Technology Platforms as a New Instrument of the Russian Innovation Policy

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Some features of the current stage of development and implementation of the Russian innovation policy

Positive changes

- Innovation policy – among the government priorities
- Search and active implementation of new instruments to stimulate innovation
- Attempts to involve new “players”
- Desire to redirect the policy to support the formation of new high-tech sectors and “new” business demand for innovations

Constraints and problems

- Hard budget constraints for the implementation of innovation policy (social-oriented budget)
- Increasing the tax burden on business
- Multiplicity of "innovation signals" from the government
- Poorly predictable changes in the regulation of economic activity
- Slow progress in improving the business environment and investment climate

Lack of communication instruments for harmonization of interests of various actors in the formation of innovation policy
Lack of networks between business, science and government for coordination of changes

Initiative on “technology platforms” as communication instrument in the industrial and innovation policy
## Motivation for the formation of new instrument - technology platforms - in the Russian innovation policy

**Problems**

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<th>Lack of clarity of business interests in innovations</th>
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<td>Limited “planning horizon”, a low business “receptivity” to innovations</td>
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<td>Lack of influence of business on subjects of R&amp;D, on educational programs</td>
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<td>Problems in transforming R&amp;D results into commercial technologies</td>
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<td>Heterogeneity of R&amp;D sector, uncertainty of scientific competences</td>
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<td>Duplication of state-supported R&amp;D, poor dissemination of results</td>
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<td>The multiplicity of “channels” of government support for innovations; the need for “tuning”</td>
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<td>The barriers to the dissemination of technologies related to industry regulation</td>
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**Expectations**

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<tr>
<th>Expand the capability of the technological modernization of the economy, the development of new industries and sectors</th>
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<td>Formation of “technology mainstreams“ in the economy, “flow” of innovative projects</td>
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<td>Improving conditions of the spreading of advanced technologies in the economy</td>
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<td>Attracting additional private resources to the innovations</td>
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<td>Increased mutual receptivity of business and science, formation of new “value chains”</td>
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<td>Selection of the best, the formation of &quot;centers of excellence“ in R&amp;D sector</td>
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<td>Expansion of the circle of potential &quot;beneficiaries&quot; of state-supported R&amp;D in the economy</td>
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<td>Development of international cooperation in innovation, new ST alliances</td>
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Possible directions for the formation of technology platforms in Russia, probable key players

**Directions**

1. Technological breakthroughs in providing competitiveness of the traditional high-tech sectors

2. Restructuring and formation of new chains of processing applied to the natural resource-based industries

3. The provision of new public services, improving their quality, development of infrastructure

4. Developing and disseminating new technologies for radical changes in many sectors, for formation of new sectors

**Key players**

- Large companies
- Sectoral business associations
- State development institutes
- National research centers, state ST centers
- Research universities
- Academic institutes
Factors of potentially successful technology platform in accordance with European practice

- Clear “focus” of technology platform
- Strong business representation in management of technology platform
- Representation of government regulatory officials
- Uniqueness of organizational “model” of each technology platform
- Openness to the “entry” of new members
- Clear and transparent “rules of the game”
Some of the problems of using best practices for Russia and possible accents

- **Strong business representation in management of technology platform**
  - Limited “planning horizon”
  - Low innovative activity
  - Demand for the results of R&D is concentrated in big business

- **Representation of government regulatory officials**
  - Strict time limits for officials
  - Insufficient level of representatives
  - Formality of participation

- **Openness to the “entry” of new members**
  - Orientation to direct preferences to the participants of a platform
  - Barriers to new entrants, orientation on the existing co-operation

**Accents**

- Industry business associations (the practice of coordinating the interests, representation of small and medium-sized companies, focus on development of regulation)
- Research universities (developed interaction with companies on training; developing a co-operation with academic institutes)
- Large state-owned companies (innovation development program, long-term plans)
- State development institutes (long-term plans, forming the flow of quality projects)

**Accents**

- A reasonable number of platforms
- Termination of participation in platforms that do not make progress
- Increase of the representation of technology platforms in a variety of committees, advisory councils and working groups

**Accents**

- Indirect support to platforms (“tunning” of support instruments, development of regulation)
- The development of cooperation with the European technology platforms, with global business and research communities

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Possible links between technology platforms and other instruments of the Russian innovation policy

STATE STRATEGIC PLANNING

- Strategies of the development of industries
- Priorities for modernization
- Critical technologies
- State programs

“TUNING” OF STIMULATION

- Tax incentives
- Support of high-tech export
- Strengthening the innovation focus of public procurement

UPDATING SUPPORT INSTRUMENTS FOR R&D

- Matching grants for cooperation of firms and universities in innovation
- Loans for R&D for small and medium-sized companies (Russian Foundation for Technological Development)
- Federal Budget Program on R&D
- State funds for support ST activities

ENHANCEMENT OF REGULATION

- Sectoral regulation
- Technical regulation
- Customs regulation

ORGANIZATIONAL AND POLITICAL SUPPORT

- Support for international ST alliances
- Cooperation with European technology platforms
- Attracting foreign investors, participation in international ST programs

DEMAND FOR NEW TECHNOLOGIES AND INNOVATION PROJECTS

- Innovation programs of the large state-owned companies
- State Development Institutes
- Industrial budget programs
- Small innovative enterprises at universities
### The main steps on formation of technology platform instrument in Russia

<table>
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<th>Date</th>
<th>Event Description</th>
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<tr>
<td>May, 2009</td>
<td>Creation of technology platforms was included into a draft of action plan to stimulate innovative activity of enterprises, developed by the Ministry of Economic Development</td>
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<td>Oct., 2009</td>
<td>The Ministry of Education and Science initiated analysis of European experience on technology platforms to develop principles of their formation in Russia</td>
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<td>Nov., 2009</td>
<td>At the sixth meeting of the Commission for Modernization and Technological Development of the Russian economy it was suggested to create an instrument of technology platforms in Russia</td>
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<td>Feb., 2010</td>
<td>The Russian government made responsible the Ministry of Education and Science jointly with the Ministry of Economic Development for developing the order of formation of the list of technology platforms</td>
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<td>March, 2010</td>
<td>Meeting at the Ministry of Economic Development with representatives of business associations, the request for submission of brief proposals on technology platforms</td>
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<td>May, 2010</td>
<td>Request for large state-owned companies to submit plans for their possible participation in technology platforms</td>
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<tr>
<td>June, 2010</td>
<td>Meeting at the Ministry of Education and Science with the universities on the subject of new instruments to support research and innovation including technology platforms</td>
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<tr>
<td>Aug., 2010</td>
<td>Approval the order of formation of the list of technology platforms by the Government Commission on High Technologies and Innovations</td>
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<tr>
<td>Oct., 2010</td>
<td>Official Call for Proposals for technological platforms, as well as recommendations for preparing project of technology platform</td>
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<tr>
<td>Dec., 2010</td>
<td>The first meeting of the Working Group on the development of public-private partnership in the innovation (under Government Commission on High Technologies and Innovations) to determine the criteria for selecting proposals on technology platforms</td>
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<tr>
<td>Feb., 2011</td>
<td>Submission of a draft list of technology platforms to the Government Commission on High Technologies and Innovations</td>
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<tr>
<td>April, 2011</td>
<td>Approval the list including 27 technology platforms by the Government Commission on High Technologies and Innovations</td>
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The order of formation of the list of technology platforms: the regulatory concept, objectives, principles

**TECHNOLOGY PLATFORMS** - a communication instrument aimed at intensifying efforts to develop advanced commercial technologies, new products (services), to attract additional resources for R&D through the participation of all stakeholders (business, science, government, civil society), to improve the regulatory framework in the field of science, technology, innovation development.

**OBJECTIVES**

- The greater influence of business and society on the implementation of critical areas of ST development
- Identification of new scientific and technological capabilities for modernization of existing sectors and the creation of new sectors of the Russian economy
- Identifying areas to improve industry regulation for rapid dissemination of advanced technologies
- Fostering innovation and support of scientific and technological activities and processes of modernization of enterprises, taking into account the specifics of the various sectors of the economy
- Expansion of scientific and industrial cooperation and the formation of new partnerships in innovation
- Improving the regulatory framework in the field of scientific, technological and innovation development

**PRINCIPLES**

- A clear focus on critical public needs, the strategic objectives of business development, the priority of state interests
- Significant representation of the business, key customers in the management bodies of technology platform
- Focus on R&D for medium and long term objectives of social and economic development
- Variability of the technological solutions under consideration, the orientation towards dealing with the various technological alternatives
- Focus on expansion of cooperation, find the best partners
- Active attracting private investments from various sources
- Transparent rules for participation in the technology platform, openness to entry of new participants
- The clarity and publicity of results achieved in the implementation of technological platform
List of technology platforms: the regulatory goal, role and impact

**Goal**

The purpose of forming a list of technology platforms - providing effective communication and interaction between state, business and science sectors for science, technology and innovation development.

**Approval**

The list of technology platforms approved by the Government Commission on High Technologies and Innovations.

**Support**

Federal executive bodies provide institutional and organizational consulting and support for technology platforms included in the list.

**Impact**

The results of the technology platforms are taken into account in the planning and implementation of government support measures aimed at ensuring social and economic development, improving regulation on science, technology and innovation.
Typical misunderstanding of the purposes and principles of technology platforms (based on the analysis requests for inclusion in the list of technology platforms)

<table>
<thead>
<tr>
<th>Misunderstanding</th>
<th>Correct Principle</th>
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<tr>
<td>One major innovation project with a certain range of participants - scientific organizations and companies</td>
<td>The multiplicity of business &quot;beneficiaries&quot;, “portfolio” of projects, exchange of results, attracting new organizations to cooperate</td>
</tr>
<tr>
<td>Dissemination some existing technologies among a set of companies</td>
<td>The focus on R&amp;D for business, as well education</td>
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<td>Near-term targeting only</td>
<td>The main focus on the medium- and long-term</td>
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<tr>
<td>Instrument of direct state financing, focus on the additional financial support</td>
<td>Instrument of “tuning” mechanisms for financing, public-private partnerships, identifying priorities</td>
</tr>
<tr>
<td>Promotion of individual ST solutions, “closing” of the market, a narrow circle of “beneficiaries”</td>
<td>Multivariant technological solutions, focus on international cooperation, including fundraising</td>
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The “great wave” of requests for inclusion in the list of technology platforms and the features of the final list

Approximately 200 requests for inclusion in the list of technology platforms

27 selected technology platforms - in the list approved by the Government Commission on High Technologies and Innovations

The main subjects of technology platforms
- Electronics and mechanical engineering
- Extraction and processing of natural resources
- Technologies of metallurgy and new materials
- Nuclear and radiation technologies
- Transport technologies
- Energy
- Aerospace technologies
- Photonics
- ICT
- Medicine and Biotechnology

"Typology" of organization-coordinators of technology platforms
- Academic institutes
- National research centers, state ST centers
- Research universities
- State development institutes
- Business associations
- Private business
- State corporations and large state-owned companies
Symptoms of a shift in the number of cases from the “search model” for “consolidating model” of technology platforms (a risk of “capture” of a new instrument by traditional views)

**“Search model”**
- Identifying new perspective areas of ST development, new drivers of growth
- Platform is an instrument for creation new scientific and industrial cooperation and the formation of new value-added chains
- Indirect effects, agreed upon vision, changing in attitude to innovations, the structuring of business and science interests
- On the basis of the initiative “from below” of the medium and relatively large private companies, of business associations
- Indirect support, optional and non-general instrument

**“Consolidating model”**
- Consolidation of efforts on implementation the “traditional” directions of technological modernization
- Platform is an instrument for prioritization, for implementation of existing technological priorities
- Direct effects (contribution to GDP growth, to employment) in the scale of national economy
- On the basis of the combination of initiatives “from above” of the state and the “from below” of large companies and state ST institutes
- Direct state support, an independent instrument
1. The instrument of technology platforms was formed in Russia, taking into account the relevant practices of the European Union. However it is not clear in what way and how successfully it will take root in the Russian conditions. This is a new instrument for the Russian innovation policy. It is very complicated, because it requires the interaction of several sides, harmonization of various interest groups and effective communication of many actors.

2. Initially it was assumed that there would be a multiplicity of forms of organization of technology platforms, the potential outputs. This resulted in different views on the role of technology platforms and forms of state support in achieving their objects.

3. There are overestimated and sometimes not proper expectations regarding to the technology platforms from both the government and the certain platforms. On the one hand, officials want to see direct results from the activities of technology platforms in the near future. On the other hand, some participants of the certain technology platforms expect to receive direct financial support of the state, rather than to get indirect positive effects and self-organization.

4. Since the approval of the list of technology platforms only 4 months passed, but already there are some positive changes, especially in improving the interaction between representatives of government, business and science. A substantive discussion on the innovation development within the technology platforms has begun. “People began to communicate”. There are the platforms – “leaders” making significant progress in self-organization. In general, technology platforms have been proved to be needed for communication.

5. Substantial progress in identifying main mutual interests within the technology platforms has been achieved in the sectors that were poorly structured, and where interests of actors were not clear (e.g., technology platforms on medicine, on biotech). In some cases, in the areas with developed system of scientific and industrial cooperation technology platforms have initiated changing of views on the paradigm of the sectors, harmonizing the interests of the industries and interests of society (for example, the platform on the population mobility due to development of air transport and aviation industry).
6. The difficulty of involving the business (which often “waits and sees”) is one of the key problems of «launch» of the technology platforms. The balance of representing the interests of main actors is quite important, but it should not generate artificial restriction on possible options of ST solutions. The greatest problem is to ensure scientific and technological coordination between competing groups in a platform.

7. The process of gradual "tuning" of the state support instruments is observed. The Ministry of Economic Development is seeking to use the technology platforms for peer review, for improving the regulation and for preparing action plans on development of new sectors. Basing on communication with the technology platforms the Ministry of Education and Science tries to determine the directions and objectives of the state-supported R&D being at the pre-competitive stage.

8. Initially some of the industrial ministries have shown suspicion regarding to the technology platforms. It was caused by concerns that individual interests of members of platforms could be lobbied. However, a number of platforms has demonstrated that they, at least, can be considered as expert sites, as well as a source of significant initiatives on innovations.

9. The important task is to increase confidence in technology platforms among both their participants and “stakeholders”. However the technology platforms are very “heterogeneous”. Therefore it is important, on the one hand, to intensify efforts to transfer best practices between platforms, on the other hand, to determine the principles of regular assessment of the technology platforms and rules of their selection.
1. Will not the instrument of technology platforms be only a temporary "fashion"? Will not the cooperation of the government and the technology platforms be formal?

2. Will there be an independent assessment of progress in implementing the technology platforms? Will adjustments of the list of technology platforms be carried out on the basis of results of this assessment?

3. To what extent could interests of various actors be harmonized in the technology platforms? How will “enforcement” be provided on mutual commitments?

4. Will best practices be disseminated among technology platforms? In what way could the risks of bureaucratization of their activity be limited?

5. To what extent will members of technological platforms be active in raising private financing, in making proposals to improve regulation?

6. Will the technology platforms be focused on the integration into the world innovation system, in the positioning of Russian companies in global value chains?
Thank you for your attention!

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