



**EXPERT EVALUATION NETWORK
DELIVERING POLICY ANALYSIS ON THE
PERFORMANCE OF COHESION POLICY 2007–2013**

TASK 1: POLICY PAPER ON INNOVATION

HUNGARY

**VERSION: FINAL DRAFT
DATE: SEPTEMBER 2010**

**BARTHA, ATTILA – MATHEIKA, ZOLTAN – GYUKICS, RITA
KOPINT-TÁRKI**

**A report to the European Commission
Directorate-General Regional Policy**

CONTENTS

1	EXECUTIVE SUMMARY	3
2	NATIONAL AND REGIONAL INNOVATION POLICY AND THE CONTRIBUTION OF ERDF	4
2.1	NATIONAL AND REGIONAL INNOVATION POLICY	4
2.2	ERDF CONTRIBUTION ACROSS POLICY AREAS.....	8
3	EVIDENCE AVAILABLE ON THE PERFORMANCE OF INNOVATION MEASURES CO-FINANCED BY ERDF	9
4	CONCLUSION: MAIN CHALLENGES FACED BY COHESION POLICY PROGRAMMES	11
	REFERENCES.....	14
	ANNEX A – BACKGROUND DATA ON EU COHESION POLICY SUPPORT TO INNOVATION	16
	ANNEX B – CLASSIFICATION OF INNOVATION POLICY AREAS, INSTRUMENTS AND BENEFICIARIES.....	18
	ANNEX C – CATEGORISATION OF EXPENDITURE TO BE USED FOR CALCULATING EU COHESION POLICY RESOURCES DEVOTED TO INNOVATION	19

1 EXECUTIVE SUMMARY

The institutions of the central government play a dominant role in the innovation policy in Hungary, while regional innovation policy has only become important in recent years. At present, regions are mostly strategic-planning entities, financially dependent on the central institutions. This predominant role of the central government is in part due to the uneven geographic distribution of R&D capacities, to the centralized regulation on research institutes and also to the fact that Hungary's public administration system has difficulties in adapting to regional policy. The Hungarian Pole Program represents an attempt to find adequate responses to some of these regional development policy challenges.

The relevance of the ERDF funds for the innovation policy within the national programs and the operational program of the New Hungarian Development Plan (NHDP) is crucial as they mostly contribute to its financing. The most important operational program is the EDOP (Economic Development Operational Program), whose first priority axis (Increase in R&D, innovation capacity and cooperation) is the most relevant for RTD policy.

A large part (46%) of the ERDF funds earmarked within the New Hungary Development Plan is dedicated to creating an "innovation friendly environment", mostly by supporting training of researchers and networking between universities and businesses. A smaller share (28% and 26%, respectively) goes to the other two policy areas (knowledge transfer and support to innovation poles and clusters, and supporting applied research). Another substantial part of the funds goes to direct and indirect support of R&TD activities of SMEs.

National programs absorb more than 70% of the ERDF R&D&I funds within the NHDP. As regional institutions lack real policy-making competence and authority, regional policy is to a great extent decided by the central government (and national level actors).

At present, the outcome of the running programs (including the New Hungary Development Plan operational programs) is still unclear. Although the goals of the innovation support measures envisaged under the ERDF co-financed schemes are undoubtedly relevant from the point of view of the Hungarian innovation policy, the effectiveness of the applied measures is not always evident. Because of the dual character of the Hungarian economy and the weaknesses of the local SMEs, the support of the SME-sector (already a priority in the planning period 2004-2006) is as relevant as it was before. Quantitative evidence suggests that substantial progress has been made in the development of clusters and poles. Preliminary evidence on the outcomes and results of the ERDF programmes suggests that the inadequacies of the present innovation system are rather short-term (temporary) problems, thus the main challenge is to maintain (or step up) the present policy efforts. The development of incubators, technology centers, clusters, pole clusters do not yet constitute a self-reinforcing network, but the policy trend seems to be adequate.

However, various factors limit the progress towards a more innovation-oriented development:

The lack of an innovation governance system (implying the frequent changes) makes the system vulnerable. This reduces the capability of the actors to use the opportunities, and creates uncertainty among those who would potentially benefit from them.

The general state of the Hungarian enterprise sphere; the “dual” character of the Hungarian economy poses an external threat to the innovation policy (i.e. coming outside of the innovation policy spectrum). The weakness of the local SME sector seriously limits the perspectives of an innovation-oriented business sector, since a large part of the Hungarian enterprises fighting for mere short-term survival can neither invest their energies in growth, nor prepare strategic plans or modernise their technological capacities. In this respect, however, we must underline that the impact and effects of the new regional innovation policy (a seemingly more complex, well-designed and well-financed development policy accompanied by an easing of tax and administrative burdens) can only be measured in the longer term, beyond the period covered in this paper.

The general education structure of the population is problematic because of the large share of people with low level education (also in the younger generations) and a relative undersupply of qualified technical personnel. This poses a great obstacle to the development of the local SME sector especially in the poorer regions.

The scope of regional innovation policy is rather limited; at present, regions are mostly strategic-planning entities, not real actors of innovation policy. However, the Pole Program (more in harmony with the traditional Hungarian development policy logic) indicates that territorial aspects of innovation policy might be developed around Pole Cities, combining various channels of incoming resources from ERDF (and ESF).

2 NATIONAL AND REGIONAL INNOVATION POLICY AND THE CONTRIBUTION OF ERDF

2.1 NATIONAL AND REGIONAL INNOVATION POLICY

Main features of national innovation strategy in terms of objectives and policy measures

The country's accession to the European Union substantially changed the Hungarian innovation policy. The core element of the present national innovation policy is the operation of an efficient National Innovation System that ensures the smooth innovation flow among the various business and academic-scientific actors, hence supporting the emerging innovation initiatives institutionally. The specialized consulting and coordination organizations were renewed: the National Technology Development Committee became the **National Office for Research and Technology** (NKTH) according to the 2003 law that also created the Research and Technological Innovation Fund. The NKTH's task is to create R&D programmes, build bilateral and multilateral

international co operation and manage the Research and Technological Innovation Fund. It is noteworthy that since the official establishment, one of the main responsibilities of the NKTH has been to ‘improve the regional innovation system – to prepare for the utilisation of European Structural Funds’¹.

In terms of objectives and policy measures, the main components of the Hungarian innovation policy were crystallized in the “*New Hungary Development Plan*” (NHDP) accepted by the EU in 2007. This strategic development policy document deals with the allocation of resources from the EU Cohesion and Structural Fund co-supported by national funds. Concerning the innovation policy, the Economic Development Operational Programme (EDOP) is the most relevant OP within the New Hungary Development Plan.

The *EDOP* contains four specific objectives:

1. **Increasing Research & Development and innovation capacity, activity, as well as cooperation**
2. Complex development of corporate capacities
3. Development of the business environment
4. Facilitating the access of SMEs to financing resources

Even if other priorities are to some extent innovation-related, the first priority is the most relevant in relation to R&D&I. Approximately 3.36 bn euros are dedicated to the EDOP, and 29.5% of this (EUR 991 million) goes to the first priority (including 15% of national contribution).

The R&D priority contains three specific measures, defining practically *the main pillars of the national innovation policy*.

- 1.1. *The promotion of market-oriented R&D and the encouragement of research and technological cooperation;*
- 1.2. *The development and consolidation of research centres;*
- 1.3. *The incitement of self-supporting innovation and R&D activities of enterprises.*

R&D projects are the eligible activities under the first measure that aims to incite cooperation between universities/research institutes and enterprises. Since market utilization of innovation projects is a primary concern, the principal agents of the projects have to be enterprises (as independent applicants, or as managing members of a co-operation).

The second measure aims to establish and develop innovation pole clusters and targets innovation service centers and technology parks with direct links to innovation clusters, or member companies of such clusters.

¹ See: <http://www.nkth.gov.hu/english/national-innovation/the-hungarian-innovation>

The third measure supports the establishment of technology-intensive start-ups, or the establishment of R&D units within existing enterprises, or support enterprises in developing new products, implementing technology/process development.

A medium-term R&D policy strategy was drawn up in 2007, in accordance with the HNPD. The document describes four strategic national innovation policy goals: 1. strengthening R&D&I activities of firms; 2. building up of internationally competitive R&D capacities and centres; 3. strengthening the knowledge base of the society; 4. strengthening the R&D&I capacities of the regions.

National innovation strategy and innovation policy at the regional level

With the exception of the ***Central Hungary Operational Programme***, R&D&I policy does not constitute a distinct priority in the regional operational programmes (as opposed to the Economic Development Operational Programme). Yet, the development of the innovation potential of the regions is an explicit concern in the regional programmes, namely within the first priority axis (which is invariably about the creation of a competitive local economy). The relevant parts of the programmes mainly concentrate on the ***development of clusters and incubators***, or in some cases on ***regional innovative pole centers***. Some of the regional Ops (ROPs) make an explicit distinction between the clusters supported by the EDOP and clusters supported within the regional programmes. While the support of clusters is part of all regional programmes, the direct support of R&D projects or the support of regional innovation background organizations are rather sporadic elements in the ROPs.

Regional dimension of the innovation policy, regional specificities

The dominant role played by the institutions of the central government in the innovation policy in Hungary and the recent importance of regional innovation policy are partly due to the ***uneven geographic dispersion of R&D capacities***, to the centralized regulation on research institutes and also to the fact that Hungary's public administration system has great difficulty in adapting to the regional policy – Hungary has 19 main territorial administration units ('megye', counties,) while the country's 7 NUTS-2 regions do not have significant decision-making power in innovation policy (this competence still belongs to the central institutions). ***At present, regions are mostly strategic-planning entities, not real actors of innovation policy***, as they are financially dependent on the central institutions. The Regional Operational Programmes of the New Hungary Development Plan (2007–2013) have been devised centrally by the National Development Agency, while the regional bodies (and other stakeholders) have been invited to comment on the drafts.

However, according to the European rules on regional planning entities, Regional Development Councils (RFTs) with operative entities named Regional Development Agencies were set up, and ***regional innovation agencies*** (RIÜs) were also established in every region. The RIÜs run

independent programs in each region aiming to support innovation activities, their financial resources are 3 to 4 million euros per year per region.

The Regional Development Councils have two principle sources for funding RTDI projects: a contribution from the central government budget, and 25% of the Research and Technological Innovation Fund to be spent on promoting RTDI activities at the regional level. The decisions on these regional schemes are taken by the Research and Technology Innovation Council – not the regional bodies. (The schemes themselves are prepared by the National Office for Research and Technology.)

The Hungarian Pole Program

The Hungarian Pole Program (based on international experiences) attempts to find adequate responses to Hungarian regional development policy challenges mentioned above. It tries to combine the development of macro- and micro-**business environment** (stable business environment fostering efficiency) with **cluster development** and **innovation policy**. A major feature of the Pole Program is that it encourages co-operations of SMEs with proven market successes (competitive in international markets). The related innovation policy targets the higher value-added sectors. Innovation policy targets of the Pole Program are: to achieve EU average R&D spending over GDP, to increase innovation of enterprises, to develop an education system sensitive to business needs, to tighten co-operation between education, research and business and to increase external financing opportunities.

The Pole Program has a ***particular territorial aspect***. Its main focus is not the development of the regions but of the ***major potential innovation centers***: apart from Budapest (the capital of Hungary is predominant in almost all major innovation fields), it has development pillars in 5 Pole cities (Debrecen, Győr, Miskolc, Pécs, Szeged) and one 1 Pole city-network (Székesfehérvár–Veszprém). The Pole Program is closer to the traditional Hungarian development policy approach (focused more on cities than regions) and combines the resources of EDOP, SIOP and SROP. In the period 2007–2013 the financial volume of the program amounts to EUR 1.441–1.662 million. The first experiences indicate that within the Pole Program the highest number of successful projects are in ICT and biotechnology clusters.

Role of the ERDF

A consistent part of some operational programs contain innovation related objectives. In the EDOP, more than 40% of the overall (and of the ERDF-) funds are reserved for innovation-related issues. The ROPs are somewhat less innovation-focused, but still – on average – 13% of the funds are dedicated to innovation-related activities in the ROPs. (Interestingly, the lowest share of innovation – the only one below 10% – is in the Western Transdanubia OP, although this region has several important industrial centers.)

With the exception of the Central Hungary ROP, the focus of ROPs is primarily on cluster, the physical R&D and information infrastructure development.

2.2 ERDF CONTRIBUTION ACROSS POLICY AREAS

Main focus of support of the ERDF

Within the New Hungary Development Plan, the Economic Development OP, the ROPs, the Social Infrastructure OP and the Social Renewal OP are innovation-relevant. Since the ERDF is the main source of financing in all these OPs but one (Social Renewal OP), the focus of the ERDF-funds is basically identical to that of the New Hungary Development Plan itself.

46% of the ERDF funds within the New Hungary Development Plan is dedicated to creating “innovation friendly environment”, mostly by supporting training of researchers and networking between universities and businesses. A smaller share (28% and 26%, respectively) goes to the other two policy areas (knowledge transfer and support to innovation poles and clusters, and supporting applied research). Another substantial part of the fund goes to direct and indirect support of R&TD activities of SMEs.

Within the **EDOP** the first priority is linked to the area of innovation. Within this priority, several measures (1.1.1, 1.3.1.) target innovation activities of enterprises, preferably in cooperation with universities or research centers (1.1.1), consequently R&D aid is not only given upon the completion of the prototype but also in the phase of developing the prototype to a marketable product (1.3.1) These two measures receive most funds within the priority (through 2007–2010, more than 45%²). In addition, an important part of the funds (33% in 2007–2010) is dedicated to the support of accredited innovation clusters (1.2.1), innovation and technology parks (1.2.2). Other measures with smaller funds aim to support enterprises resulting from previous university–enterprise cooperation (1.1.2), developing the innovation capacity of enterprises (1.3.2), or supporting some integrated and outstanding R&D projects (1.4.1 and 1.4.2). In all these measures, the recipients are enterprises.

In the *Central Hungary ROP*, just as in the EDOP, the first priority is **knowledge economy and innovation**. The recipients of most of the measures are enterprises and in one case the management of innovation clusters.

In the *other ROPs*, the focus is primarily on **cluster development** – the recipients are enterprises, non-profit organizations, universities. In the Social Infrastructure OP, physical R&D and information–technology infrastructure in universities is the main innovation-linked area, therefore the recipients are mostly universities, but certain measures include city governments and city libraries as well. ERDF co-financed schemes are particularly relevant in this respect: about 40% of

² Akcióprogram 2007–2009, GOP 1. prioritás, Akcióprogram 2009–2010, GOP 1. prioritás

the RTD-related ERDF-funds, directly or indirectly, support innovation activity and access of SMEs. This policy component might have a special importance as the underdevelopment of the SME-sector is one of the main obstacles of the economic development in Hungary. The relative increase in the importance of development of clusters and poles is also beneficial, even if it is not a sufficient condition in itself to address the serious regional disparities. Considering the relatively low rate of private R&D expenditures compared to total R&D expenditures (i.e. BERD), the support of applied research in businesses becomes a relevant goal.

Inter-regional cooperation in respect of innovation policy

A sizeable part of ERDF funds goes to supporting interregional cooperation. This funding, however, takes place not within the New Hungary Development Plan, but through the European grouping of territorial co-operation (EGTC). Hungary is participating in 13 bilateral and multilateral cross-border and interregional programs in 2007–2013. About 10% of the available ERDF funds are to be spent through these programs in 2009–2010.

3 EVIDENCE AVAILABLE ON THE PERFORMANCE OF INNOVATION MEASURES CO-FINANCED BY ERDF

Evaluations of the different measures of the Hungarian innovation policy were already prepared before the present programming period. The *evaluation of the Cooperation Research Centers* (2005) analyzed the key problems and challenges hampering cooperation between the enterprise and the academic spheres.

At present, the outcome of the current programs (including the New Hungary Development Plan's operational programmes) is still unclear. As stated above, considering the problems that hamper Hungarian economic development, **the goals of the measures envisaged under the ERD co-financed schemes are clearly relevant.** On the other hand, the *effectiveness* in pursuing these goals is not always evident. Although there is no concrete up-to-date information about the output criteria linked to the measures within the OPs, some indirect and qualitative assessments are available.

Support for the *SME-sector* was already a priority in the planning period 2004–2006³, and the problems of the SME-sector are still just as relevant as before. This, in part, shows that the profound and fundamental problems of the dual economy cannot be eliminated at short notice and also indicate possible selection problems of recipients.

Evaluation surveys conducted in recent years⁴ reveal that enterprises tend to have rather poor opinions on issues concerning the system of innovation subsidies. This is especially true in the

³ NFÜ (2009), p. 46.

⁴ Bartha – Matheika (2009)

case of the smaller enterprises. Some of this discontent embraces parts of the innovation support system that are not related to the ERDF funds (the system of R&D tax exemptions, or the system of “innovation contribution”). However, the SMEs also tend to criticize the undue advantage of the multinational companies in terms of access to resources, the lack of transparency in the allocation of funds, and corruption.

The high profile of *SME support* policy of the New Hungary Development Plan is therefore justified, but at the same time, the intervention in the 2000–2006 programming did not set an equal playing field for the firms of different size in general and for innovative businesses in particular. (This, of course, is not an exclusively RTD-related problem, but a general weakness of the Hungarian enterprise sector, the difficulties of local small enterprises in following a growth and innovation-oriented path towards development⁵). Liquidity management problems are also frequent – disbursement delays (up to one year⁶) can create serious difficulties especially for smaller and financially weaker enterprises.

Quantitative evidence suggests that substantial progress has been made in the *development of clusters and development of poles*. Between 2008 and April 2010 23 innovation clusters were accredited (with a higher concentration in Central Hungary). Moreover in October 2010, there were also 100 lower-ranking clusters (“start-up” or “developing” clusters). According to the plan’s objective, 5–10 “pole innovation clusters” should be in function by the end of 2013.)⁷

The *EU framework programs* (FPs) still contain only a small part of the innovation-related EU-financed programs (the total amount for 2007–2013 constitutes only about 2% of the ERDF funds dedicated to the New Hungary Development Plan). Some scattered participation data, obtained directly from the National Office for Research and Technology suggest that funding by the EU RTD FPs is becoming an increasingly important source, especially for the *academic community* (much less for the firms). Despite the active participation of Hungarian research groups in FP projects, coordinating projects as consortium leaders is perceived as a challenging task. One of the nationally funded measures is aimed at addressing this issue in order to foster Hungarian initiatives. This indicates that the FPs have had a non-negligible impact on priority setting and policy mix, as several policy measures exclusively related to the FPs were launched.

The actual measures within the OPs cut across the “*Innovation friendly environment* – Knowledge transfer & cluster-development – Boosting applied research” categorization⁸. Although the OPs provide data about the breakdown of funds between the priority themes, the priority axes and the measures outlined in the Action Plans are not categorized along the priorities. Therefore, any

⁵ Szanyi (2009), p. 290

⁶ Az innováció szerepe (2009)

⁷ Interview with Z. Zombori (2010)

⁸ NFÜ (2009), p. 31.

estimate concerning the relative significance of the above-mentioned three categories is bound to be very approximate. According to the listing of priority themes within the *EDOP* document, innovation friendly environment is the most relevant objective. But according to the *Action Plans* for 2007–2008 and 2009–2010⁹, within the “R&D priority” (the first priority) of EDOP (which apparently does not cover all funds related at least partly to innovation) the most substantial part of the measure is related to boosting applied R&D. According to the breakdown in terms of priority issues, in the *Social Infrastructure OP* the main innovation-linked area is friendly environment (75%), along with knowledge transfer & poles and clusters (25%). The overall picture of this OP is roughly corroborated by the Action Plans: three measures within the *first priority axis* (development of education infrastructure) seem to be relevant, and by far the largest can be linked to the “innovation friendly environment” policy area.

4 CONCLUSION: MAIN CHALLENGES FACED BY COHESION POLICY PROGRAMMES

As far as the New Hungary Development Plan (2007–2013) is concerned, ERDF provides the backbone of the Hungarian innovation policy. In most of the innovation-related operational programmes, ERDF provides 85% of the overall financing. The Social Renewal OP is financed by the ESF, but this OP represents a smaller, although not insubstantial, part of the innovation-related development spending within the New Hungary Development Plan. Since this OP deals exclusively with the development of human potential for R&D in the universities (priority theme 74), we can conclude that the ERDF co-financed programs are linked with every aspect of the Hungarian innovation policy.

Outside the NHDP, the most important source of innovation support is the Research and Technological Innovation Fund. The Fund's focus is on supporting R&D projects, but it also aims at international R&D cooperation and individual researchers as well. Taking into account the Fund, as well as other smaller national and international sources, the role of the ERDF is a less predominant, but still a decisive component (especially if we include the European Territorial Co-operation Programs). Considering the Hungarian co-financing part as well, the ERDF-determined programs still make up more than half of the innovation policy spending.

The evidence concerning the **outcomes and results** of the ERDF programs, the Strategic Report (2009) provides some numerical information about R&D centers by September 2009. According to the report, 10 R&D centers were created throughout the country, mainly in universities, in the programs under the first priority axis of the EDOP. Moreover, the report cites the number of

⁹ There is no data about the total funds dedicated to the particular measures for the planning period, although there is data (in HUF) for the period 2007–2010 in the Action Plans.

winning applications for support by September 2009 under several measures of the EDOP¹⁰. This, of course, is just about the ongoing process of the programs, not about their substantive output or results.

The inadequacies of the present innovation system is partly due to the fact that its transformation is still in its early ('transitory') stages, therefore the main challenge is to keep up or step up the recent efforts. ***The development of incubators, technology centers, clusters, pole clusters has still not reached the critical threshold to become a self-reinforcing network***¹¹, but the preliminary results suggest that the tendencies are developing in the appropriate direction. However, several factors limit the transformation into a more innovation-based model.

1) Even if the governance structure of RTD policy has changed in the adequate direction since 2000, the frequent changes in the innovation system pose a problem in the organization and management of the Hungarian innovation policy¹². This has significantly reduced the efficiency and effectiveness of the innovation policy measures. Slow decision-making and delayed disbursements in case of positive decisions have made the planning of R&D projects very difficult – especially for smaller firms. In addition to the widely perceived problems of corruption and unfair competition, the implementation problem that aggravates the liquidity pressure on SMEs should be definitely overcome as well.

2) The most pervasive challenge for the Hungarian RTD policy, beyond the transitory nature of the RTD governance system, is the most comprehensive problem of the Hungarian economy:

- the 'dual economy' character of the Hungarian enterprise sector;
- the education profile and level of the population, which also involves the younger cohorts (and their difficult inclusion in the knowledge-based economic activities).

The shortcomings of the regulations concerning RTD and the procedures of allocation of innovation subsidies constitute a particular burden for the smaller enterprises. Therefore, addressing the problem of the dual economy would mean simultaneously improving the business environment of SMEs, decreasing their burdens (e.g. wage tax burdens), while maintaining the resources to support them grow, modernize, cooperate and establish networks. This in itself would already be a policy dilemma, but it is complicated by the additional task of raising (and leveling) the efficiency of education.

Regional and territorial aspects

¹⁰ NFÜ (2009), p. 74.

¹¹ Rakusz (2009), p. 311.

¹² Rakusz (2009), p. 314.

Although the basic structure of the ROPs are similar, the inner proportions differ substantially. This cannot always be attributed legitimately to the differing needs of the regions. For example, innovation is clearly underrepresented in the Western Transdanubia ROP, in spite of the fact that this region has several industrial centers, but is *at the same time* relatively underdeveloped in terms of innovation activity¹³. Within the innovation-linked policies, the emphasis seems to be on the development of industrial parks and support for establishing industrial sites – that is, the ROP is more prone to supporting active businesses than trying to support the ailing part of the dualistic enterprise scene. (Arguably, this may be a rational choice with some prospect of success, but it does not deal with the core problem of the Hungarian enterprise sector.) Other ROPs typically focus more on explicitly supporting SMEs.

The Hungarian Pole Program is a “new” attempt at responding to regional development challenges of innovation policy, combining it with the development of macro- and micro-business environment and cluster development. The main focus is the development of some major potential innovation centers: besides Budapest. The institutional logic of the Pole Program is more in line with the traditional Hungarian development policy approach (focused more on cities than regions) than with the ROPs. However, a particular challenge may consist in the fact that local political networks may influence particular projects (and the results of their applications) more than ROP-based projects. Although at present there is no systematic evaluation available in this respect, preliminary experiences indicate that ICT and biotechnology clusters have the greatest number of successful projects within the Pole Program.

¹³ Western Transdanubia Operational Programme, p. 25–26. It is worth noting that generally the first priority axis of the Western Transdanubia ROP (economic development excluding tourism) – of which innovation is a part – is relatively underrated within the WTROP.

REFERENCES

Bartha A. – Matheika Z. (2009): A magyar kis- és középvállalatok innovációs aktivitása és innovációs politikai preferenciái egy felmérés tükrében /Innovation activity and innovation policy preferences of the Hungarian SMEs./ In: Veres J. (ed., 2009): A magyar gazdaság versenyképessége /The Competitiveness of the Hungarian Economy/, pp. 241–258

Az innováció szerepe a kis- és középvállalkozások működésénél /The role of the innovation in the operation of the SMEs/, Üzletfejlesztés, 2009–12–08. Available from:

<http://www.uzletfejleszt.es.hu/pdf/?news=227> Accessed: 25 June, 2010.

Central Hungary Operational Programme, Available from:

http://www.nfu.hu/download/25843/kmop_modified_en_090908.pdf Accessed: 25 June, 2010.

Central Transdanubia Operational Programme, Available from:

http://www.nfu.hu/download/1782/KDOP_070705_en.pdf Accessed: 25 June, 2010.

ERAWATCH Research Inventory Report For: HUNGARY, European Commission. Available from:

<http://cordis.europa.eu/erawatch/index.cfm?fuseaction=ri.content&topicID=619&parentID=44&countryCode=HU> Accessed: 25 June, 2010.

European Commission (2010): Strategic Evaluation on Innovation and the Knowledge Based Economy in relation to the Structural and Cohesion Funds, for the programming period 2007–2013, Country Report: Hungary. Available from:

http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/evalstrat_innov/hungary.pdf Accessed: 25 June, 2010.

Forrástérkép (2009): Kutatás–fejlesztési és innovációs támogatások forrástérképe /Mapping the Resources of Research, Development and Innovation Support./ 2009–2010, Ministry of R&D without portfolio, Budapest, March 2009, Available from:

[http://www.ftt.hu/Portals/0/forrasterkep2009\[1\].03.26.pdf](http://www.ftt.hu/Portals/0/forrasterkep2009[1].03.26.pdf) Accessed: 25 June, 2010.

Gazdasági és Közlekedési Minisztérium /Ministry of Economy and Transport/ (2006): A GOP ex ante értékelése. /Ex-ante Evaluation of the E(D)OP/. 13 December 2006

Hollanders, H. – Tarantola, S. – Loschky, A. (2009): Regional Innovation Scoreboard (RIS) 2009. Pro Inno Europe – INNO METRICS. Brussels

Lippényi T. (2007): Regional Dimensions of Innovation Policy – Lessons from a New EU Member Country. NKTH, Budapest. Available from: <http://www.nkth.gov.hu/english/d-in-hungary/regional-dimensions-of-080519> Accessed: 25 June, 2010.

Lippényi T. (2009): Regional Innovation Network development in Hungary. NKTH, Budapest. Available from:

http://errin.eu/en/upload/Knowledge%20Base/Stimulating%20regional%20innovation_example%20of%20Hungary_Lippenyi_OpenDays09.pdf Accessed: 25 June, 2010.

National System of Innovation in Hungary (2007). Background Report for the OECD Country Review 2007/2008, December 2007. NKTH, Budapest. Available from:

<http://www.nkth.gov.hu/nemzetkozi-tevekenyseg/oecd-hattertanulmany/oecd-background-report> Accessed: 25 June, 2010.

Nemzeti Fejlesztési Ügynökség (NFÜ) /National Development Agency/ (2009): 'Strategic Report'. National Strategic Report according to Article 29 of Council Regulation (EC) No. 1083/2006, Available from: http://www.nfu.hu/download/29114/Strategic_report_HU_EN_31-12-2009.pdf Accessed: 25 June, 2010.

Netwin – Laser Consult (2005): Kooperációs Kutató Központok Program: A vállalkozások versenyképességére gyakorolt hatások. Ex-post értékelés eredményei /Cooperation Research Centers Program: Effects on the Competitiveness of Enterprises. Ex-post Evaluation/. NKTH, Budapest

North Great Plain Operational Programme, Available from:

http://www.nfu.hu/download/1778/EAOP_070705_EN.pdf Accessed: 25 June, 2010.

OECD (2008): Science and innovation: country notes, Hungary. OECD, Paris. Available from:

<http://www.oecd.org/dataoecd/18/17/41559151.pdf> Accessed: 25 June, 2010.

Pólus Programiroda /Pole Program Office/ (2008): Pólus Klaszter Kézikönyv /Pole Cluster Handbook/. Budapest Available from: <http://www.bvk.siteset.hu/fajl.php?id=8540> Accessed: 25 June, 2010.

Rakusz L. (2009): Az innováció intézményrendszere /The institutional system of the innovation/, In: Veres J. (ed.): A magyar gazdaság versenyképessége /The Competitiveness of the Hungarian Economy/ 2007–2009, pp. 303–314

South Great Plain Operational Programme, Available from:

http://www.nfu.hu/download/1776/DAOP_070705_en.pdf Accessed: 25 June, 2010.

Southern Transdanubia Operational Programme, Available from:

http://www.nfu.hu/download/1777/DDOP_070705_en.pdf Accessed: 25 June, 2010.

Szanyi Miklós (2009): Tudomány és innováció, avagy mit és hogyan fejlesszen az állam az európai kis országokban? In: Veres J. (ed.): A magyar gazdaság versenyképessége /The Competitiveness of the Hungarian Economy/, A magyar gazdaság versenyképessége 2007–2009, pp. 261–291

The Hungarian Pole Program and its effects on the cluster development (2009). Mini Europe, Nov, 23 2009, Available from: <http://interreg-minieurope.com/news/the-hungarian-pole-program/> Accessed: 25 June, 2010.

Veres J. (ed., 2009): A magyar gazdaság versenyképessége /The Competitiveness of the Hungarian Economy/ 2007–2009, Versenyképességi Kerekasztal, Üzleti Környezet, Kutatás Fejlesztés és Innováció Tanulmányok /Competitiveness Roundtable, Business Environment, Research,

Development and Innovation Studies/. Budapest, December 2009. Available from:
http://versenykepesseg.magyarorszagholnap.hu/images/Teljes_könyv.pdf Accessed: 25 June, 2010.

Western Transdanubia Operational Programme, Available from:
http://www.nfu.hu/download/1785/NYDOP_070704_en.pdf Accessed: 25 June, 2010.

Interviews, Participation in Roundtable Discussions

- Participation in the Innovation Roundtable Project of the Economic Competitiveness Roundtable (Kopint-Tárki represented by É. Palócz, A. Bartha, Z. Matheika), 2007–2009
- Interview with the representative of the Hungarian Pole Program (Z. Zombori)
- Interview with the representative of the Hungarian Innovation Association (L. Antos)
- Participation in the Innovation Roundtable Discussion (8 June 2010): the regulatory environment, the infrastructure and absorbing the EU funds in the Hungarian innovation policy (Chair: A. Kiss /Industry Research Institute and Market Research Foundation/)

ANNEX A – BACKGROUND DATA ON EU COHESION POLICY SUPPORT TO INNOVATION

The data on the ERDF resources allocated cover the FOI codes defined as relevant for the support of RTDI, or, more precisely, those that cover the bulk of resources devoted to innovation (see annex B for the list of codes). Experts should assess the appropriateness of this common definition and, if necessary, adjust the coverage to the national case in consultation with the core team. Note: experts should complete the final column only with the National and Regional program totals and not for each regional program.

Table 1 – Total ERDF resources allocated per program (2007–2013)

Programmes	Total ERDF resources for innovation	Innovation support as % of total ERDF	Main initiatives* being undertaken or implemented
EDOP	EUR 1240 million	43.4	Aiding SMEs in pursuing RTD activities and in accessing RTD services, in establishing and developing RTD companies
Social Infrastructure OP	EUR 172 million	9.6	Development of the infrastructure of research activities in higher education
<i>Total country</i>	EUR 2754 million	19.8	

Source: core team on EC data.

Table 2 – ERDF contribution to innovation by policy area (2007–2013)***a – Convergence Objective***

Policy area	Categorisation of expenditure (corresponding FOI codes)	Total ERFD (EUR million)	%	
			Regional share	National share
Innovation friendly environment	05	375.9	49	51
	11	178.2	10	90
	12	0		
	13	52.0	59	41
	14	3.1	100	0
	15	79.9	23	77
	74	576.7	0	100
Knowledge transfer and support to innovation poles and clusters	02	151.2	25	75
	03	244.6	63	37
	04	378.1	7	93
Boosting applied research and product development	01	79.9	6	94
	06	15.7	48	52
	07	218.5	35	65
	09	400.4	51	49

Source: core team on EC data.

b – Competitiveness and Employment Objective

Policy area	Categorisation of expenditure (corresponding FOI codes)	Total ERFD	%	
			Regional share	National share
Innovation friendly environment	05			
	11			
	12			
	13			
	14			
	15			
	74			
Knowledge transfer and support to innovation poles and clusters	02			
	03			
	04			
Boosting applied research and product development	01			
	06			
	07			
	09			

Source: core team on EC data.

ANNEX B – CLASSIFICATION OF INNOVATION POLICY AREAS, INSTRUMENTS AND BENEFICIARIES

Policy area	Short description
Innovation friendly environment	<p>This category covers a range of actions which seek to improve the overall environment in which enterprises innovate, and notably three sub groups:</p> <ul style="list-style-type: none"> • innovation financing (in terms of establishing financial engineering schemes, etc.); • regulatory improvements and innovative approaches to public services and procurement (this category could notably capture certain e-government investments related to provision of services to enterprises); • Developing human capital for the knowledge economy. This category will be limited to projects in higher education aimed at developing industry orientated courses and post-graduate courses; training of researchers in enterprises or research centres. <p>The category also covers initiatives geared towards improving governance capacities for innovation and knowledge policies (e.g. specific technical assistance funding, support for regional foresight)</p>
Knowledge transfer and support to innovation poles and clusters	<p>Direct or indirect support for knowledge and technology transfer:</p> <ul style="list-style-type: none"> • direct support: aid scheme for utilizing technology-related services or for implementing technology transfer projects, notably environmentally friendly technologies and ITC; • indirect support: delivered through funding of infrastructure and services of technology parks, innovation centres, university liaison and transfer offices, etc. <p>Direct or indirect support for creation of poles (involving public and non-profit organisations as well as enterprises) and clusters of companies</p> <ul style="list-style-type: none"> • direct support: funding for cluster activities at enterprise level, etc. • indirect support through funding for regrouping R&D infrastructure in poles, infrastructure for clusters, etc.
Boosting applied research and product development	<p>Funding of “Pre-competitive development” and “Industrial research” projects and related infrastructure. Policy instruments include:</p> <ul style="list-style-type: none"> • aid schemes for single beneficiaries or groups of beneficiaries (including IPR protection and exploitation); • research infrastructures for non-profit/public organisations and higher education sector directly related to universities. <p>Any direct or indirect support for the creation of innovative enterprises (spin-offs</p>

	and start-ups)
--	----------------

Instruments	Short description
Infrastructures and facilities	Building and equipment for laboratories or facilities for university or research centres, Telecommunication infrastructures, Building and equipment for incubators and parks for innovative enterprises
Aid schemes	Grants and loans for RTDI projects Innovative finance (venture capital, equity finance, special bonds, etc.) for innovative enterprises
Education and training	Graduate and post-graduate university courses Training of researchers

Beneficiaries	Short description
Public sectors	Universities National research institutions and other national and local public bodies (innovation agencies, BIC, Chambers of Commerce, etc..) Public companies
Private sectors	Enterprises Private research centres
Others	NGOs
Networks	cooperation between research, universities and businesses cooperation between businesses (clusters of SMEs) other forms of cooperation among different actors

ANNEX C - CATEGORISATION OF EXPENDITURE TO BE USED FOR CALCULATING EU COHESION POLICY RESOURCES DEVOTED TO INNOVATION

FOI Code	Priority Theme
	Research and technological development (RTD), innovation and entrepreneurship
01	R&TD activities in research centres
02	R&TD infrastructure (including physical plant, instrumentation and high-speed computer networks

	linking research centres) and centres of competence in a specific technology
03	Technology transfer and improvement of cooperation networks between small businesses (SMEs), between these and other businesses and universities, postsecondary education establishments of all kinds, regional authorities, research centres and scientific and technological poles (scientific and technological parks, technopoles, etc.)
04	Assistance to R&TD, particularly in SMEs (including access to R&TD services in research centres)
05	Advanced support services for firms and groups of firms
06	Assistance to SMEs for the promotion of environmentally-friendly products and production processes (introduction of an effective environment managing system, adoption and use of pollution prevention technologies, integration of clean technologies into firm production)
07	Investment in firms directly linked to research and innovation (innovative technologies, establishment of new firms by universities, existing R&TD centres and firms, etc.)
09	Other measures to stimulate research and innovation and entrepreneurship in SMEs
	Information society
11	Information and communication technologies (access, security, interoperability, risk-prevention, research, innovation, e-content, etc.)
12	Information and communication technologies (TEN-ICT)
13	Services and applications for the citizen (e-health, e-government, e-learning, e-inclusion, etc.)
14	Services and applications for SMEs (e-commerce, education and training, networking, etc.)
15	Other measures for improving access to and efficient use of ICT by SMEs
	Human capital
74	Developing human potential in the field of research and innovation, in particular through post-graduate studies and training of researchers, and networking activities between universities, research centres and businesses