



## **Extended Innovation Alliances – A Strategy to Overcome Spatial and Economic Hindrances to Innovation in Challenged Regions?**

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# 1. Background and Motivation

- Fraunhofer MOEZ project commissioned by the German Federal Ministry of Education and Research (BMBF) aims at developing new policy options for strengthening the innovation capacities of challenged regions
- The focus is on innovation potential that stems from trans-regional cooperation and from cooperation among technologically heterogeneous entities.
- Both forms of cooperation constitute phenomena that have been rather neglected in contemporary cluster and innovation policies.
- A systematic synopsis of the existing body of work on innovation, but also on neighboring disciplines like economic geography, has shown that there is no clear definition or understanding of these phenomena available.

# 1. Background and Motivation

- Therefore we defined “extended innovation alliances” – in contrast to the fuzzy and much overused term „networks“ – as a specific kind of inter-organizational cooperation, which is characterized by its size, the involvement of private companies, intentionality, reciprocity, functionality and independence of its participants.
- The term “extended” pertains to both (a) the origin of the alliance partners from different geographic regions (trans-regionality), and (b) the origin of the alliance partners from different industrial branches or technological sectors (diversity).

# 1. Background and Motivation

- The work contributes to:

1. the much needed clarification of the determinants and success factors for extended innovation alliances;

2. the further development of innovation policy instruments and programmes in the respective regions;

3. the identification of further research necessary for closing existing knowledge gaps.

- The regional focus is Eastern Germany (the New German Laender).

# 1. Background and Motivation

- The New German Laender 20 years after German re-unification:
  - Re-industrialisation
  - technological upgrading of economic structure (industry sectors)
  - high investments, favorable public infrastructure, including RDI
- Challenges – Dynamics and Sustainability
  - relatively small local innovation hot-spots (Jena, Dresden, Halle, Greifswald), diverse private sector, most firms are SMEs, almost no HQs of big companies
  - little and rather small centres of agglomeration
  - growing global competition
  - little (private business) R&D activity

# 1. Background and Motivation

## **Hypothesis: unused potential of enlarged innovation alliances**

- o relatively little orientation towards cooperation (CIS data)
- o existing cooperation mainly local
- o complementary competences do exist, but are regionally diverse
  
- o advantages of innovation cooperation
- o cooperation trends regarding knowledge base (co-publications, co-patenting)
- o enlarged innovation alliances are feasible and conceivable

## 2. Key Results – Literature Review

- In most works emphasis on advantages of local concentration for independent and joint innovation activities
  - intra-firm concentration advantages
  - better supply of production factors (labour, capital)
  - decreasing transport and transaction costs
  - positive external effects (knowledge transfer)
  - mutual learning and problem-solving



## 2. Key Results – Literature Review

### Arguments pro extended innovation alliances (regarding geographical distance)

- Death-of-Distance (*Cairncross*)
- Openness of Innovation Alliances to avoid lock-In and overembeddedness (*Grabher, Masciarelli*)
- Disadvantages of geographical distance can be compensated (*proximity approach, Communities of Practice, sectorial or technological IS*)
- Trans-regional contacts can be developed systematically (*Global Pipelines*)

## 2. Key Results – Literature Review

### Arguments pro Extended Innovation Alliances

- Radical innovation (generation of ideas) through heterogeneous knowledge base (*Jacobs-Externalities*)
- Diversity beneficial for early stages in the innovation cycle (*Vernon*) – Maturing leads to specialization
- Positive effects of diversity do occur in case of cooperation across professions and specializations (*Related Variety – Boschma/Iammarino*)

## 2. Key Results – Literature Review

### Summary

- Theoretical “justification” for extended innovation alliances
- Geographical proximity neither necessary nor sufficient
- Mix of local and trans-regional cooperation proves beneficial
- Innovation success possible even without supportive local environment
- Almost no attention paid to the contextuality of innovation theories
- Little progress regarding theory integration
- However, growing attention (Bibliometrics)

## 3. Key Results – Case Studies

### Case Studies

- Baltic Net PlasmaTec (Competence Net)
- Nano-CC UFS (Competence Net)
- Bioresponse (science-driven cluster)
- Molecular Designed Biological Coating (science-driven cluster)
- Wigratec (science-driven cluster)
- ICCAS (Central Innovation Cluster)

## 3. Key Results - Case Studies

### Main Findings

- Extended innovation alliances mainly for complex and systemic innovations
- complex and systemic innovation characterised by extensive division of labour
- Avoiding competition between partners proves beneficial for cooperation and degree of openness
- Innovation policy with no restrictions regarding the locational origin or thematic specialisation also beneficial

## 3. Key Results – Case Studies

### Main Findings

- Trans-regional cooperation beneficial to identify new developments and develop response strategies
- Absence of entrance hurdles beneficial for the fast and successful implementation of extended innovation alliances
- Clear contractual set-up and pro-active management pre-requisites for success

## 4. Key Results – Policy Programmes

### Analysed Policy Programmes

- Knowledge Transfer Networks (UK)
- Industrielle Kompetenzzentren und –netzwerke (Austria)
- CIR-CE (Austria)
- Global Links for Strong Research and Innovation Milieus (Sweden)
- Flexible Services (Finland)
- Business-Led Networks of Centres of Excellence (Canada)
- Innova (Ireland)

## 4. Key Results – Policy Programmes

### Main Findings

- Very few, relatively recent policy programmes worldwide
- Budget amounts relatively small
- General observations:
  - Programmes in „Pilot phase“ address wide range of topics
  - Building sustainable cooperation needs time
  - Network instrument to build trust among participants are important



## 5. Policy Implications

### (1) Cooperation context and innovation success

- Innovation is context sensitive => different routines, strategies, available resources and pre-conditions
- Context – type of innovation, industry sector, sequence in the innovation cycle, partner constellation etc.

#### **Specific innovation policy relevance:**

identification of bottlenecks for innovation success; tailor-made policy support; evidence-based decisions regarding project selection (Check-lists)

## 5. Policy Implications

### (2) Topics-Technologies-Industry Sectors-Profiles

- Foresight-Process stops at the level of Topics and Technologies
- Incomprehensive picture of sectors with potential for growth

#### **Specific innovation policy relevance:**

Methodological foundation for the identification of innovation potential in the New German Laender and appreciation of future structural change => high policy relevance

## 5. Policy Implications

### (3) Identification of Potential for Extended Innovation Alliances

- Process today mainly horizontal (same sector, same technologies) and no appreciation of cross-sectoral and cross-regional cooperation potential
- Extended innovation alliances also include vertical and diagonal sector and technology aspects and trans-regional cooperation potential
- Needs to be intertwined with Foresight aspects

#### **Specific innovation policy relevance:**

New, bigger and more comprehensive picture of innovation potential, but also potential deficits => strategic planning and decision-making

## 5. Policy Implications

### (4) Activation of Innovation Partnerships

- Increase readiness to cooperation => Motives – Incentives– Hindrances
- Focus: early stages in the innovation process, igniting partnership and cooperation

#### **Specific innovation policy relevance:**

targeting of potential clients/beneficiaries for the policy

programmes/instruments; insights for the future development of policy

programmes/instruments

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# Thank you for your kind attention!



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