

Regional meeting

**“Making innovation work for the SDGs”**

and

Ninth session of the SPECA Working Group on  
Knowledge-based Development

*Yelena Shevchenko*  
*JSC “Science Fund”*  
*Republic of Kazakhstan*

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## Chapter 2. Governance of the National Innovation System: Framework, conditions, innovation policies and instruments

**The Review suggests that important elements of NIS should be developed:**

- Market for innovative products&services (national&international);
- Business sector (national&international);
- Knowledge generation (academic and R&D);
- Innovation intermediaries (innovation support);
- Business environment and framework conditions (incentives&motivation);
- Network of linkages (collaboration between stakeholders).

## Main comments and recommendations

### The business sector and RTDI

- ❑ *Lack of demand for RTDI of business sector as major limiting factor for modernisation and fostering industrial development*
- ✓ Participation of business sector in policy development process
- ✓ Involvement of SMEs in R&D and commercialization programs
- ✓ Favourable environment for technology commercialization and start-ups development (with special regard to innovative SMEs)
- ✓ Technopreneurship development programs
- ✓ Legal framework stimulating R&D activities (e.g. tax incentives in favor of R&D activities)

# Main comments and recommendations

## Knowledge generation

- ❑ *Development of human resources as essential input to innovation*
  - ✓ State support for education abroad (S&T specialization)
  - ✓ Include new specializations (needed for STI development in the future) in curriculums of universities
  - ✓ Attracting leading international researchers and specialists in S&T fields
  - ✓ Promoting entrepreneurship and technological or innovation-driven research (emphasis on new funding programs to increase the number of innovating SMEs and to encourage the creation of new, technology-based firms and early stage funding, e.g. SME RDI Grant Program and Techno-Entrepreneurship initiatives)
  - ✓ Development of technopreneurship skills

# Main comments and recommendations

## Science-business cooperation

- ✓ Development of research universities (topics of research directed on the needs of the real sector of economy)
- ✓ Identification of technological tasks of enterprises (to link with scientific and academic institutions)
- ✓ Matching funds to support collaborative R&D (special grant programs)
- ✓ Incentives for collaboration between industry and research institutes and universities (incentives for researchers, teachers and their institutions to collaborate with industry)

# Main comments and recommendations

## Enhancing STI governance and management

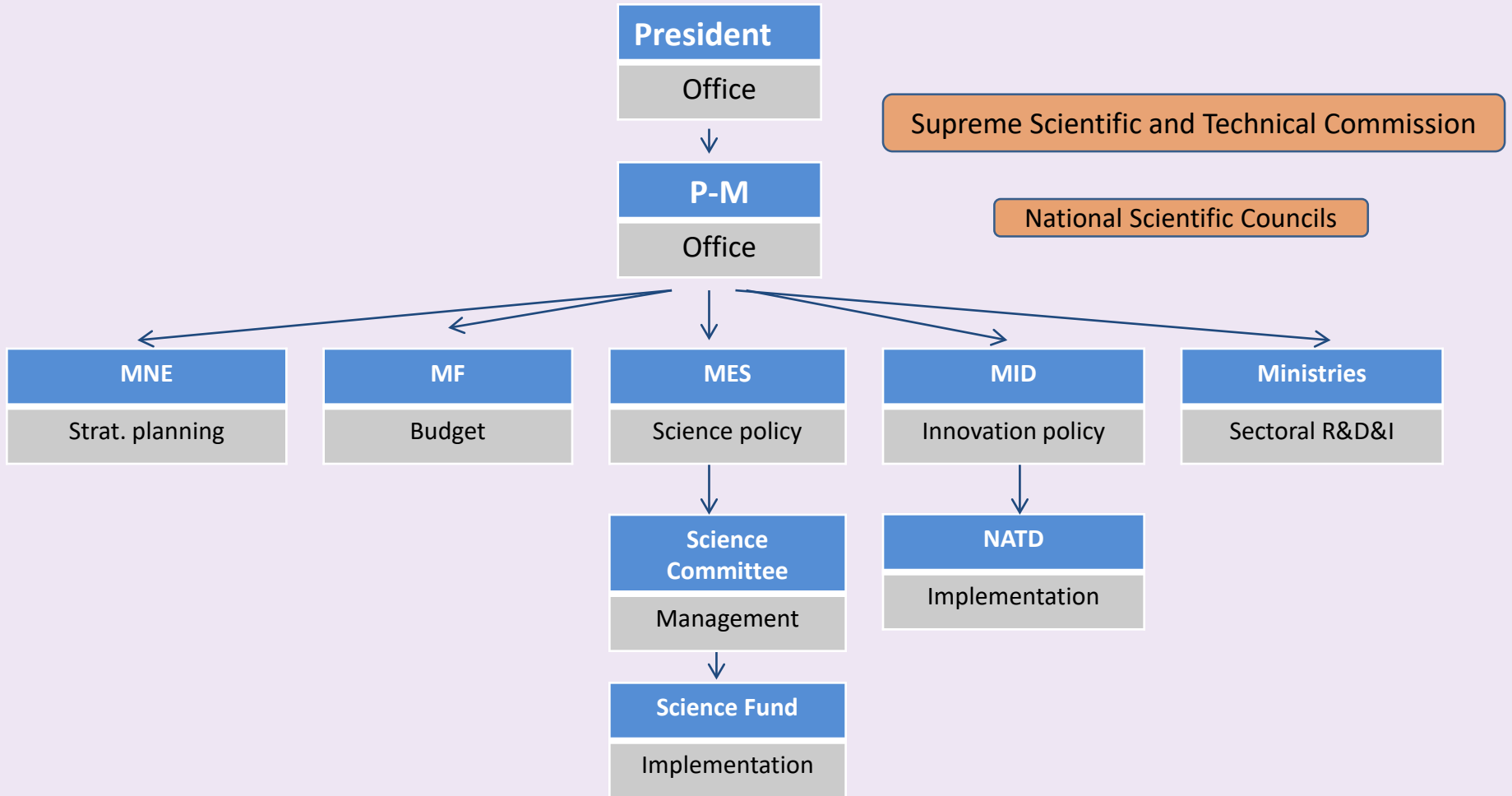
- ✓ Establish a clear division of roles and responsibilities and hierarchy among STI institutions
- ✓ Clarify the respective roles of various R&D bodies and development institutions
- ✓ Coordination and cooperation between ministries and agencies involved in STI management
- ✓ Competitive funding - project evaluation, selection, monitoring and review

# Main comments and recommendations

## Network of linkages

- ✓ Expediting knowledge circulation for R&D and cooperation networks
- ✓ New programs to expedite cooperation networks and knowledge circulation for STI (e.g. Technology Development Zones, Techno-Parks)
- ✓ Funding programs for initiatives to establish scientific and technological cooperation networks and platforms (technology platforms, brokerage events, grant programs).

## R&D&I System Governance Structure – MACRO Level



MNE – Min. of National Economy  
MIF – Min. of Finance  
MES – Min. of Education and Science

MINT – Min. of Investments and Development  
NATD – National Agency for Technological Development



## National R&D management system

**Supreme of Science and Technology Commission**

Ministry of Education and Science of Kazakhstan

National  
Science Board  
«Energy and  
Machinery  
Engineering»

National  
Science Board  
«Rational use  
of natural  
resources,  
processing of  
raw materials  
and products»

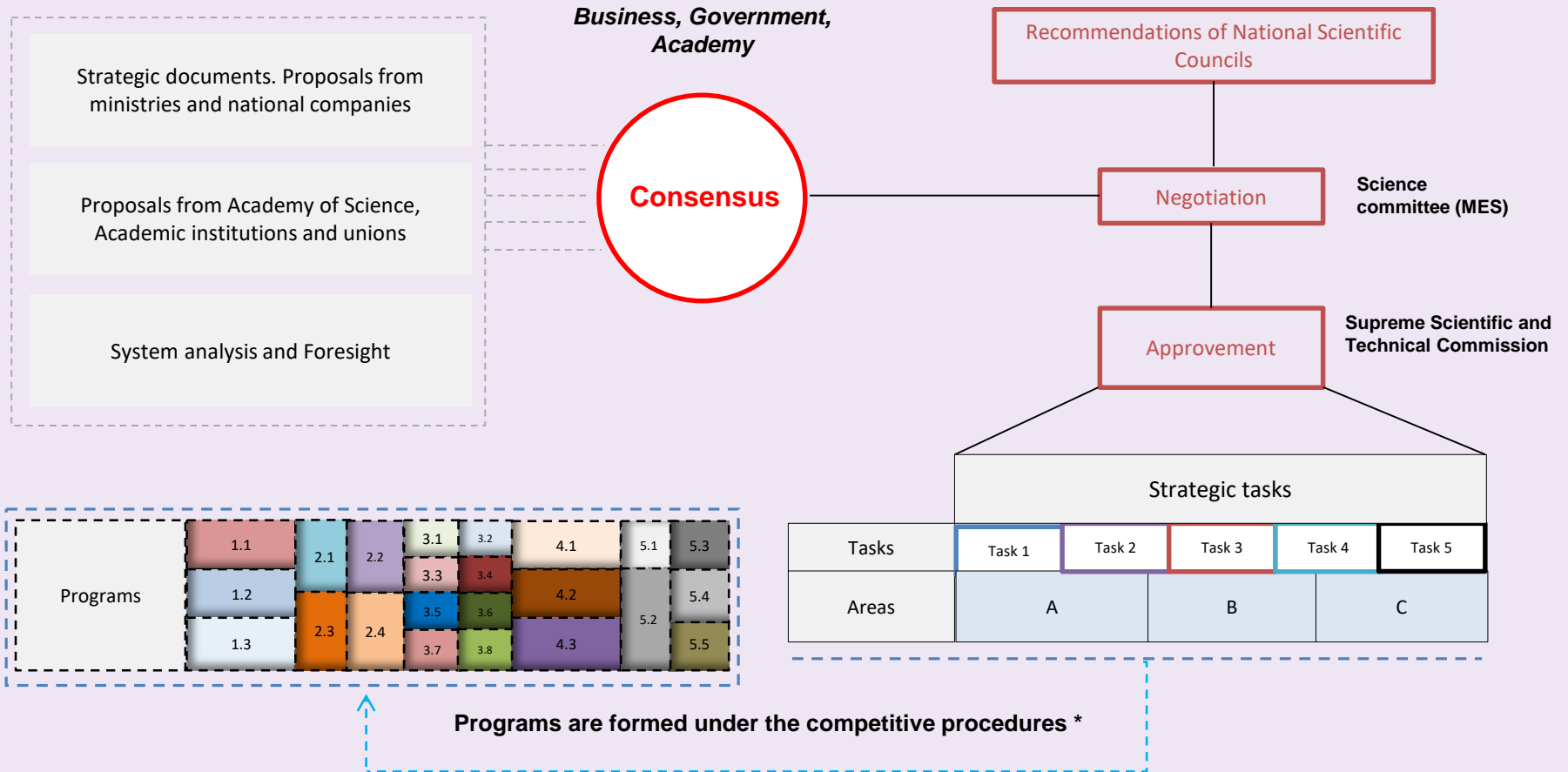
National  
Science Board  
«Information  
and  
telecommunica  
tion  
technologies»

National  
Science Board  
«Life Science»

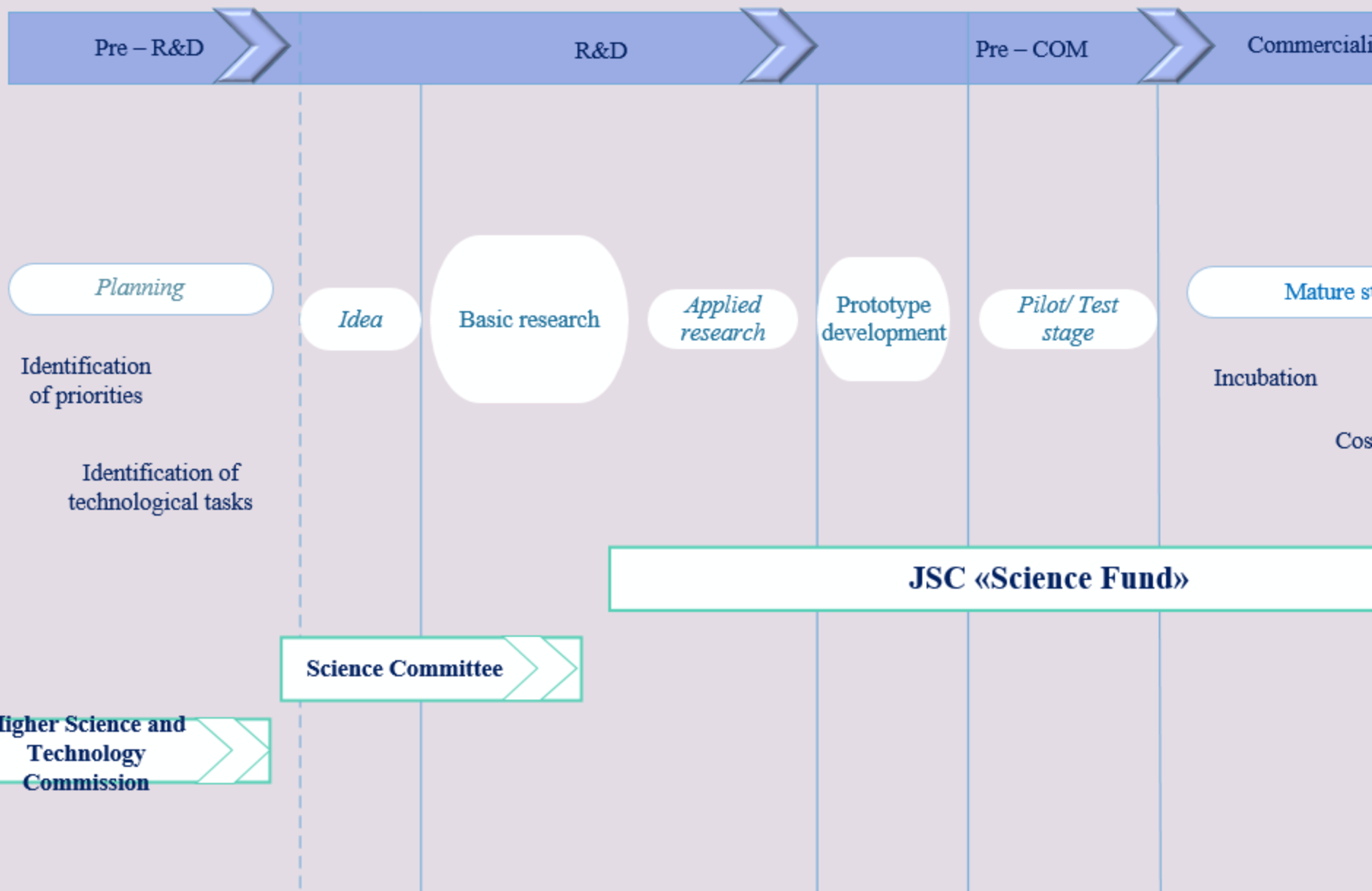
National  
Science Board  
«Intellectual  
potential of the  
country»

**National Center of Science and Technology Evaluation**

# Process of National R&D priorities identification



# The structure of research and R&D commercialization funding in the Republic of Kazakhstan



# Ministry of Education and Science of the Republic of Kazakhstan

Budget



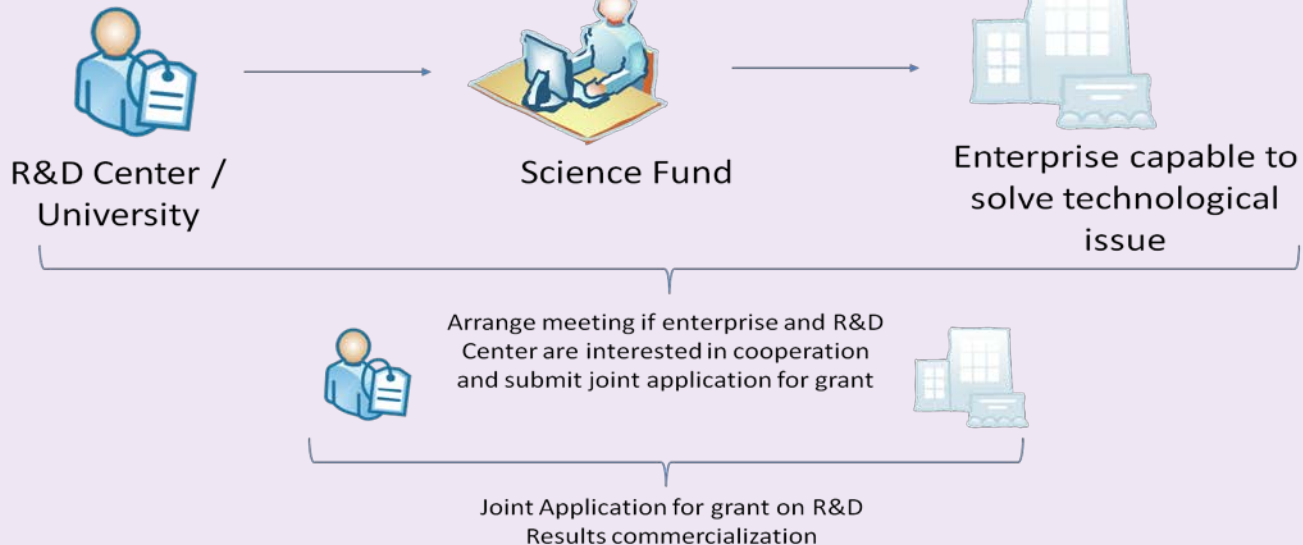
Coordination & management of commercialization processes in the country

JSC «Science Fund»

Universities

Industry

Research institutions



Application Form to be filled in by R&D Centers / Universities to be forwarded to a corresponding enterprise. If the enterprise is interested, the person filling in the application form shall be informed. Later, R&D Center / University and the enterprise can submit a joint application to obtain a grant to commercialize R&D Results (if contest documentations complies with requirements to the type of grant).



### International Centers for Technology Transfer



Technology Transfer in Paris (France)  
since 2010  
**Projects for technology transfer  
in mechanical engineering,  
infrastructure, agriculture**



Technological Cooperation in Tampa (Florida, US)  
since 2013.  
**Projects for technology transfer in IT,  
green technologies**



Kazakhstan-China Technological  
Cooperation Center (Beijing, PRC)  
since 2014  
**Projects for technology transfer  
in ICT, physics**



Technological Cooperation in  
Astana (Kazakhstan)  
and Daedeok Innopolis (Korea)  
since 2011.  
**Projects for technology  
transfer in bio, energy, IT**



Technological Cooperation in Oslo  
(Norway)  
since 2013.  
**Projects for technology transfer  
in oil and gas, green  
technologies**

implemented 29 joint projects (in biotechnology, ICT, energy efficiency).

# Thank you!

**Yelena Shevchenko**

*Ph.D in Economics*

*Head of Department of Analytics and Planning  
JSC "Science Fund", Kazakhstan*

[E-mail: yelenashevchenko@gmail.com](mailto:yelenashevchenko@gmail.com)

Tel.: +7 701 338 90 04