



# Cluster policy in Russia: similarity and uniqueness

Evgeniy Kutsenko

Institute for statistical studies and economics of knowledge  
National Research University “Higher School of Economics”

- 1. Background of the cluster policy in Russia**
- 2. The basic features, similar to the EU cluster programs**
- 3. What are the differences?**

# 1. Background of cluster policy in Russia

# 1. Problems

## Insufficient demand for innovation

- Low level of innovation activities of companies: around 10%
- Low rate of innovation expenditures as a percent of sales: 1.5% (in Sweden - 5.4%, Germany - 3.4%)
- Stable share of innovative products in total sales (5%) in spite of growing expenditures on innovation

## Low efficiency of R&D sector

- Science (fundamental and applied) is traditionally isolated from the universities and enterprises
- Universities accumulate only about 7% of overall spending on science in Russia
- Almost  $\frac{3}{4}$  of organizations performing R&D are state-owned ones

## 2. Policy measures (last decade)

- Increasing funding for science (1.6 times for the period 2006-2008)
- **Additional support for universities:** development of innovation infrastructure, stimulation innovative start-ups appearance, attraction of world-renowned scientists, cooperation of universities with enterprises (overall budget more than 3 bn euro).
- **Federal development institutions were formed** (Russian Venture Company, JSC "RUSNANO", the Russian Foundation for Technological Development (RFTD), State Corporation "Bank for Development and Foreign Economic Affairs (Vnesheconombank)", Skolkovo innovation center , etc. )
- **Coercion of large state-owned enterprises to innovate** (about 60 companies that are forced to spend a fixed percent of their earnings on innovation)

- Development of innovation infrastructure for SMEs in the regions (technology parks, business incubators, technology transfer centers, prototyping and design centers, etc.)
- Technology platform formation (32 platforms in one of the 12 spheres)

Source: Strategy - 2020: A new model of growth - a new social policy (2012). The final report on the results of the expert work on the issues of social and economic policy in Russia until 2020. In Russian.

<http://2020strategy.ru/data/2012/03/14/1214585998/1itog.pdf>; The Ministry of Economic Development of Russia (2010). Innovative Russia - 2020. The strategy of innovative development of the Russian Federation for the period up to 2020 (draft). Moscow 2010. Russian.

[http://www.economy.gov.ru/minec/activity/sections/innovations/doc20101231\\_016](http://www.economy.gov.ru/minec/activity/sections/innovations/doc20101231_016)

### 3. Demand for high-efficiency policy

Coordination of innovation policy measures for support different actors (universities, research organizations, large businesses, SMEs, venture capitalists and business angels, etc.)

Improving the efficiency of interaction between actors of the regional innovation systems, including trust building

Taking account of specific innovation profiles of the regions and the involvement of the regions in the drafting and implementation of federal policies

**Cluster  
policy**

## 4. The first national cluster program in Russia

- The campaign of the selection of so-called pilot innovative clusters was announced by the Ministry of Economic Development of the Russian Federation at 19 March 2012
- In total, 94 applications were received
- Just 25 was selected due to their potential and the quality of the application



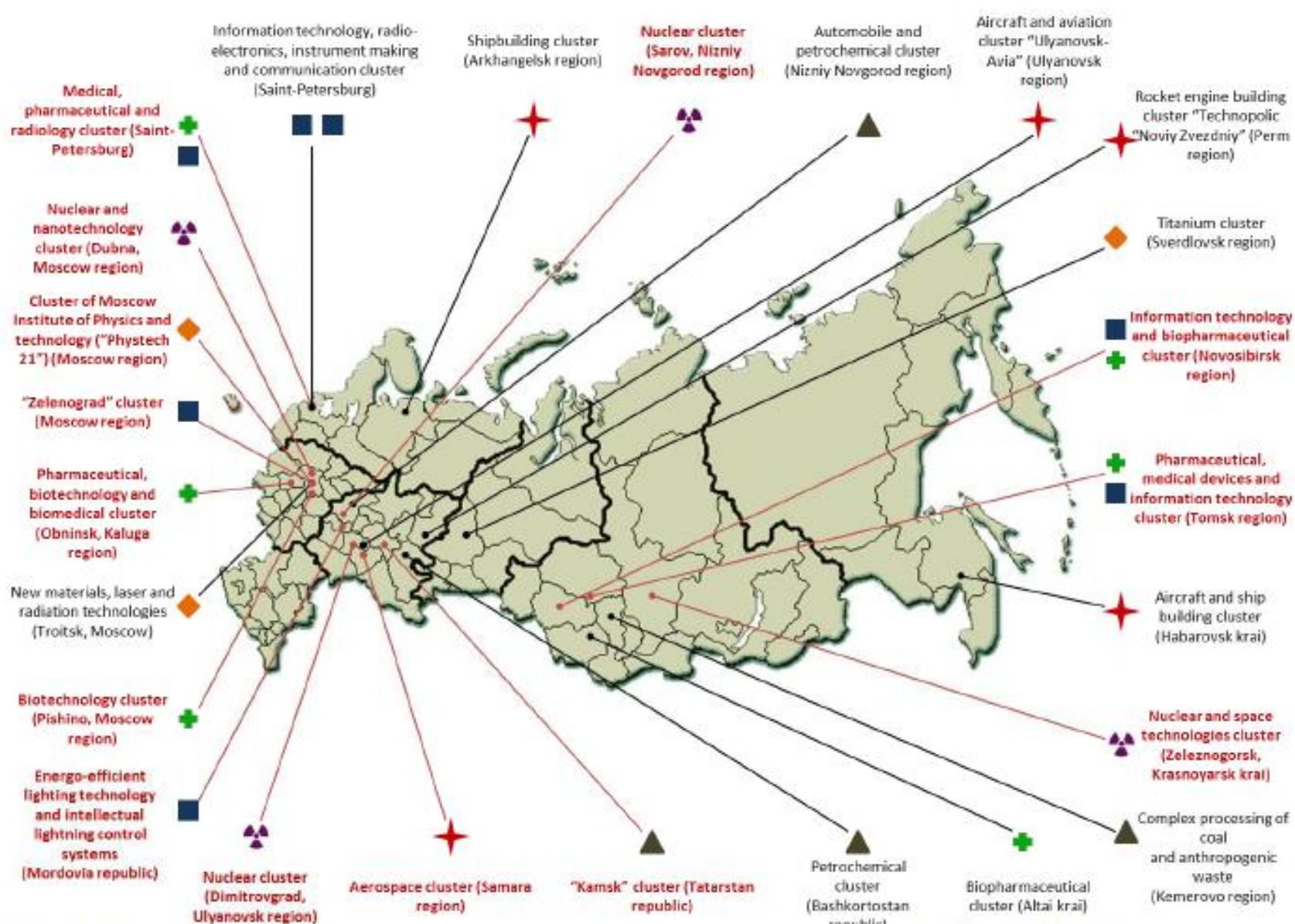
# Specialization of the pilot clusters in Russia

Specialization of a cluster	Number of pilot clusters*
nuclear technology	5
aerospace and aviation	5
biotechnology, pharmaceuticals, medical devices	6
information and telecommunication technology, electronics and lightning	6
new materials	3
chemical production including petrochemistry	4

\*Some pilot clusters have broad specialization and are included in two specialization categories simultaneously

# Brief comparison with the Greenbook 2.0 evidence (1)

Sector		Sector	
IT /	55	Materials /	10
Food	23	Biotech /	9
Automotive /	21	Medical	8
Green Technology	19	Optics and Photonics	8
Health	19	Education	7
Energy /	18	Forest Products	7
Textiles	17	Micro and Nanotechnology /	7
Metal Manufacturing	13	Aerospace /	6
Tourism	13	Business Services	6
Transportation and Logistics	13	Chemical /	6
Agricultural Products	12	Media and Publishing	5
Construction	12	Furniture	4
Production Technology	12	Entertainment	2
Creative Industries	11	Telecom /	2
Maritime /	11		



**Notation conventions:**

- First group (14) of the pilot clusters that first of all are planned to get a special subsidy besides all other forms of government support.
- Second group of the pilot clusters that won't get the subsidy on the first stage of the cluster program but will be supported through all other instruments.

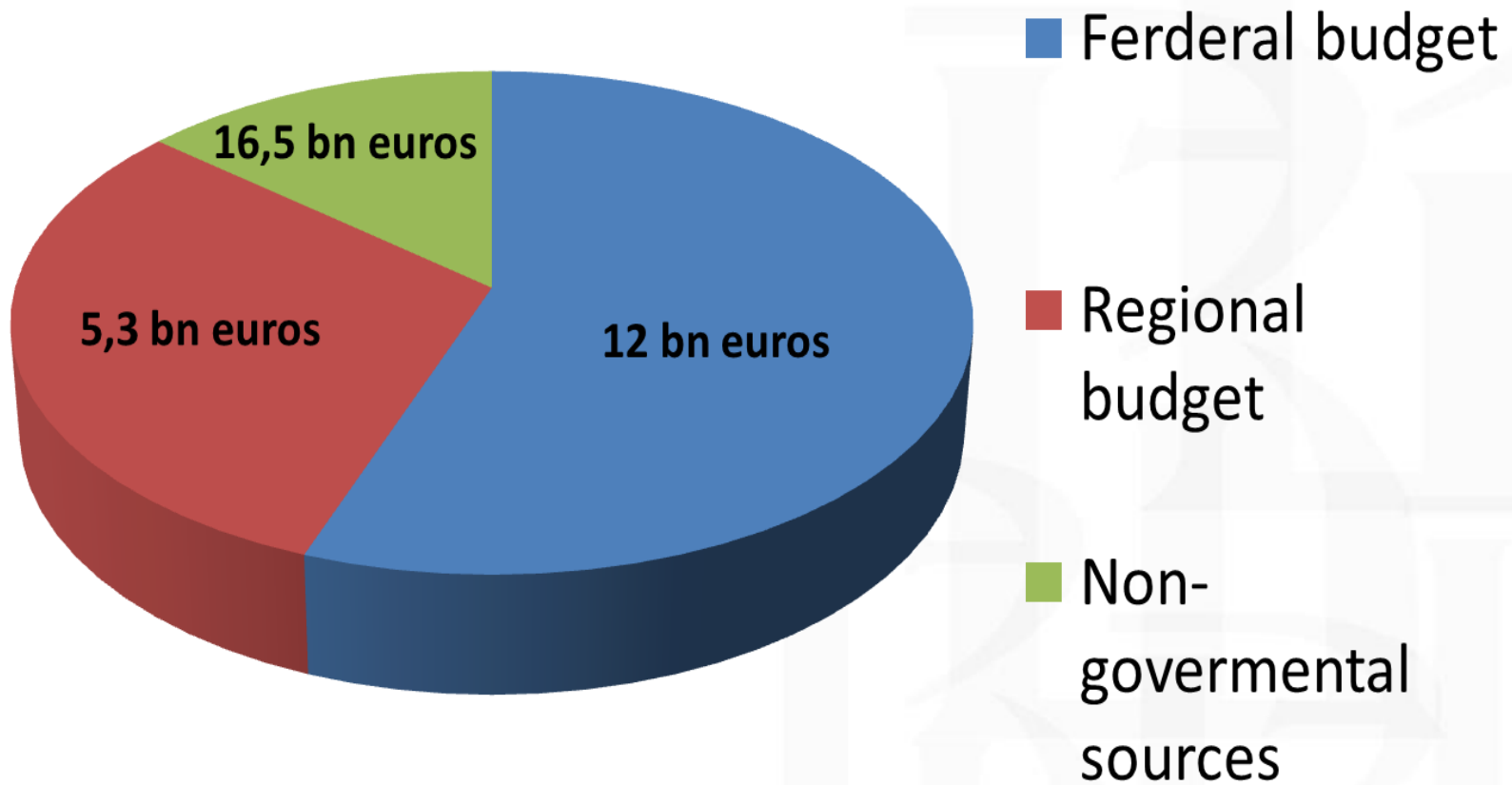
**Specializations of clusters:**

- ☢ Nuclear and radiation technologies
- ✈ Aerospace, aviation, shipbuilding
- ⚗ Pharmaceuticals, biotechnology and medical devices
- ◆ New materials
- ▲ Chemistry and petro chemistry
- Information technologies and electronics

# Key indicators of the pilot clusters' development

Index	Present value (bn euros)	Predicted value (bn euros)	Rate (%)
<b>Total sales (except natural resources)</b>	47 (2011)	95 (2016)	105 (growth rate)
<b>Private investment</b>	16 (2009-2011)	39 (2012-2016)	146 (the ratio of the average annual private investment in 2012-2016 to average in 2009-2011)
<b>R&amp;D expenditures</b>	28 (2007-2011)	24 (2012-2014)	145 (the ratio of average annual R&D expenditures in 2012-2014 to average in 2007-2011)

# Planned structure of overall financial sources for development of the pilot clusters (first group) in Russia, 2012-2017 years



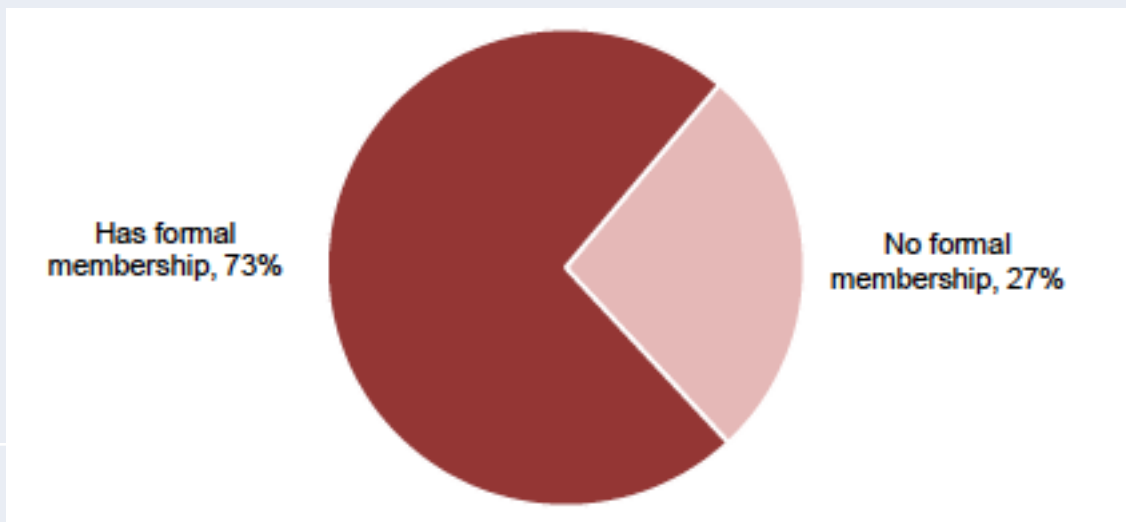
## **2. The basic features, similar to EU cluster programs**

# 1. The concept of a cluster

- objective endowment and relatively significant allocation of labor force (turnover, investment) in specific industry and region
- variety of participants: large companies, SMEs, universities and scientific organizations, organisations for collaboration.
- **self-identification, common strategy designing, organizational efforts and collaborative projects.**

# Brief comparison with the Greenbook 2.0 evidence (2)

## A) Share of CI with formal membership



All participants should have formal membership due to the terms of federal program

## B) Number of formal members

According to the Greenbook 2.0 the average number of formal members is **80**

As for pilot clusters in Russia approximate number could be around **30** (in some cases less than 15)

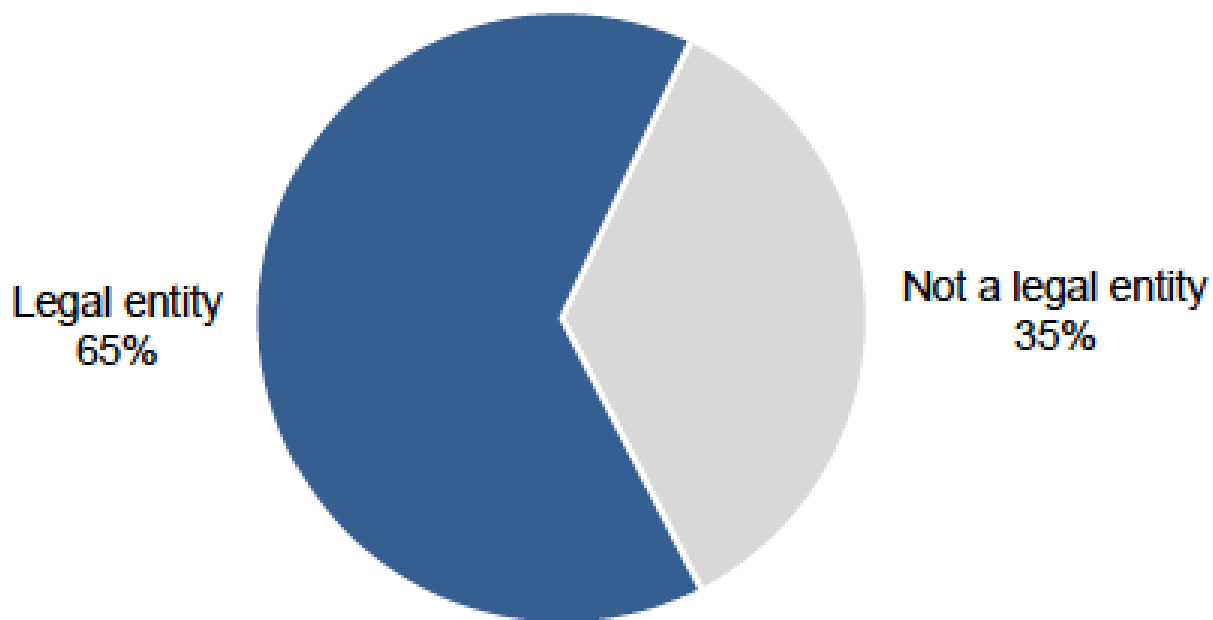


## Legal status of the cluster initiative

Russian case:

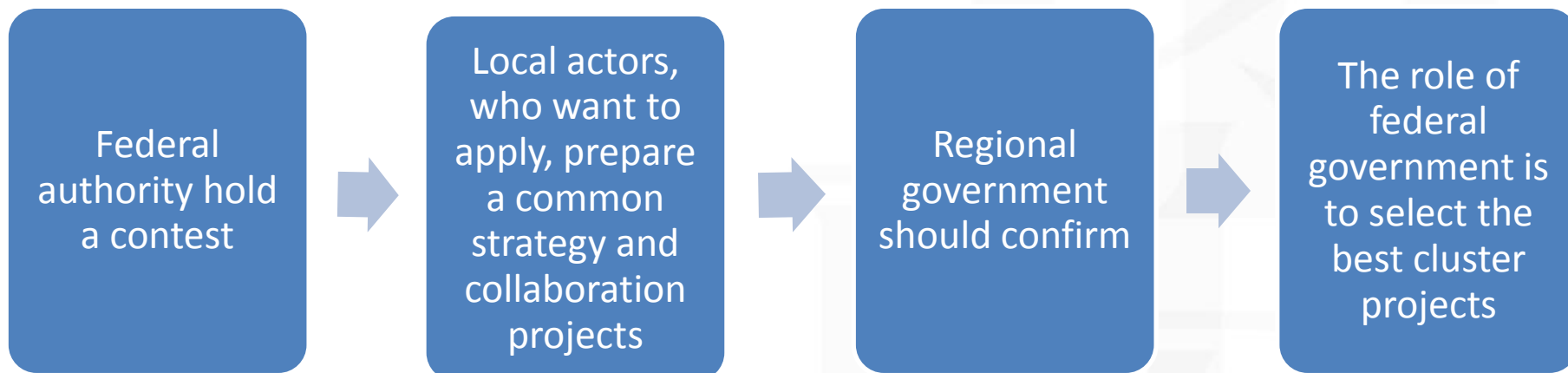
All clusters that are planned to be subsidized must establish a legal entity.

Due to the terms of the program regional or local government has to be the owner (at least one of the owners)



## 2. The key role of regional authorities

“Top-down-top” approach for the selection the pilot clusters



## 3. The contest

**Significant share of rejected applications.** In Russia during one month 94 applications from the regions were submitted.

Program	Share of rejected applications, %
BioRegio	76
InnoRegio	95
Competitiveness poles	32
<b>Russian cluster program</b>	<b>85 (73 with the second group)</b>

### **Competition stimulates cooperation among localized actors even if they loose**

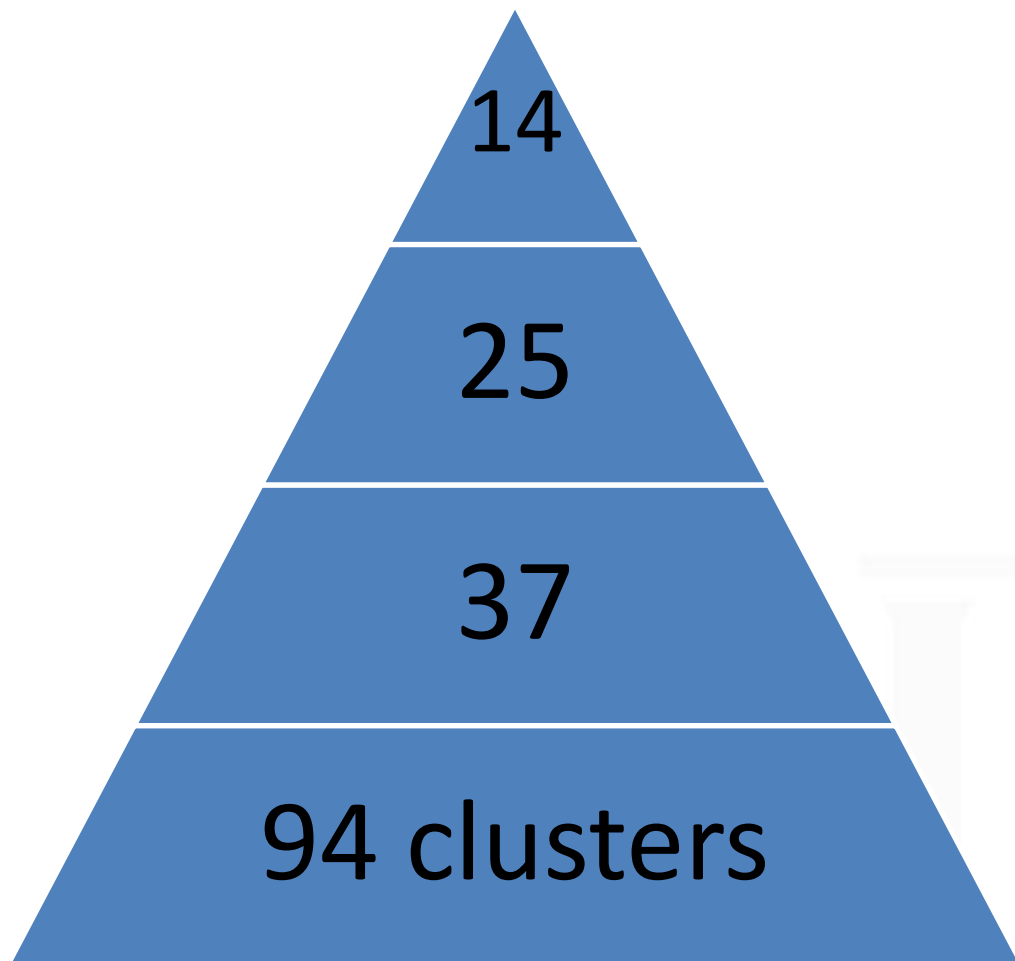
The data from Innoregio show that 40 percent of clusters, whose applications were rejected, nevertheless realized their project afterwards. And 61 percent of them received financial support from other government programs. Eickelpasch A., Fritsch M. (2005) Contests for cooperation – A new approach in German innovation policy // Research Policy. № 34. P. 1269–1282

## 4. Comprehensive criteria for the selection

	Current situation	Perspective (2017)	Quality of action plan
<b>Scientific and educational potential</b>	7 indicators ( 4 quantitative ; 3 – qualitative )	2 (1;1)	2 (0;2)
<b>Production (sales) potential</b>	12 (4;8)	6(3;3)	4(1;3)
<b>Life quality, level of transport and logistic, power, engineering, housing and social infrastructure on the territory of cluster location</b>	5 (4;1)	2 (1;1)	2 (1;1)
<b>The level of organizational development</b>	3 (0;3)	0	1 (0;1)

**In total, there are 46 quantitative and qualitative indications for complex assessment of cluster development projects through established criteria**

## 5. Two-stage procedure for the selection



The 14 clusters (from 25 pilot ones) are first planned to get a special subsidy.

The applications that was selected through the process of presentation of each clusters, questions and discussions.

The applications that got the highest grades from the experts during on-line evaluation

Total amount of received applications till 20 April (one-month period)

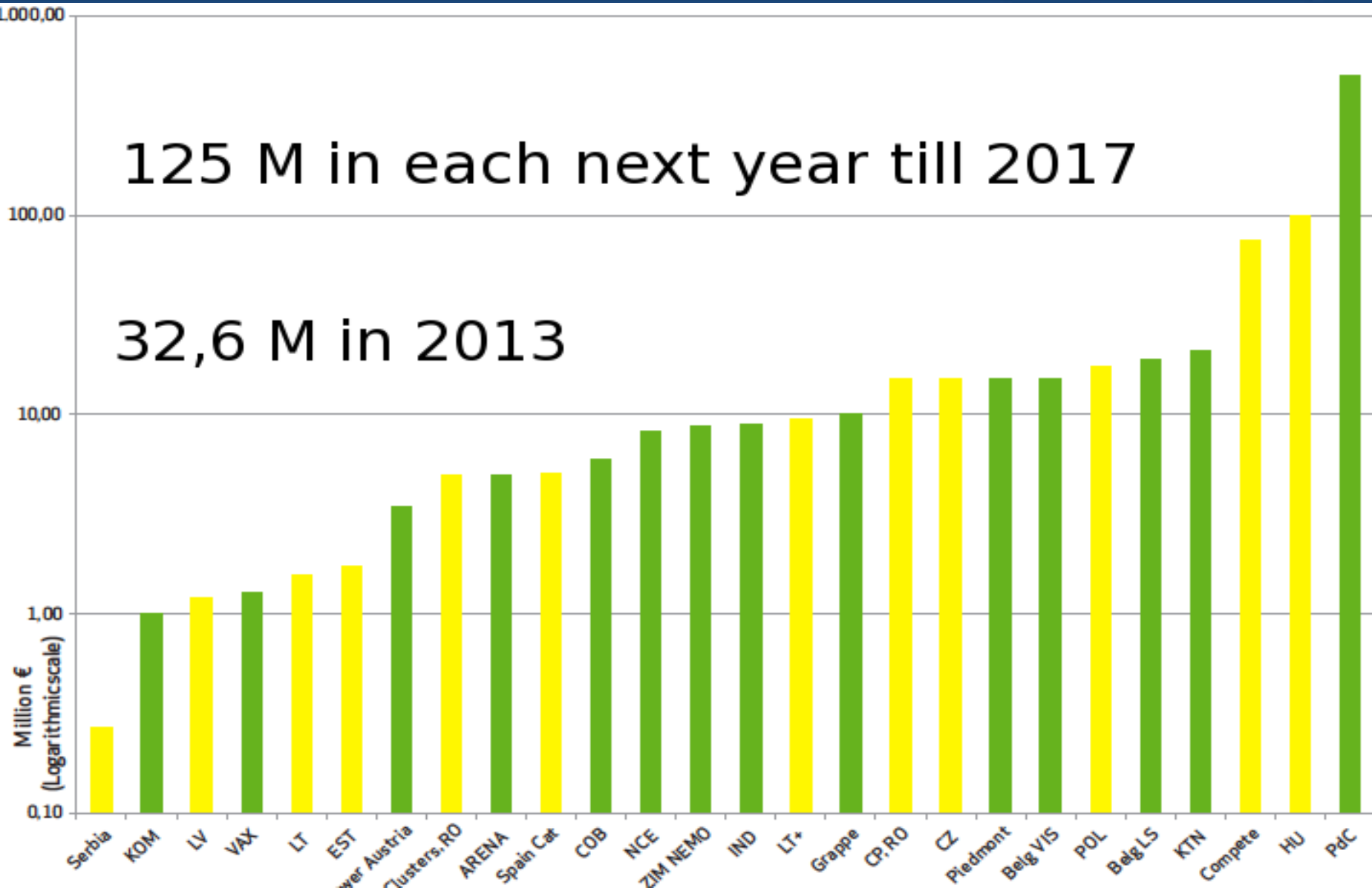
## 6. The volume of support is consistent with famous cluster programs in Germany and France

The name of the cluster program	Budget (million euros)	Term of promotion	Budget support per cluster
<b>Russian cluster program</b>	<b>532 (plan)</b>	<b>2013-2017</b>	<b>38.0</b>
BioRegio (Germany)	90	1995-2002	22.5
BioProfile (Germany)	50	1999-2006	16.7
InnoRegio (Germany)	253	1999-2006	11.0
Les pôles de compétitivité (France)	3000	2005-2011	42.3
Spitzenclusterwettbewerb (Germany)	200	2012-2016	40.0

# Evidence from the “Clusters are Individuals”: yearly budget of the cluster program in EU countries/regions

125 M in each next year till 2017

32,6 M in 2013



## 7. Focus on consulting, marketing, networking, not on large infrastructure projects

Directions of federal government support for the pilot clusters in 2013:

- cluster management activities and external consultancy
- additional education and training
- consultancy for the preparation of investment projects in the sphere of innovation
- participation in international fairs, forums, round tables, etc.
- purchase of new equipment / engineering centers formation

**Two main goals:** Practice of collaboration + Success stories in the short-run (little quick wins).





## 8. First-priority support from current state programs and institutions

**Special subsidy from federal budget to regions' budgets for financing the pilot clusters' projects (first group) – 532M Euros for all 14 clusters for the period of 5 year**

### **Interaction with Skolkovo Foundation:**

- Expansion of some of the instruments, developed for the Skolkovo, to pilot clusters' participants
- FDI attraction through Skolkovo Foundation

**First-priority support for all the 25 pilot clusters with current programs and federal institutions specialized in infrastructure development and fostering innovations**

**Development of transport and logistic, power, housing and social infrastructure :**

- Federal special-purpose programs
- The bank for development and foreign economic affairs, Agency for housing mortgage lending, Russian Housing development foundation
- Investments plans of natural monopolies
- Innovation plans of the largest state-owned corporations

**R&D and innovation support:**

- Program «Science and technology development», sectoral special-purpose programs, Russian foundation for basic research
- Rusnano, The foundation for technological development, Russian venture capital, Fund for Assistance to Small Innovative Enterprises in Science and Technology
- SME support program of the Ministry of Economic Development of Russia

## 9. Complex inter-governmental coordination

- Strong participation of regional authorities (co-finance, cluster management)
- High-level federal facilitation (inter-ministerial committee)

# 3. What are the differences?

# 1. Poor urban infrastructure

The competitiveness of clusters is built on **developed, diversified and open urban environment** which provide high living standards and is attractive for talents and capita.

There is a number of pilot clusters formed in single specialisation cities with restricted access and decreasing quality of life

## 2. In many cases there is a significant lack of private initiative

Usually cluster initiatives are initiated by government-financed organizations:

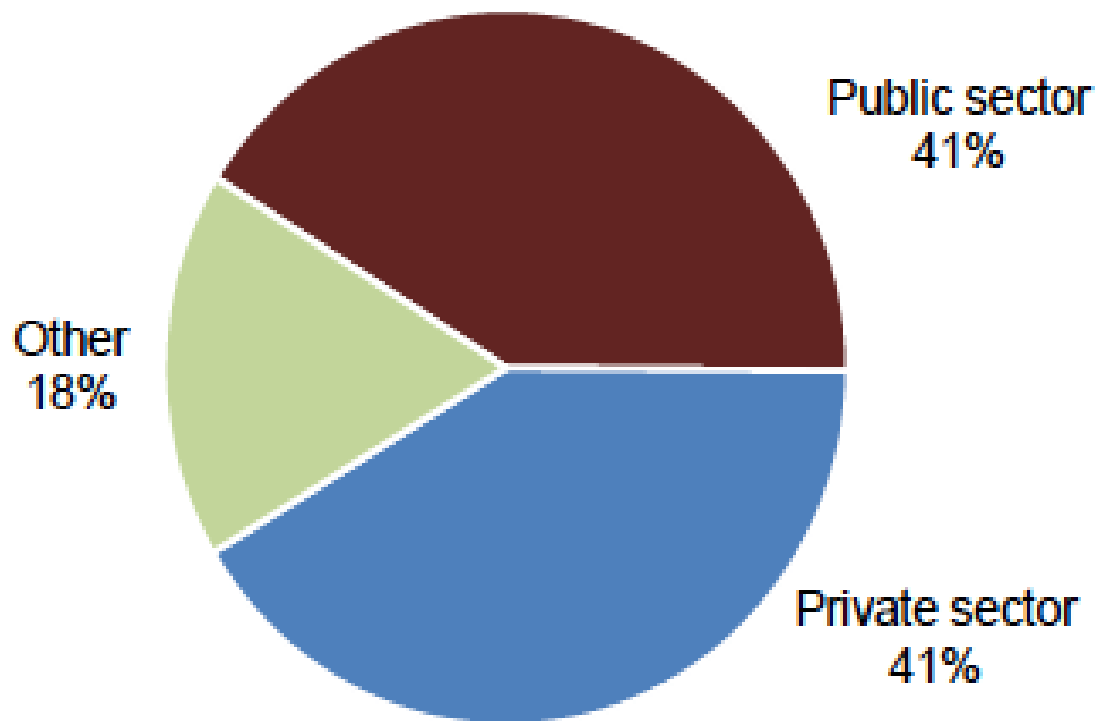
- state-owned companies,
- scientific or educational organizations,
- local authorities.

If the CI doesn't supported by the local business **how could we prove that It is reasonable from the economic point of view?**

This causes the risk of **inconsistency between market failures (real needs for government intervention) and the government measures.**

# Brief comparison with the Greenbook 2.0 evidence (4)

## Original trigger of the initiation of the CI



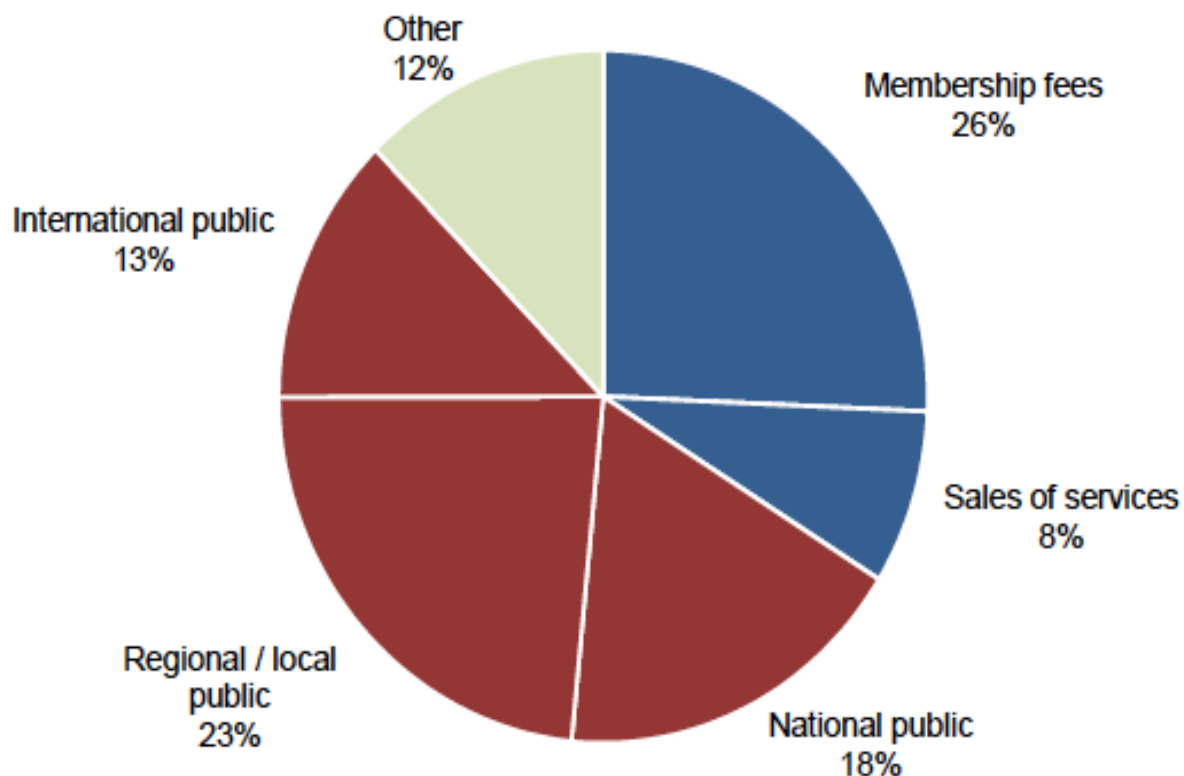
Russian case:

Some private-led clusters didn't manage to win the contest for the subsidy.

One Example: IT cluster in Sankt-Petersburg.

# Brief comparison with the Greenbook 2.0 evidence (5)

## Sources of cluster organizations' revenues



Russian case:

There are no cluster organizations financed by the private sector.

But in some cases there are plans to establish membership fees. Example: nuclear and space technologies cluster in Zeleznogorsk, Krasnoyarsky krai

### 3. Insufficient internal competition

The theory of M. Porter: crucial role of internal competition, even rivalry

Russian SoE: Competition?  
Never heard about... Clusters are becoming very similar to the soviet territorial industrial complexes



## 4. There is no emphasis on SME, start-ups, growth of new companies

### **European experience:**

More than 60% of BioRegio budget were directed to private companies, the majority of which were start-ups

80% of Competitiveness poles program participants were SME. They received 54% of the program budget.

### **Our program:**

The main goal is to develop existing large companies. Concerning SME, they are supported by regional cluster development centers (different services – depends on the region).

SMEs very often participate in cluster formally, in paper, but are not really engage in cluster projects.

In many cases SME are excluded from higher level of cluster administration.

## 5. Lack of internationalization

- **Weak collective activity at the external markets**
- Restricted access mode (in some clusters) blocks attraction of foreign staff, researchers, managers and investments
- Poor cluster management (lack of engagement in global professional networks like TCI)
- Poor benchmarking with EU clusters
- No website (there are just several exclusions)

## There is a reason to be optimistic

- Appropriate concept of a cluster
- Crucial role of local actors and local/regional authorities
- Wise procedure of the selection of the clusters
- Comprehensive and significant support
- Complex inter-governmental co-ordination

## But there is still a lot of work to be done!

- Poor urban infrastructure
- Lack of private initiative
- Insufficient internal competition
- No emphasis on SME, start-ups, growth of new companies
- Lack of internationalization