Belarusian Innovation Fund

Strategy of innovative development of the Republic of Belarus

Deputy Director of Belinfond
A.P. Grishanovich

Chisinau, April 2012
MAJOR RESULTS OF THE STATE PROGRAM OF INNOVATIVE DEVELOPMENT OF THE REPUBLIC OF BELARUS FOR 2007-2010

Level I — creation of new enterprises and top-priority productions;
Level II — creation of new industries;
Level III — upgrading of existing industries (industrial innovation development program, regional programs of innovative development, state scientific and technical programs).

<table>
<thead>
<tr>
<th>The creation of new enterprises and industries, upgrading of industries</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provided for by Presidential Decree</td>
<td>100</td>
<td>386</td>
<td>430</td>
<td>916</td>
</tr>
<tr>
<td>Commissioning in 2007-2010 (included 2010)</td>
<td>131</td>
<td>352</td>
<td>502</td>
<td>985</td>
</tr>
<tr>
<td>(39)</td>
<td>(125)</td>
<td>(171)</td>
<td></td>
<td>(335)</td>
</tr>
<tr>
<td>Upgraded industries by SSTP</td>
<td>—</td>
<td>—</td>
<td>191</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(plan 179)</td>
<td></td>
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<tr>
<td>Product produced</td>
<td></td>
<td></td>
<td></td>
<td>23,97 trillion rubles</td>
</tr>
<tr>
<td>Created (modernizationed) jobs</td>
<td></td>
<td></td>
<td></td>
<td>15 500</td>
</tr>
<tr>
<td>Mastered the new technology by SSTP</td>
<td></td>
<td></td>
<td></td>
<td>568</td>
</tr>
<tr>
<td>Aggregate output using the new technologies mastered in SSTP</td>
<td></td>
<td></td>
<td></td>
<td>4,93 trillion rubles</td>
</tr>
</tbody>
</table>
MAJOR RESULTS OF THE SPID PROJECTS OF THE REPUBLIC OF BELARUS FOR 2007-2010

Ministry of industry

Manufacture of automatic washing machines
“Atlant”

Production of hot-rolled seamless pipes
RUE "BMZ"

Household Appliances
JV "Midea-Horizont"
Production of tractors “Belarus 921”
UE “Smorgon Aggregate Plant”

Production of tractors “Belarus 320”
RUE «Bobruisk plant of tractor parts and units»

Production of the new trucks MAZ-6430 and the buses of Euro-3 level
MAJOR RESULTS OF THE SPID PROJECTS OF THE REPUBLIC OF BELARUS FOR 2007-2010

**Ministry of Architecture and Construction**

Organization of production of float glass

JSC "Gomelsteklo"

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**Department of Energy**

Creating a CHP on local fuels in Pruzhany

*RUE "Brestenergo"

Creating a mini-CHP boiler GPA Zhlobin

*RUE "Gomelenergo"
Creating a mini-CHP Boiler GPA "Zhlobin“

RUE "Gomelenergo"

Lukoml thermal power station, the power unit № 2

UE "Vitebskenergo"

Lida CHP

UE "Grodnoenergo"
Reconstruction of Sakovschinskaya HPS, Volozhin District
Construction of hydroelectric Voykovskaya, Logoisk District
"Association of Minskmeleiovodhoz"

Minsk CHP-3 (1st start-up complex)
*RUE "Minskenenergo"

The construction of mini hydropower station on the Gorenichskaya river, Berezinski district
"Association of Minskmeleiovodhoz"
Concern "Belbiopharm"

MAJOR RESULTS OF THE SPID PROJECTS OF THE REPUBLIC OF BELARUS FOR 2007-2010

Reconstruction of infusion solutions production
RUE "Nesvizh Pharmaceutical Plant"

Reconstruction and technical re-equipment of tablet production
RUE "Belmedpreparaty"

The main objective - creation of globally competitive, innovative, high-tech, resource and energy-saving, environment-friendly economy, ensuring sustainable socio-economic development of Belarus and on this basis, increasing the quality of Belarusian people life

KEY TASKS

• creation of new high-tech and knowledge-intensive sectors (biotechnology, nanotechnology, microelectronics, technology, fine chemistry, information technology, new materials, laser-optical technologies, communication technologies, alternative energy, genetic engineering, etc.)

• creation of new industries, reconstruction and modernization of existing ones in export-oriented industries (pharmaceutical, chemical, agricultural machinery, wood-working, etc.)

• creation of new multi-holdings, cluster structures, entry into the world's global corporations and alliances, attracting TNCs, reducing the material-energy and import-production, increasing its ecological safety

• regional innovation development acceleration

• increasing the export potential of Belarus, occurrence of the top 30 most competitive countries

• formation of an innovative society (Innovative education)
modernization of the national economy in line with the priorities of scientific and technological activities, including:

• formation of a new segment of the national economy - the high-tech knowledge-intensive enterprises and industries, according to V and VI technological structure;
• increasing competitiveness of Belarusian goods (works, services) in the domestic and foreign markets and increasing the number of innovation-active organizations, the share of exports of high technology and high-tech products in total exports

ensuring carrying out the expected measures of the Socio-Economic Development of Belarus for 2011 – 2015, including

• increasing the unit weight of shipped products by innovation organizations, the main economic activity of which, is the manufacture of industrial products in total products shipped to the 20 - 21 percent;
• increasing the share of innovation-active organizations in the total number of organizations whose main economic activity is the manufacture of industrial products - no less than 40 percent;
• growth of domestic spending on research and development to 2.5 - 2.9 percent of GDP
• growth in exports of high technology and high-tech goods (works, services) - at least 7950 million U.S. dollars;

improving the management and efficiency of the national innovation system of the Republic of Belarus (its subjects, the conditions of their interaction and functioning)
<table>
<thead>
<tr>
<th>Priority directions of innovation development</th>
<th>The number of created enterprises and productions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy and energy efficiency</td>
<td>30</td>
</tr>
<tr>
<td>Agro technology and manufacturing</td>
<td>17</td>
</tr>
<tr>
<td>Industrial and building technologies and production</td>
<td>76</td>
</tr>
<tr>
<td>Medicine, medical engineering, technology and pharmacy</td>
<td>33</td>
</tr>
<tr>
<td>Chemical technology, nanotechnology and biotechnology</td>
<td>21</td>
</tr>
<tr>
<td>Information, communication and aerospace technologies</td>
<td>20</td>
</tr>
<tr>
<td>New materials</td>
<td>4</td>
</tr>
<tr>
<td>The development of transit potential</td>
<td>14</td>
</tr>
<tr>
<td>harmonious exploitation, resources saving and protection of emergencies</td>
<td>3</td>
</tr>
<tr>
<td>National security and defense</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>235</strong></td>
</tr>
<tr>
<td>Development programs of economic activity or region, state complex target scientific and technical programs, SNTP</td>
<td>More than 900</td>
</tr>
</tbody>
</table>
NEW PRODUCTION IN THE FIELD OF HIGH-TECH SECTORS OF THE ECONOMY, PLANNED TO BE IMPLEMENTED UNDER THE STATE PROGRAM FOR 2011-2015

In the field of medicine, medical equipment and technology, pharmacy:

- Reconstruction the production of pharmaceutical substances to bring it into compliance with the standards of GMP;
- Creation the production of tools, implants and submerged steel structures for traumatology and orthopedics;
- Introduction of distance-based counseling electrocardiography telecommunications;
- Implementation of the technology of DNA diagnostic of primary immunodeficiency;
- Introduction of stem cell technology for the prevention and treatment of complications of bone marrow transplantation;
- Organization of small-tonnage production of new pharmaceutical substances.
NEW PRODUCTION IN THE FIELD OF HIGH-TECH SECTORS OF THE ECONOMY, PLANNED TO BE IMPLEMENTED UNDER THE STATE PROGRAM FOR 2011-2015

In the field of chemical engineering, nanotechnology and biotechnology:

- construction of a plant for the production of bleached kraft pulp;
- construction of a delayed coking unit;
- construction of an isomerization;
- creation on the basis of RUE "PA" Belaruskali "chemical plant for complex processing of potassium chloride and sodium chloride."
NEW PRODUCTION IN THE FIELD OF HIGH-TECH SECTORS OF THE ECONOMY, PLANNED TO BE IMPLEMENTED UNDER THE STATE PROGRAM FOR 2011-2015

*In the field of energy and energy efficiency:*

- construction of nuclear power plants;
- a joint venture for the production of wind turbines;
- construction equipment operating on biogas produced from agricultural waste and industrial production;
- construction of biogas systems at wastewater treatment plants;
- organization of production of heat pumps;
- organization of production of LED technology;
- organization of production of new energy-saving equipment for industrial ventilation systems with heat recovery.
NEW PRODUCTION IN THE FIELD OF HIGH-TECH SECTORS OF THE ECONOMY, PLANNED TO BE IMPLEMENTED UNDER THE STATE PROGRAM FOR 2011-2015

In the field of industrial and construction technologies:

- establishment of production mining trucks with 360 tons of electronic control systems;
- organization of production of 8-cylinder diesel engines up to 725 hp.;
- construction of a plant for the production high-precision and high-strength cast iron;
- construction of plants for the production of flat steel and long steel;
- creation the technological level of production equipment to 65 nm in the production of new generation microelectronic;
- creation industries for corrosion protection of steel by galvanizing;
- organization of the production wood-fiber, chipboard, laminated boards according to new technologies.
NEW PRODUCTION IN THE FIELD OF HIGH-TECH SECTORS OF THE ECONOMY, PLANNED TO BE IMPLEMENTED UNDER THE STATE PROGRAM FOR 2011-2015

**In the field of agro-technologies:**
- creation of a complex pedigree of 350 score for breeding plants republic breeding material with high genetic potential for RUE "SPC for livestock“
- creating a first-order reproducer to produce pedigree cattle for parenting pig farms with the use of new technologies;
- construction of a new yeast plant, the company "Interferm";
- construction of the FEZ "Brest" plant black caviar (sturgeon), JV "Santa Bremor" Ltd.

**In the field of microelectronics, laser-optical technologies:**
- modernization of existing production through the introduction of advanced technologies for the production on the production lineup of digital TVs to LCD panels of different diagonals in the RUPE "The Knight";
- creating the production of optoelectronic technology based on thermal imaging modules and laser systems NPCHUP "LEMT";
- creation of specialized production of components for electronic control systems for hydraulic drives of mobile machines by "Izmeritel".
NEW PRODUCTION IN THE FIELD OF HIGH-TECH SECTORS OF THE ECONOMY, PLANNED TO BE IMPLEMENTED UNDER THE STATE PROGRAM FOR 2011-2015

In the field of information technology:

- construction of a multiservice telecommunications networks, "Beltelecom";
- modernization and development of networks of fixed broadband access to the Internet with the introduction of advanced technologies WiMAX and LTE;
- implementation of the technology of passive optical networks (hPON) and Ethernet-technology with the installation of Ethernet-switch "Beltelecom";
- the creation of modern facilities and radio communication systems and the development of their production in the Republic of Belarus, "Agat-System";
- introduction of the serial production of the domestic microprocessor system interlocking "Iput", EE "BSU transport";
- space Instrumentation (modernization of existing facilities by introducing new and high technology), JSC «Peleng.»;
- creation and implementation of technology and software and hardware for decoding and processing of remote sensing data, SSI "United Institute of Informatics Problems of NAS of Belarus"
NEW PRODUCTION IN THE FIELD OF HIGH-TECH SECTORS OF THE ECONOMY, PLANNED TO BE IMPLEMENTED UNDER THE STATE PROGRAM FOR 2011-2015

In the field of harmonious exploitation, resources saving and protection of emergencies:

- construction of plants for processing municipal solid waste in Minsk, Mogilev, Brest, Pinsk, Grodno;
- development and implementation of complex modern drilling equipment drilling depth of 200 to 2000 m;
- development of satellite technology in conducting geodetic measurements, land surveying and navigation in the Republic of Belarus "Belaerokosmogeodeziya".

In the field of dual-purpuse, national security and defense:

- creation of a unified information and navigation system in the Republic of Belarus with the use of GLONASS, GPS, Galileo;
- creation of multifunctional unmanned aircraft systems for special purposes, JSC "AGAT-management system" GNU "PTI of NAS of Belarus".
DEVELOPMENT OF INNOVATION INFRASTRUCTURE OF REPUBLIC OF BELARUS

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<tr>
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<tbody>
<tr>
<td>- elements of innovation infrastructure</td>
<td>4</td>
<td>10</td>
<td>17</td>
</tr>
<tr>
<td>- science and technology parks</td>
<td>12</td>
<td>39</td>
<td>45</td>
</tr>
<tr>
<td>- technology transfer centers *</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>- venture capital organizations</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Scientific-Production (theoretical and practical) centers</td>
<td>56</td>
<td>52</td>
<td>60</td>
</tr>
<tr>
<td>Innovation centers, including (Information and marketing, production training, centers of excellence)</td>
<td>15</td>
<td>76</td>
<td>100</td>
</tr>
<tr>
<td>Business incubators</td>
<td>9</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>Scientific and technical library, including factory library</td>
<td>476</td>
<td>490</td>
<td>490</td>
</tr>
<tr>
<td>Innovation-active enterprises</td>
<td>318</td>
<td>381</td>
<td>1000</td>
</tr>
<tr>
<td>High-Tech Park (multifunctional)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Belarusian Innovation Fund **</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Design and production organizations</td>
<td>20</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>Engineering organizations</td>
<td>5</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

* including a representative of the Republican Centre for Technology Transfer
** in the regions of Belarus has five offices of the Belarusian Innovation Fund
IMPROVEMENT OF LEGISLATION IN THE FIELD OF SCIENCE, TECHNOLOGY AND INNOVATION

- Law of the Republic of Belarus “On state innovation policy and innovation in the Republic of Belarus”
- Law of the Republic of Belarus “On Copyright and Related Rights”
- Presidential Decree "On measures to improve the protection and exploitation of intellectual property“
- Presidential Decree "On Amendments to the Decree of the President of the Republic of Belarus of October 23, 2006 № 631" (On the structure, functions and number of employees of the local executive and administrative bodies)
- Presidential Decree "On the venture capital companies in the Republic of Belarus"
Management and control over execution

State Science and Technology Committee, National Academy of Sciences of Belarus and other government bodies (innovation development departments)

Regional executive committees and Minsk City Council (innovation development department)

Town and regional executive committees (innovation development departments)

Economic entities (innovation development departments and sectors)

State comprehensive special purpose sci-tech programmes

- rural development
- electronic and optics
- power engineering
- materials
- health
- information technologies
- biotechnologies and bio-security
- nature management
- chemical products and technologies
- mechanical engineering
- emergency prevention and response technologies

I. Setting up new companies and most important manufactures
II. Setting up new productions at active companies
III. Upgrading active productions following new and high technologies
IV. Branchwise innovation development programmes
V. Regional innovation development programmes
VI. Implementing measures to meet the innovation development targets set out in business-plans, programmes to develop manufacturing, agricultural and other facilities, organisations

Utilisation

| Setting up new companies, manufactures, upgrading active productions following new technologies including those purchased from abroad | Sales of products, trade networks (overseas offices) |

Sci-tech support of innovation activities

The main forms of international scientific technical cooperation:

- joint innovation centers of scientific and technical cooperation;
- creating conditions for attracting investments in high-tech production and assistance in the establishment of joint ventures in the Republic of Belarus;
- assistance in the implementation of international scientific and technical programs approved at the meetings of the intergovernmental commission on scientific-technical cooperation with foreign countries;
- exchange of scientific and technical information and the dissemination of such information to foreign partners;
- participation in international events (Science Days, exhibitions of new techniques and technologies, conferences, seminars, symposia, congresses);
- Hannover Industrial Fair (Hannover, Germany);
- China International Industry Fair (Shanghai, China);
- Vietnam International Industrial Fair (Hanoi, Vietnam) Moscow International Salon of Innovations and Investments (Moscow);
- St. Petersburg International Innovation Forum (St. Petersburg);
- assistance in organizing and holding exhibitions in the Republic of Belarus of foreign advanced technologies;
- training of scientists and professionals, undergraduate and graduate students in leading international scientific, educational and industrial centers.