

Innovation with Robotics in Regional Clusters - Theory and Practice

Friday, 15 March 2018, 14:00 – 15:30

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Reflective Introduction

1. History of “Regions and Robotics”
2. EU initiatives
3. Innovation processes in regions
4. Common Good and Social Innovation
5. Nordic Models
6. Suggestions for an “Action Plan”



1. History of “Regions and Robotics”

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Since 2000: Regional Clusters for Robotics

2002: RoboCluster Denmark

2003: Austria

2005: Southern Germany

Since 2011: “Regions and Robotics” as topic in annual European Robotics Forum

(2011: Location: Västerås, Sweden, with Robotdalen as host)

Since 2013: Topic of European Robotics *Week*



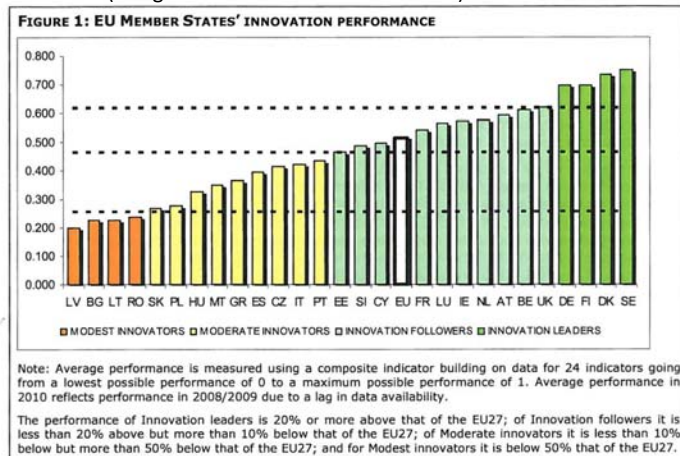
2. EU Initiatives: Cohesion

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- Economic and social cohesion – as defined in the 1986 Single European Act – is about ‘reducing disparities between the various regions and the backwardness of the least-favoured regions’. The Lisbon Treaty, adds another facet to cohesion, referring to ‘economic, social and territorial cohesion’.
- European Structural and Investment (ESI) Funds consists of:
 - European Regional Development Fund (ERDF),
 - European Social Fund (ESF) and the
 - Cohesion Fund (applies to EU Member States which have a GDP lower than 90 % of the EU-27 average).
- 2014-2020 budget €351.8 bn.
- Revisions discussed for time after 2020

Disparity: Innovation Performance in the EU

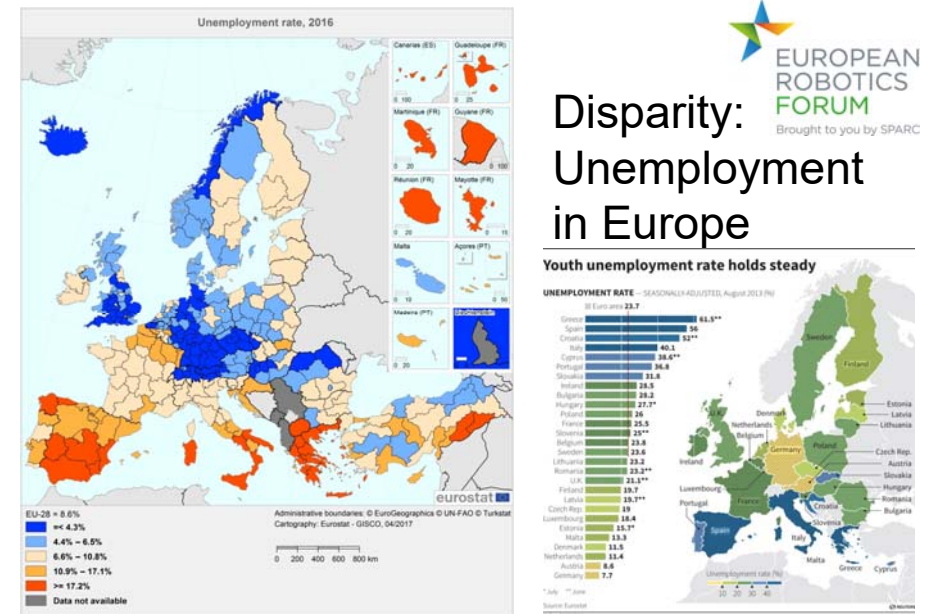
(using 24 indicators of "Oslo Manual")



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Cohesion, Smart Specialisation, and Stairway to Excellence

- Prerequisite for ERDF funding to develop a Research and Innovation strategy for Smart Specialisation (RIS3).
- Established in 2011 following the Communication 'Regional Policy contributing to smart growth in Europe 2020', the role of the [Smart Specialisation Platform](#) (S3P) is to assist Member States and regions to develop, implement and review their RIS3 strategies.
- The S3P is hosted by JRC's Growth and Innovation Directorate (Dir. B) in Seville.
- The Stairway to Excellence (S2E) project aims to enhance the value of the European Structural and Investment Funds (ESIF) and Horizon 2020 (H2020) - by promoting their use in combination with one another. [Stairway to Excellence \(S2E\)](#)

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EU Initiatives: Clusters and "macro-regional" programmes

- The European **cluster approach for growth** is based on three main pillars: **emerging industries and interregional cooperation, cluster internationalisation and cluster excellence.**
- This policy approach is implemented through concrete EU initiatives launched under EU's financial programmes, mainly COSME (and its predecessor CIP) and Horizon2020. (DG Growth)
- With the **European Observatory for Clusters and Industrial Change** (EOCIC), the European Commission provides statistical and trend analysis of clusters (including value chains, start-ups and scale-ups), cluster policy advice and learning, as well as support for strategic interregional cluster partnerships.
- As a cluster information hub, the European Cluster Collaboration Platform ECCP www.clustercollaboration.eu gathers relevant examples of cluster collaboration developed in projects funded by various EU programmes.

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20-23 February 2018: Brussels Conference on *Clusters*

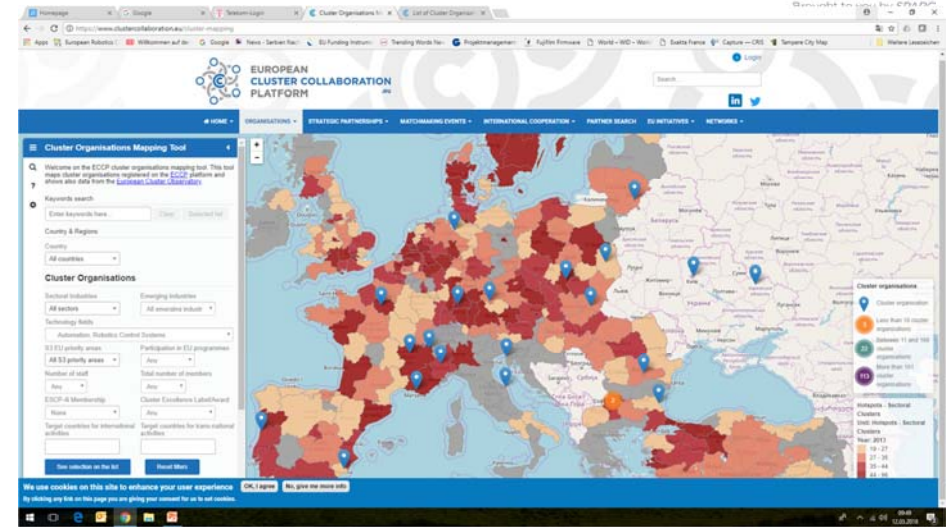


The **Partnering Event** is the opportunity for projects to meet and share experiences and valuable knowledge about developing and implementing joint internationalisation strategies to support SMEs go international.

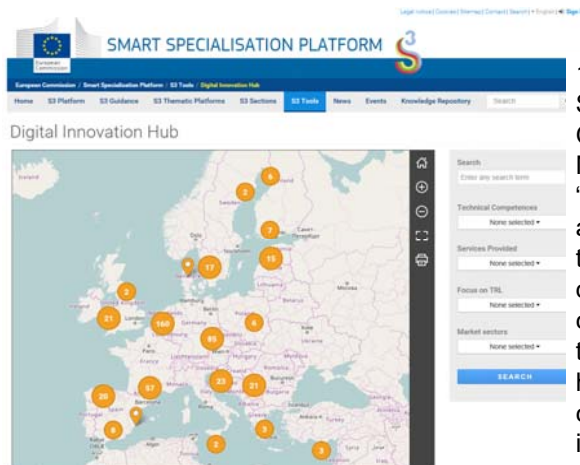
22 Feb 2018: [The European Cluster Matchmaking Event:](#)
Upcoming call for [European Strategic Cluster Partnerships for Smart Specialisation Investments \(ESCP-S3\)](#) and other [open calls](#)

The First European Cluster Policy Forum is organised by the [European Observatory for Clusters and Industrial Change \(#EOCIC\)](#) that aims to help Europe's regions and countries in designing better and more evidence-based cluster policies and initiatives.

European Cluster Collaboration Platform www.clustercollaboration.eu

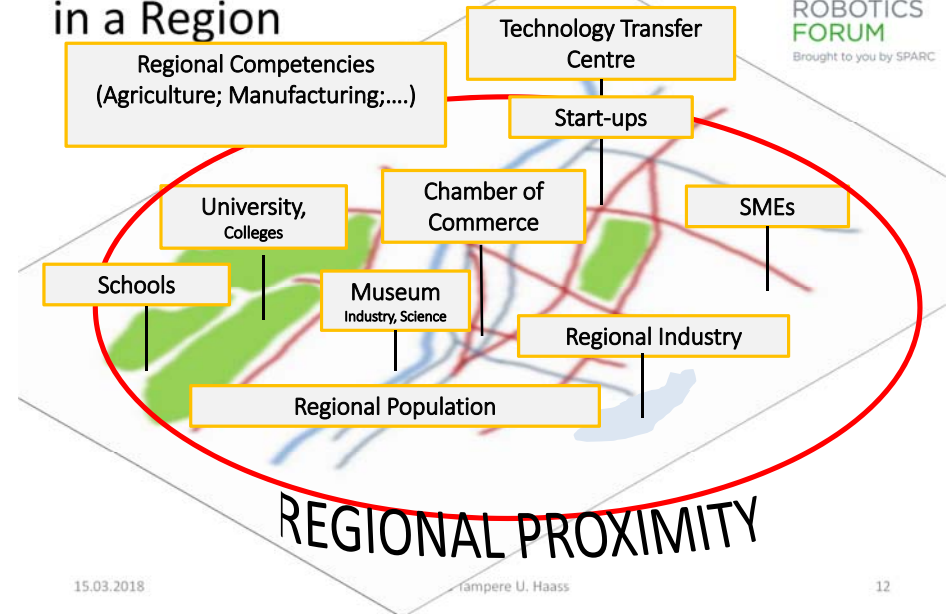


Digital Innovation Hubs Database



14 April 2015
Speech by Commissioner Oettinger at Hannover Messe:
“...Regions and local authorities have a key role to play in this effort, with digital research and competence centres leading the way. My objective is to have at least one world class digital innovation hub in every region in Europe...”

3. Innovation Processes in a Region



Idealistic Innovation Processes

- Leadership from regional authorities (top-down) with goals and “wise management” (roadmap)
- There are institutional competences and resources relevant for innovation
- *Absorption capacity* due to expertise in technology and business, and creativity
- Participatory (grassroots) innovation (bottom-up) using the given (dynamic) structure
- Sharing of tacit knowledge, relying on trust-based relationships favoured by geographical proximity

4. Common Good and *Social Innovation* in Regions

- Common environment, knowledge of entities and persons
- “regional patriotism”
- Trust in each other – or not
- Egoist exploitation – or respect for common good
- Participation of population – or not
- Transparency – or not

Innovation in a “society of mistrust and egoism”?

- Changes amplify mistrust because people do not know who will take profit (fear of losing)
- the more “disruptive” the innovation, the more fears, “fake news”, and cracking of society



How do we measure the level of Human Development?

- “Capability Approach”*) (not monetary wealth, but the range of capabilities for each individual)
- → Human Development Index (U.N.)
- IEEE Ethics for Robotics Standardisation Committee 7010: “Wellbeing Metrics - Standard for Ethical Artificial Intelligence and Autonomous Systems”
- *) Amartya Sen 1985, Martha Nussbaum 1988

HDI Index European Countries *)

1 Norway	22 Belgium	40 Slovakia
2 Switzerland	23 Finland	41 Portugal
4 Germany	24 Austria	43 Hungary
5 Denmark	25 Slovenia	44 Latvia
7 Netherlands	26 Italy	45 Croatia
8 Ireland	27 Spain	48 Montenegro
9 Iceland	28 Czech Republic	50 Romania
14 Sweden	29 Greece	56 Bulgaria
15 Liechtenstein	30 Estonia	66 Serbia
16 United Kingdom	33 Cyprus	75 Albania
20 Luxembourg	33 Malta	81 Bosnia and Herzegovina
21 France	36 Poland	The former Yugoslav
	37 Lithuania	82 Republic of Macedonia

*) World ranking, 2015 Data

5. Nordic Model for *Social Innovation* (SI)

Role of Public Sector in SI

Theory a) *SI substitutes* public sector when it does not work

Theory b) (Nordic Model): *public sector very important* for setting a framework (education, infrastructure, leadership, justice, democratic institutions, common good has very high value, preservation of environment etc.)

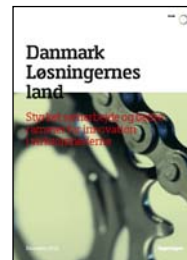
Example Denmark

Public Sector:

- National Innovation strategy (→)
- Support for start-ups and clusters
- Government funding for robotics: ca. 2005 ministry of Agriculture and Fishery, followed by Industrial Production, Biological production, Care and Health, Play & Learning
- Setting up technical colleges across whole country
- Early investment in digital technologies /internet
- Excellent consultation for EU programmes

Private Sector:

- Scandinavian culture of community, cooperation
- Ingenuity and creativity



6. Suggestion for Action Plan (Discussion)

- What type of support should the EU offer?
- What are the criteria for receiving support?
- What is specific about innovation with/for robotics?
- Do we need to specify technologies and applications for robots?