SUPPORTING INDUSTRY-SCIENCE RELATIONS IN EUROPEAN REGIONS: GOOD PRACTICES – THE CASE OF THE CZECH REPUBLIC

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Structure:

1. General context: instruments of enhancing innovations and transfer of knowledge at a central level
2. Support of regional R&D and innovation activities
3. Practices of regional innovation policy
1. General context: instruments of enhancing innovations and transfer of knowledge at a central level

1.1 From R&D support to innovation policy
1.2 Governance, key actors and instruments of R&D and innovation support
1.3 Support of science-industry linkages
1.1 From R&D support to innovation policy

- National Innovation Policy
- National Research Programme
- Operational Programmes 2007-2013
  - Research and Development for Innovations
  - Enterprise and Innovation
Stages of preparation of R&D support from public resources
1.2 Governance, key actors and instruments of R&D and innovation support

- Governance structure
- Fiscal and financial support and its providers
- Budget trends in R&D and innovation support
Stages of preparation of public financial support from state budget
1.3 Support of science-industry linkages

- National support
  - Nanotechnology for Society
  - TANDEM
  - Research Centres

- Operational programmes: specific measures
  - 2004-2006
  - 2007-2013
Operational programmes: specific measures 2004-2006

- Industry and Enterprise (OPIE)
  - Development of business environment: Prosperity, Clusters
  - Development of business competitiveness: Innovation
Operational programmes: specific measures 2007-2013

• Enterprise and Innovation (OPEI)
  – Innovation performance: Innovation, Potential
  – Business and innovation environment: Cooperation Platforms (Cooperation, Prosperity)
2. Support of regional R&D and innovation activities – BRIS

2.1 Development of regional policy and the role of FDI in regional development
2.2 Regional R&D policy and regional innovation performance
2.3 Regional development and innovation strategy
2.1 Development of regional policy and the role of FDI in regional development

![Graph showing the relationship between technology intensity and Foreign direct investment (FDI). The graph is divided into three quadrants: Low FDI, high tech. intensity; High FDI, high tech. intensity; and High FDI, low tech. intensity. Points representing different regions are plotted according to their technology intensity and FDI levels.]

- Low FDI, high tech. intensity
  - KVH
  - ZLI
  - VYS
  - OLO
  - KVA
  - MVS

- High FDI, high tech. intensity
  - PAR
  - STC
  - PHA
  - LIB
  - PLZ
  - JHM
  - UNL

- High FDI, low tech. intensity
2.2 Regional R&D policy and regional innovation performance
2.3 Regional development and innovation strategy

- Regional innovation strategy - the case of BRIS in Prague
- Operational Programme Competitiveness Prague (2007-2013)
Bohemian Regional Innovation Strategy

- initiative of Technology Centre of Czech Academy of Sciences with EU funding available for elaboration of regional innovation strategies
- product driven not demand driven
- extensive field-study at 490 enterprises and at 60 research organizations in the field of innovation generation
### Strategic thematic areas and priority measures of Bohemian Regional Innovation Strategy

<table>
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<tr>
<th>Thematic area</th>
<th>Proposed measures</th>
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| A. Competitive sector of innovative enterprise    | A.1 Support to the formation and development of regional sectoral clusters  
A.2 Support to progressive and hi-tech branches in the region |
| B. Active involvement of the R&D base in the development of innovative entrepreneurship | B.1 Strengthening technology transfer, commercialization of R&D results and cooperation between R&D institutions and the business sphere  
B.2 Support to establishing spin-off companies  
B.3 Greater involvement of enterprises in R&D at regional and European level |
| C. Human resources innovation                     | C.1 Training system for a dynamic labour market  
C.2 Lifelong learning for a knowledge-based economy |
| D. Consulting services and innov. infrastructure   | D.1 Development of a regional innovation infrastructure  
D.2 Qualified consulting and services for innovation |
| E. Financing innovation                           | E.1 Public financial support to innovation, entrepreneurship and building the innovation infrastructure  
E.2 Stimulation of the use of commercial resources for innovation |
| F. Innovation as a part of regional development    | F.1 Innovation culture and framework conditions for innovations  
F.2 Coordination of activities and strategic management of regional development in the field of innovation |
| G. Interregional cooperation                      | G.1 Cooperation with EU regions and transfer of time-tested practices  
G.2 Prague – national initiation and innovation centre |
BRIS: weaknesses

• The sectors with the largest innovation potential not identified,
• Missing clear priorities, the strategy is “to improve everything”,
• Missing link to budget of City of Prague,
• Excessive focus on SMEs, the role of foreign enterprises as innovation actors not considered,
• Building of a new innovation infrastructure instead of improving the existing one,
• Selection of some support priorities not justified adequately,
• Missing clear responsibility (and time-schedule) for implementation of actions and for monitoring
3. Practices of regional innovation policy – Clusters, Prosperity

- The subject of support
- Programme assessment
- Supporting activities
- Changes in the new programming period (2007-2013)
### Benefits of clusters

#### For companies:
- Identification of common needs and pressure for their improvement
- Joint development projects
- Cost savings
- Human resource development
- Increase of innovation
- Improvement of business environment
- Access to new markets

#### Pro VŠ:
- Knowledge of industry needs
- Tailored education and training
- Applied research
- Benefits from joint projects
- Technology transfer
- Access to other source of financing

#### For government:
- Targeted support of businesses
- Support of prospective industries
- Regional specialization
- Attracting investors in the region
- Competitiveness improvement

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**Improvement of communications, knowledge of common needs**

**Creation of joint projects**
Building clusters in the CR

- Training regional authorities, universities and firms
- Active collaboration with facilitators
- Promotion of the concept at different levels (conferences, PR)
- Adapt programme to company needs (eligible costs)
- Study on legal forms of the cluster and organizational and communication structure
- International co-operation
- National Cluster Strategy – adopted 06/2005
- National Cluster Study - the 1st part completed
- Establishment and development of clusters
- Certification of cluster facilitators and managers
Cluster support programme

- **Mapping** (1st phase)
- Subsidy for facilitators
- Organised by regions or universities, supported by businesses
- 75% of eligible costs, max. €35,000
- Eligible costs: All necessary costs for mapping

- **Cluster management** (2nd phase)
- max. €1.6 million with decreasing tendency:
  - 1st year 75% => 2nd year 65% => 3rd year 55% of eligible costs
- Eligible costs: All necessary related to cluster management
- Mutual projects supported via other programmes, not only
- Operational Programme Industry and Enterprise
Map of clusters in the Czech Republic

Established clusters
- Automotive
- Renewable energy tech.
- Engineering
- Technical textiles
- Glass
- Imitation jewellery
- Packaging tech.
- Stone processing
- Polygraphic
- Pharmaceuticals-medical tech.
- Information tech.
- Technical plastics
- Electronics
- Tool production
- Nanotechnology
- Renewable energy technology
- Wood processing
- Information tech.
- Renewable energy
- Chemical industry (hydrogen)
- Automotive
- Engineering
- Construction
- Automotive
- Nanotechnology
- ICT
- Optics
- Plastics
- Shoemaking
- Furniture
- Biotechnology
- Bioinformatics
- Microelectronics
- Water treatment tech.
- Renewable energy tech.
- Waste treatment tech.
- Construction
- Welding
- Eco-labelling
- Brewing
- Wood processing
- Engineering
- Aircraft
- Wine-making
- Furniture
- Textiles
- Biotechnology
- Bioinformatics
- Microelectronics
- June 2006: 28 projects underway, 1 project in 2nd phase; approved allocation €2.35 million
Best practice: OMNIPACK Cluster in the Hradec Králové region

• Cluster characteristics: Support and development of packaging industry, promotion of the region as a packaging centre of excellence,
• 22 founding firms + 4 universities, cluster production: 44 % plastic, 21 % paper, 21 % wooden, 14 % metal packaging

• Joint projects: Innovation, development, research (testing and development centre, innovation system management), Information technology development (information system, marketing and business portal, central purchasing system), Human resource development (knowledge management system, e-learning, training), Waste recycling system (“perpetum” system), Marketing, export support, consultancy, etc.
Best practice: OMNIPACK Cluster in the Hradec Králové region

- Duration of project: March 2006 - July 2008
- 88 projects in 8 fields of activity through 4 service centres
- Financing (subsidy + self-financing):

TOTAL PROJECT COSTS €2.6 million

- ELIGIBLE COSTS €2.25 million
- NON-ELIGIBLE COSTS (VAT) €0.35 million

UNSUBSIDISED COSTS €0.65 million

- SUBSIDISED COSTS €1.6 million

LUMP SUM FEE (operational costs)
OPERATIONAL FEE (internal project costs)
PROJECT FEE (external project costs)
SERVICE CENTRES FEE (infrastructure services costs)
Science-technology parks, business incubators, technology transfer centres

• Support in the form of subsidy to eligible project cost
• Maximum 75% of eligible project cost
• When construction cost included: subsidy in the range 3 - 150 mil. CZK
• When construction cost not included: subsidy in the range 0.5 - 30 mil. CZK
• Project may be divided into individual stages
**Science-technology parks, business incubators, technology transfer centres**

- **Existing**
  - Technologický Park Řež
  - VTP Inovační technologické centrum - VUK, Panenské Břežany
  - CTTV - INOTEX, s.r.o., Dvůr Králové n.L.
  - TC Hradec Králové
  - PI Nymburk
  - Podnikatelský a inovační park Agritec, Šumperk
  - Podnikatelský a inovační centrum Most
  - Technologický park Chomutov
  - Technologický park Karlovy Vary
  - BIC Plzeň
  - VTP Agrien České Budějovice
  - Třeboňské inovační centrum
  - Nové Hrady

- **Planned**
  - Technopark Pradubice
  - Vědecko-technologický park Ostrava
  - BIC Ostrava
  - Reg, inov. centrum Frýdek-Místek
  - Vědecko-technologický park Pokojová
  - Vědecko-technologický park UP Olomouc
  - VTP Agrien České Budějovice
  - VTP Brno
  - JIC Brno
  - BIC Brno
  - PI Brno-jih
  - VTP JMK
  - PI Vsetín
  - VTP Slavičín
  - Vědeckotechnický park UP Olomouc
  - Pl Vsetín
  - TIC Zlín
  - Vědeckotechnický park UP Olomouc
  - VTP JMK
  - PI Vsetín
  - VTP Slavičín
  - Vědeckotechnický park UP Olomouc
  - Pl Vsetín
  - TIC Zlín
2.3 Regional development and innovation strategy

• Regional innovation strategy - the case of BRIS in Prague
• Operational Programme Competitiveness Prague (2007-2013)
Conclusions

*From R&D to innovation policy*

- research and development policy in shift towards *innovation policy* support and its higher efficiency
- influence of *EU membership*, including the preparation of operation programmes for exploitation of structural funds
- support of the underdeveloped *science-industry linkages* to increase of innovation system effectiveness particularly in regions
Conclusions

Regional innovation strategies

- regional dimension of innovation support still missing in the Czech Republic
- efforts developed in formulation of regional innovation strategies
- **problems:**
  - programme documents of low quality, lacking a clear strategy capable of bringing effective results
  - formulated targets are often of general nature, missing clearly defined priorities and related measures (including adequate financial resources from regional or national budgets)
  - non-reflection of specificities of individual regional innovation system,
  - passive role of its most important interest groups (businesses, universities and policy representatives) with minimum interactions across institutional sectors,
  - insufficient integration of innovation strategy into development of regional competitiveness
Conclusions

*Regional support practices*

- examples of regionally specific measures are very scarce in the Czech Republic,
- not systematically and independently evaluated as to their innovative effects in regional development
- example of regionally specific interactions but potential for future regional innovation development not identified
- missing evaluation as a significant obstacle to increasing efficiency of the new support programmes in innovation policy
- questions about the practical feasibility of the BRIS strategy (and therefore its contribution to the regional innovativeness),
- inclusion in the long term development programme of the region and in development strategies of the key regional agents
- desirable form and intensity of policy interventions in the support of regional innovation development
- more general problem of the so far obscured role of regional policy in long-term economic development in the Czech Republic