MINISTRY OF
THE ECONOMY
AND INNOVATION

The Policy Makers Vision: The Role of Clusters in the Future

Ričardas Valančiauskas

Director of Innovation and Industry Department

Ministry of the Economy and Innovation of the Republic of Lithuania

Contents

- Clusters in EU
  - Economic impact
  - Innovation potential
  - The role of clusters in the light of pandemic
- Clusters in Lithuania
  - Current state and challenges
  - The role of clusters in the future
    - High expectations
    - Vision for future achievements
    - Vision for green, digital, resilient future

MINISTRY OF
THE ECONOMY
AND INNOVATION

Clusters in EU

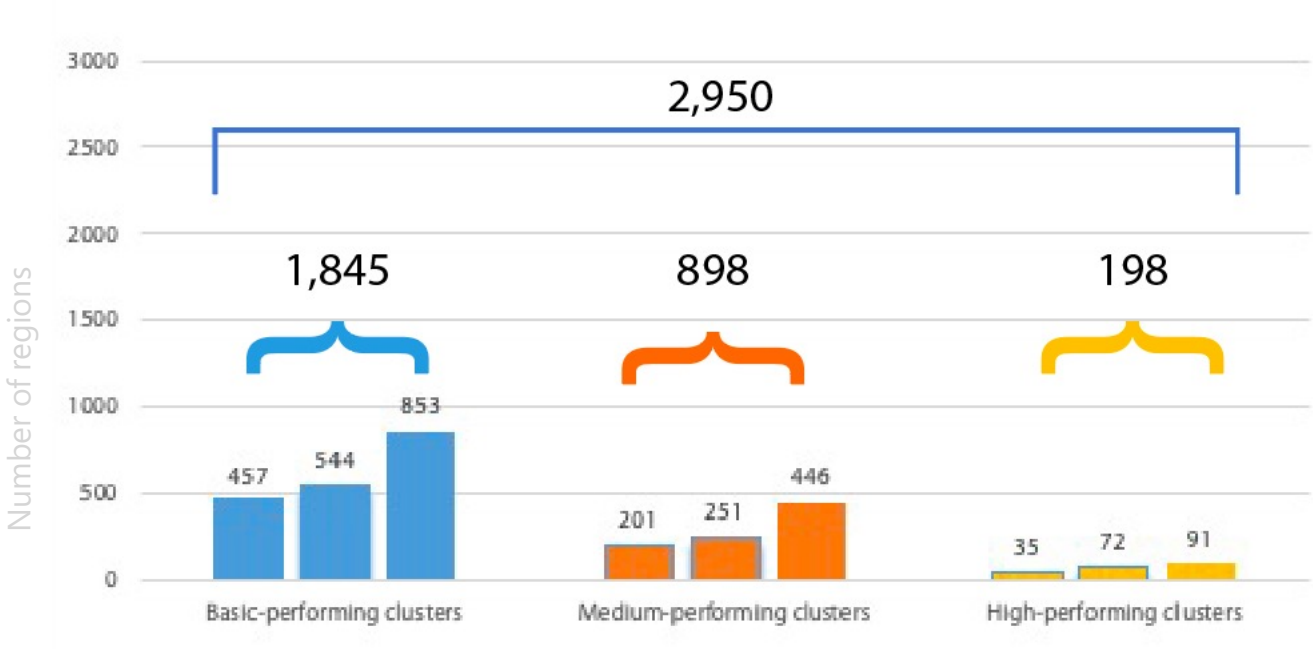
- Economic impact
- Innovation potential
- The role of clusters in the light of pandemic

MINISTRY OF
THE ECONOMY
AND INNOVATION

Clusters in Europe

2,950 regional industrial clusters across Europe*:

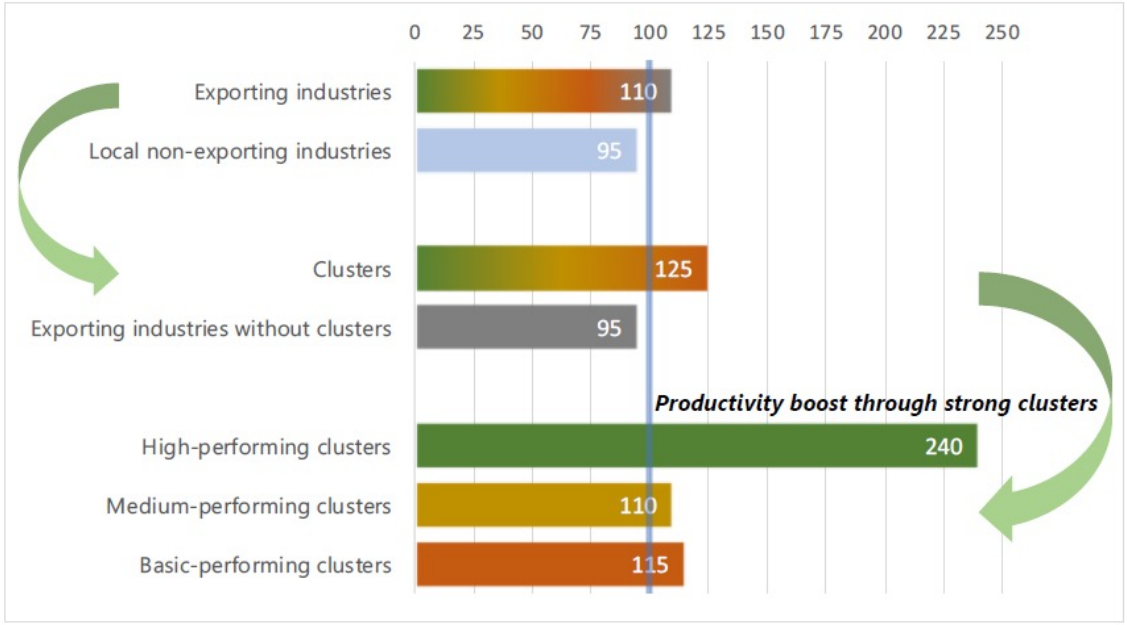
- 198 are high-performing clusters.
- 898 medium-performing clusters.
- 1,854 basic-performing clusters.



*European Panorama of Clusters and Industrial Change

Economic Performance of Clusters

- In high-performing clusters **averages wages** are very high, at more than double the rate of that for all industries*.
- **Productivity** in regional industrial clusters is much higher than average (+25%) and also much higher than in exporting industries without clusters – corresponding to a 35% above average productivity effect between exporting industries with and without clusters*.
- In basic-performing clusters productivity is 15% above average, in medium-performing clusters productivity is 10% above average, and in high-performing clusters productivity is more than twice as high as average productivity (+140%)*.

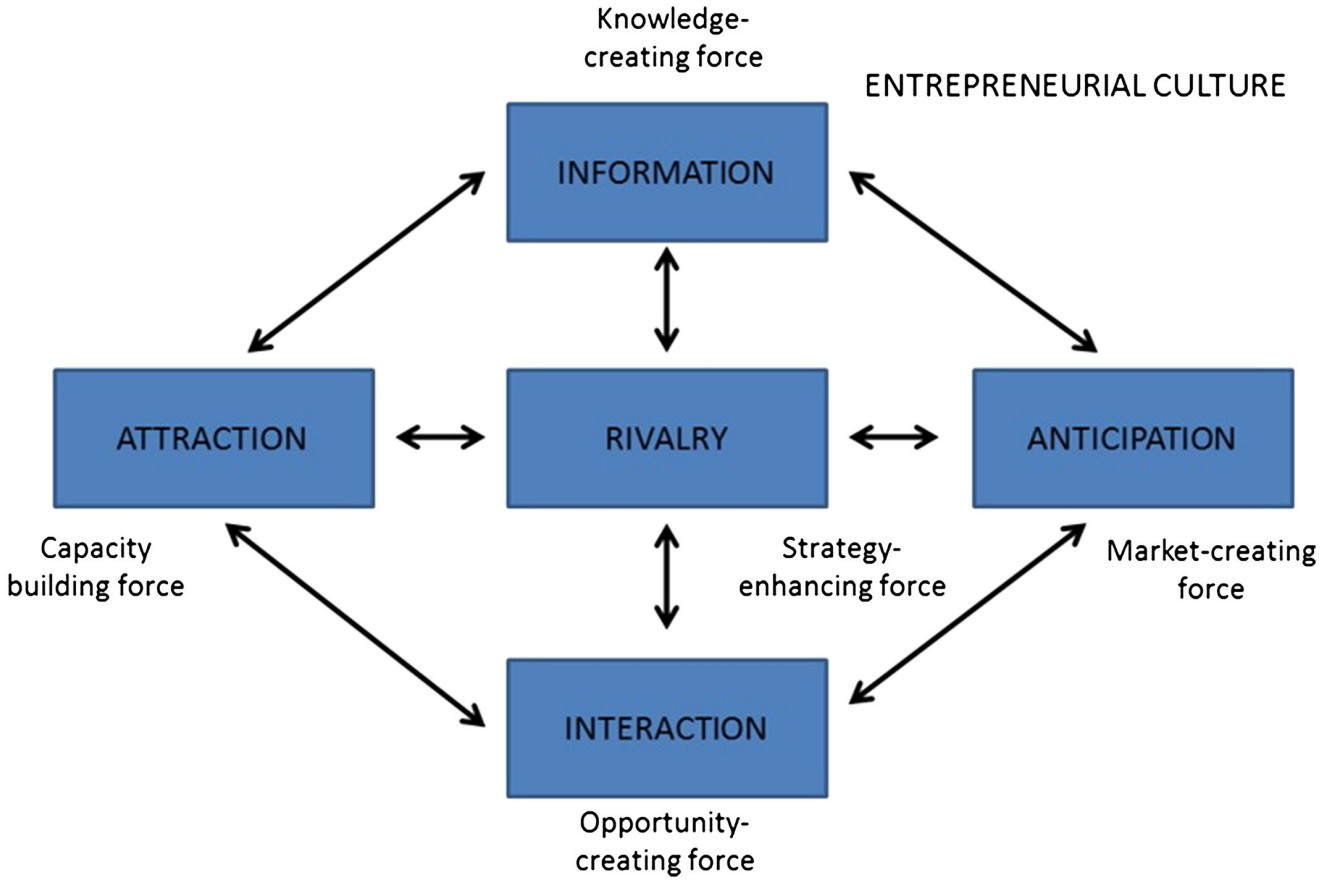


*European Panorama of Clusters and Industrial Change

Clusters as Innovation Engine

- Innovation clusters can strengthen the innovation process at firm and national level, but input from cluster members, society and national government is important.
- Innovation cycle: innovative organizations increase the innovativeness of the cluster and in turn enhances the innovativeness of the individual organization.
- Government can play significant role in facilitating information, interaction and anticipation elements.

5 Cluster Advantages Driving Innovation



*Clusters as Innovation Engines: The Accelerating Strengths of Proximity, 2018, European Management Review 16(1)

Clusters and Innovation Performance

- TOP 10 Science & Technology clusters (proximity based) account for ~35% of total patent filings in the world
- High output intensity does not have to be associated with small or big population size:
  - Cambridge and Oxford are the most S&T-intensive clusters with the highest output of patents and publications per capita.
  - San Jose-San Francisco cluster is 5th overall and 4th by output intensity.

Top 100 cluster rankings

Rank	Cluster name	Economy	PCT applications	Scientific publications	Share of total PCT filings, %	Share of total pubs, %
1	Tokyo-Yokohama	JP	113,244	143,822	10.81	1.66
2	Shenzhen-Hong Kong-Guangzhou	CN/HK	72,259	118,600	6.90	1.37
3	Seoul	KR	40,817	140,806	3.90	1.63
4	Beijing	CN	25,080	241,637	2.40	2.79
5	San Jose-San Francisco, CA	US	39,748	89,974	3.8	1.04
6	Osaka-Kobe-Kyoto	JP	29,464	67,514	2.81	0.78
7	Boston-Cambridge, MA	US	15,458	128,964	1.48	1.49
8	New York City, NY	US	12,302	137,263	1.17	1.58
9	Shanghai	CN	13,347	122,367	1.27	1.41
10	Paris	FR	13,561	93,003	1.30	1.07

*Global Innovation Index 2020

2014-2020 EU Funds Investment Operational Program 2019 implementation report

Impact of the development of innovative clusters:

- **improved dissemination of knowledge and technologies** (development and transfer of technologies, exchange of knowledge, introduction of new technologies in the companies of the cluster participants);
- **increased turnover of members, export, expenses for R&D activities on average by 20-30%**;
- **increased productivity of cluster members** and number of orders, initiation of new investments, **new business partners**, suppliers, distributors, sales channels, new markets and **integration into global and regional value chains**, new product development;
- **access to cluster equipment, tools, infrastructure** that could not be purchased separately.

MINISTRY OF
THE ECONOMY
AND INNOVATION

The role of clusters in the EU and pandemic related vision

- strategic leadership to address recovery efforts and system-level challenges
- development and implementation of industrial policy in multilevel governance
- linking actors from different EU member states, regions and their industrial ecosystems
- leading the entrepreneurial discovery process in smart specialisation strategies
- active involvement in reskilling and upskilling
- reaching out to non-EU international markets
- channel EU public funding to SMEs
- build own capacity to facilitate collaboration, capitalise and disseminate technological and market intelligence and provide specialised services.

1. Leading the green transition
2. Accelerating the digital transition
3. Building resilience

MINISTRY OF THE ECONOMY AND INNOVATION

Clusters in Lithuania

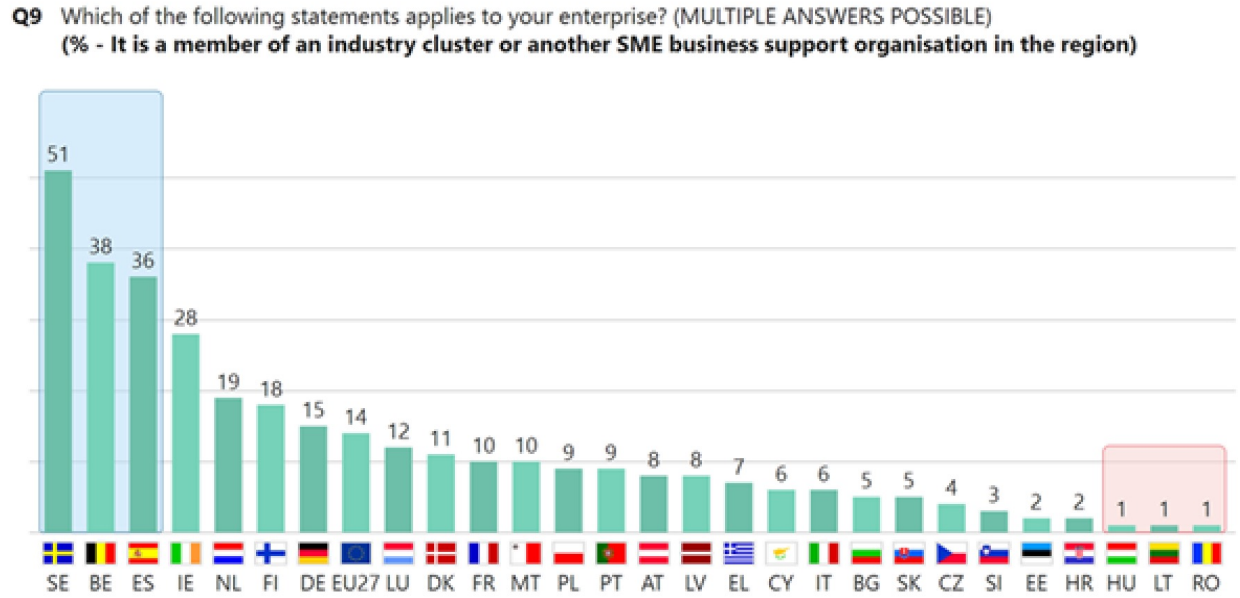
- Current state and challenges
- The role of clusters in the future
  - High expectations
  - Vision for future achievements
  - Vision for green, digital, resilient future

MINISTRY OF
THE ECONOMY
AND INNOVATION

Clusters in Lithuania: Current State

- Systemic work and support for clusters since 2010 is paying off:
  - New clusters (especially in ICT and emerging industries)
  - Increasing cross-sectoral cooperation
  - Cluster consolidation: natural selection processes leave most successful ones
  - Quality of clusters: 10 clusters certified with Label of Excellence
  - Growing number of international partners and members: >60% clusters joined international networks
  - Expanding representation of Lithuanian cluster community in European Cluster Alliance, European Expert Group on Clusters
- However, clusterization processes in Lithuania are still lacking viewing it in EU context: only ~1% of Lithuanian enterprises actively participate and collaborate in industry clusters and other SME business support organizations

EUROPEAN EXPERT GROUP ON CLUSTERS – RECOMMENDATION REPORT



Base: all SMEs in EU27 (n=12,343)

Source: 2020 Eurobarometer Survey on SMEs, start-ups and entrepreneurship

Clusters in Lithuania: public support

EU investment fund instruments designed for clusters:

Business Cluster LT:
30 projects are ongoing or completed with a budget of € 8.48 million. Eur.

Results achieved:
- 621 companies received subsidies from the measure,
- 26 new members were attracted to the clusters,
- 14 membership in international networks.

InoKlaster LT:
13 projects with a budget of 6 million. Eur.

Results achieved:
own investment in the project amounts to 2.21 million. Eur,
- 43 cluster members who received investments,
- 6 new cluster prototypes.

InoConnect:
122 projects are ongoing or completed, with a budget of 1,44 million Eur.

InoConnect is designed to promote **international partnerships and networking**.

Digital Innovation Hubs (DIH):
4 ongoing projects. Eur 17,6 m.

Inolink:
ongoing project with a budget of 2,4 million Eur.

Until 2021:
- 29 clusters are selected for consultations and events on most relevant themes;
- clusters implemented 237 maturity sessions

MINISTRY OF THE ECONOMY AND INNOVATION

Ongoing Challenges based on National Clusters' Development Strategy 2020

Impactfull output & innovation

- Increasing added value created by clusters
- Increasing R&D potential and participation in international R&D efforts

Open culture

•Communicating importance and potential of clusters, encouraging trust and free flow of ideas
•Clusters becomming ecosystem for startups
•Active participation in multiple regional and international networks – new norm

Embracing value chains

- Encouraging emergence of local short value chains in clusters
- Encouraging clusters and their members to connect to international value chains

+

Working on "Big Picture": shift towards green transition, digital transition and resilience

MINISTRY OF THE ECONOMY AND INNOVATION

High expectations for the role of Lithuanian clusters in the future

- Clusters can and should:
  - Act as advocates to encourage cross-sectoral, interdisciplinary, international collaboration
  - Lead R&D in smart specialisation strategies
  - Take innitiative on leading the digital and carbon-neutral ‘green’ transformation

Become one of the most important tools for economic development

Increase Lithuania's competitiveness and strategic autonomy

MINISTRY OF
THE ECONOMY
AND INNOVATION

Vision for future achievements

Impactfull output & innovation

- Economic impact (productivity, wages, R&D) of Lithuanian clusters nearing EU averages
- Increasing number of international projects focused on global issues led by Lithuanian clusters

Open culture

- Lithuania on the Global Innovation Index map: appearance in TOP 100 Science & Technology clusters
- At least 1 cluster rewarded Gold Label of Excellence
- >80% clusters participating in international networks
- Majority of clusters mature, self-sufficient, with minimal need of external support

Embracing value chains

•National funding focused on green/circular economy value chains

• National funding focused on Digital Innovation Hubs (DIH) and digital economy

•National funding focused on creating consortiums

•Appointed high ranking person from the Ministry to represent Lithuanian clusters in various international policy & networking events to create visibility and new opportunities internationally

MINISTRY OF THE ECONOMY AND INNOVATION

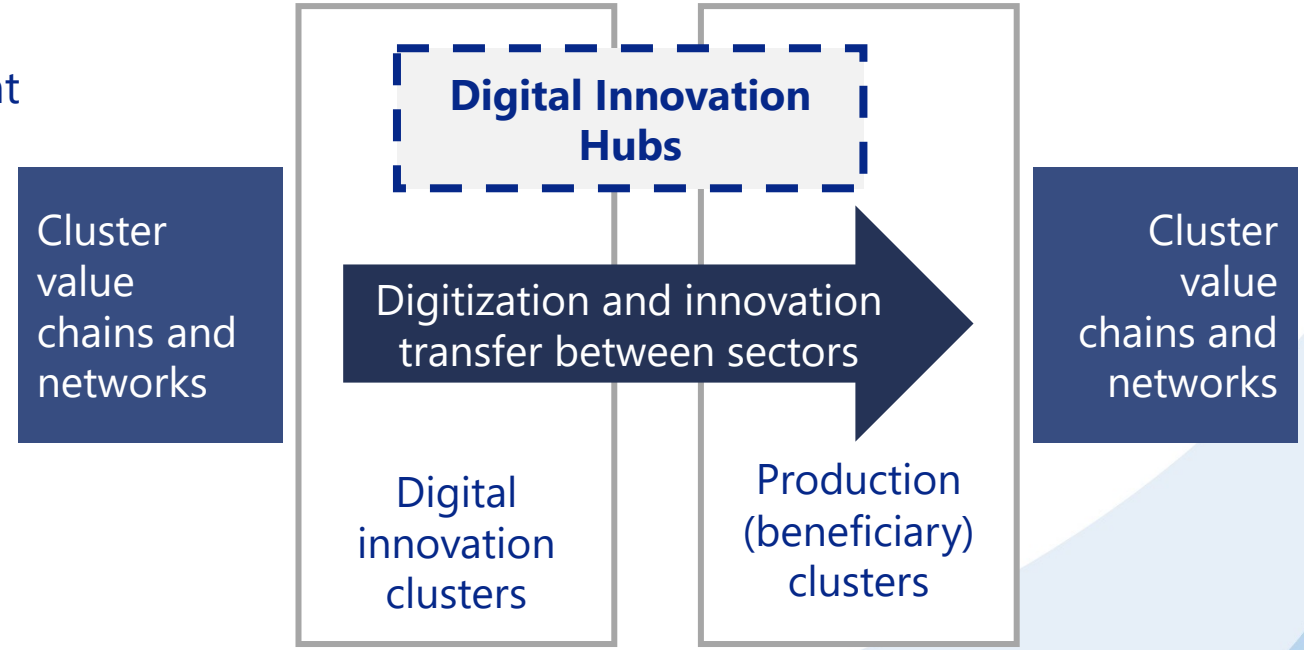
Vision for green, digital, resilient future

Green transition

- >50% of clusters working with circular economy strategy/projects
- >30% all new cluster innitiatives take into account sustainability and going green aspects

Digital transition

- >90% of clusters working with digitization strategy/projects (in 2020 >90% planned to do so)
- Grass-roots DIH's (examples already exist: Blockchain competency center)
- Increasing number of not only public-private partnerships, but the number of actually implemented projects



Resilience

- >1 cluster participating in the the Pact for Skills initiative dedicated to skills development
- >1 training initiative aimed at skills improvement for Clusters

MINISTRY OF THE ECONOMY AND INNOVATION

Conclusions

- **Existing scope of clusterization is not sufficient to effectively drive Lithuanian economy towards twin transition, contribute to EU resilience efforts.**
- **Potential is great and rewards even greater**
- **Great starting point for improvement - ongoing dialogue between government and clusters**

MINISTRY OF
THE ECONOMY
AND INNOVATION

MINISTRY OF
THE ECONOMY
AND INNOVATION

Thank you