



Cluster development tools in science and technology based business development

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Clusters as drivers for science and technology based business development

Innovation clusters benefit from positive externalities attributable to:

- Geographical and technological proximity
- Interconnectedness (also with public institutions)
- Strong science base

Clusters as drivers for science and technology based business development

Expectations on economic impact of innovation clusters are based on theoretical arguments as well as empirical evidence (patent citations, cooperation density,...):

- High density of information flows (vertically and horizontally) facilitates knowledge and technology transfer
- Interconnectedness as a basis for competitive advantages
- Reduction of entry barriers for science and technology based start-ups
- Compensation for limited firm size (SMEs)

Development Tools

Success criteria for development of innovative clusters:

1. A strong science base
2. A large enough and dynamic company base
3. Entrepreneurial culture
4. Availability of finance
5. A skilled labour force
6. A well-maintained social and physical infrastructure
7. Business support services and large companies in related industries
8. Effective networks
9. Openness to the outside world
10. Supportive policy environment

[Dohse 2007]

Development Tools



Financing
 Infrastructure
 Consulting



Networking
 Labor Mobility
 Institution Building



Market Creation
 Internationalization
 Openness

Development Tools

Public sector / regional governments:

- Active interest in / support of private sector
- Identification of market failures and development of appropriate instruments to overcome them
- Business support by means of moderation, mediation and facilitation of cooperation
- Institution building
- strategic directioning of regional support activities
- Initiation of international networking activities

Development Tools

Science parks:

- Provide physical infrastructure / facility management
- Offer business, financial and legal consulting or matchmaking
- Provision of social space / exchange of best practices
- Marketing assistance at conferences and expositions
- Soft landing services
- Personal business advising
- Visiting and matchmaking activities
- Trust building / Identity formation













Development Tools

Cluster management / regional networks:













- Interface between public and private sector
- Cluster assessment / branch reports
- Developing tailored measures for the specific problems of clusters
- Cluster branding
- Initiation of project networks
- Strategic dialogue
- Consulting
- Support technology transfer / incubation

Development Tools / BM













Berlin

Competence	Profile	Influence upon others	Inter-connectivity	Existing structures	Level of maturity
 Optics & Photonics/ Microsystems-/ Nanotechnology		 high	 high	OpTecBB Laserverbund ZEMI	high
 Information and Communication Technology		 high	 middle	Metrology	middle
 Biotechnology & medical technology		 high	 low	BioTop TSBmedici	low













Stockholm

Competence	Profile	Influence upon others	Inter-connectivity	Existing structures	Level of maturity
 Optics & Photonics/ Microsystems-/ Nanotechnology		 high	 middle	Acro AB FMOF	infancy
 Information and Communication Technology		 high	 strong	Kista Science City Electrum AB	mature
 Biotechnology & medical technology		 high	 strong	Stockholm Bio Region Karolinska Institutet	adolescence













Øresund

 Optics & Photonics/ Microsystems-/ Nanotechnology		 medium	 strong	NKT Photonics	adolescence
 Information and Communication Technology		 high	 strong	Øresund IT Academy	mature
 Biotechnology & medical technology		 high	 middle	Madicon Valley Alliance	mature













Riga

 Optics & Photonics/ Microsystems-/ Nanotechnology		 low	 low	none	very low
 Information and Communication Technology		 medium	 middle	Latvian Information Technology and Telecommunications Association (LITTA)	emerging
 Biotechnology & medical technology		 high	 strong	None	emerging

Heisinki

 Optics & Photonics/ Microsystems-/ Nanotechnology		 strong	 middle	CoE-AMM	adolescence
 Information and Communication Technology		 strong	 strong	CoE-SPB, CoE-DM	adolescence
 Biotechnology & medical technology		 medium	 strong	CoE-GT, Invivo Diagnostics, Pharmaceutical, Biomaterial, Bioinformatics/BioSystems, CoE-MMT	adolescence

Tallinn

 Optics & Photonics/ Microsystems-/ Nanotechnology		 low	 low	none	very low
 Information and Communication Technology		 medium	 middle	ITL EITF	emerging
 Biotechnology & medical technology		 medium	 middle	Estonian Biotechnology Association (EBio)	emerging

Development Tools

Transnational cooperation:

Science parks & cluster management

- Best practices / benchmarking
- Soft landing services
- Foster transnational labor mobility
- Exchange information about regional technology profiles
- Initiation of transnational project networks
- Educational networking
- Strategic dialogue
- Visiting, meeting and matchmaking
- Standardization of cluster assessment activities (comparability)
- Establishment of interfaces between science parks, cluster management institutions and regional governments

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