2 272 900 CZK (90 916 EUR).⁷

3.1.2.1.3. Expected results of the National cluster study

The general objective of the Study was to provide detailed information and background for planned programmes supporting competitiveness of key sectors of the national economy in form of supporting cooperation among public and private sector.

The specific objectives of the study were as follows:

- To describe in detail the potential of competitiveness and innovation development of all 14 Czech regions at NUTS 3 level (including Prague), which shall enable regional governments and CzechInvest to set priorities and objectives for future support programmes.
- To identify competitive and potentially competitive industries at both national and regional levels, so that these become target of concentrated support from the state and EU development programmes in the period 2007-2013.
- To define the existing and potential clusters at national, regional and sub-regional levels that are or could be competitive in an international scale.
- To identify sources of data from EU, Czech government, public institutions and private sector providers that can be used to identify competitive clusters at national, regional and sub-regional levels.

3.1.2.1.4. Description of activities

The study was undertaken in two phases. The first phase consisted of following activities:

- Statistical report on national innovation and clustering potential by sector and subsector
- 14 regional reports (mapping studies) on innovation and cluster potential by sector and sub sector.
- Web site created and operated with access enabled for specified stakeholders
- Written recommendations for the approach to be adopted in the fieldwork stage including:
 - Approach to be used to identify the sampling frame and to deliver responses from minimum of 1400 companies involved in R&D and innovative clusters or potential clusters (minimum of 50 per NUTS 3 region)

⁷ Exchange rate: 25 CZK/EUR

- Criteria to select at least 100 respondents from research organizations, university departments, Academy of Science
- Preparation of a questionnaire with key questions

In the second phase there were prepared reports and complex presentations containing following:

- Opportunities to develop and grow innovative sectors and clusters by regions and at national level
- Report identifying innovation potential in each of the 14 NUTS 3 regions dealing with the sectors (or activities) of key potential and proposed action plans regarding programme options that would enable this potential to be mobilised through use of Structural Funds.
- The web site updated with national and regional findings and presentations.
- Preparation of report and presentation that details findings and includes an action plan for CzechInvest regarding:
 - Interest in the three components of the programme Cooperation (Clusters, Poles of excellence and Technology platforms)
 - Potential required adjustments of the programmes
 - Activities required mobilising applications
 Preparation of methodology for monitoring and evaluating the performance of the above mentioned programmes.

3.1.3. Impact assessment

During the year 2004 - Clustering - the new concept for support of regions and business development in important industrial areas - fully proved its viability. It became a popular and hot topic in regions.

According to National Cluster Study there were national clusters identified in automotive, brewery, and engineering sectors. Regional clusters were identified in following regions and industries:

- wood-processing in South-West Bohemian and North-East Moravian region,
- technical textiles in Liberec region, Hradec Karloff region and region Pardubice,
- packaging industry in Liberec region, Hradec Králové region and Pardubice region,
- glass industry in North Bohemian region,
- chemical industry in Elbe region,
- pharmaceutical industry in Central Bohemian region,
- aerospace manufacturing in South Moravia,
- healthy food production in South Bohemia and Vysočina region,
- ceramics production in West Bohemia.

Cluster potential was ascertained also in services and strategic services (ICT), there were also multimodal clusters defined, i.e. clusters whose emergence is based on innovative interactions among existing industries such as consumer electronics and automotive, optoelectronics, bio-cybernetics and biomedical engineering, new energetic and others.

According to internationally respected criteria the level of competitiveness of Czech Republic's economy was measured and benchmarked.

Regional cluster potential was defined in each region of the Czech Republic according to determined methodology. Each region was screened; competitive industries, their key actors and linkages among them were localized and described to identify existing and latent clusters.

3.2. Cluster development 2004 – 2006

The cluster development in years 2004 – 2006 was characterised by the programmes of support clusters launched within the Operational programme Industry and Enterprise.

3.2.1. Policy framework

There were two priorities defined and technical assistance. Subsequently nine areas of support were defined and eleven support programmes.⁸

Table 5 The Structure of the Operational Programme Industry and Enterprise (OPIE) 2004-2006

Priority	Area of support	Programme
1. Development of business environment – Development of new and modernization of existing industrial areas – Development of business incubators, technology parks and infrastructure in applied research and development – Technology transfer and modernization of institutional structures for business support 46% of OPIE	1.1 Infrastructure for industrial research, development and innovation	PROSPERITY
	1.2 Development of business infrastructure	PROPERTIES
	1.3 Infrastructure for development of human resources in industry and in business	TRAINING CENTRES
	1.4 Development of information and consultancy services	CLUSTERS
2. Development of company competitiveness	2.1 Establishment and development of SMEs	START
		CREDIT
		PROGRESS

⁸ Annual Report of Operatinal Programme Industry and Enterprise 2008. 20 Oct. 2009. Ministry of Industry and Trade of the Czech Republic. 12 Aug. 2011 Source: <<http://www.mpo.cz/dokument65564.html>>.

<ul style="list-style-type: none"> – Focus on direct investment promotion and consultancy services – Specific focus on SMEs 50% of OPIE		MARKETING
	2.2 Support for product innovations, new technologies and services	INNOVATION
	2.3 Reducing of energy consumption and better use of renewable energy sources	ENERGY SAVINGS RENEWABLE ENERGY SOURCES
3. Technical assistance <ul style="list-style-type: none"> – Management, implementation and administration of OPIE 4% of OPIE	3.1 Technical assistance in programme management and implementation	-
	3.2 Other Technical assistance	-

Cluster support programme belonged to Measure 1.4 – Development of information and consulting services, which represented 50 % of allocated funds of this measure

3.2.1.1. Time frame

The programme OPIE was launched for years 2004 – 2006.

3.2.1.2. Coherence with other policy

Operational Programme Industry and Enterprise (OPIE) 2004—2006 was the basic document for the policy of economic and social cohesion (ESC) in the Czech productive and business sector.⁹ OPIE was worked out as the specific part of the National Development Plan for the period 2004-2006 focusing on economic development and it was the base for negotiations of the Community Support Framework (CSF) for NUTS II regions of the Czech Republic.

3.2.1.3. Definition of cluster

Development of clusters belonged in the OPIE to Priority 1 – Development of business environment aiming to increase and improve links between industry and business and the research and development community, create optimal development and growth conditions for companies with innovative potential and enhance the capacity of research and development organizations to meet the needs and demands of the business sector. Clusters developed among private sector, universities, scientific and research centres in areas where the Czech Republic has a comparative advantage and/or growth potential.¹⁰

⁹ *Operational Programme Industry and Enterprise 2004-2006*. 16 Mar. 2006. The Ministry of Industry and Trade. 12 Aug. 2012. Source: <<http://www.mpo.cz/dokument11962.html>>.

¹⁰ *Operational Programme Industry and Enterprise 2004-2006*. 16 Mar. 2006. The Ministry of Industry and Trade. 12 Aug. 2012. Source: <<http://www.mpo.cz/dokument11962.html>>.

3.2.1.4. Aim of policy

The aim of support within the framework of the OPIE was to continue developing a competitive and efficient productive and business potential, to contribute to increased economic performance, and to support the necessary structural changes in industry and business in order to achieve substantial progress in real convergence during the 2004-2006 programming period¹¹.

3.2.1.5. Target group

To fulfil the goals of the programme the OPIE was earmarked especially for small and medium enterprises. The support for clusters was distributed among all regions of the Czech Republic with the exception of Prague region.

3.2.1.6. Main activities

The main priorities of the OPEI are defined in the table 4 The Structure of the Operational Programme Industry and Enterprise (OPIE) 2004-2006.

3.2.1.7. Allocated funds

OPIE was funded fully from the European Regional Development Fund (ERDF) and state budget. The total amount of allocation was 260, 8 mil. € from the EU plus 86, 2 mil. € from state budget.¹²

3.2.1.8. Involved institution

The managing authority of the OPEI was Ministry of Industry and Trade of the Czech Republic. The implementation agency was CzechInvest, CzechTrade and Czech Energy Agency.

3.2.1.9. Expected results

The programme OPEI had following expectations:

- To increase share of SMEs on economic growth, export efficiency, unemployment reduction, economic revitalisation of structurally underdeveloped regions
- To increase technical level of SMEs and their competitiveness
- To support cooperation of SMEs with research and development institutions
- To facilitate enter of citizens in business.

¹¹ *Operational Programme Industry and Enterprise 2004-2006*. 16 Mar. 2006. The Ministry of Industry and Trade. 12 Aug. 2012. Source: <<http://www.mpo.cz/dokument11962.html>>.

¹² *Annual Report of Operatinal Programme Industry and Enterprise 2008*. 20 Oct. 2009. Ministry of Industry and Trade of the Czech Republic. 12 Aug. 2011 Source: <<http://www.mpo.cz/dokument65564.html>>.

3.2.2. Main programmes of Cluster development 2004 - 2006

The main programme from the OPEI focused on support of clusters was the programme Clusters.

The support programme Clusters was approved by the government of the Czech Republic in April 2004. It realizes OPIE's measure No 1.4 Development of information and consulting services, Priority Development of business environment.

The aim of the programme is to support establishment and development of sectoral groupings on regional and cross-regional level. For purposes of Clusters programme administration, clusters were defined as regionally located set of mutually connected companies, associated institutions and organizations that compete with each other but also cooperate, and whose bonds have the potential to strengthen and increase their competitiveness.

The support programme Clusters lays down the basic rules and conditions for the provision of support in the form of grants for projects aimed at creation, management and development of clusters and networks of companies with the goal of improving the ability of SMEs to compete through innovation and collaboration. Clusters can be formed by companies mainly in the same sector, specialized suppliers, service providers, and associated research and educational institutes, all at the regional, national, or cross-border level.¹³

The programme's basic conditions were defined to boost innovation and increase competitiveness:

- the number of businesses regionally located in the cluster need to create the critical mass (at least 10 business)
- cluster should be innovation- and export-oriented
- connection to R&D and educational facilities
- clearly defined sector of interest
- support of key businesses in region
- strong linkages among suppliers and customers

The support programme Clusters was divided into two phases:

- a) Cluster mapping – mapping of businesses suitable for cluster initiative foundation
- b) Cluster Establishment and development

¹³ Operational Programme Industry and Enterprise 2004-2006. 16 Mar. 2006. The Ministry of Industry and Trade of the Czech Republic. 12 Aug. 2012. Source: <<http://www.mpo.cz/dokument11962.html>>.

Table 6 Cluster programmes in OPIE 2004 - 2006

Type of cluster support project in OPIE	Beneficiaries	Supported activities	Eligible costs	Limits of subsidy/project (in 1000 CZK)		Limits of subsidy/project (in 1000 EUR)		% of eligible costs reimbursed	Project's duration (months)
Clusters mapping	Facilitators	pre-analyses of economic potential of region	costs of tender for mapping study processing	200	1 000	8,2	41	75	8
		analyses of businesses suitable for cluster establishment	costs of mapping study						
		networking	organization of workshops, seminars and meetings related to cluster mapping						
		evaluation of clusters viability and sustainability	material costs of study preparation						
		project's promotion	costs for project's promotion						

Clusters - Establishment and Development	Clusters		lease and furnishing of establishments required for the cluster's operations (cluster office and labs)	3 000	45 000	123	1 844	1.year	75	36
		joint R&D and innovation projects and joint	tangible and intangible assets (except leases) required for common projects, laboratory and testing facilities, vehicle up to 400 000 CZK (16 400 EUR)					2.year	65	
		marketing and promotion	marketing material, website, media promotion, costs of trade fair and exhibition presentation							
			consultancy services, expertises, benchmarking studies, costs, market research costs, innovation and competitiveness analyses							
		market and competitiveness research	evaluation study of cluster's impact and economic benefits done by independent expert (cost benefit analysis)					3.year	55	
		human resources qualification raising	Staff costs, domestic and foreign travel expenditures, training							
		cooperation with R&D and educational institutions, networking	Seminars, conferences, workshops							

3.2.2.1. Programme Clusters - mapping

Support from this programme's phase was provided for 8 months.

Projects had to be carried out in the Czech Republic except Prague region. At least 10 businesses had to be interested in the mapping of potential for creating cluster. An R&D institution or a university had to be involved in the mapping analysis as well.

3.2.2.1.1. Target group of programme

The beneficiaries of the grant in this phase of the *Clusters* programme were facilitators, i.e. regional agencies or other institutions representing regions, educational and R&D institutions based in the Czech Republic experienced enough to undertake preliminary economic analysis of the selected region and also enterprises serving as driving force for the cluster creation.

To meet the requirements of the programme there were strict selection criteria introduced to support only the best suitable cluster projects guaranteeing their sustainability and viability after the project's realization and monitoring phase.

In both project phases, Search and Establishment and Development, the financial health of applicants was rated. Financial history and outlook was rated using standard international rating criteria.

The programme's mapping phase had the following specific selection criteria:

- At least 10 businesses interested in cluster's establishment
- Level of region's and industry's potential (localization quotient index, employment rate's evaluation, value added of the industry, industry's growth potential index)
- Quality of the project (quality of cluster members, project's methodology and feasibility of proposed activities and measurements).
- Projects in area of manufacturing industry.

3.2.2.1.2. Allocated funds of the programme

The allocation for both phases of programme Clusters was 9 000 000 EUR. The allocation for each Cluster mapping project was within 8 000 – 40 000 EUR.

3.2.2.1.3. *Expected results of programme*

The aim of this part of the *Clusters* programme was to identify suitable businesses for clustering, find potential for cluster viability and identify cluster benefits. If feasible the cluster was established during the mapping phase.

3.2.2.1.4. *Description of activities*

The eligible activities were connected with processing of studies and analyses necessary to be done before the establishment of cluster and the definition of linkages between potential cluster members. For more detailed information see Table 5 Cluster programmes 2004 – 2006.

3.2.2.2. Programme Clusters – Establishment and development

In this phase of programme *Clusters* financial support was provided for projects of cluster development. The goal of these projects was to facilitate cooperation between cluster members based on common cluster projects which should lead to increase of competitiveness, innovations and economic growth of cluster members.

The aim of the programme was to initiate infrastructure for entities which, under certain conditions, group together in order to generate the competitiveness they need in the form of a cluster, i.e. with the integral participation of the region, the tertiary or research sphere, and business entities.¹⁴

3.2.2.2.1. *Target group of programme*

This part of the programme followed the first phase of cluster mapping and was directly attributed to clusters. Clusters seeking subsidy from this programme had to meet following requirements:

- to be legal entity licensed to do business in the Czech Republic
- to be founded for increasing competitiveness and innovation in the industry, in which the cluster emerged
- to reinvest revenues gained during the project realization in cluster's common activities
- to realize its project in the Czech Republic excluding the Prague region
- projects in the area of manufacturing industry

¹⁴ *Programme of Support CLUSTERS*. 1 Apr. 2006. The Ministry of Industry and Trade of the Czech Republic. 12 Aug. 2011. Source: <<http://www.mpo.cz/dokument17303.html>>.

- to have at least 15 independent cluster members, 75 % of which are based in the Czech Republic
- a majority (at least 60 %) of cluster members have to be represented by SMEs
- a Czech university or R&D institution has to be a member of the cluster
- the cluster must prove sustainability for realization and monitoring phase of the project
- the cluster project follows the mapping phase realized in the region during Cluster mapping phase.

The projects applying to the phase Establishment and development had to rank in following indicators:

- Cluster's regional strength (rate of employment in cluster compared to regional employment in particular branch, potential to economic growth, cluster's potential to increase productivity, exports and value added).
- Cluster's members profile (strength of the member firms in the region measured with employment rate, level of sales, profits, value added, export rate, R&D activities, number of employees and investments in R&D)
- University's or R&D institution's profile (number and relevance of the institution's or university's specialization to cluster's business plan, role and intensity of involvement in common projects)
- Cluster's organization and structure (cluster's vision and mission, organizational structure, quality of management)
- Cluster's management (qualification of cluster's manager and professional skills of cluster employees according to cluster's business plan and lay out of common activities)
- Cluster's financial plan (feasibility of proposed financial plans, cash flow, viability of cluster, ability of pre-finance eligible costs and self-financing ability of all costs during the monitoring phase and afterwards, reality of planned expenditures according to common projects' activities and current business practice.
- Quality of proposed common projects (quality and feasibility of proposed outputs)
- Quality of proposed aims of the project, measurability and methodology and feasibility.

Applications were accepted continuously in limited time period. The submitted applications were assessed by CzechInvest; final decision was brought by the concerned Managing Authority based on the decision proposal of the Evaluation Committee.

3.2.2.2.2. *Allocated fund of programme*

The allocation for both phases of programme Clusters was 9 000 000 EUR. Each project of the programme Clusters – Establishment and development could receive financial support from 120 000 EUR – 1 800 000 EUR.

3.2.2.2.3. *Expected results of programme*

The programme expected strengthening of the institutional support framework for Czech business sector and contribution of the programme to spread of ethical principles and management of businesses among the Czech businessmen.¹⁵

3.2.2.2.4. *Description of activities*

Projects were oriented on common research and development, common purchases, common promotion, market research and competitors monitoring, common development of human capital represented in cluster members, to boost cooperation with R&D and educational institutions. For detailed description of supported activities see 5 Table Cluster programmes 2004 – 2006.

3.2.3. Impact of Cluster development 2004-2006

The period of cluster development in years 2004 – 2006 was characterised by realization of two cluster support programmes Clusters – Search and Cluster – Establishment and development.

The direct results of Cluster development 2004 – 2006 are illustrated in Table 7 OPIE project data.

Table 7 OPIE project inputs

Pro-gramme's allocation in CZK (thous)	In EUR (thous)	Type of project	Total number of applications	In CZK (thous.)	In EUR (thous)	Total number of approved projects	In CZK (thous)	In EUR (thous)	Total amount reimbursed in CZK (thous)	Total amount reimbursed in EUR (thous)
255 060	10 453	Search	68	49 947	2 047	42	31 684	1 299	26 419	1 083

¹⁵ Operational Programme Industry and Enterprise 2004-2006. 16 Mar. 2006. The Ministry of Industry and Trade. 12 Aug. 2012. Source: <<http://www.mpo.cz/dokument11962.html>>.

		Establish-ment and develop-ment	18	350 008	14 345	12	199 124	8 161	140 478	5 757
--	--	---------------------------------	----	---------	--------	----	---------	-------	---------	-------

During the year 2004 – 2006 there were 54 cluster projects supported which achieved together 6 840 000 EUR.

The Ministry of Industry and Trade of the Czech Republic as the Managing authority of the programme OPIE had monitored the impact of measures realised within the programming period 2004 – 2006. The results of the cluster development 2004 – 2006 were summarised in several surveys.

Table 8 illustrates the impact of realisation of cluster development programmes in 2004 – 2006.

Table 8 Impact of realization of OPIE 2004 - 2006¹⁶

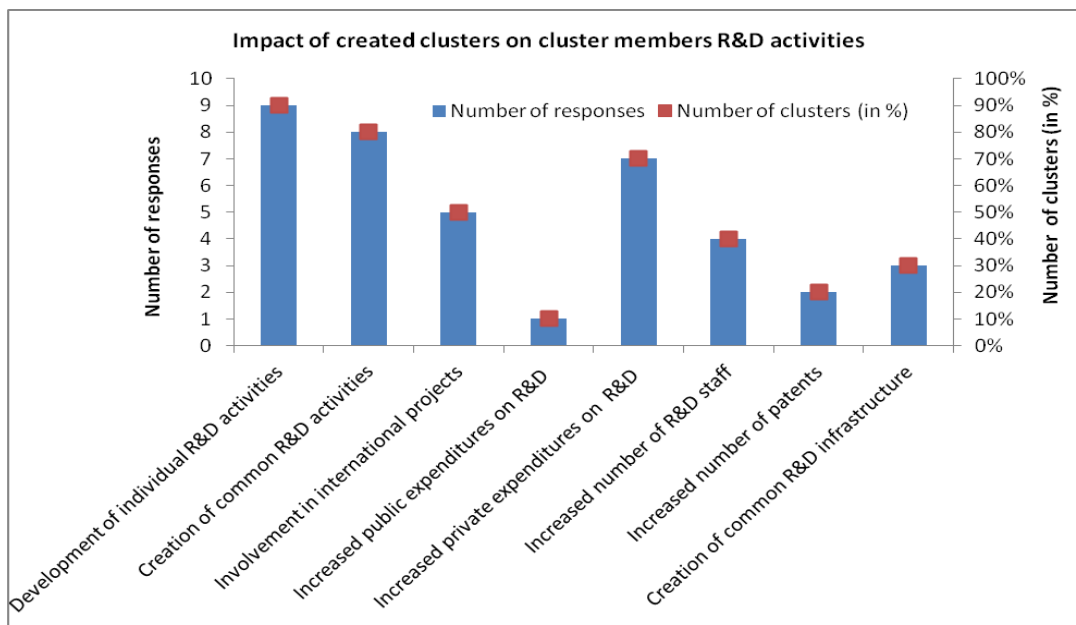
Measure	Units	Value on 30 th September 2008
Increase of value added of cluster members	%	cca 12,5
Increase of labour productivity of cluster members	%	26,29
Increase of net turnover of cluster members	%	17,4
Common cluster members projects	Number	178
Expenditures on R&D	mil. EUR (1 EUR/25 CZK)	67,7
R&D and education institutions involved in cluster projects	Number	41
Commercialised results of cluster's R&D activities	Number	106
Export	mil. EUR (1 EUR/25 CZK)	1 409,82

¹⁶ Source: Deloitte. *Evaluation of Results and Impact of Realisation OPIE 2004-2006*. Prague: Deloitte, November 2008.

The impact of cluster creation on R&D activities of cluster participants reflects the Table 7

Impact of cluster creation on R&D activities of cluster participants illustrates Graph 1.

Graph 1 Impact of cluster creation on R&D activities of cluster participants¹⁷

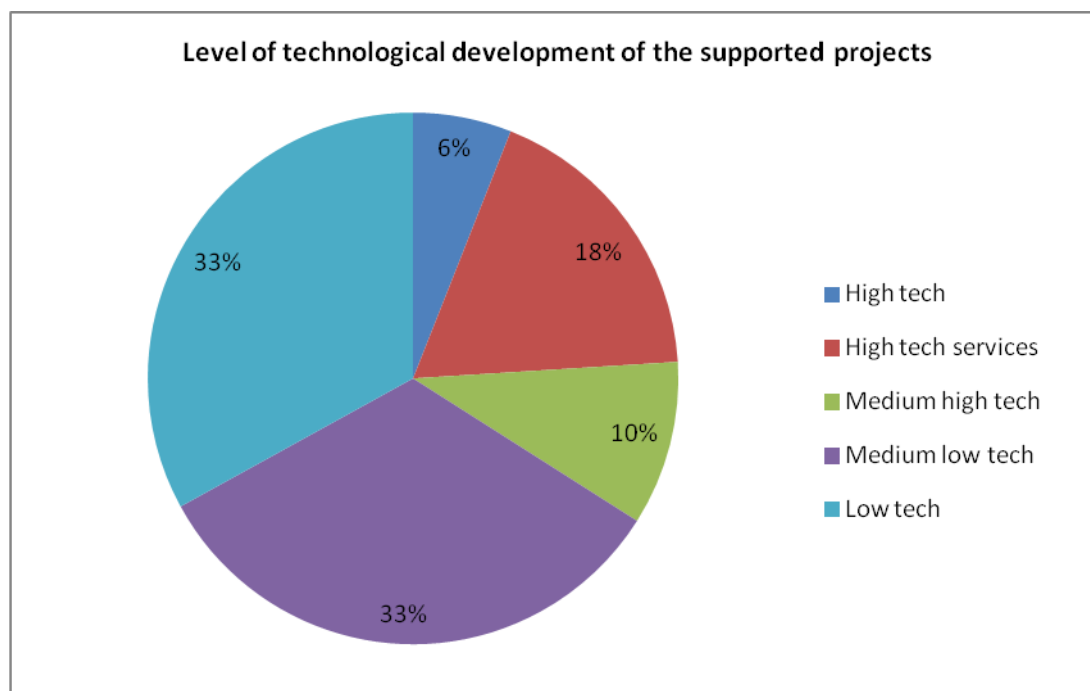


Clusters supported within the programme Cooperation in 2004 – 2006 had positive impact on R&D activities of their members. 90 % of clusters declared development of individual R&D activities. Development of common R&D activities with R&D and educational institutions was confirmed by 80 % of clusters. This development increased private expenditures on R&D which declared 70 % of responding clusters. According to the survey public expenditures on R&D increased only by one cluster. The reason for this situation is probably caused by complicated system of public financing of R&D activities rather than by low involvement of public R&D institutions.

¹⁷ Source: Technology Centre of Academy of Science of the Czech Republic. *Evaluation of OPIE 2004-2006 R&D projects and their impact of innovational potential of regions of the Czech Republic*, November 2008.

The level of technical development of projects realised in both phases of programme Clusters illustrates Graph 2.

Graph 2 Level of technological development of projects supported with the programme Clusters¹⁸

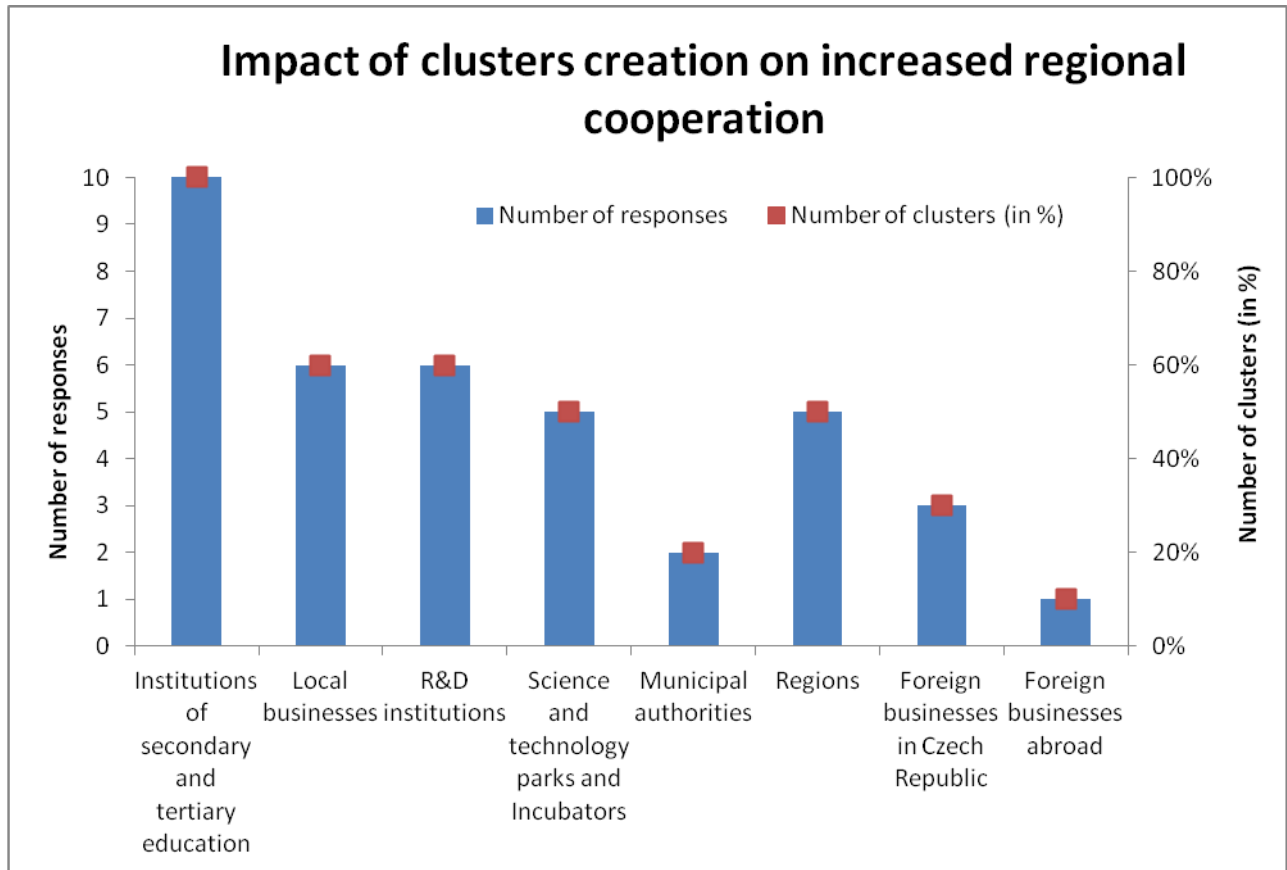


The projects supported within the programme Clusters in 2004 – 2006 were carried out mostly in low-tech and medium low-tech industries (66%) which reflected the situation in Czech economy in 2004 – 2006. Only 6 % of supported projects were realised in high-tech industries. Considerable representation had projects in knowledge economy and high-tech services (18 %). These projects were realised in bio- and nanotechnologies and bioinformatics, which is positive for the economic development.

¹⁸ Source: Technology Centre of Academy of Science of the Czech Republic. *Evaluation of OPIE 2004-2006 R&D projects and their impact of innovational potential of regions of the Czech Republic*, November 2008.

The impact of cluster creation on development of regional cooperation and networking illustrates Graph 3.

Graph 3 Impact of cluster creation on regional cooperation¹⁹



The expected benefits of clusters consist in increased cooperation of clusters and their members with institutions of regional development. The cooperation with institutions of secondary and tertiary education increased in all established clusters. 60 % of clusters increased cooperation with local businesses and R&D institutions and 50 % of clusters declared increased cooperation with science and technology parks and incubators and regional authorities. Only 20 % of clusters increased cooperation with municipal authorities. The short history of clusters is reflected in lower internationalisation of clusters – only 10 % of clusters declared increased cooperation with foreign businesses. The international cooperation will be supported by following cluster development programmes.

¹⁹ Source: Technology Centre of Academy of Science of the Czech Republic. *Evaluation of OPIE 2004-2006 R&D projects and their impact of innovational potential of regions of the Czech Republic*, November 2008.

3.3. Cluster development 2007-2013

The development of clusters in years 2007 – 2013 is characterised by the programme of support Cooperation. This programme was included in the Operational programme Enterprise and Innovation (OPEI)

3.3.1. Police framework

The Operational Programme Enterprise and Innovation (OPEI) is the main programming document of the Ministry of Industry and Trade for drawing support from the European Regional Development Fund (ERDF) in the period 2007 — 2013. This thematic operational programme is based on the principles of the Lisbon Strategy, which primarily aims at enhancing economic growth and employment while respecting the principles of sustainable development.²⁰

Table 9 The structure of the Operational Programme Enterprise and Innovation (OPEI) 2007-2013

Priority	Support area	Programme	%
1. Establishment of companies	1.1 Support for beginning entrepreneurs	START	2,6
	1.2 Use of new financial instruments	FIN.N/JEREMIE	
2. Development of companies	2.1 Banking instruments for the support of SMEs	PROGRESS	21,8
		GUARANTEE	
	2.2 Support for new production technologies and ICT in companies	DEVELOPMENT	
		ICT and Business-support Services ICT in Companies	
3. Efficient energy	3.1 Energy conservation and renewable sources of energy	ECO-ENERGY	4,0
4. Innovation	4.1 Increased innovation efficiency of companies	INNOVATION	22,4
	4.2 Capacities for industrial R & D	POTENTIAL	
5. Business and innovation environment	5.1 Cooperation platforms	COOPERATION	38,4
		PROSPERITY	
	5.2 Infrastructure for human resources development	TRAINING CENTRES	
	5.3 Business infrastructure	PROPERTIES	
6. Business-	6.1 Support for consulting services	CONSULTING	7,9

²⁰ *Operational Programme Enterprise and Innovations (OPEI) 2007 - 2013*. 1 Sept. 2010. The Ministry of Industry and Trade of the Czech Republic. 21 Aug. 2011. Source: <<http://www.mpo.cz/dokument78086.html>>.

development services	6.2 Support for marketing services	MARKETING	
----------------------	------------------------------------	-----------	--

3.3.1.1. Time frame

The programme OPEI was launched for the period 2007 – 2013.

3.3.1.2. Coherence with other policy

The Operational Programme Enterprise and Innovation develops an important part of the strategic objective of the National Strategic Reference Framework of the Czech Republic for the years 2007 — 2013 named "Competitive Czech Economy", and is based on the main strategic documents of the Czech Republic (Strategy of the Economic Growth, Strategy of the Regional Development, etc.) and complies with the Community strategic guidelines on economic, social and territorial cohesion 2007 — 2013.²¹

General objective of the Operational Programme Enterprise and Innovation is to increase industrial and business competitiveness, to maintain the attractiveness of the Czech Republic and its regions and cities for investors, to support innovation, to stimulate demand for R&D results and to commercialize R&D, to support entrepreneurship and the growth of the knowledge economy that is based on capacity for implementation of new technologies and innovative products including new information and communication technologies.²²

3.3.1.3. Definition of cluster

There was no special cluster definition included.

3.3.1.4. Aim of policy

For the purpose of encouragement of enterprise and innovation in the Czech Republic the programme aims to achieve the following specific goals²³:

- Improving the business infrastructure

²¹ *Operational Programme Enterprise and Innovations (OPEI) 2007 - 2013*. 1 Sept. 2010. The Ministry of Industry and Trade of the Czech Republic. 21 Aug. 2011. Source: <<http://www.mpo.cz/dokument78086.html>>.

²² *Proposal of the National Development Plan of the Czech Republic 2007 - 2013*. n.d. Ministry of Regional Development of the Czech Republic. 20 Aug. 2011. Source: <<http://www.strukturalni-fondy.cz/CMSPages/GetFile.aspx?guid=45fc8d6d-7007-4bc9-8f17-d172d12e2fa0>>.

²³ *Proposal of the National Development Plan of the Czech Republic 2007 - 2013*. n.d. Ministry of Regional Development of the Czech Republic. 20 Aug. 2011. Source: <<http://www.strukturalni-fondy.cz/CMSPages/GetFile.aspx?guid=45fc8d6d-7007-4bc9-8f17-d172d12e2fa0>>.

- Support of cooperation among enterprises, universities and research institutions to increase competitiveness, transfer of know-how and support R&D thanks to establishment and development of cluster initiatives
- Development of business activities to create own innovation, research and development capacities and infrastructure for R&D
- Implementation of technical and non-technical innovations
- Implementation of new technologies and processes
- Creating and improving services for business
- Support of the development of services and human resources for R&D
- Internationalisation of companies
- Development of human resources in enterprises
- Support of entrepreneurship as well as support of establishment and development of new businesses
- Efficient use of energy

3.3.1.5. Target group of the policy

to the beneficiaries of the programme are businesses, universities, regional authorities, non-profit organisations, state and regional contributory organisations. All support for clusters was distributed to all regions of the Czech Republic with the exception of Prague region.

3.3.1.6. Main activities

The structure of activities supported by the programme OPEI is illustrated in Table 7 The structure of the Operational Programme Enterprise and Innovation (OPEI) 2007-2013.

3.3.1.7. Allocated funds

The programme OPEI has total allocation of 3 671 400 782 EUR, the contribution of ERDF is 3 120 690 664 EUR, 550 710 118 EUR contributes national budget.



3.3.1.8. Involved institution

The managing authority of the OPEI is the Ministry of Industry and Trade of the Czech Republic and the implementing agency is the Business Development and Investment Agency – CzechInvest.

3.3.1.9. Expected results

- Increase turnover of participating companies
- Increase export activities and international market shares
- Decrease input unit cost per produced output by means of cooperation and coordination
- Increase competition that motivates companies to engage in product and process innovations.
- Growth and retention of employment, growth of regional GDP and positive impact on local and regional development

3.3.2. Main programs of Cluster development 2007 - 2013

The development of clusters within the year 2007 – 2013 has been characterised by the programme Cooperation - Clusters. General objective of the programme Cooperation- Clusters is continuous creation of favourable business climate, improving conditions for business development and innovations and building a sustainable competitive advantage by enhancing the quality of relationships among research institutions, universities and business sector.

The specific objective of this programme is to support establishment and development of cooperative sectoral alliances - clusters, on regional and national level as a tool for stimulation of international competitiveness and acceleration of economic growth.

In the Programme OPEI (2007-2013) – Cooperation – Clusters two calls were announced up till 2011. The third call was announced in January 2012.

3.3.2.1. Programme Cooperation – Clusters 1st Call

The 1st Call of the programme Cooperation – Clusters represents support of clusters was opened in October 2008 and closed in May 2009.

3.3.2.1.1. Target group of programme

The main target group are SMEs in supported areas. Secondary target groups are research and development organizations as well as tertiary education institutions.



There are several conditions that a cluster has to meet to obtain the subsidy.

Activities of the cluster must focus on the development of innovations and international competitiveness, and seen in this light clusters must prove their permanent ties to a research and development base and educational institution.

Cluster must have at least 15 independent members that are authorized to do business in the Czech Republic.

a university or R&D institution must be a member of the cluster.

At least 60% of cluster members must be SMEs.

The cluster must have a clearly defined industrial sector.

The cluster organization must have a legal form - **civic association, an interest grouping of legal persons, a limited liability company, a public limited company, or a cooperative.**

The aid beneficiary is only the cluster organization.

3.3.2.1.2. Allocated fund for programme

The allocation of the 1st Call of Cooperation - Clusters programme was 40 000 000 EUR.

3.3.2.1.3. Expected results of programme

The programme is to support establishment and development of sustainable and efficient clusters which contribute to the increase of competitiveness and economic growth. It was expected that the support will lead to the development of up to 50 cluster organizations.

3.3.2.1.4. Description of activities

Supported activities are joint projects of the cluster. Each joint project must be approved by the majority of the cluster members and minimum three cluster members have to participate in each joint project. There are several types of supported joint projects:

- Joint projects in the field of technical infrastructure and innovation
 - Supported activities are e.g.: establishment of labs or its rental, purchase of R&D equipment, purchase of hardware & software, purchase of intellectual property.
- Joint projects in the field of marketing and promotion

- Supported activities are e.g.: participation in fairs, exhibitions or conferences and also organizing of workshops and seminars, preparation of cluster promotional materials, advertising and publicity in the press, PR activities and web design.
- Joint projects in the field of human resource development
 - Supported activities are e.g.: staff training connected with cluster research activities
- Joint projects in the field of networking, sharing know-how and capacities²⁴
 - Supported activities are e.g.: common access to information and databases, consultancy and advisory services used exclusively for research purposes or innovation activities

3.3.2.2. Programme Cooperation – Clusters 2nd Call

The 2nd call of programme Cooperation – Clusters was opened in January 2010 and closed in September 2010.

3.3.2.2.1. Target group

The 2nd Call is divided in two parts. The first part of the programme was opened for newly established clusters or cluster established in the past, but which had not received support from the 1st Call. The second part of the programme was aimed at clusters which have already achieved support from the 1st Call and wanted to expand the portfolio of cluster projects with transnational R&D cooperation projects, e.g. in the network CORNET.

3.3.2.2.2. Allocated funds

The total allocation for the 2nd Call was 30 000 000 EUR.

3.3.2.2.3. Expected results

The programme is to support the establishment and development of sustainable and efficient clusters which contribute to the increase of competitiveness and economic growth. The programme supports successful involvement of Czech clusters in transnational R&D cooperation projects.

²⁴ *Programme Cooperation - Clusters 1st Call*. 3 Oct. 2008. CzechInvest. 12 Aug. 2011. Source:<<http://www.czechinvest.org/data/files/spoluprace-klastry-i-vyzva-1195.pdf>>.

3.3.2.2.4. Description of activities

The core supported activities are the same as in the 1st Call. The additional activities supported in the 2nd Call are support of involvement of Czech clusters in international cluster cooperation, cluster enlargement and furthering cooperation within the cluster members.

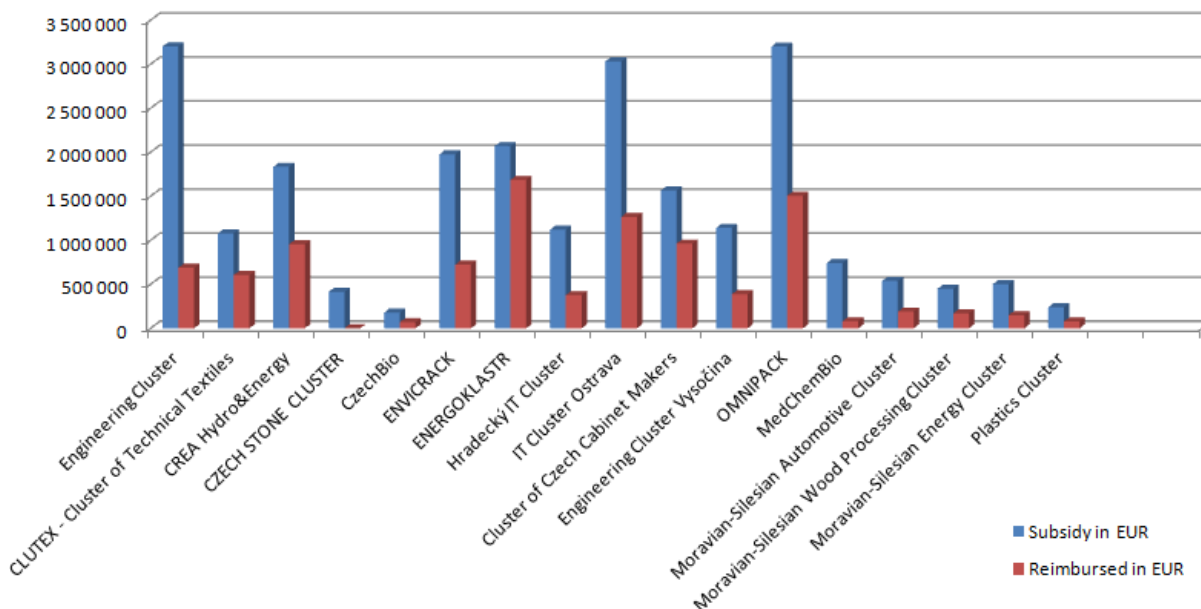
3.3.3. Impact of cluster development 2007-2013

Cluster development 2007 – 2013 hasn't been finished yet. Clusters which were supported in both of the above mentioned programmes are still carrying out their activities. For general overview see following tables.

Basic data of the 1st Call	
The date of publication	1. 10. 2008
The amount of subsidy that can be obtained	3 - 80 mil. Kč (0, 12 mil. € - 3, 2 mil. €)
Allocated fund	1 bil. Kč (40 mil. €)

Results of the 1st Call	
Total number of applications	30
Supported clusters	18
Total approved support	607, 026 mil. Kč (24.3 mil. €)
Till 31st December 2011 reimbursed	246, 9 mil. Kč (9, 9 mil. €)

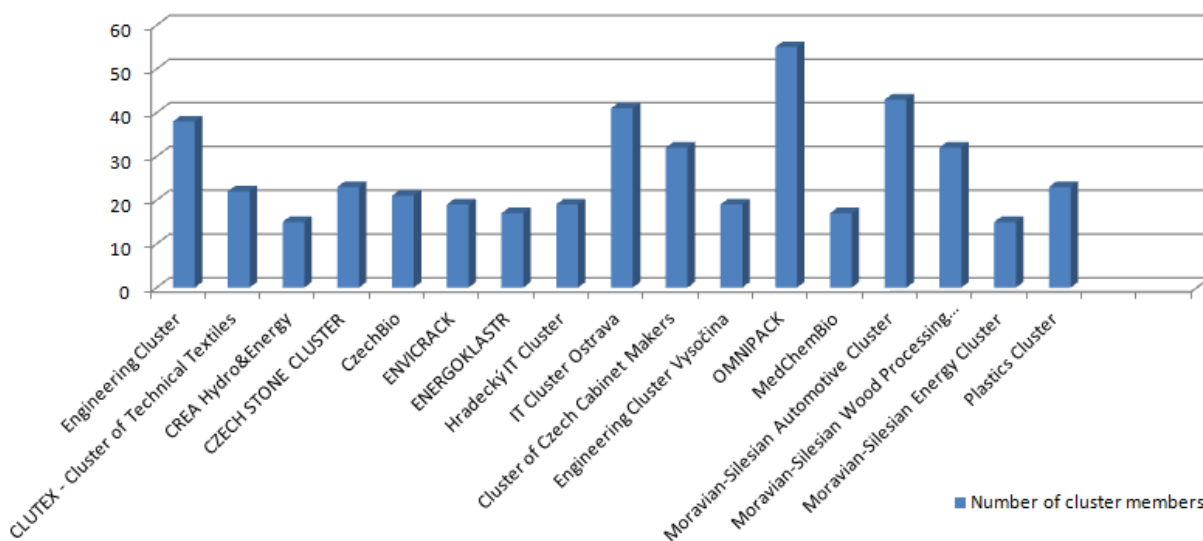
Graph 4 Clusters that have been supported in the 1st Call



During the 1st Call 18 clusters have been supported in total amount of 24, 3 mil. €. The subsidy has been granted for maximum 3 years. The highest amount of subsidy gained OMNIPACK, Engineering Cluster and IT Cluster Ostrava (see graph 4).

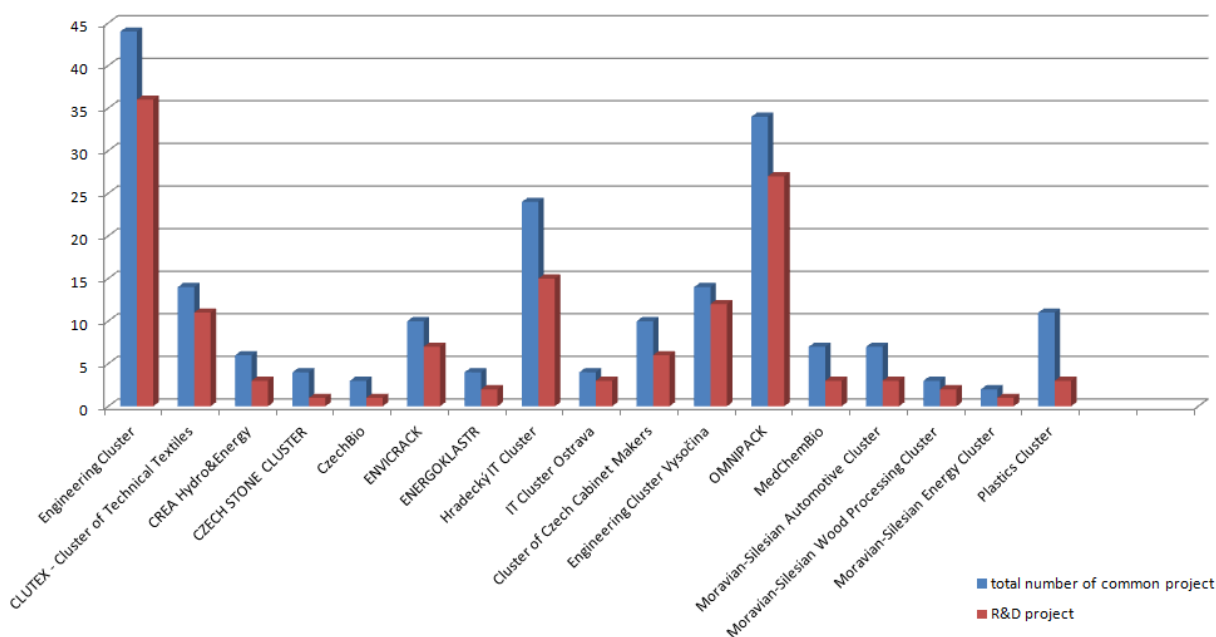
Till 31st December 2011 9, 9 mil. € were reimbursed. It is important to point out that reimbursement depends on the phase of cluster project realisation. The subsidy is paid back after each phase. Currently only CLUTEX – Cluster of Technical Textiles finished it's supported activities but it hasn't prepared the last request for payment.

Graph 5 Number of cluster members involved in clusters that have been supported in the 1st Call



Supported clusters from the 1st Call have mostly between 15 - 23 cluster members. The largest cluster is OMNIPACK which includes 55 members.

Graph 6 Number of common cluster project considering R&D

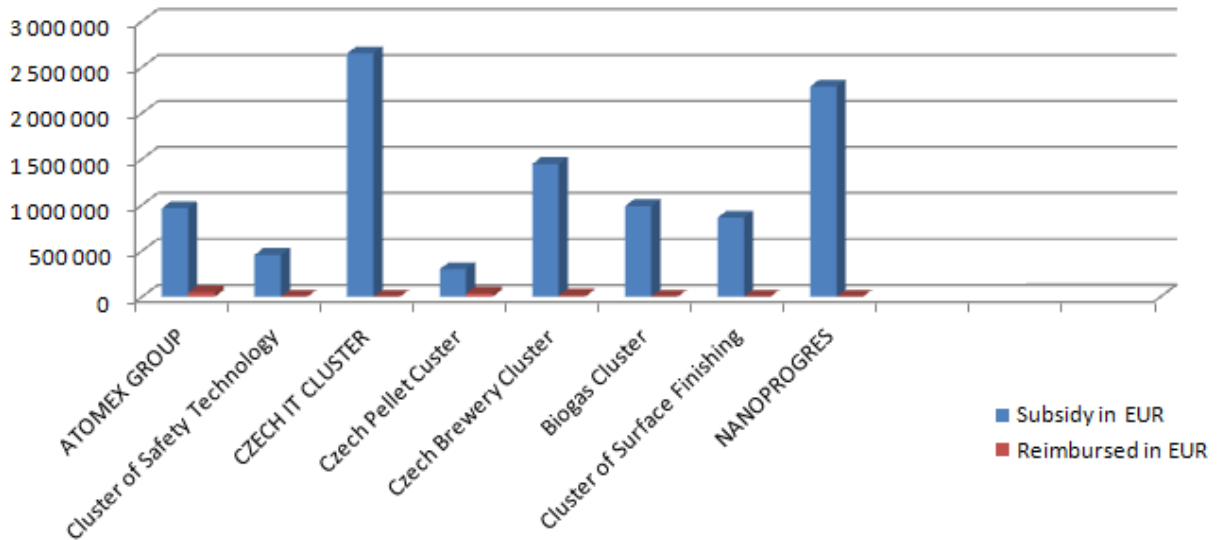


Through the cluster development programme Czech Republic makes an effort to encourage business cooperation mostly in the field of common applied research and innovation. Graph 6 shows that R&D is really core cluster activity. Among others activities we could mention common marketing projects, HR projects and others.

Basic data of the 2nd Call	
The date of publication	11. 1. 2010
The amount of subsidy that can be obtained	3 - 80 mil. Kč (0, 12 mil. € - 3, 2 mil. €)
Allocated fund	750 mil. Kč (30 mil. €)

Results of the 2nd Call - Support of development of new clusters	
Total number of applications	17
Supported clusters	8
Total approved support	247 mil. Kč (10 mil. €)
Till 31st December 2011 reimbursed	2, 7mil. Kč (94, 5 tis. €)

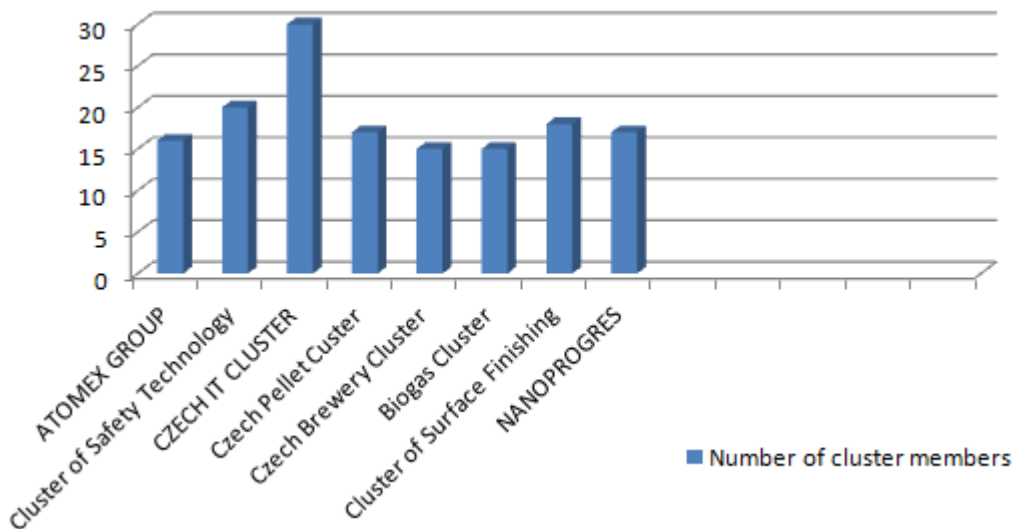
Graph 7 New clusters that have been supported in the 2nd Call



During the 2nd Call 8 new clusters have been supported in total amount of 0,1 mil. €. The subsidy has been again granted for maximum 3 years. The highest amount of subsidy gained CZECH IT CLUSTER and NANOPROGRES (see graph 7).

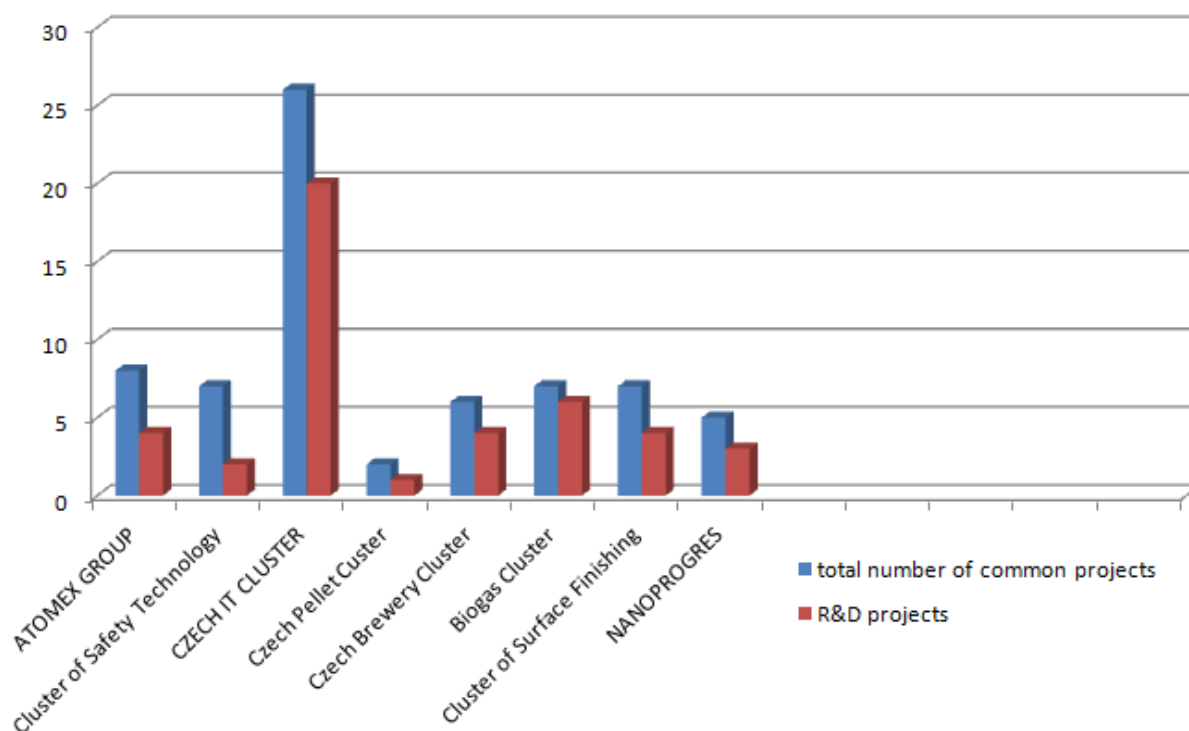
Till 31st December 2011 only 94, 5 thousand € were reimbursed. But, as it was mentioned in the comment for the 1st Call, the reimbursement depends on the phase of cluster project realisation and is paid after finishing each phase. Clusters from the 2nd Call have just started their joint activities therefore is the reimbursement low.

Graph 8 Number of cluster members involved in clusters that have been supported in the 2nd Call



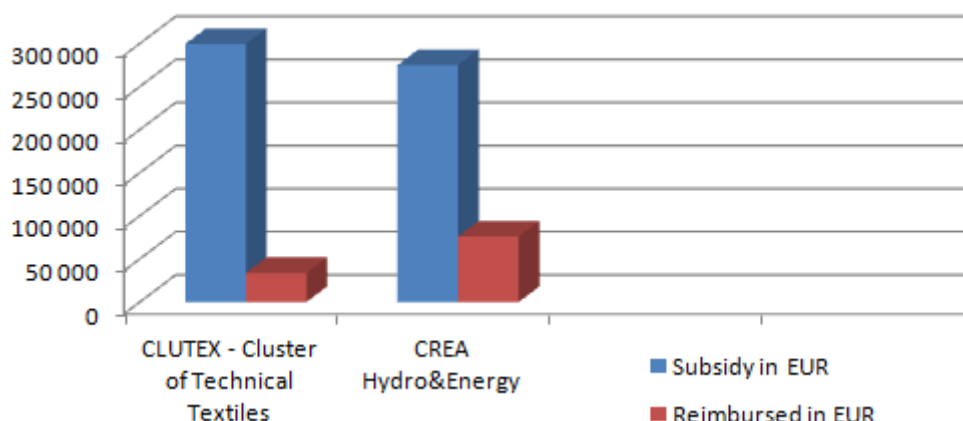
Supported clusters from the 2nd Call have less than 20 cluster members except CZECH IT CLUSTER. CZECH IT CLUSTER is largest one in the 2nd Call and includes 30 members.

Graph 9 Number of common cluster project related to R&D



The 2nd Call was primarily focused on cooperation in the field of R&D as well as the 1st Call. Graph 9 depicts that common R&D projects have the crucial role when carrying out supported activities.

Results of the 2nd Call – Support for transnational R&D	
Total number of applications	3
Supported clusters	2
Total approved support	14, 4 mil. Kč (0, 6 mil. €)
Till 31st December 2011 reimbursed	2, 4 mil. Kč (109, 8 tis. €)



Only two clusters were successful when applying for subsidy for transnational R&D. The total amount of approved support of both of them is 0, 6 mil. €.

3.4. National innovation policy of the Czech Republic (NIP)

3.4.1. Policy framework

The national innovation policy is based on the National Innovation Strategy. The National Innovation Strategy of the Czech Republic was approved by government on 24 March 2004.²⁵

The main objective of National Innovation Strategy was to respond to the most important challenges which lie in store for the Czech Republic after accession to the European Union in the field of innovation and innovation entrepreneurship. Based on many analyses, this document proposed conceptual and system changes in the Czech Republic's innovation policy and proposed a strategic approach to the creation, development, and consolidation of innovation.²⁶

3.4.1.1. Time frame

2005 – 2010. The core cluster activities were to be carried out in the period 2005-2006.

²⁵ Jasanský, Jaroslav. *National Innovation Strategy of the Czech Republic*. 23 Jan. 2006. Ministry of Industry and Trade of the Czech Republic. 1 Oct. 2011. Source: <<http://www.mpo.cz/dokument11662.html>>.

²⁶ Jasanský, Jaroslav. *National Innovation Strategy of the Czech Republic*. 23 Jan. 2006. Ministry of Industry and Trade of the Czech Republic. 1 Oct. 2011. Source: <<http://www.mpo.cz/dokument11662.html>>.

3.4.1.2. Coherence with other policies²⁷

Links to EU documents

Considering the EU membership of the Czech Republic, the preparation and elaboration of NIP respected corresponding links to applicable documents of EU authorities. Primarily, the Presidency conclusions of the Brussels European Council, which represents a long-term political framework.

Links to national documents

The national innovation policy was a part of the whole system of conceptual documents under the roof of the Economic Growth Strategy. For the area of R&D the National Research and Development Policy was adopted by Resolution of the Government No. 5 of 7 January 2004. The Ministry of Education, Youth and Sport (MEYS), in conjunction with the Research and Development Council, worked out also the document Approach of the Czech Republic to EU material “Investing in research: an action plan for Europe”. The Ministry of Industry and Trade (MIT) and the agency CzechInvest under its control published several documents dealing with innovation or close topics. These are in particular the Concept of innovation for industry and enterprise for 2005- 2008 and Strategy of CzechInvest for 2004–2008. An important contribution directing R&D into the field of innovation is provided by some programmes of R&D support requiring close cooperation between the academic and user spheres, e.g. the National Research Programme (I and II), Research Centres, announced and controlled by MEYS, and programmes Consortia and Tandem of MIT. A key role was played by the 2004 National Development Plan that specified the areas of support from Structural Funds and respective operational programmes. Innovation was supported within Objective 1 by key OP Industry and Enterprise (programmes INNOVATION, PROSPERITY, CLUSTERS) and OP Human Resources Development. Also parts of the Joint Regional Programme of the Ministry for Regional Development (MRD) titled Regional support to enterprise, Regional development of infrastructure and Development of human resources in regions were of certain relevance.

3.4.1.3. Definition of cluster in context of the policy²⁸

The idea of clusters consists in creation of a network of mutual cooperative relations within the scope of a given region between enterprises – suppliers and customers (SMEs in particular), research organizations and universities, as well as also other regional partners (territorial self-governing bodies, regional support agencies, institutions and facilities for acquiring qualification, etc.) in one or several areas or fields of activity.

²⁷ *National Innovation Policy of the Czech Republic for 2005-2010*. 29 June 2005. Research and Development Council of the Czech Republic. 2 Oct. 2011. Source: <<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14438>>.

²⁸ *National Innovation Policy of the Czech Republic for 2005-2010*. 29 June 2005. Research and Development Council of the Czech Republic. 2 Oct. 2011. Source: <<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14438>>.



3.4.1.4. Aim of the policy²⁹

Under the National Innovation Policy of the Czech Republic four main objectives were determined:

1. Strengthen research and development as a source of innovation.
2. Establishment of well-functioning public private partnership.
3. Providing human resource for innovation.
4. Making the state administration's performance in research, development and innovation more effective.³⁰

Establishment and development of clusters is mentioned under the objective 1 (Strengthen research and development as a source of innovation).

3.4.1.5. Target group of the policy

The NIP of the Czech Republic for 2005-2010 shows approach of the state and its authorities how to encourage and support the creation of a favourable innovative environment. A special attention is given to the small and medium-sized enterprises (SMEs).³¹

3.4.1.6. Main activities³²

The main activities of the NIP in context of clusters were following:

1. Adaption of conditions of the CLUSTERS programme announced within the scope of the Industry and Enterprise Operational Programme with the aim to facilitate access for entities interested in participation for 2006 and for 2007– 2013 in particular.
2. Establishment of an efficient monitoring and evaluating system for checking and measuring the effects and results achieved through clusters as a tool of the regional innovation policy.
3. Selection and preparation of experts and managers (having knowledge in the area of innovation activities, social /communication/ abilities, including coaching and team work, and development of IT networks) for performance of cluster initiatives as an organisational and management superstructure over the whole clusters.³³

²⁹ *National Innovation Policy of the Czech Republic for 2005-2010*. 29 June 2005. Research and Development Council of the Czech Republic. 2 Oct. 2011. Source: <<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14438>>.

³⁰ *National Innovation Policy of the Czech Republic for 2005-2010*. 29 June 2005. Research and Development Council of the Czech Republic. 2 Oct. 2011. Source: <<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14438>>.

³¹ *National Innovation Policy of the Czech Republic for 2005-2010*. 29 June 2005. Research and Development Council of the Czech Republic. 2 Oct. 2011. Source: <<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14438>>.

³² *National Innovation Policy of the Czech Republic for 2005-2010*. 29 June 2005. Research and Development Council of the Czech Republic. 2 Oct. 2011. Source: <<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=14438>>.

³³ Jasanský, Jaroslav. *National Innovation Strategy of the Czech Republic*. 23 Jan. 2006. Ministry of Industry and Trade of the Czech Republic. 1 Oct. 2011. Source: <<http://www.mpo.cz/dokument11662.html>>.

3.4.1.7. Allocated funds of the policy

The allocated funds which consider cluster development were not determined in the National Cluster Policy. The exact allocation was determined in concrete programmes.

3.4.1.8. Involved institutions

NIP was composed as a set of objectives, tasks, tools and measures for supporting innovation activities. It is important to point out that for each measure was responsible specific institution. In context of clusters involved institutions were MIT in conjunction with MRD and districts.

3.4.1.9. Expected results

The core expected results of NIP in context of clusters were following:

1. Growing number of established clusters and innovating firms at a regional level.
2. Growing participation of regions in taking decisions about innovation processes and allocation of funds.

4. Future policies

The new call for cluster development project proposals was launched in January 2012. The 3rd call of the programme Cooperation – Clusters will provide support for projects running up to the end of 2014.

The active support of cluster development is currently linked to the period of 2007 – 2013

The 3rd call is focused on projects of collective research, establishment and development of cluster technology centres for research, development and innovation, internationalization activities including the participation in international networks, creating and implementing strategies to increase international competitiveness, marketing and promotion, networking and training for cluster managers., The target group of the 3rd call are clusters which have already received support from OPIE and/or OPEI for their development in the past, these clusters have to demonstrate added value in their activities and present indicators showcasing the positive effects of the previous support. Clusters which have not so far received any financial support for their development can be also supported. The allocated funds for the 3rd call will be 20 mil. EUR.

The active support of clusters is currently defined for the period of 2007 – 2013. The policy of cluster development in the next programming period 2014 – 2020 is in the process of development together with the whole regional and cohesion policy. It is presumed that clusters will be continually supported in the years 2014 – 2020

Clusters are used as effective tool for creation of linkages among research and development institutions and private sector and they should perform the role of innovation drivers in their field.. It is preconceived that any support to the initial phases of cluster establishment and development including the potential mapping of new cluster initiatives will be concentrated on the regional level. Further support programmes of the Ministry of Industry and Trade will be focused on cluster excellence and will concentrate on research, development and innovation projects.³⁴ The aim is to support excellent clusters, which will most effectively utilize received public support. The support should concentrate on collective research projects which correspond with innovation needs of a larger group of small and medium-sized enterprises in the given industrial sector or technology area within the framework of a cluster and should drive the sector forward to a higher technology level. Internationalization activities of clusters will be also given foremost importance, strengthening linkages to collective research programmes in other countries is foreseen as a continuation of the current Era-net projects, so that individual transnational research projects can be funded by more programme owner from different countries. Further opportunities should be explored and established

³⁴ Source: Ministry of Industry and Trade of the Czech Republic. *Priorities of Ministry of Industry and Trade of the Czech Republic for competitive business sphere in next cohesion period 2014 – 2020*. Prague: 2012





as the result of the ClusterCOOP project, which should create a suitable framework for the support of transnational cluster projects.

5. SWOT visualisation of analysis

Strengths	Weaknesses
Sustainable cluster projects focused on competitiveness strengthening and innovation	Dependence on cluster supporting programmes (state aid)
Continuity of cluster support programmes focused on R&D&I, support also for R&D&I infrastructure	Slower development of clusters in services and other not supported sectors
Support focused on R&D&I and also R&D infrastructure	Low measurement of impact of cluster support policies
National level coordination and dedicated implementation agency for cluster development	Lack of mutual coordination between ministries and state institutions in implementation of their measurements and actions
Strengthening and creation of linkages among universities, business sector and R&D institutions	Complicated state aid regulations for groupings of enterprises, complex administration of EU funds
Availability and utilization of structural funds for the development of clusters	Lower awareness among entrepreneurs and other stakeholder about clusters benefits
Identification of potential clusters based on regional mapping	Difficulty of firms to translate knowledge into products and services for the market
Sustainable cluster projects focused on competitiveness strengthening and innovation	
Continuity of cluster support programmes focused on R&D&I, support also for R&D&I	

infrastructure	
Support focused on R&D&I and also R&D infrastructure	

Opportunities	Threats
Continuous support of excellent cluster projects	Sustainability of clusters without any financial support
Support of international cluster projects	Clusters becoming common interest associations, rather than innovation drivers
Use of European cluster supporting programmes	Cluster support needs to be concentrated on areas of comparative advantage
Cooperation with other European countries in harmonisation of cluster supporting policies	Clustering as a fashion
Good cluster image may attract newcomers to the regions	Economic crisis – lower incentive to invest in longer term cooperation and to engage with competitors.

SWOT analysis determines list of strengths, weaknesses, opportunities and threats of realised cluster development policy realised in the Czech Republic since 2002 when the history of cluster development started.