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Annual Report 2013

ISTC in Transition

STATEMENT OF THE CHAIRMAN OF THE ISTC GOVERNING BOARD 2013



The range of activities of the ISTC has expanded, and many different Partners have teamed with the governmental Parties. Nevertheless, scarce resources and changed priorities have always required that difficult decisions be made. The Center has always had to focus on the most important needs as expressed by official decisions of the Parties. Inevitably, this leads to a number of painful decisions not to initiate, or even to terminate, valuable but less urgent activities. The Center does continue to conduct a wide range of activities, however, because the specific requirements of the Parties can differ.

Whether the Party is large or small, the ISTC has made important contributions to the science and technical infrastructure of all the Parties. In some cases, helping scientific teams simply continue important work remains our goal. In other cases, advancing that science to the very frontier of world knowledge is our goal.

Increasingly, our projects involve applied science, helping with the commercialization of technology to benefit humanity and also assisting local science to be self-sustaining in a modern world characterized by vast cooperation and competition. Strengthening the protections of the intellectual property of scientists and institutions is an important support activity in this regard. Facilitating training and travel is another, especially when familiarity with international best practices in fields such as accounting, safety, research validation, and scientific reporting empowers ISTC participants to advance their nation's interests while engaging a broader community.

Many of our traditional activities aimed at responsible management of dual-use knowledge will continue as the ISTC transitions, but as membership in the transformed Center changes, we can expect priorities to change further. The geographical scope of the ISTC will clearly change as new members join and others revisit their status. The trend has been to more, but smaller members. No Party in the future will experience investment on the massive scale that, for example, peaked in Russia. Of the more than 75,000 scientists who have benefited from the ISTC so far, over 60,000 are Russian.

Our renewed ISTC will need to focus on an increased number of more diverse and smaller member states, but it must continue to act on behalf of the common will of the Parties. The way ahead will build on principles already agreed:

- Focus on the needs of the future,
- Engage countries and institutions outside the traditional area,
- Provide more symmetrical sharing of both responsibilities and benefits,
- Promote more co-funding of projects,
- Reduce overhead and administrative costs, and
- Increase efficiency and agility.

The transformation of the International Science and Technology Center (ISTC) continues. The year 2013 was a major turning point. The thrust of activities is now clearly on challenges of the future rather than the legacies of the past. All of the Parties have contributed to the effort. Real partnership, joint leadership, and shared responsibility are the embodiment of the emerging new style.

As the world has changed, the priorities of the ISTC Parties have changed. Thus, the ISTC must change also. Change, of course, is not new to the ISTC. Over the years, the Parties have implemented many modifications and improvements. The ISTC of today is very different from that envisioned by its founders, and the ISTC of the future undoubtedly will reflect even more change.

To promote innovation in the interests of the Parties, the ISTC itself has had to be innovative. To meet the needs of the Parties in a world in which the advance and spread of knowledge creates many common opportunities, but also some common dangers, the ISTC must continue to experiment, improving its programs and refining its own operations.

The Center has already demonstrated that it is capable of major transformation. Originally designed around three countries, more than forty have been involved. Initially, focused on nuclear science, it became a powerhouse of cooperation in agriculture, biotechnology, chemistry, earth and materials science, the environment, medicine, and information technology. Fundamentally an inter-governmental organization, it has found synergy with industry, academia, and others.

We must not lose sight of these fundamentals even as we take on the arduous and detailed logistical, financial, and administrative tasks involved in the current transition. Budgets are tight, resources limited, and the challenge of standing up a new main headquarters while we downsize in Moscow places a tremendous load on the wonderful and dedicated staff that has known Moscow as our primary home among homes for 20 years. We can never adequately express our appreciation to the many fine professionals who have, over two decades, made the ISTC a success.

We have benefited also from great leadership as well. We may find no more important leader in our midst than the dean of our governing board, Minister Lev Ryabev, the representative of the Russian Federation. From the beginning, Minister Ryabev insured that the ISTC functioned on a sound footing. Even with such a fine board, however, the ISTC could not succeed without the dedicated leadership in the Secretariat.

The Center has had many excellent Executive Directors. Thus far, they have come from Belgium, Canada, France, Germany, Great Britain, the Netherlands, the Russian Federation, and the United States. Our current Executive Director, David Cleave,

is joining a gallery of heroes as he manages some of the most difficult issues the ISTC has ever faced. Many other countries have provided outstanding, energetic senior staff with some of the most vital senior positions filled by citizens of Japan. In the future, we can expect to see even more diverse representation in the leadership including at the top.

The ISTC benefits also from leadership in the capitals of the Parties. Of special importance today is the leadership shown by the government of Kazakhstan. The facilities being provided for a new main headquarters in Astana at Nazarbayev University place our activities in the middle of the one of the world's dynamic, growing intellectual centers. We will also retain our branch office in Almaty along with other key branch offices.

As we join in completing the transformative steps that will keep the ISTC at the service of the Parties well into the future, we must not lose our perspective. The Parties created this organization not as an end in itself, but to enable challenging science cooperation. That means our most important assets are the people whose talents are brought to bear on the some of the most important human endeavors of our age. Bringing such talent together is what we must continue to do.

Dr. Ronald F. Lehman II

*Chair, Governing Board
International Science and Technology Center*



STATEMENT OF THE EXECUTIVE DIRECTOR



best expertise. Results of scientific projects were presented and discussed at these events.

For example the Seminar organized by the ISTC Scientific Advisory Committee (SAC) on Energy Security, held in Almaty on October 22-23, 2013, led to new insights in this complex matter, since energy is a critical component for guaranteeing the smooth running of nations, whatever their state of development, and the efficient operation of business.

The ISTC continues to develop new and unique ideas and models to serve as a solid basis for further international scientific and technological cooperation on the basis of equality and partnership.

The end of 2013 also saw the withdrawal of the Canadian party from the ISTC Agreement; a funding party member. Canada has played an enormous role as a major funding party over the years and both the ISTC and Canada can be proud of the contribution and leadership that Canada has provided over many years.

The ISTC has also seen the departure of a long-term servant to ISTC in Leo Owsiacki, who represented Canada as its Deputy Executive Director and, for last year, as Executive Director and latterly his work on the Astana office facility agreement and laying down the ground work in Astana for our new Center premises. Leo had been with the ISTC for 9 years and even before that worked as Executive Director at our sister Center STCU in Kiev, Ukraine for 4 years. His knowledge and leadership of the Centers has been invaluable in the development of the ISTC over the years and, as I take over the mantle as Acting Executive Director, this is a hard act to follow.

However, the continued support from the ISTC funding parties and participating country members shows their resolve to continue to move the ISTC forward though all these changes. Since 1994 ISTC has financed 2794 projects with a total value of USD 879,018,488. Most projects were funded respectively in the areas of environment, biotechnology, physics and fission reactors.

The ISTC started an important discussion on the future transformation of the organization in order to address adequately the changing needs to set up a new organization dealing with global scientific challenges, including non-proliferation, scientists' engagement and activities aimed at further modernization of various economies.

Special arrangements need to be made for work to continue in Armenia, Belarus, Georgia, Tajikistan, the Kyrgyz Republic and, of course, Kazakhstan, which is to be the home of our new head office.

As mentioned above regarding our transition towards a Head Office move to Kazakhstan, the Parties have been working together in drafting a new ISTC Continuation Agreement to

2013 continued to be a challenging and difficult year for the ISTC as we continued to downsize our Moscow operations to leave only a core team in place at the end of the year. Whilst this has placed mounting pressure on the organization and resources to maintain services, our staff continue to portray their professionalism and flexibility to multi-task in this process.

On the other hand developments for transitioning the Head Office to Kazakhstan have been evolving throughout the year, which started with initial possibilities for new office space in Almaty and it was later decided that a move to Astana would be more preferable.

As such the ISTC has been offered confirmed temporary office space and then later longer term office facilities on the campus at the Nazerbayev University. To this end the ISTC is working to develop this new office facility.

This Annual Report shows the main results of our work in 2013 which continues to be focused and aimed at the provision of high-quality scientific collaboration for Parties and Partners that work together on a multilateral basis in order to contribute to the solution of scientific common problems.

Our work confirms that scientific problems are now so complicated and widespread that adequate results can only be achieved through joint efforts.

It is with these challenges in mind that in 2013 numerous Workshops and Seminars were held, bringing together the

facilitate the transition and move from the Russian Federation to Kazakhstan. The drafting of this agreement is now in its final stages and the participation of ISTC recipient countries is playing an important part in formulating this agreement.

Many important issues remain to be dealt with as we continue our path to wind down our projects and operations in the Russian Federation. To this end the ISTC is acting closely with Rosatom to facilitate an orderly and effective closure and resolution of several outstanding issues related to our projects, equipment, staffing, and general legal issues heading towards eventual liquidation of the Moscow center.

Now practicality shifts the focus more towards the new Kazakhstan Center and looking forward to the future and, in the coming year, much work is planned in setting up the new office, liaising with all relevant government bodies and authorities, with our new partners and hosts Nazabayev University and starting operations with new staff in our new office.

Despite the downsizing of the staff in Moscow, those remaining constitute a core band of dedicated professionals and my thanks go out to these hard working and vital servants of the ISTC, especially through the increasing difficulties and challenges faced over the past year.

Let us also not forget those loyal staff who have left the ISTC not only in the last year but over the years, to whom I also express my appreciation as it is worth noting their contributions and the significant roles they have played in the success of the ISTC.

The Chairman in his forward mentioned change and how the ISTC must also change with these new priorities, yet change is nothing new to the ISTC. I can only reiterate the importance of change our new priorities are just a natural progression in the ever changing development of the ISTC. These are exciting times and it breathes a new lease of life into the ISTC in its transition heading into the future.

David Cleave

Acting Executive Director



OVERVIEW OF ISTC ACTIVITIES IN 2013

ISTC – Pursuing our Objectives

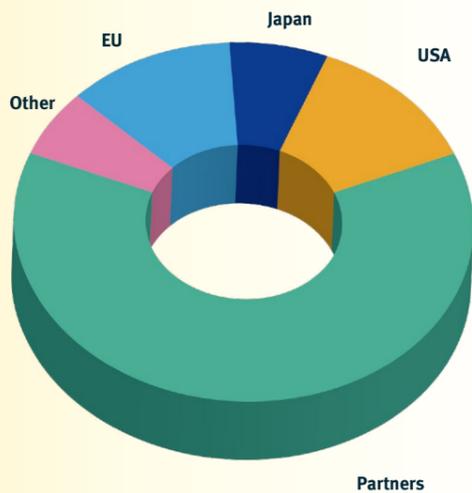
The ISTC coordinates the efforts of numerous governments, international organizations, and private sector industry, providing scientists from Russia, Georgia and the CIS new opportunities for international partnership. The ISTC plays a central role in the management of these science partnerships. Through its legal, financial and administrative frameworks, the ISTC contributes to fundamental and applied research by linking the demands of international markets with scientists and engineers in Russian, Georgian and other CIS institutes.

Overview of ISTC Activities

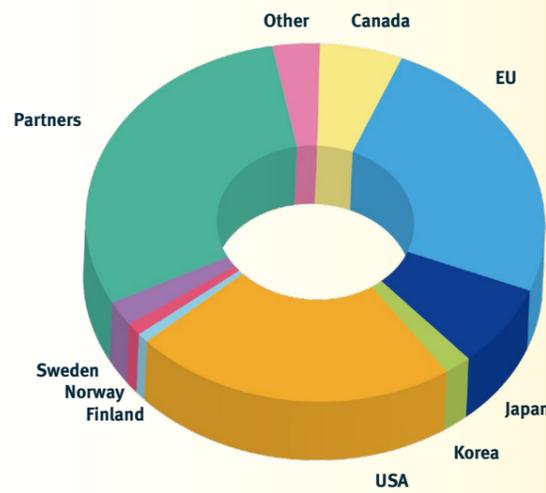
- The information provided below gives an overview of the funded projects by financing source, beneficiary country and technology area.
- These figures show that between 1994 and 2013 the ISTC supported 2794 projects with a total value of USD \$879,018,488. Most projects were funded respectively in the areas of environment, biotechnology, physics and fission reactors.
- Over the years the EU and the US were the main sources of funding for ISTC projects and research institutes in the Russian Federation benefited most from this funding up until now. However, this year this funding is directed more and more to ISTC's Central Asia and Caucasus countries.

2013 Project Funding and Total Project Funding (1994-2013) - by Source

2013 Project Funding (\$ 8,978,409) by Source



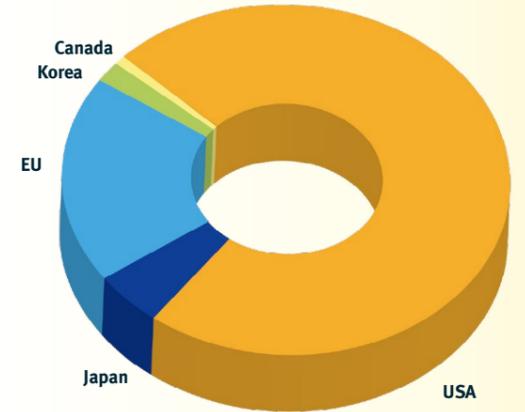
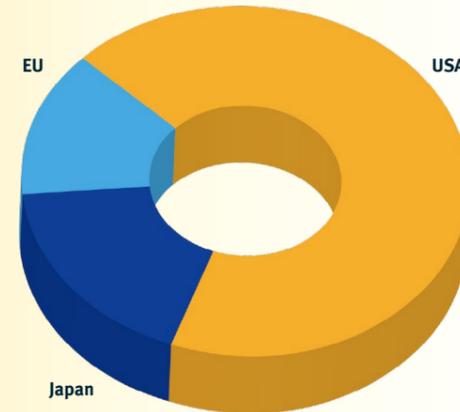
1994-2013 Total Project Funding (\$ 879,018,488) by Source



Party	AMOUNT IN 2013 (TOTAL USD)	AMOUNT TOTAL (TOTAL USD)
Canada	0	35,302,224
EU	1,087,292	243,655,302
Japan	610,150	64,981,149
Korea	0	4,581,952
USA	1,134,617	226,275,518
Finland	0	1,185,960
Norway	0	1,881,450
Sweden	0	3,831,906
Partners	5,603,850	284,773,806
Other	542,500	12,549,221
Total:	8,978,409	879,018,488

2013 Partner Project Funding and Total Partner Project Funding (1994-2013) - by Party

2013 Partner Project Funding (\$ 5,603,850) by Party 1994-2013 Total Partner Project Funding (\$ 284,773,806) by Party

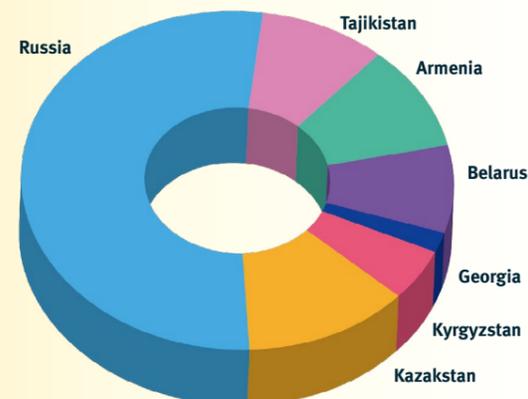


Party	Type of Partner Company	Number of projects 2013	Partner Funding 2013 (USD)	Number of projects Total	Partner Funding Total (USD)
United States	Total	17	3,845,550	554	219,291,305
	G	17	3,845,550	521	212,903,343
Japan	Total	1	1,000,000	64	8,486,738
	G	1	1,000,000	17	3,169,953
European Union	Total	2	758,300	138	54,054,117
	G	2	758,300	79	42,712,657
Korea	Total	0	0	11	2,319,189
	G	0	0	7	1,980,000
Canada	Total	0	0	5	622,456
	G	0	0	1	20,000
**Total:	Total	20	5,603,850	772	284,773,806
	G	20	5,603,850	625	260,785,953
	NG	0	0	147	23,987,853

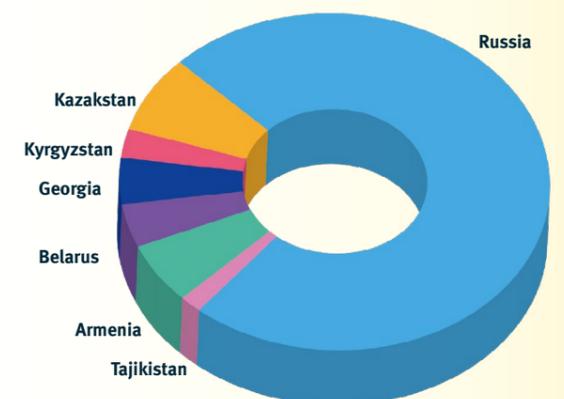
** Please note that real number of funded Partner Projects is 750 as there are several partner projects where 2 or 3 Partner Companies are involved

Grants paid by ISTC to Beneficiary Scientists in 2013 and Total Grants paid (1994-2013) - by Country

Grants paid (\$6,852,425) in 2013 by the ISTC to Beneficiary Scientists



Total grants paid (\$ 547,884,541) by the ISTC to Beneficiary Scientists

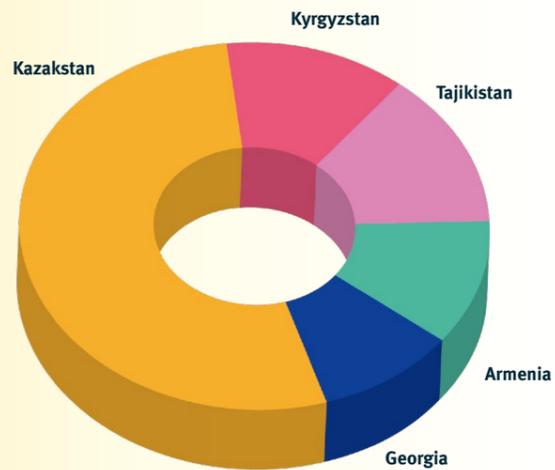


ISTC in Transition

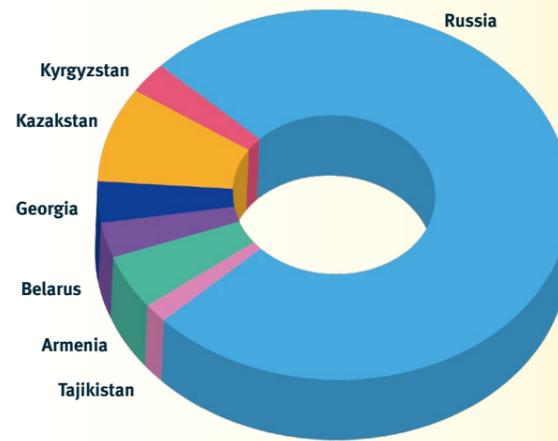
Region	Number of Scientists in 2013	Amount of Grant Payments (USD) in 2013	Number of Scientists Total	Amount of Grant Payments Total (USD)
Armenia	308	682,942	3,336	28,193,082
Belarus	187	583,265	1,861	15,664,306
Georgia	51	126,471	2,411	19,571,835
Kyrgyzstan	172	355,717	1,349	9,577,049
Kazakhstan	410	856,033	4,732	36,139,145
Russia	1,390	3,607,565	60,760	433,073,977
Tajikistan	202	640,431	626	5,665,147
Total	2,720	6,852,425	75,075	547,884,541

2013 Project Funding and Total Project Funding (1994-2013) – by Beneficiary Country

2013 Project Funding (\$ 8,978,409) by Beneficiary Country



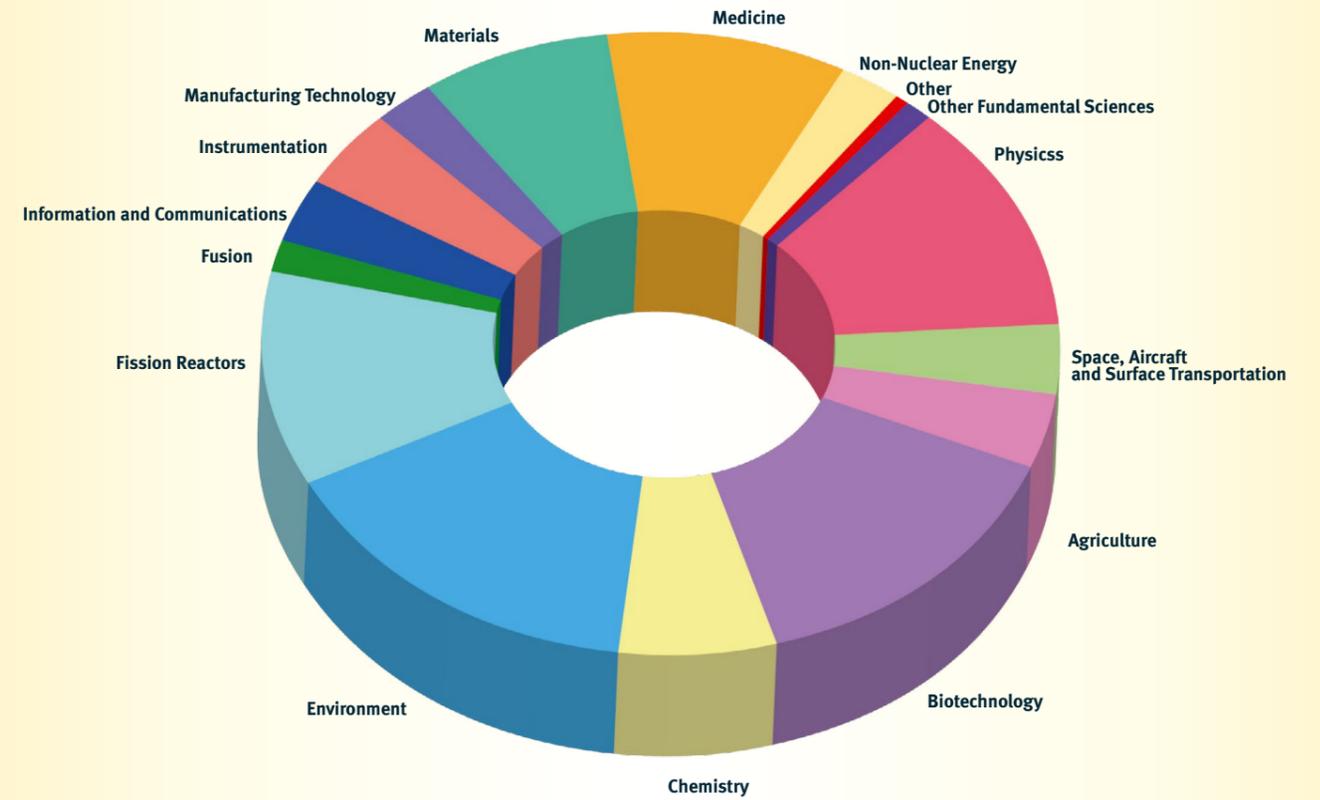
Total Project Funding (\$ 879,018,488) by Beneficiary Country (1994-2013)



Country	Number of funded projects 2013	Funds allocated 2013 (USD)	Number of funded projects Total	Funds allocated (USD)
Armenia	4	1,001,000	172	41,760,810
Belarus	0	0	100	27,386,964
Georgia	8	869,739	152	30,554,472
Kazakhstan	11	4,779,300	201	75,593,162
Kyrgyzstan	4	1,122,795	91	23,778,668
Russia	0	0	2,033	667,386,765
Tajikistan	4	1,205,575	44	12,493,351
Ukraine	0	0	1	64,296
Total:	31	8,978,409	2,794	879,018,488

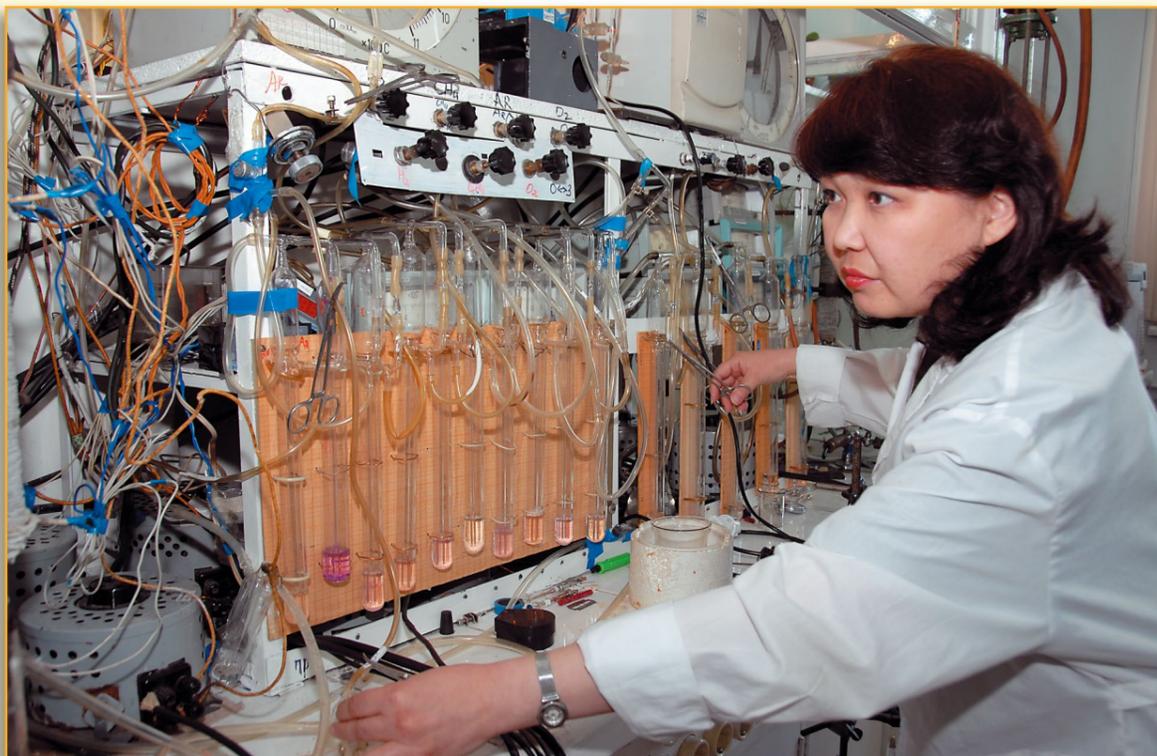
ISTC in Transition

1994-2013 Total Project Funding (\$ 879,018,488) by Technology Area



Tech area	Number of funded projects 2013	Funds allocated 2013 (USD)	Number of projects Total	Funds allocated Total (USD)
Agriculture		566,300	89	34,152,144
Biotechnology	13	2,917,800	329	125,733,294
Chemistry	5	1,247,945	208	55,773,420
Environment	3	1,112,775	440	136,730,323
Fission Reactors	2	1,490,000	274	97,931,167
Fusion	0	0	51	15,542,308
Information and Communications	0	0	107	28,536,916
Instrumentation	0	0	135	37,324,855
Manufacturing Technology	0	0	75	21,412,969
Materials	2	620,000	216	69,664,189
Medicine	4	1,023,589	235	85,499,130
Non-Nuclear Energy	0	0	64	22,470,981
Other	0	0	18	2,798,135
Other Fundamental Sciences	0	0	30	6,859,930
Physics	0	0	419	108,912,108
Space, Aircraft and Surface Transportation	0	0	104	29,676,620
Total:	31	8,978,409	2,794	879,018,488

STRENGTHENING TIES BETWEEN KAZAKHSTAN AND THE ISTC: ESTABLISHING NEW ISTC HEADQUARTERS IN ASTANA



On the occasion of the 15th anniversary of the ISTC, President Nazarbaev expressed “his deep gratitude for the work of the organization” whilst “looking forward to continued cooperation with the ISTC for the sake of world peace and progress.”

There are strong links between the research and business communities from Kazakhstan and the ISTC. Since Kazakhstan became a member of the ISTC, in total 184 projects have been funded to the good of the Kazakh scientific community to a total amount of USD 66 million. Projects have been financed predominantly in biotechnology, fission reactors, chemistry, environment and medicine. All major Kazakh R&D institutes have participated in ISTC projects, often together with their colleagues in the CIS, the EU, Canada, Japan and the USA. The projects presented good-quality basic research and the opportunity to bring this research to the market place (innovation/commercialization). For 2014 more than USD 6 million is available in projected funding.

The Ministry of Education and Science (MES) is the lead agency for the ISTC in Kazakhstan. An ISTC Branch Office has existed in Almaty since 1995. The continued growth of research collaborations in Kazakhstan and increases in project funding have led to the need to expand the current ISTC Branch Office with the further intent of relocating the

ISTC main headquarters from Russia to Kazakhstan.

Various high-level contacts have confirmed a willingness from the Kazakh authorities to host the future ISTC headquarters. This issue was discussed in September 2011 during various meetings of ISTC Chair Mr. Lehman with representatives from Kazakhstan.

Subsequently the offer was repeated at the GB meeting of the ISTC (December 8-9, 2011) and in a letter of December 28, 2011 of the President of the Academy of Sciences of Kazakhstan. It was agreed that the new ISTC Headquarters would relocate to Kazakhstan with a preliminary expansion of the current ISTC Branch Office. An ISTC official was transferred on January 1, 2012 to Almaty to start work on preparing new offices and to establish contacts to implement the function of ISTC Program Coordinator of ISTC projects. The new ISTC premises were originally planned to be housed at the Kazakh-British Technical University in Almaty. No agreement could be reached however between MES and KBTU and a new offer of office space was made.

Nazarbayev University (NU), located in Astana, Kazakhstan, was confirmed as the new ISTC office location in a letter from DPM Orynbayev dated October 8, 2013. The letter offered permanent space for the ISTC Headquarters at the future

NU Science Park with a projected occupancy date of spring 2016. Temporary office space offered with a projected ready date of no later than March 1, 2014.

During December 2013, former ISTC Director, Leo Owsicki, worked together with Nazarbayev University officials to finalize the ISTC/Nazarbayev University office space agreement. The agreement was signed by both the ISTC and NU with an effective date of December 22, 2013. In January 2014, the ISTC Chief Administrative Officer (ISTC CAO) moved from Almaty to Astana. On February 19, 2014 the

ISTC CAO moved into the new temporary office space at NU to oversee final preparations for the temporary office space and the planning for the permanent ISTC office space. Plans are still on track for a March 1st turnover of the temporary office space to the ISTC.

In addition to the ISTC move to Nazarbayev University, the university applied for and was recommended by the MES for Partnership to the ISTC. In 2012 Nazarbayev University was accepted as an ISTC partner, creating the first such Partnership in the history of the ISTC.



Research and Development in Kazakhstan



EUROPEAN COMMISSION/DEVELOPMENT AND COOPERATION - EUROPEAN AID (DEVCO)

PARTNER PROJECTS

Partner funding has become more and more important both in terms of project support and supplementary budget activities. These activities include such aspect as supporting the travel of scientists to meet with colleagues internationally and to attend important training sessions and workshops.

During the year, new projects funded by both Parties and Partners focused on Central Asia and the Caucasus.

The EU has recently become very active through the European Aid - Development and Cooperation Office (DEVCO) as a Partner to the ISTC and has contributed significantly to the Partner project program. DEVCO is supporting more than USD 7.8 million in new project activities, with a focus on bio-safety and bio-security in Central Asia.

Some examples of Partner projects supported/funded by DEVCO are presented below.



PROJECT #K-1906

Training in Novel Laboratory Diagnostic Techniques in Line with the Present-Day International Requirements and Biosafety Assurance in Kazakhstan National Centre for Monitoring, Referencing, Laboratory Diagnostics and Methodology in Veterinary Medicine (NVC)

Leading Institute:	National Center for Monitoring, Referencing, Laboratory Diagnostics and Methodology in Veterinary Medicine, Astana, Kazakhstan
Allocated:	US \$97,825
Grants:	US \$ 3,100

PROJECT #T-1819

Bio-safety Assignment Training for the Republican Center for Quarantine Infection Prevention of the Ministry of Health of the Republic of Tajikistan (RCQIP)

Leading Institute:	Republican Center for Quarantine Infection Prevention of the Ministry of Health of the Republic of Tajikistan, Dushanbe, Tajikistan
Allocated:	US \$108,979
Grants:	US \$ 6,400

PROJECT #T-1852

Bio-safety Assignment Training for the Tajik Research Institute of Preventive Medicine of the Ministry of Health of the Republic of Tajikistan (TRIPM)

Leading Institute:	Tajik Research Institute of Preventive Medicine, Dushanbe, Tajikistan
Allocated:	US \$201,608
Grants:	US \$ 6,400

Main objectives and results:

As part of the program ‘Strengthening Bio-Safety and Bio-Security Capabilities in Central Asian Countries’ the European Union has funded long-term training projects through the ISTC. Through these projects the theoretical and practical skills of relevant laboratory personnel were enhanced in the use of modern diagnostic methods for investigating dangerous diseases and pathogens, and in the process the bio-safety and bio-security expertise in Kazakhstan, Tajikistan and neighboring regions was improved.

In total 5 experts received training (1 from Kazakhstan, 4 from Tajikistan) through these long-term training projects. For each project the trainees received up to 6 months of English training, depending on their initial comprehension level. Successful completion of the language course was a requirement to move to the next phase of the project, in order to assure effective

communication between trainee and trainer during the training phase. Each of the trainees successfully passed their language course and each stayed 1 year at the Robert-Koch Institute (RKI, Berlin, Germany) for theoretical and practical training in modern bio-safety and bio-security standards. The format of the training was ‘learning-by-doing’, so each trainee received theoretical training and was assigned to a department at RKI where they performed collaborative research. The collaborative research was conducted on *Bacillus anthracis* (anthrax), *Clostridium botulinum* (the cause of botulism), influenza viruses, *Francisella tularensi* (cause of Tularemia) & poxviruses.

After the 1-year training period at RKI the trainees returned to their home institutes in Kazakhstan and Tajikistan, where they are disseminating the knowledge and skills they gained to their colleagues.



PROJECT #T-1998

Creation of Regional Biosafety Training Centre in Dushanbe for Capacity Building for Tajikistan and Afghanistan Professionals

Leading Institute:	Public Organisation "Modern Scientists", Dushanbe, Tajikistan
Allocated:	US \$1,176,351
Grants:	US \$ 335,560

Main objectives and results:

Under ISTC Partner Project T-1998, a Regional Bio-Safety Training Centre has been created in Dushanbe, Tajikistan. This project was funded under the program 'Strengthening Bio-Safety and Bio-Security Capabilities in Central Asian Countries' that the European Union is funding through the ISTC.

As part of Project T-1998 a training facility was renovated for theoretical and practical training, and bio-safety equipment was procured for training purposes. On June 25, 2013 the newly

created Bio-safety and Bio-security Training Centre in Dushanbe was officially opened at the Institute of Botany of the Tajikistan Academy of Sciences.

Additionally, a full curriculum was developed, covering different aspects of bio-safety and bio-security, with input from WHO and European experts. Currently, the training of Tajik and Afghan specialists is ongoing, dealing with issues such as handling pathogens and mitigating the effects of an accidental bio-agent release.



LIST OF PROJECTS COMPLETED IN 2013

Project No.	Short title	Leading Institute	Funding Party	Collaborators
Agriculture				
#2777	Transmissible Spongiform Encephalopathies	Ivanovsky Institute of Virology / NARVAC, Moscow, Russia	Partners	USA
#3005	Newcastle Disease and Avian Influenza Viruses	Federal Centre for Animal Health, Vladimir, Vladimir reg., Russia	Partners	USA
#3460	Inactivated Vaccines against Avian Viral Diseases	Federal Centre for Animal Health, Vladimir, Vladimir reg., Russia	Partners	USA
#3714	DNA Markers of Potato Genes for Late Blight Resistance	Institute of Agricultural Biotechnology, Moscow, Russia	Partners	USA
#3721	Molecular Identification of Plant-Parasitic Nematodes	Phytopathology Research Institute, Bolshie Vyazemy, Moscow reg., Russia	Partners	USA
#3802	Retrovirus-Induced Diseases in Poultry Farms	Ivanovsky Institute of Virology / NARVAC, Moscow, Russia	Partners	USA
#3978	Molecular Diagnostics Laboratory for Plant Pathogens	Phytopathology Research Institute, Bolshie Vyazemy, Moscow reg., Russia	Partners	USA
#4070	Biocontrol Agents Adapted to Extreme Environments	Phytopathology Research Institute, Bolshie Vyazemy, Moscow reg., Russia	Partners	USA
#K-1396	Kazakhstan Pasturable Lands Monitoring	Kazakh Research Institute of Ecology and Climate, Almaty, Kazakhstan	Partners	USA
Biotechnology				
#2685	Safety System to Protect Biological Material	Phytopathology Research Institute, Bolshie Vyazemy, Moscow reg., Russia	Partners	
#3034	Sunflower Diseases	Russian Research Institute of Biological Plant Protection, Krasnodar, Krasnodar reg., Russia	Partners	USA
#3104	Recombinant Mullerian Inhibiting Substance	Institute of Highly Pure Biopreparations, St Petersburg, Russia	Partners	USA, Uzbekistan
#3949	Probiotics for Functional Food	Institute of Immunological Engineering, Lyubuchany, Moscow reg., Russia	Japan	Japan, Canada, Slovakia
#4009	Anti-Tumor Vaccines Based on Heat Shock Proteins	Pacific Institute of Bioorganic Chemistry, Vladivostok, Primorsky reg., Russia	Japan	Japan
#4060	Center for Training of Biosafety	Novosibirsk State University, Novosibirsk, Novosibirsk reg., Russia	Canada	Canada
#4083	Ethanol Production from By-products	JSC Biochimash, Moscow, Russia	Partners	USA
#A-1662	Monitoring of Blood-Sucking Flies	Institute of Molecular Biology, Yerevan, Armenia	Canada	Canada, USA, Germany, UK
#A-1764	Antitumor and Radiomodifying Organometallic Copper Complexes	Research Center of Radiation Medicine and Burns, Yerevan, Armenia	EU	Canada, Austria, Germany, Italy, USA
#A-1866	Bactericidal Peptides	Center of Prophylaxis of Especially Dangerous Infections, Yerevan, Armenia	Partners	USA
#A-1868	Complex Nitrogen Biofertilizer	Institute of Biochemistry, Yerevan, Armenia	Partners	USA
#A-1980	Probiotics for Familial Mediterranean Fever Patients	Institute of Biochemistry, Yerevan, Armenia	Partners	USA
#B-1640	Transformation of Sugars into Nucleosides of Biological Importance	Institute of Bioorganic Chemistry, Minsk, Belarus	EU	Germany, Finland
#G-1666	Bacteriophage Composite against Dental Infections	Georgian Academy of Sciences / Institute of Bacteriophage, Microbiology and Virology, Tbilisi, Georgia	Canada	USA, Canada
#KR-1768	Regulations on Biosafety in Kyrgyzstan	State Sanitary Epidemiological Supervision Department, Bishkek, Kyrgyzstan	Canada	Canada

ISTC in Transition

Project No.	Short title	Leading Institute	Funding Party	Collaborators
#KR-1784	Epidemiology of Plague	Issyk-Kul State University named after K. Tynystanov, Karakol, Kyrgyzstan	Canada	Canada
#T-1594	Murine Rodents in Central Tajikistan	Institute "Biological preparations" of Academy of agricultural sciences RT, Dushanbe, Tajikistan	Canada	USA, Canada
#T-1818	Bio-safety Assignment Training in Tajikistan	Tajik Research Institute of Preventive Medicine, Dushanbe, Tajikistan	Partners	Germany
Chemistry				
#3565	Desulphurization of Transport Fuel	Institute of Physical Chemistry and Electrochemistry, Moscow, Russia	Partners	
#3697	Risk of Human Health by Example of Maradykovsky Facility	Research Institute of Hygiene, Occupational Pathology and Human Ecology, Vsevolozhsk, Leningrad reg., Russia	Partners	
#3879	Absorbents for Vehicle Emission Control	JS Company "Sarov Laboratories", Sarov, N. Novgorod reg., Russia	Partners	USA
#3994	Integration of Plant Protection Agents	Russian Research Institute of Biological Plant Protection, Krasnodar, Krasnodar reg., Russia	Canada	Canada
#B-1603	Alkali Based Borohydrides for Hydrogen Production	National Academy of Sciences of the Republic of Belarus / Institute of Heat and Mass Transfer, Minsk, Belarus	Japan	Japan
#B-1746	Innovative Antiviral Agents	Belarussian State University / Institute of Physical Chemical Problems, Minsk, Belarus	EU	Austria, Germany
#CI-087	Secondary Polymer (Poliplen Company)	Poliplen, Ltd., Seversk, Tomsk reg., Russia	Partners	
#CI-109	Production of ultra-high pure ammonia for electronic industry needs	Khlopin Radium Institute, St Petersburg, Russia		USA
#K-1284.2	Synthesis of Phosphoric Ethers	Institute of Organic Catalysis and Electrochemistry, Almaty, Kazakhstan	Canada	Canada, USA
#K-1476	Pillared Clays as Catalysts and Sorbents	Institute of Organic Catalysis and Electrochemistry, Almaty, Kazakhstan	EU	Spain
Environment				
#3715	Air Pollution Transport from Central Asia	Institute of Atmospheric Physics, Moscow, Russia	Partners	USA
#3823	Solidification of Radioactive and Chemical Waste	Khlopin Radium Institute, St Petersburg, Russia	Partners	USA
#4008	Ecology of Amur River Basin	Russian Academy of Sciences / Far East Branch of RAS / Pacific Geographical Institute, Vladivostok, Primorsky reg., Russia	Japan	Japan
#4010	Forest Fires Prognosis	Russian Academy of Sciences / Far East Branch of RAS / Institute of Water and Ecology Problems RAS, Far-Eastern Branch, Khabarovsk, Khabarovsk reg., Russia	Japan	Japan
#4028	Climate Change: Carbon Stocks and Pollution Loads in Northern Latitude Soils	Institute of Physicochemical and Biological Problems in Soil Science, Pushchino, Moscow reg., Russia	Partners	
#4033	Microorganisms for Biofuel	Center for Ecological and BioResources Development, Puschino, Moscow reg., Russia	Partners	USA
#T-1508	Uranium Wastes Treatment	Nuclear and Radiation Safety Agency (NRSA), Dushanbe, Tajikistan	EU	Czechia
Fission Reactors				
#0815	Codes for Nuclear Safety Evaluation	FEI (IPPE), Obninsk, Kaluga reg., Russia	Partners	UK
#3110	Criticality Safety Benchmark Experiments	VNIITF, Snezhinsk, Chelyabinsk reg., Russia	Partners	

ISTC in Transition

Project No.	Short title	Leading Institute	Funding Party	Collaborators
#3973	Fractures of Irradiated Austenitic and Ferritic Materials	TsNIIKM PROMETHEY (Construction Materials), St Petersburg, Russia	EU	Germany, France, Belgium, UK
#3992	Joint Database on Research Reactors	VNIITF, Snezhinsk, Chelyabinsk reg., Russia	Partners	
#B-1804	Lane-Consistent Optical Potential	Joint Institute of Energy and Nuclear Research - Sosny, Minsk, Sosny, Belarus	Canada Korea Other	Austria, Japan, Korea, Canada, Spain
#K-1800	In-Reactor Irradiation Impact on Beryllium	National Nuclear Center of the Republic of Kazakhstan / Institute of Nuclear Physics, Almaty, Kazakhstan	Partners	
#K-1806	Transformers for Fission Products Pressure Gauge	National Nuclear Center of the Republic of Kazakhstan / Institute of Nuclear Physics, Almaty, Kazakhstan	Partners	
Information and Communications				
#3237	Numerical Methods for Continuum Physics Problems	VNIIEF, Sarov, N. Novgorod reg., Russia	Partners	
#B-1682	Ovarian Cancer Angiogenesis	National Academy of Sciences of the Republic of Belarus / Institute of Informatics Problems, Minsk, Belarus	EU	Germany
#CSP-053	Communication system for seismic hazards	Scientific Foundation "International Center Garni", Yerevan, Armenia		
#CSP-059	Khujand Scientific Center communication network	Physical-Technical Institute, Dushanbe, Tajikistan		
Instrumentation				
#A-1601	Detector for UV and VUV Regions	Center for the Advancement of Natural Discoveries using Light Emission, Yerevan, Armenia	EU	France, Germany
Manufacturing Technology				
#2270	Mono-Crystal Electrodes for Powerful X-ray Tubes	NPO Lutch, Podolsk, Moscow reg., Russia	Partners	
#A-1661	Market Research for YerPhi Developed Technologies	A.I. Alikhanyan National Science Laboratory, Yerevan, Armenia	Partners	
#CI-010	NailJet ProTM Research, Development and Production	ImagiNail Russia, Nizhni Novgorod, Russia		
#CI-031	Highly Pure Silicon Carbide Equipment	NPO Lutch, Podolsk, Moscow reg., Russia		
Materials				
#4003	Nanostructured Titanium for Implants	Ufa State Technical University of Aviation, Ufa, Bashkiria, Russia	Partners	USA
#B-1708	Nanocarbon in Electromagnetic Applications	Institute for Nuclear Problems, Minsk, Belarus	EU Canada	Belgium, Italy, Canada
#II-070	Ti Products for Medical Application	NanoMet, LLC, Ufa, Bashkiria, Russia		
Medicine				
#2800	Influenza A Viruses of Birds and Pigs	Ivanovsky Institute of Virology, Moscow, Russia	Partners	USA
#3117	Microchip for Detection of Toxins	Institute of Bioorganic Chemistry, Moscow, Russia	Partners	
#3359	Detection of Bacteria in Blood	Research Center of Toxicology and Hygienic Regulation of Biopreparations, Serpukhov, Moscow reg., Russia	Partners	USA
#3701	Toxic Action of Nanopowders	VNIIEF (Chemical Technology), Moscow, Russia	EU	Germany, Italy
#3868	Clots in Blood Vessels	VNIIEF, Sarov, N. Novgorod reg., Russia	EU	Italy

Project No.	Short title	Leading Institute	Funding Party	Collaborators
#II-152	Certified production of radioisotope products for nuclear medical application	FEI (IPPE), Obninsk, Kaluga reg., Russia		
#KR-1389.2	Monitoring Rabies of the People and Animals	Kyrgyz Research Institute of Livestock, Veterinary and Pastures, Bishkek, Kyrgyzstan	Canada	Canada
#KR-1710	National Disease Surveillance Database for Kyrgyz Republic	Republican Center of Quarantine and Especially Dangerous Infections, Bishkek, Kyrgyzstan	Partners	Canada, USA
#T-1857	Foot-and-Mouth Disease in Gorno-Badakhshan Area	Institute "Biological preparations" of Academy of agricultural sciences RT, Dushanbe, Tajikistan	Partners	USA
Non-Nuclear Energy				
#3466	Effective Thermoelectrics	Russian Academy of Sciences / Physical Technical Institute, St Petersburg, Russia	Partners	
#3910	Modeling of Photosynthesis on the Basis of Supramolecular Systems	Russian Academy of Sciences / Semenov Institute of Chemical Physics, Moscow, Russia	EU	Austria, Spain
Other				
#3525	Electrohydraulic Borehole Device	VNIIEF, Sarov, N. Novgorod reg., Russia	Partners	USA
#K-1758	Creation of Individual Dosimetry Center	National Nuclear Center of the Republic of Kazakhstan / Institute of Radiation Safety and Ecology, Kurchatov, Kazakhstan	Partners	
Other Basic Sciences				
#3993	Luminous Events and Penetration Radiation in Thunderstorm Atmosphere	VNIIEF, Sarov, N. Novgorod reg., Russia	EU	Denmark, Greece
#4016	Gas Hydrates in Lake Baikal	Limnological Institute, Irkutsk, Irkutsk reg., Russia	Japan	Japan
#KR-1668	Sliding Phenomena in High-Mountain Conditions	Kyrgyz-Russian Slavonic University, Bishkek, Kyrgyzstan	EU	USA, Italy
Physics				
#2116	Gas Bubble Collapse in liquid	VNIITF, Snezhinsk, Chelyabinsk reg., Russia	USA	USA
#3793	Pulse Discharge in Flow	Joint Institute for High Temperatures RAS, Moscow, Russia	Partners	
#3881	Nuclear Fusion on Polarized Deuterium and Helium-3	Nuclear Physics Institute, Gatchina, Leningrad reg., Russia	EU	Germany, Switzerland
#3888	Accelerating Section for Linac4	Budker Institute of Nuclear Physics, Akademgorodok, Novosibirsk reg., Russia	EU Other	Switzerland
#3889	Cavities for Accelerating Section for Linac4	Budker Institute of Nuclear Physics, Akademgorodok, Novosibirsk reg., Russia	Partners	
#3959	Near-Zero Emissions Combustor System	Siberian Branch of RAS / Institute of High Current Electronics, Tomsk, Tomsk reg., Russia	Partners	USA
#3963	Thin Film Structure	St Petersburg State University, St Petersburg, Russia	EU	France, Germany, Greece
#3965	Multi-Charged Ion Source with High Ionization Efficiency	Russian Academy of Sciences / Institute of Applied Physics, N. Novgorod, N. Novgorod reg., Russia	EU Other	Switzerland, Italy, France
#4022	Vacuum System for Electron-Positron Colliders	Budker Institute of Nuclear Physics, Akademgorodok, Novosibirsk reg., Russia	Japan	Japan
#A-1766	Laser Microprocessing	A.I. Alikhanyan National Science Laboratory, Yerevan, Armenia	Partners	
#B-1628	Optical Multi-Channel Interferometer	B.I. Stepanov Institute of Physics, Minsk, Belarus	Korea Other	Germany, Korea
Space, Aircraft and Surface Transportation				
#3872	Shock Wave and Vortex Interference with the Body Surface	Central Aerodynamic Institute, Zhukovsky, Moscow reg., Russia	EU	France, Germany, Belgium
#4035	Transonic Flutter	Central Aerodynamic Institute, Zhukovsky, Moscow reg., Russia	Canada	Canada

ISTC STRUCTURE

Permanent Governing Board Parties



European Union



Japan



Russian Federation



United States

Other Parties



Norway



Republic of Korea

CIS Parties and Georgia



Armenia



Belarus
(Board Member in 2014)



Kazakhstan



Kyrgyz Republic



Tajikistan



Georgia
(Board Member in 2013)

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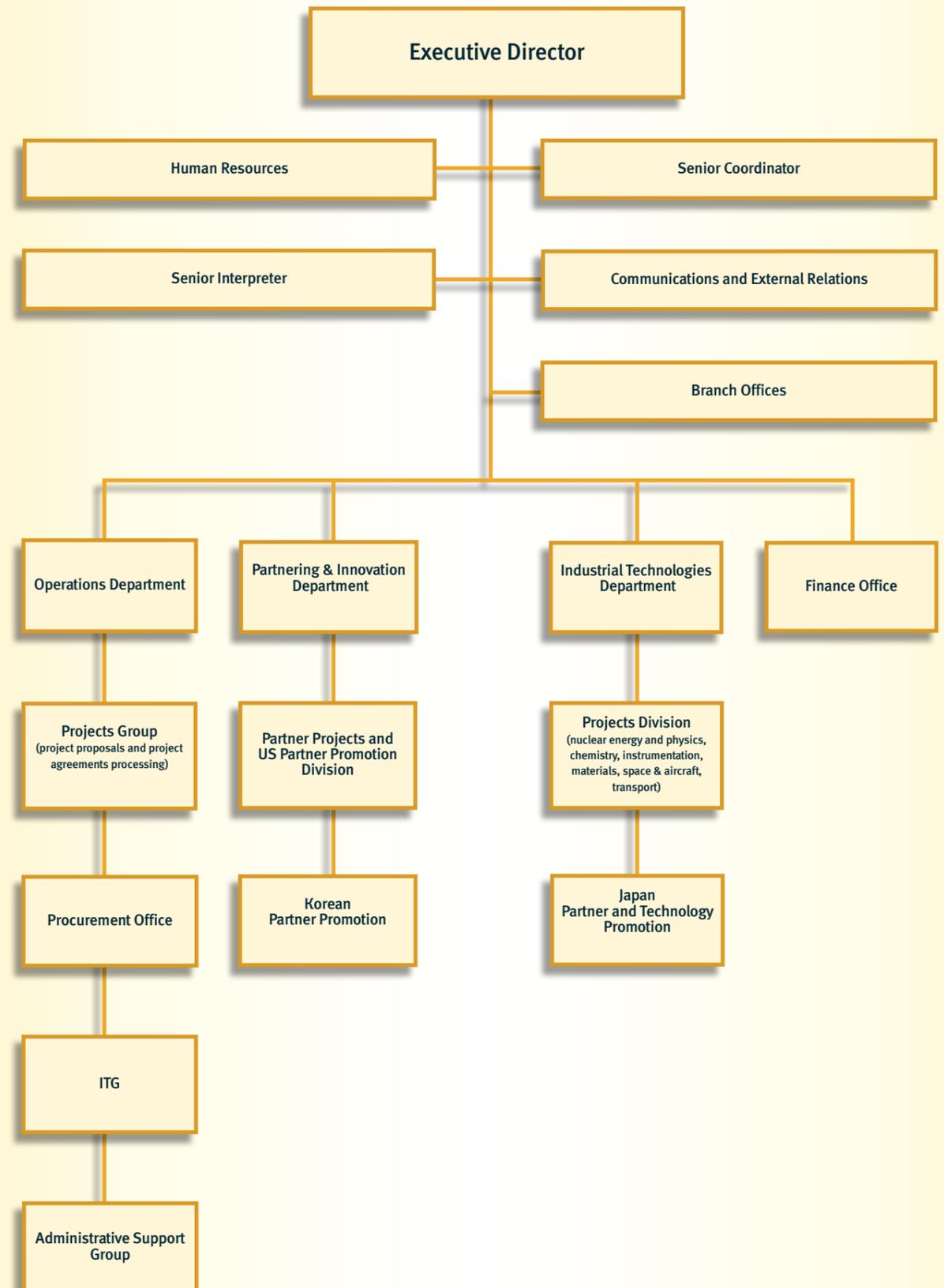
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ISTC SECRETARIAT STRUCTURE



GLOSSARY OF MAIN ISTC TERMS AND PROGRAMS

The **Bio-safety/Bio-security Program** provides additional resources to support various Bio-safety and Bio-security initiatives.

The **Commercialisation Support Program** facilitates and strengthens long-term commercial self-sustainability efforts by ISTC beneficiaries through promotion of marketable products and services.

The **Communication Support Program (CSP)** supports eligible CIS institutes and organisations for building IT infrastructure where existing capabilities inhibit the accomplishment of ISTC projects and the development of commercial opportunities.

The **Governing Board** is the primary ISTC decision-making body, which is made up of representatives from Canada, the European Union, Japan, the Russian Federation and the United States, with one yearly rotating seat for representation of one of the other countries of the CIS member states or Georgia.

The **Mobility Program** provides additional opportunities for direct communication of the Russian and other CIS and Georgian scientists with their colleagues from abroad through financing international travel related to ISTC projects and activities.

The **Outreach Program** explains the objectives and working methodology of ISTC including the disseminating of ISTC project results.

The **Partner Promotion Program** attracts initiates and develops projects between the private sector and institutes in Russia and other CIS member countries or Georgia.

The **Patenting Support Program** provides assistance and support for the appropriate protection of intellectual property created under ISTC regular projects for its effective exploitation.

The **Responsible Science Management Program** aims to increase awareness among scientists about the potential dual-use of research including the use of sensitive materials

The **Science Workshop and Seminar Program** promotes the integration of ISTC beneficiary institutions and scientists and engineers into the international S&T community through supporting various science events.