Best practices in technology transfer and knowledge commercialization

Expert of Innovation services - Mr. Ikhdanov Dauren
State policy in the sphere of technological entrepreneurship

Technology transfer 2018

State programs

• Concept of technological re-equipment of the Republic of Kazakhstan
• State program of industrial-innovative development for 2014-2029 "Organization of technology transfer"
• Strategic Plan 2014-2019
• "Digital Kazakhstan" program

Technological consulting 2019

State programs

• Draft State program of industrial-innovative development for 2020-2025 on product line
• "Technical audit of enterprises "and" Technological Brokerage "
• Business Roadmap 2020
• Development Strategy 2020-2025 "Conduct of mandatory expertise"
• "Digital Kazakhstan" program
• "National Champions" program
State support measures for technology introduction in the Republic of Kazakhstan

<table>
<thead>
<tr>
<th>Program participant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation for financing of investment project</strong></td>
</tr>
<tr>
<td>• Development of project documentation</td>
</tr>
<tr>
<td>• Search for financing and investors</td>
</tr>
</tbody>
</table>

| **Financing of investment project** |
| • Loan capital |
| • Rate subsidizing |
| • Equity financing |
| • Leasing |

| **Disbursement of funds monitoring** |
| • Loan insurance |
| • Business incubation |

| **Post-investment financing** |
| • Pre-export and export trade finance |
| • Advance payment insurance, etc. |

| **KPPF** |
| • Technical expertise and project evaluation |
| • Technological Brokerage |

| **KazakhExport** |
| • Loan capital |
| • Loan insurance |
| • Equity financing |

| **DAMU** |
| • Rate subsidizing |
| • Guarantee |
| • IBC program |

| **KazakhExport** |
| • Loan insurance |

| **KazakhExport** |
| • Business incubation |

| **KiDi** |
| • Reimbursement of costs for improving the productivity of enterprises |
| • Exporter Cost Reimbursement |
| • Technological grants |

| **NADLoC** |
| • Increase of local content |

---

+7 (7172) 571-014 - info@qaztech.vc - www.qaztech.vc
Transfer technology activities (2018)

Technological Tour was conducted to China. Commercial offers were developed with technology transfer network partners

RESULT

- Over 20 quotes were received
- 10 preliminary agreements were concluded

A regional seminar “Development of the technology transfer system in the countries of Central Asia” was held

RESULT

- Creation of uniform vision of Technology transfer
- Competence promotion
- Development of (Guideline handbook)

Identification of industrial enterprises as players in the technology transfer ecosystem (16 industries)

RESULT

- Activities aimed to attract businesses were conducted
- A list of more than 1000 interested enterprises in technology transfer (80 technological requests)

A large base of international technology transfer network partners is formed.

RESULT

- Over 20 agreements were concluded
JSC «QazTechVentures» as technological broker

Technology owner

- Qaztech Ventures establishes cooperation with counter partners for joint projects
- Entering TT network

Basic packages of services

- Technology search
- Process analysis and technology selection
- Technological tour
- Technological re-equipment
- Analysis of trend and tendencies. Project Management for Technology Development (Commercialization)

Technology transfer as agreed in 2018

- The latest technology for the disposal of waste production (Huayin Group for AkDier);
- Surveillance technology and transmission of important vital indicatorsto the device (Beijing Glory - Tech CO, LTD for "Raintex"
- Tablets for endoscopy of internal organs
- (Chongqing Jinshan Science & Technology for ZR GROUP)

Cooperation of Kazakhstan enterprises with foreign partners

- analysis of domestic enterprises most willing to purchase technology
- parallel work with the private sector on the development of technological brokerage in Kazakhstan
- Integration with partners

Intermediary (technology transfer network)

- Consulting services with partners
- Competency development program
- Technology showcase - a kind of successful technology exchange
- a platform for expert community is created
- intellectual property protection
Current technology transfer networks

Republican Technology Transfer Center – Belarus
Priority sectors: agriculture, biotechnology, pharmaceuticals, chemistry

"National Development and Innovation" Foundation (NDI Foundation) – Ukraine
(technology transfer, platform creation)
KAIST, KIGAM, KIAT (Korea)

Oracle, Accenture, Innovational Center «Skolkovo», - Russia
Priority sectors: engineering and technology, IOT, tech. consulting, training

Enterprise Europe Network - EU
Priority sectors: 16 sectors

International Centre for Scientific and Technical Information, SPBEC, National Association of Technology Transfer – RF
Priority sectors: classification distribution (services, products, production facilities)

China International Technology Transfer Center, Avic, Supcon, Nanjing Zhong Qing Machine Making, Huayin Group - China

- Institute of Science and Technology for Building Materials;
- Industrial Technology Research Institute;
- National Eastern Technology Transfer Center;
- Institute for Protection of Intellectual Property Rights WTO IP;
- Guangdong Union for International Scientific and Technical Cooperation with the CIS countries;
- Department of International Cooperation of the Ministry of Science and Technology of China

Guilds / Associations / Unions in the CIS Embassies of Europe and Asia

The trusted global open innovation network: Innogate - Austria
Priority sectors: 16 sectors

+7 (7172) 571-014 - info@qaztech.vc - www.qaztech.vc
JSC «QazTech ventures» (Development Institute) – operator of technology transfer and innovation in 2018

**Technological economy modernization** – through increasing the availability of foreign technologies for domestic enterprises.

**Key achievements in 2018**

- 214 applications for innovation grants were reviewed and 18 projects worth 4.7 billion tenge supported
- The volume of output amounted to 31.4 billion tenge, 375 jobs were created (according to the information of grantees in the first half of 2018)
- As part of the development of the technology transfer system, 20 technological proposals from international partners were received, 20 memorandums were signed with foreign partner organizations;
- Preliminary agreements between partners and enterprises on technology transfer (10 agreements) were concluded
- A competitive selection of 3 business incubators was held to support the Business Roadmap-2020 program
- Previously invested investments in project companies and venture funds in the amount of 328.8 million tenge were returned
- An Innovative Congress and Exhibition of Innovative Projects was held, with the participation of foreign experts
- Proposals for legislative acts of the Republic of Kazakhstan on venture financing were prepared
Work results in “Business – incubation” for 2018

1. 12 applications from 6 regions were reviewed (Astana, Almaty, Pavlodar, Karaganda, Kostanay, Uralsk)
2. 3 business incubators were selected (Astana, Almaty)
3. Funds to support business incubators to the amount 18.7 million tenge were disbursed
4. Business incubators reviewed 72 projects.
5. 43 startups were trained through business incubators
6. Representatives of business incubators were trained at Accelerator IIDFLLC (Moscow)

- The most active venture investor in Russia and Europe
- The largest accelerator in Europe and the 3rd in the World
- General Fund 6 billion rubles
- Every year about 100 transactions from 2.1 to 325 million rubles
- More than 300 invested companies

- Pipeline of 12 projects planned for a grant in 2019
- The total demand of the pipeline for investments of 2 billion. 418 million tenge of which a part was invested
- The need for projects in grant funding in the amount of 518.4 million tenge

- Pipeline of 14 projects planned for the grant in 2019
- The need for projects in grant funding in the amount of 600 million tenge

- There are 44 projects
- Monthly need in funding 2,9 mln
Transformation of JSC NATR into JSC «QazTech Ventures»

In 2018, JSC KIDI and the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan (MIID RK) initiated the transfer of the function of providing innovative grants.

Therefore, the activity of QazTech Ventures JSC is reoriented towards the development of a system of venture financing, business incubation and technology consulting.

Creation of “one window” in a single industrial development center (JSC “KIDI”) with a focus on processing industry in the field of innovation JSC "KIRI”

Amendments to the legislative acts of the Republic of Kazakhstan on venture financing

The legal form of the funds was also determined, which marked the start of the work of QazTech Ventures JSC as an institution for development of a venture capital system.

These areas are provided in the state programs "Digital Kazakhstan" and "Business Road Map"
Mission and vision of QAZTECH VENTURES

**The mission** of QAZTECH VENTURES is to promote the development of technology entrepreneurship through the tools of venture financing, business incubation and expert technology support.

**The vision** of QAZTECH VENTURES is a key organization providing a professional package of services for development of the technology business.
QazTech Ventures Development Strategy

Purpose: Increase technological competencies.

Expertise of projects
- in the framework of the State program of support and development business "Business Road Map" 2020
- in order to ensure an integrated approach and synergy with the support of the projects of the Parent company JSC Baiterek National Holding

Objectives

Services for development of technological competences
- expansion of cooperation with foreign partners in order to exchange experience and develop technological competencies
- training, consulting in the field of technological entrepreneurship, dissemination of knowledge about new technologies and technological

Providing recommendations for amendments in regulatory legal acts / standards within the framework of interaction with the Center for 4.0 WEF
- cooperation with the Center for the Fourth Industrial Revolution (San Francisco)
- creation of favorable conditions for introduction of elements of the Fourth Industrial Revolution in KZ
- improvement of regulatory acts, establishing communication with leading technological innovators and facilitating implementation of the Digital Kazakhstan program
Map of products

evaluation of technological project and organizations
• evaluation of the technological maturity of the organization
• evaluation of the technological efficiency of the organization
• Process audit for processability
• evaluation of the degree of adaptability of the project
• Technological justification of the project
• Analysis and optimization of processes:
• Implementation of digitalization tools in the organization’s activities
• evaluation of the level of digitization of the organization

Expertise
• Expertise of projects under the contract KPPF
• Expertise of projects under the program "National Champions"
• Expertise on KDB projects
• Technological expertise of the project
• Technological expertise of the solution
• Technological expertise of the development

Technological brokerage
• Technology search
• Selling technology
• Process analysis and technology selection
• Technological tour
• Technological re-equipment:
• Analysis of trends and tendencies in the evolution of the technological package of the organization
• Technology Development Project Management

Training
• Training:
  • Strategic management
  • Operations Management
  • Increase technological maturity
  • Startup Project Management
  • Master classes
• Seminars

+7 (7172) 571-014 - info@qaztech.vc - www.qaztech.vc
Business - incubation

Financial support of incubators activities

1. 35 mln Tenge per year for 1 incubator
2. Reimbursement of 50% operational costs

Financial support of incubators projects

1. 50 mln Tenge for 1 project
2. Co-financing 80% of justified costs

12 applications from 6 regions were reviewed (Astana, Almaty, Pavlodar, Karaganda, Kostanay, Uralsk)

3 business incubators were selected (Astana, Almaty)

The application was submitted in 2019. 750 million tenge (for grant body)
Incubators prepared a pool of 26 projects.

+7 (7172) 571-014 - info@qaztech.vc - www.qaztech.vc
Venture financing

**Purpose of QAZTECH VENTURES**

- **Ensure** affordability of venture capital investments for small businesses

**Development of** a network of venture funds

**Attraction of** world partners and investments

**Promotion of** domestic export decisions
Venture financing

Purpose of QAZTECH VENTURES

- Diversification of the total investment portfolio and stimulation of the Venture Capital market, with a view to profit

3x

Expected multiplicator

Distribute
- best practices and analysis of the venture market

Accompany
- support tools of venture funds

Develop
- tools for venture financing: creation of 2 funds in 2019.

Analyze
- the most successful technology projects

+7 (7172) 571-014 - info@qaztech.vc - www.qaztech.vc
Development of Industry 4.0 elements

«QazTech Ventures» jointly with the Ministry of National Economy plans to actively interact with the Center for the Fourth Industrial Revolution in San Francisco in order to create favorable conditions for introducing elements of the Fourth Industrial Revolution in Kazakhstan by improving the regulatory framework.

<table>
<thead>
<tr>
<th>statutory regulation</th>
<th>Partnership</th>
<th>Best business model practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Participation in the development of standards in the implementation of the elements of Industry 4.0</td>
<td>▪ Strengthening international cooperation</td>
<td>▪ Demonstration of best practices</td>
</tr>
<tr>
<td>▪ Assistance in the development of regulatory acts and documentation based on international experience</td>
<td>▪ Interaction with the International Organization for Standardization</td>
<td>▪ Assistance in the implementation of Industry 4.0 elements</td>
</tr>
<tr>
<td></td>
<td>▪ Attraction of global partners and investments</td>
<td></td>
</tr>
</tbody>
</table>
Thank you!