POLICY LINKS

CSTI Science Technology Innovation Policy

International Experiences in Developing Place-Based Research and Innovation Funding Programmes: Emerging Observations

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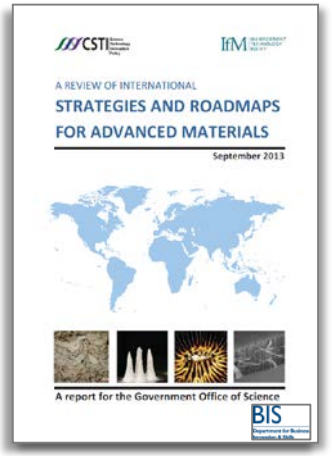
Introduction

Aim:

To explore the nature and variety of place-based research and innovation funding programmes in other countries,
in order to stimulate thinking about potential options in terms of objectives, instruments, and investment criteria/metrics

- Identified national funding programmes with a similar emphasis of investing in local research and innovation capabilities, prioritising those that seek to deliver local outcomes (as a primary objective)
- [*N.B.: Lots of state-level programmes targeting local capabilities / opportunities – deemed out of scope for this study*]
- Analysed funding programmes to identify key features including objectives & focus, scale & scope, approach, activities funded, instruments used, and investment criteria (in particular criteria capturing regional distinctiveness)

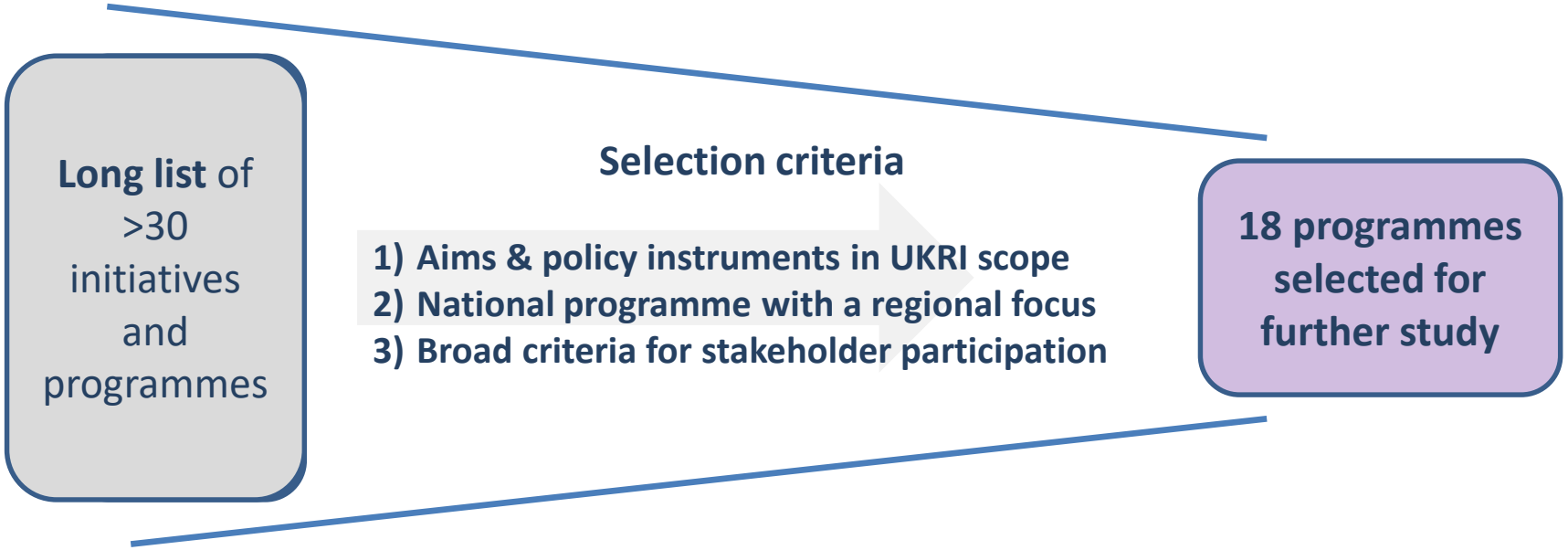
International approaches to… studies



- International approaches studies can provide valuable insights into what other countries are doing and stimulate ideas about could be done here in the UK
- Where evaluated and reviewed, can identify key lessons learned from their experiences and perceived effective practices
- But need to recognise importance of the national and regional landscapes in which the programmes are developed

Method

- High-level review of place-based research and innovation funding programmes (long-list)
- More detailed analysis of programmes in selected countries: Germany, Sweden, Japan, United States, Canada, France, Italy
- Analysis based on secondary publicly available information (i.e. Websites, Programme documents including tender documents and calls for proposals, and academic papers and reports on specific programmes)



Selected programmes

Country	Name of the programme	Lead organization
Canada	Innovation Superclusters	Innovation, Science and Economic Development Canada (ISED)
France	The Competitiveness Clusters (Pôles de Compétitivité)	Prime Minister, Ministry of Economy and Finances, Ministry of Higher Education, National Research Agency, Public Investment Bank
France	Carnot Network Programme	Ministry of Research and Higher Education; the National Research Agency (ANR)
France	The Regional Innovation Partnership Initiative	Secrétariat Général pour l'Investissement (SGPI); Funding body: Bpifrance
Germany	Go-Cluster programme	Federal Ministry for Economic Affairs and Energy (BMWi); VDI/VDE Innovation; Technology GmbH
Germany	Leading Edge Cluster	Federal Ministry of Education and Research (BMBF)
Germany	Entrepreneurial Regions	Federal Ministry of Education and Research (BMBF)
Italy	National Technology Clusters	Ministry of Education, University and Research (MIUR)
Italy	Innovation Poles	Regions (Administrative unit)
Japan	Knowledge Cluster Initiative	Ministry of Education, Cultures, Sports and Science and Technology of Japan (MEXT)
Japan	City Area Program	Ministry of Education, Cultures, Sports and Science and Technology of Japan (MEXT)
Japan	Regional Innovation Cluster Program	Ministry of Education, Cultures, Sports and Science and Technology of Japan (MEXT)
Japan	Regional Innovation Strategy Support Program	Ministry of Education, Cultures, Sports and Science and Technology of Japan (MEXT)
Japan	Program for Building Regional Innovation Ecosystem	Ministry of Education, Cultures, Sports and Science and Technology of Japan (MEXT)
Japan	JST Super Cluster Program	Ministry of Education, Cultures, Sports and Science and Technology of Japan (MEXT)
Sweden	Vinnväxt	VINNOVA (Sweden's innovation agency)
United States	Regional Innovation Strategies (RIS) Program	Office of Innovation and Entrepreneurship (OIE) within the US Economic Development Administration (EDA)
United States	Experimental Program to Stimulate Competitive Research	NSF, DOE, NASA, NIH, USDA…

Emerging key observations

- Approach and focus
- Variety in programmes along range of dimensions
- Practical aspects of programme delivery

munich biotech m4 CLUSTER

INNOVATION SUPERCLUSTERS

go-cluster EXZELLENT VERNETZT!

EPSCoR

Established Program to Stimulate Competitive Research

UNTERNEHMEN REGION

Die BMBF-Innovationsinitiative Neue Länder

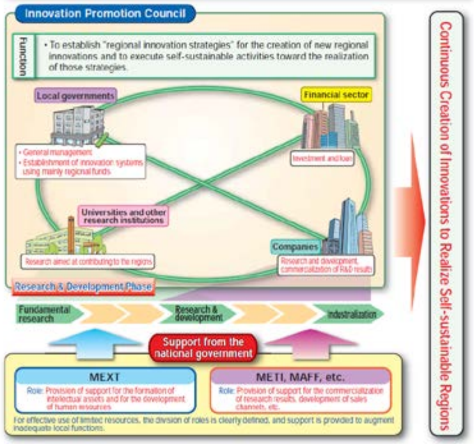
it's owl

EDA

U.S. ECONOMIC DEVELOPMENT ADMINISTRATION

Regional Innovation Strategies Program

the Office of INNOVATION *and* ENTREPRENEURSHIP



LES PÔLES DE COMPÉTITIVITÉ

MOTEURS DE CROISSANCE ET D'EMPLOI

Approach and focus

- Approaches range from *local value creation* ***for local value capture*** to *local value creation* ***for national value capture***…
  - Importance of alignment with **local** innovation strategy or **national** technology/sectoral priorities

- **Some target system-level (local sectoral/technological innovation system / value chain)** to identify opportunities and ensure all necessary & sufficient components are considered & incorporated into project

- **Differentiated programmes for different local economic contexts** (tailored to e.g. capacity building for less-favoured regions, developing leading clusters, securing global position of existing clusters)

- Facilitate / **encourage inter-regional linkages**, particularly where capabilities to unlock local value capture are located elsewhere

- **Efforts to align national and regional programmes** for funding of other necessary activities that are not core focus of primary funder (e.g. aligned technology and workforce development) – requirements can be 'hidden' in national programmes

Variations between programmes

Local value creation for local value capture	⟷	Local value creation for national value capture
Generic regional underperformance in R&I	⟷	Targeting particular regional R&I capabilities and industrial opportunities
Research & technology ‘push’	⟷	Industry innovation needs ‘pull’
Building capabilities and critical mass	⟷	Connecting capabilities and nurturing ‘ecosystem’
Limited to within region boundaries	⟷	Facilitating connectedness to other regions
Regional government as administrator	⟷	Regional government as applicant / cost share partner
Single agency or ministry	⟷	Multi-agency or multi-department
Single mechanism (e.g. research grants)	⟷	Multi-mechanism (research, skills, infrastructure, network-building)

Practical insights

Through process of identifying/studying international experiences, we are identifying practical insights for programme prioritisation & delivery e.g.:

- Importance of project management capabilities, track record & systems
- Evidence of linking to local / national strategies & priorities
- Scrutinise capabilities of partners to collaborate
- Efforts to link range of necessary & sufficient activities (e.g. tech. development with workforce development)
- No evidence of investing in areas with no underlying capabilities to build on!

- Also gathering evidence on actual investment criteria/success factors e.g.
  - Criteria / considerations for effective cluster funding
  - Programme management-related criteria

Regional innovation policies

Criteria / considerations for effective cluster funding

Cluster funding addresses 'technology-political constellations' which are characterised by the following factors:

- The development of technologies to be funded is **marked by a spatial agglomeration of relevant companies** and public research organisations
- The addressed technologies are at a **stage where a technological breakthrough is to be expected** in the foreseeable future
- The clusters to be funded exhibit a **critical mass of relevant innovation capacities** that may be expected to play a major role with regard to the development of the relevant technologies or industries in the future
- The cluster initiative to be funded is supported by **strong commitment of the stakeholders** it represents
- The technologies and industries in question have **significant importance for the total economy**

Source: Rothgang, M., et al. (2017). *Cluster policy: Insights from the german leading edge cluster competition.* J. Open Innovation: Technology, Market and Complexity, 3 (18)

Innovative Regional Growth Cores (2001-2014, Germany)

Management-related criteria

- **Feasible, detailed strategy** based on analyses of areas such as markets, policy, competition, technology and stakeholders. Consideration of regional synergies. Involvement of key players and transparency of strategy to all cluster members important
- **Strategic road map** and implementation planning (milestones, critical path in technology and interfaces)
- **Strategic fit of strategy and organization** (integration of knowledge and SME industrial network). Clarity of responsibilities, works shares and decision-making process.
- **Adequate competences of actors** to meet scientific, technological and production targets and adequate work shares
- **Trust-building competences of cluster managers** in the regional consortia (how to manage colleagues/partners, professional project management, communication structure, conflict settlements, rules for governance/collaboration, decision-making, etc)
- **Installation and usage of Management Information System** (for strategic controlling and monitoring respective contribution of individual performance to overall cluster strategy).
- **Track record of managers** on board-level of the consortia (in fields such as set-up of start-up firms and networking experience, science management in a quasi-industrial context)

Source: Gebhardt, C. (2012). *The entrepreneurial state: The German Entrepreneurial Regions' Programme as an attenuator for the financial crisis*. European Planning Studies, 20(9)

Selected Recommended Reading

Academic papers

- Ketels, C. (2013) Cluster Policy: A Guide to the State of the Debate, in: Knowledge and the Economy. Springer, Netherlands.
- Tödtling, F. and Trippl, M. (2005) One size fits all?: Towards a differentiated regional innovation policy approach. *Research Policy*, Regionalization of Innovation Policy 34, 1203–1219
- Dohse, D. (2007) Cluster-Based Technology Policy—The German Experience. *Industry and Innovation* 14, 69–94
- Rothgang, M., et al. (2017). Cluster policy: Insights from the German leading edge cluster competition. J. Open Innovation: Technology, Market and Complexity, 3 (18)
- Gebhardt, C. (2012). The entrepreneurial state: The German Entrepreneurial Regions' Programme as an attenuator for the financial crisis. European Planning Studies, 20(9)

Expert reports

- Commission of Experts for Research and Innovation (2017) *Report 2017* (section B2-2: Cluster policy)
- Commission of Experts for Research and Innovation (2015) *Report 2015* (section B 1: Promoting innovation through cluster policy)
- Müller, L., Lämmer-Gamp, T., Kôcker, G.M., Christensen, T.A. (2012) *Clusters are individuals: New findings from the European Cluster Management and Cluster Program Benchmarking*, a report by VDI/VDE published by the Danish Ministry of Science Innovation and Higher Education
- Eriksson, A., Allee, V., Cooke, P., Harmaakorpi, V., Sotarauta, M., and Wallin, J. (2010) *The matrix: Post cluster innovation policy*. VINNOVA Stockholm.

Thank You

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