



KAZAKHSTAN

ICT ENVIRONMENT, INNOVATION POLICIES & INTERNATIONAL COOPERATION

EECA CLUSTER

This report is a compilation of information and data collected in the framework of the EECA cluster work. It is a part of three wider reports on EECA countries ICT priorities, Innovation Policies and Strategies and International Cooperation.

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EAST-HORIZON is a FP7 Project –Grant Agreement No 611063

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Kazakhstan

ICT Environment

1 Overview of the main trends in the National ICT Sector

1.1 Recent Trends in Macroeconomic and Market Developments

Kazakhstan is the world's 53rd largest economy by GDP and has a population of 17,736,896.¹ Kazakhstan is an upper-middle-income country with per capita GDP of nearly US\$13 thousand in 2013. Strong domestic demand, coupled with increased oil output and recovered crop production, boosted economic growth from 5% in 2012 to 6% in 2013. An expansion of credit was the key driver of growth in private consumption and investment activity in 2013. Prospects of additional oil output with Kashagan coming on stream should help boost economic activity in the coming years and increase Kazakhstan's vulnerability to external shocks unless the country succeeds in diversifying its endowments from natural resources to stronger institutions and higher quality human capital.

Income growth in the country had a positive impact on poverty indicators, with prosperity shared broadly. At the international poverty line, as measured by the PPP-corrected US\$2.5 a day per capita, poverty in Kazakhstan fell from 41 percent in 2001 to 4 percent in 2009. Kazakhstan's performance in the World Bank's indicator of shared prosperity also shows progress, with growth rate of consumption per capita of the bottom 40% of households of about 6%, while the average consumption growth for all households was about 5% during 2006–2010.

Trade policy will remain a central instrument to help the country integrate into the global economy, but Kazakhstan will face a complex trade policy environment in the medium-term. The economy is adjusting to the Eurasia Customs Union which it joined in 2010 and is pursuing an accelerated schedule of further integration into the Common Economic Space by 2015. Kazakhstan is also expected to join the World Trade Organization in the near future while its trade strategy lists several free trade agreements to be negotiated.

Looking forward, Kazakhstan's development objective of joining the rank of the top 30 most developed countries by 2050 will depend on its ability to move away from natural resource dependence toward more balanced growth, and to conduct social modernization to achieve more inclusive growth and faster improvement in social development outcomes. In the near to medium term, economic prospects depend on a continuation of stability-oriented macroeconomic policies that hinge on continued adherence to the rules-driven framework for resource earnings and sustainable financial sector development. Enhancing medium- to long-term development prospects depends on Kazakhstan's success in diversifying its endowments, namely, creating highly skilled human capital, improving the quality of physical capital, and, more importantly, strengthening institutional capital—all of the necessary ingredients for the development and expansion of the private sector in the country².

Comparable indicators of economic performance

¹ The World Factbook, <https://www.cia.gov/library/publications/the-world-factbook/>, 28.07.2014.

² Kazakhstan Overview, <http://www.worldbank.org/en/country/kazakhstan/overview>, 28.07.2014.



Indicator	National performance		Average 27 (28 Average)	
	2009	2013	2009	2013
GDP per capita in PPS (EU25=100)	51	65	100	100
Real GDP growth rate (% change previous year)	1.2	6	-4.5	0.1
Labour productivity per person employed (EU25=100)	98	102	100	100
Inflation rate (average annual)	6.2	4.8	1.0	1.5
Unit labour costs (growth rate)	12.8	10.5	3.3	0.6
Unemployment rate (as % of active population)	6,6	5,2	8.8	10.8
Foreign direct investment intensity	0.12	0.02		
Business investment as a percentage of GDP	30,4	22,7		
ICT Expenditure (% of GDP)	7.0	18.2		
Broadband Penetration Rate (% population with broadband access)	19,64 ¹	34,3 ¹		
Percent of organizations with Broadband access to Internet (%)	86,2	85,5		
Share of enterprises placing orders on Internet (%)	15	3,9 ²		
Share of enterprises having a website	7,6	5,8 ²		

Source: Agency of statistics of the Republic of Kazakhstan <http://www.stat.gov.kz>

(¹) http://www.economywatch.com/economic-statistics/economic-indicators/Internet_Penetration_Rate/

(²) figures for 2012

Recent Trends in ICT Performance

Traditional economy based on industry now transformed into a knowledge-based economy. Information technology became means to bring positive changes in the socio-economic conditions, and a tool for achieving the Millennium Development Goals (MDGs). Extensive research and practical work on the implementation and development of ICT is carried out in Kazakhstan at State level. Such transformations affect all economic sectors, including education. For the development and implementation of ICT there is a need for highly qualified personnel. To address this issue at the initiative of the President Nursultan Nazarbayev the International Information Technology University (IITU), the first in Kazakhstan, was opened in 2009. Design and development of training programs for ICT specialists is carried out in close association with leading IT-companies in Kazakhstan, such as National ICT Holding "Zerde" that help to determine the main training contents, list of specialties in demand in the ICT market, harmonize curricula with modern international standards in Information technology. IITU constantly updating and creating training programs, guided by researches and developments in the ICT area.

Almost all Universities have ICT faculties and ICT research institutions, there are also number of ICT companies, but Kazakhstan has just one dedicated university as International ICT University and Shareholding Company "Zerde" (<http://www.zerde.gov.kz/ru>).

Trends in the development of the sector determine the future of ICT education. It is assumed that the development will have 10 areas, which are defined as "IT-coups". The list is published in the proceedings of PC World edition. If we draw a gradation priority, then we obtain the following types of technologies: 1) development of "cloud" computing; 2) "man-machine" interface development (creation of artificial intelligence); 3) evolution of computing systems; 4) development and wide distribution of digital devices based on embedded speech, image and video recognition technology; 5) further development of functionalities of smart phones and gadgets that can recognize speech in different languages and instantly translate that was spoken (heard); 6) realization of high-tech production, organized without any human intervention, controlled robotics systems; 7) image recognition; 8) face recognition in the



flow using satellite systems; 9) development of wireless networks; 10) virtual reality, which will be truly a reality, because the end user will not notice the difference between their online and offline friends.

In Kazakhstan, ICT is a type of economic activity, which includes four areas of professional activity:

1. Information Technology (development and implementation of software, installation, support and service of ICT equipment);
2. Electronics, microprocessor technology (creation, production of microprocessor technology, support and service the electronic part of information and communication equipment, discrete and process manufacturing);
3. Automation, Robotics (creation of automation and robotization systems, their support and service in the discrete and process manufacturing);
4. Communication (provision of transmission, reception, processing and storage of information).

The ICT sector has become one of the most important components of economic development around the world. In 2010, world exports of ICT products accounted for 12% of the total volume of trade in goods in the world and in developing countries – up to 20%. In 2012 Kazakhstan ranked 49th out of 155 countries on the ICT development index. According to Global Information Technology Report 2013, Kazakhstan is ranked as 43rd out of 144 countries by the level of ICT development.

The United Nations ranked Kazakhstan as a leader in e-government participation, sharing the second place with Singapore. Instead of months dealing with many different offices, an entrepreneur can now online apply for a new business license and print within 15 minutes the complete licenses needed to get started. In the UN report³, Kazakhstan's focus on citizen inclusion is ranked with the other top countries South Korea, Netherlands and Singapore.

The Government of the country will transfer 100% of citizen relevant services into electronic format by 2014. In addition, mobile access has been a top priority. The architecture of the e-government portal and getaway will be modernized further in 2012–2014 and integrated services and applications of the e-government portal for Android and iOS are under development⁴.

According to the Networked Readiness Index Kazakhstan increased and basic ICT indicators are improved. Networked Readiness Index determines the level of information and communication technologies development, and consists of several indicators. In report on network readiness in 2014 included 148 countries. On the first place (as in the previous year) was Finland with the score 6.04. In second place Singapore (5.97), the third – Sweden (5.93). Kazakhstan ranked 38th with an index of 4.58, rising to 5 positions from previous year.

Telecommunications market in Kazakhstan is making dynamic progress, the competition in this segment is growing, as well as the demand for these services. The computer replaces the huge amount of labor, which in its time was spent huge amounts of money, but now these costs can be significantly reduced through the use of modern systems. The scope of these services includes traditional cellular services, fixed telephone line communications and access services to the Internet, services and means of postal and courier services and communications.

³ United Nations E-Government Survey 2012: E-Government for the People, <http://www.un.org/en/development/desa/publications/connecting-governments-to-citizens.html>, 28.07.2014.

⁴ Kazakhstan: 2nd place on UN E-government study, <http://ireport.cnn.com/docs/DOC-821755>, 28.07.2014.



Mobile communications is successfully developing in the market of Kazakhstan, the volumes of which are increasing each year. Great importance for the development of mobile cellular services is the introduction of 3G in the cities as Astana and Almaty and regional centers of republic.

Digitalization level of local telecommunications networks, according to operational data of the Agency on Statistics of the Republic of Kazakhstan for July 2011 is 93.2%, while in rural areas - 92.9%. Currently all promising and supplying with electricity rural settlements are provided with telephones. Development of rural telecommunications network using a wireless CDMA-450 technology allows deploying quickly telecommunications network in areas without telephones and meeting the demand for telecommunication services in rural areas.

Objectives and Targets of National ICT Policy

At the beginning of 2013, Kazakhstan adopted the State Programme "Information Kazakhstan – 2020". This program is a new look at the role and place of ICT in modern development of Kazakhstan. As emphasized in this document, "in the period of implementation of the Strategic Plan – 2020 there will be accelerated diversification of the economy through accelerated industrialization", which aims at a comprehensive performance improvement of the economy, in such areas as oil and gas, mining, nuclear, chemical and other. Such sectors of the economy as engineering, mechanical engineering, defence industry, pharmaceuticals, agriculture, light industry and tourism have to be developed. Close attention is given to the strategic plan to the development of the sector "economy of the future", which will play a dominant role in the world economy in the next 15–20 years: ICT, biotechnology, alternative energy.



The essence and the structure of the ICT market sphere of Kazakhstan is "creating a competitive domestic ICT market through the development of info communication and innovation infrastructure and research activities". ICT covers all sectors of the economy and activities of the state and it is designed to stimulate the ICT market, to ensure the effectiveness of the public administration, availability of information and communication infrastructure, creating an information environment for socio-economic and cultural development of society.

Great attention was paid to the development of ICT infrastructure of industrial enterprises, robotization of all production processes with a high level of risk to human health and life, introduction of the automated control systems and internal processes of the industrial enterprises, the development of innovation activity industrial enterprises by working closely with domestic research organizations and higher educational institutions. Taking into account global trends the attention is paid to encouraging industrial enterprises to adopt energy-and resource-saving "green" ICT in the production process through the use of support tools under the Law of the Republic of Kazakhstan "On state support of industrial innovation" and improvement of tax and land legislation.

ICT increasingly involved in education. The development of e-learning is becoming part of state policy. Organizational basis for the realization of the state policy of the Republic of Kazakhstan in the field of education is the State Program of Education Development of the Republic of Kazakhstan for 2011-2020, providing continued modernization of Kazakhstan's education. Normative legal basis of e-learning developed on the basis of international standards and technical regulations of e-learning operation.

Realization of the "e-learning" project is implemented in two stages. At the first stage more than 50% of educational institutions will receive access to broadband Internet (4-10 MB/s), have a local area network (free access to educational content) Wi-Fi, Wi-Max, be provided digital libraries, not more 10 students for 1 PC. At the second stage the Internet will be available for more than 90% of educational institutions, have free access to educational content, no more than 1 students for 1 PC.

In 2015, it is planned to cover 50% and by 2020 90% of education institutions using e-learning at all levels of training. Pre-school education will use computer programs, computer educational games in



high school - electronic textbooks electronic manuals, colleges and professional lyceums will use virtual simulators, and universities - electronic research laboratories.

Priorities on setting of unified educational environment are determined in the concept of e-learning system for 2010-2015. In particular, there is a need to "form a common basis of information and scientific and methodological support of education and industry to create an information system for efficient management of objects and processes of education". Mobile communication is successfully developing in the market of Kazakhstan, volumes of which are increasing each year. The share of this type of communication of the total income for 2011 amounted to 50.6%.

Corporate fund "Infocommunication Development Fund" was founded in July 2012 under the auspices of the Ministry of Transport & Communication of the Republic of Kazakhstan, the National Infocommunication Holding "Zerde" with the support by largest telecom providers in Kazakhstan: "KazakhTelecom" JSC, "KCELL" JSC and "Kar-Tel" LLP operating under "Beeline" trademark. The Fund is a non-commercial, non-governmental and non-political fund. The purpose of the fund is to provide Kazakhstan's IT industry development by raising the level of local research, corporate R&D, implementation of measures and instruments for commercialization of innovation ideas and venture fundings. The main objectives of the fund are financial supporting of startup projects, acceleration of IT startups, development local competency and support for strategic R&D projects. ICT Development Fund also organizes annual conference-exhibition "Astana Smart Technology Exhibition" (ASTEX) for the development of local IT industry. ASTEX is the main IT conference in Kazakhstan held under the auspices of well-known Astana Economic Forum. ASTEX exhibition is major platform for development of international cooperation providing showcase of national and global IT companies.

Annex 1: Overview of ICT Policy Documents

Main policy documents concerning ICT policy adopted/published since 2010-2011

Title of document	Date	Organisation responsible	Legal Status
On creating special economic zone "Park of Innovation Technologies"	2011	Ministry of transport and communications (MTC of RK)	Government Decree № 193
Program for Information and Communication Technology Development in the Republic of Kazakhstan, 2010 - 2014.	September 29, 2010	Ministry of Communications and Information	Government Decree № 983
State Programme "Information Kazakhstan - 2020".	January 8 2013	Ministry of Transport and Communications	Government Decree № 464

Annex 2: Overview of ICT Policy Measures

IPM Number	Title of measure	Overview
1	Program for Information and Communication Technology Development in the Republic of Kazakhstan, 2010 - 2014.	All promising rural settlements supplied with electricity have been telephoned; It was provided shared access to the Internet with a connection speed of at least 256 kbit /s in settlements with a population of 3,000 or more; To implement the standard third-generation cellular 3G (UMTS 2100

IPM Number	Title of measure	Overview
	Modernization and development of info-communications infrastructure.	MHz) MTC of RK issued permission for using of radio spectrum to cellular operators LLP «GSM Kazakhstan OJSC Kazakhtelecom», "Kar-Tel". Cellular operators put into operation 3G network in Almaty, Astana and in regional centers.
2	Program for Information and Communication Technology Development in the Republic of Kazakhstan, 2010 - 2014. Development of digital broadcasting	«Launch of on-air digital broadcasting in the territory of the Republic of Kazakhstan» Since 2011 on-air digital broadcasting is performed in a test mode in Karaganda, next it was implemented in Astana and Almaty.
3	Program for Information and Communication Technology Development in the Republic of Kazakhstan, 2010 - 2014. Development of electronic services and e-government	Operation of the following information systems are provided: -the application software Payment gateway of "electronic government"; Certifying Center for Unified electronic document management system; - support public key infrastructure of National Certification Authority of the Republic of Kazakhstan and registration centres; - the application software Information System "Address Register"; - unified electronic document management system of state bodies; - Intranet portal of public bodies; - national database "E-licensing"; - State Register of electronic information resources and information systems; - depositary of program codes and technical standards; - Integrated Information System Automated Information System "accounting system authorization documents".

1.2 Recent National Policy Trends

The state is one of the largest customers in the industry recent years. However, IT-companies regularly have difficulties in dealing with this major customer, which, in their opinion, are also becoming one of the factors that hinder the development of the market. In particular, some market participants point imperfection of mechanisms for public procurement in terms of long-term contracts and restrictions on purchasing through clearly defined product parameters (in the project documents, feasibility studies, etc.). There are also difficulties in dealings with other customers of the Kazakh corporate sector. For example, IT-companies often complain about the conservatism of domestic enterprises, the fear to introduce advanced technology. The problem of certain unavailable state of Kazakh managers to consider new solutions even decreases in recent years, but still has a negative pressure on the growth of the industry. Some market participants also noted the lack of interest of Kazakhstan companies buying domestic developments, which is sometimes a consequence of the low competitiveness of domestic enterprises, and sometimes certain prejudices. The solution to this problem lies primarily in support of the state.

But one should not speak about the lack of attention from the state to the development of this important sector of the economy. Last year the state program "Information Kazakhstan-2020" was approved, which includes a phased plan for the adoption of ICT in various sectors. The program will



stimulate the growth of the IT-sector through increase in demand; provide a 100-percent availability of information and communication infrastructure in the households, the development of electronic media, e-commerce development of informatization in health and education, e-government services, etc. In addition, the establishment of research centres, IT-parks to create a base for the development and implementation of modern ICT are also foreseen. In 2014, the dynamics of the market is likely to remain subdued. On the one hand, the market will be encouraged in such major factors as the implementation of the program "Information Kazakhstan-2020" and various programs to support business development of Astana, preparation for EXPO-2017, etc. On the other hand, the complexity of the economy (forecast of real GDP growth in Kazakhstan in 2014 is expected at the same level - 6%), held devaluation (most corporate IT costs were budgeted in tenge and few plans to enlarge them), factors will limit investment business in IT. In IDC, the expected market growth is about 2% in 2014.

Lessons from the Evaluation of ICT Policy Measures

Economic growth in Kazakhstan allows to direct part of the budget funds to the development of promising high-tech industries and the training of specialists for these industries. At the same time, taking into account international experience, priority should be given not only the creation of production themselves, but the development of the prerequisites for the emergence of an increasing number of enterprises involved in the development of new, high-tech products, especially popular in the world market. This involves providing a mass training of engineering and scientific personnel, not focused on the operation but the development of technical facilities.

Major deterrent of automation growth of economy in Kazakhstan is the lack of qualified IT-specialists. One of the solutions in this situation is to attract foreign companies. But the attraction of foreign companies are also not always helpful in solving the problem of automation, because of the large differences in our mentality and characteristics of western economic and political system, some places still retain a Soviet order.

For the future of the sector and as a whole for the state, it is important that the national IT-projects made by domestic companies and it is not only a matter of safety and prestige, it is a unique opportunity to grow a large number of highly qualified specialists with experience in creating large-scale information systems. These experts would later become the basis for sector – one of the most important sectors of the future, determining the position and status of our Republic in the world.

It is suggested the following ways to improve the development of this sector:

1. Increasing of practical training of the population
2. Development of intellectual potential of the younger generation, ability to extract knowledge independently in conditions of active use of modern technologies of information interaction.
3. Support for domestic IT companies in entering the foreign market.
4. Study of the development and marketing strategies from the leading manufacturers of computer technology in the world and their implementation in Kazakhstan market.



Review of Good Practice - Summary of good practice cases in Kazakhstan

Year	Title of good practice case	Justification for selection
2009	Establishment of the International University Information Technology (IITU)	<p>The International IT University forms a new generation of professionals with specialized knowledge not only in technology but also in advanced management, economics, communication, with extended knowledge of English. Standing high on the IITU agenda is the development of outstanding personal qualities, leadership skills and creative abilities of students.</p> <p>The International IT University has a highly qualified teaching staff fostering free scientific inquiry, fully realizing their intellectual potential in the field of information technologies.</p> <p>In 2011 the International IT University opened the Research Laboratory for conducting research in the areas of open-source cloud computing and open systems.</p>
2012	Establishment of ICT Development Fund	<p>The Fund activity contributes IT industry development by raising the level of local Research, corporate R&D, implementation of measures and instruments for commercialization of innovation ideas and venture fundings. The main objectives of the fund are financial supporting of startup projects, acceleration of IT startups, development local competency and support for strategic R&D projects. ICT Development Fund also organizes annual conference-exhibition "Astana Smart Technology Exhibition" (ASTEX) for the development of local IT industry. ASTEX is the main IT conference in Kazakhstan held under the auspices of well-known Astana Economic Forum. ASTEX exhibition is major platform for development of international cooperation providing showcase of national and global IT companies.</p>



Updated National ICT R&D priorities towards H2020

Topics-areas
ICT in 'Excellent science'
Research infrastructures
Development, deployment and operation of ICT-based e-infrastructures
ICT in 'Leadership in Enabling and Industrial Technologies'
A new generation of components and systems
Smart Cyber-Physical Systems
Advanced Computing
Customized and low power computing
Future Internet
Smart optical and wireless network technologies
Advanced Cloud Infrastructures and Services
Tools and Methods for Software Development
Content technologies and information management
Technologies for better human learning and teaching
ICT Cross-Cutting Activities
Cyber security, Trustworthy ICT
ICT in 'Societal challenges'
SC6: Europe in a changing world – Innovative, inclusive and reflective societies
ICT-enabled open government
Innovative mobile e-government applications by SMEs



Innovation Policy

National innovation system and innovation governance

Since about 2004, following the instructions by President Nursultan Nazarbayev in his annual State of the Nation addresses three plans and strategies of the government of Kazakhstan are oriented towards building and strengthening the national innovation system. The roles of science, research, technological development and innovation (RTDI) are especially highlighted in the priorities of Kazakhstan's economic and social development policies (President Nursultan Nazarbayev: 2010 State of the Nation address: "A New Decade - A New Economic Growth, and New Opportunities for Kazakhstan". 29 January 2010). Social and economic modernization has been identified as the main vector of the development of the country. In his 2012 State of the Nation address, President Nazarbayev noted: "By 2015, the National Innovation System will be fully operational, and by 2020 it should already yield results in the form of developments, patents, and ready technologies to be introduced in the country". The highest political level shows great ambition and stimulates systematic effort to build the concept and legal framework and provide the necessary resources for these developments.

The transition to a knowledge economy requires the formation of a coherent system in the country, effectively transforming new knowledge into new technologies, products and services. Such must appear in the republic formed National Innovation System (NIS).

According to the Strategic Plan for the Development of Kazakhstan till 2020 one of the priority directions of economic development is the transition from extensive, the development of raw materials to industrial innovation. This transition is impossible without the development of the national innovation system.

Directions of the national innovation system (NIS) development

NIS is a system of interconnected institutions to create, store, transfer of knowledge and technology, having an internal structure established by the state to influence the innovation process. NIS also can be defined as a set of interconnected organizations (structures) involved in the production and commercialization of science and technology within national borders. At the same time, NIS - a set of institutions, legal, financial and social problems, providing innovative processes and having strong national roots, traditions, political and cultural characteristics.

Summarizing these definitions, we can say that NIS is the institutional framework of innovative development of the national economy, in which the necessary conditions for effective scientific, technical and innovation activity in the country.

In the process of formation and development of the NIC it is necessary to develop and implement an innovative industrial policy, including a system of measures for selective support of strategic sectors of the national economy of Kazakhstan, providing economic growth, structural changes in the economy, including innovation sphere.

Assessment of the national innovation system



NIS at the state level is influenced by the set of objective factors for a given country. These factors can serve as the country's size, the availability of natural and labor resources annum, the historical development of the state and its economic system.

In the 90th of the twentieth century research in strategically important areas of scientific and technological development of Kazakhstan sharply declined, the declining prestige of the scientist and scientific relevance of the results, reduced innovation activity of enterprises, the outflow of overseas experts and intellectual property, which led to a weakening of the scientific and technological potential degradation of high-tech industries.

Today in Kazakhstan most of innovative research is publicly funded. In 2008 the share of the republican and local budgets amounted to more than 43% of the domestic expenditure on research and development. For comparison, the share of public funding in the U.S. is just over 27%, Japan - 15.6%. The main source of funding for these countries serves the private sector.

Development and access to technology is an essential component of the innovation capabilities of an economy. However, R&D spending is low in Kazakhstan, in both absolute and relative terms. Intramural expenditures on R&D amounted to only 0.16% of GDP in 2010, well below that of other large countries in the region (1.2% in Russia, and 1.1% in Ukraine). However, the country has ambitious plans to increase its capabilities in this area, through further reforms of the research sector, increased budgetary allocations and the involvement of state-owned enterprises.

Industrial enterprises of Kazakhstan do not tend to engage in research and develop new products independently, are not inclined to invest in the purchase of products of innovative products. Low rates of even those companies that are engaged in the modernization of production. According to statistics, the level of innovation activity of enterprises in Kazakhstan in recent years hovers around 3-4%, which is significantly lower than in the EU.

The very question of the extent and effectiveness of public spending, opportunities rationalization of the selection process of public projects in the sphere of innovation is relevant. On the one hand, the state provides legal regulation of relations between the various elements of NIS. However, the experience of many countries shows the weakness of the state in the selection of priorities, funding costly government programs that either do not provide the anticipated results or produce results, which subsequently rejects the economy and society (production of genetically modified foods, cloning, etc.). To this is added the traditional shortcomings of the implementation of government programs related to financial irregularities and abuses, direct corruption.

A weak entrepreneurial culture (with the exception of the agricultural sector and a tradition of small family-owned business), is one of the challenges faced to create a dynamic innovation system in Kazakhstan, which is common not only in transition economies but also in many developed European countries.

In order to address this weakness, there are a number of possible areas of intervention:

- Establishment of an innovative culture. This would require massive investment in education, from primary and secondary schools to classes in entrepreneurship at universities and other tertiary education institutes. It would also require media attention on entrepreneurship, and high-profile national competitions, possibly including President Awards for Entrepreneurship;



- Support for «start-up» entrepreneurs by making provision for services and finance; development of the SME sector is essential for innovation to flourish;
- Encouraging competition by «spinning out» service components of large enterprises in the oil and gas and mining sectors in order to establish separate, more specialized units.

Kazakhstan has put a growing emphasis on the promotion of innovation as a driver of economic development and diversification. These initiatives have targeted the improvement of some components of the National Innovation System (NIS), in particular, the creation of public innovation-support institutions. Increasingly, other policy targets have received attention, including improvement in performance by firms, regional aspects or the demand for innovation. However, despite the awareness expressed in some policy documents, public interventions have been focused mainly on the institutional build-up, while issues regarding linkages and the connectivity between various components of the NIS are still relatively neglected. The new Law on State Support to Industrial Innovative Activity, adopted in early 2012, opens new policy possibilities and reflects an increased understanding of the need to encourage the demand for innovation. However, the effectiveness of public intervention is also often limited by the underdevelopment of innovation services and market infrastructure. There is a need to develop further the systemic view of the NIS emphasizing linkages and going beyond the primary focus on technological forms of innovation.

Framework conditions, innovation policies and instruments

Following the instructions by the President, laws and programmes are developed by the responsible ministries, agreed by the two chambers of the parliament – Senate and Mazhilis – and signed by the Prime Minister. The programmes are implemented by the responsible ministries or by the authorised agencies.

Regarding RTDI, a whole set of relevant laws, strategic plans and programmes have been launched especially in the last decade within the overarching frame of the Development Strategy of Kazakhstan until 2030 (“Kazakhstan 2030”)¹¹ which was adopted in 1997 already. That provides a sound legal framework supporting the development of RTDI in Kazakhstan, with the following documents as the most important ones:

- Strategic Plan for Development of Kazakhstan up to 2020;
- State Programme of Accelerated Industrial and Innovative Development of the Republic of Kazakhstan for 2010-2014 (SPAIID);
- State Programme for the Development of Innovation and Promotion of Technological Modernization of Kazakhstan for 2010-2014;
- Inter-sectoral Plan for Scientific-Technological Development of Kazakhstan until 2020;
- State Programme of Education Development in the Republic of Kazakhstan 2011-2020;
- Law of the Republic of Kazakhstan “On Science” (2011);
- Law of the Republic of Kazakhstan “On State Support of Industrial and Innovative Activity” (2012).

In the programmes SPAIID, on education development and the development of innovation and promotion of technological modernisation critical analyses of the present state of RTDI in the business and higher education sector are provided a starting points for the plans towards 2020. In those programmes, also indicative action plans are given for the implementation. In the President’s instructions and, accordingly, in the in the different policy documents highly ambitious



objectives, goals and periods for realization are defined for the Kazakhstan RTDI policies. Examples of such goals are:

- Raising the spending for R&D from 0.16% of GDP in 2010 to 1% in 2015 and 1.5% in 2020;
- Developing the number of Kazakhstan universities listed in the ratings of the world's best universities to one by 2015 and two by 2020;
- Increasing the share of innovative companies from 4.3% in 2010 to 20% by 2020.

There is a strong political commitment to implement the measures aimed at the creation of an innovation-based economy and a national innovation system in Kazakhstan. The vision of innovation development until 2030 is the basis for the transition of Kazakhstan from the model driven by the state to a stable system driven mainly by the private sector.

According to the Government Planning System, strategic planning is coordinated by the Ministry of Economic Development and Trade (MEDT) supported by the Economic Research Institute (ERI) that provides also economic forecasts for the government. For RTDI, the Ministry of Education and Science (MES) and the Ministry of Industry and new Technologies (MINT) are the main actors.

The Ministry of Finance (MF) fulfils its tasks mainly by collecting the data related to the budget and transferring public funds to the ministries.

The Law "On Science" of February 2011 replaced previous laws and provides now the basis for the future of science in Kazakhstan and the legal basis for research institutions, higher education institutions and research universities and defines the competences of the MES, the Highest Science and Technology Committee (HSTC), and the National Research Councils.

MES is responsible for the coordination of scientific and technical programmes and projects in basic and applied research, research and higher education organisations and their accreditation, and also for human resources in research and higher education including the appointment of heads of publicly funded research institutions.

The Ministry of Industry and New Technologies (MINT) participates in the development of science and technology policies and programmes. MINT has the central executive role in industrial research, technological development and innovation in the frame of the State Programme for the Development of Innovation and Promotion of Technological Modernization of Kazakhstan for 2010-2014 and plays the major role in the implementation of the State Programme of Accelerated Industrial and Innovative Development of the Republic of Kazakhstan for 2010-2014 (SPAIID).

The new law defines the competences of the authorized bodies and provides a comprehensive frame for the development and implementation of policies and programmes in the area of state support for industrial innovation including the roles of the Council for Technology Policy (CTP) as well as the national institutions involved in the implementation such as e.g. the National Agency for Technological Development.

The Council for Technology Policy (CTP) determines the orientation of Kazakhstan's innovation policy and decides on the technology programmes.

The National Agency for Technological Development (NATD) is in charge of a broad range of activities including technological foresight, analytical, advisory and information services in the field of innovation, investment in industrial and innovative projects, participating in the creation



of innovation infrastructures, cooperation with international organizations, mechanisms for state support for business incubation and technology transfer, strengthening human resources, services related to the provision of innovative grants, and support for the development of risk investments funds.

The law defines the tools for the industrial innovation system including the process of technological forecasting exercises that aim at identifying priority technology area and envisages that these initiatives should take place at least once every three years. The aim is to identify critical technological needs, support the design and implementation of state plans and provide criteria for granting financial support.

Innovation policy plays an important role in Kazakhstan's economic strategy. There is a clearly stated policy objective to move from an extraction-based to a knowledge-based economy, using earnings from the oil, gas and mineral sector to facilitate diversification and modernization.

Innovation initiatives receive strong political support. Large state companies have been instructed by the highest level of government to report on their activities in this area. District governors likewise must also report on progress made in innovation activities at the regional level. This requirement reflects increased interest in the creation of Regional Innovation Systems, complementing the emphasis on sector-based innovation.

The main programmatic document is the State Programme for Accelerated Industrial Innovative Development (SPAIID) 2010-2014, part of the Development Strategy 2020 that was approved in 2010 and covers the period 2010-2020. In addition to the SPAIID, the Development Strategy 2020 includes a Health Programme, Education Programme, Language Programme and others. SPAIID has 13 sectoral programmes and ten functional programmes. It builds on earlier measures and includes regional development plans and sector plans.

Governments have an important role in fostering innovation. Innovation, like all economic activity, is contingent on a number of conditions that interact with the different elements of the NIS. Government of the Republic of Kazakhstan realizes the importance of ICT development and works in this direction by increasing State support and improving information and communication technologies. Thus, in the strategic document "Kazakhstan – 2050", as well as in the SPAIID, sector of information and communication technologies is called "the future economy of Kazakhstan" and according to the Government plan it will take a leading position in the global market within a 20-year period.

At the same time the State program "Informational Kazakhstan – 2020" has been approved by the Decree of the President of the Republic of Kazakhstan no. 922 dated February 1, 2010 "On the Strategic Plan for the Development of the Republic of Kazakhstan until the year 2020", as part of the support and improvement of the ICT sector. To date this is the key strategic document which contains a phased plan for the ICT implementation in all sectors of the national economy which will improve the quality of public administration system, provide a sound informational and communication infrastructure, and improve the socio-economic informational environment.

The key measures of promotion and support of ICT in this program are:

- Development of a new public administration system by means of strengthening informational support and information accessibility of government agencies;

- To ensure productive and efficient work of government agencies people in Kazakhstan will be able to receive services through their mobile devices;
- Active development of “electronic governments”;
- Establishment of research and development centers and IT-parks to create a solid base for development and implementation of modern ICT;
- Implementation of the educational network that will be able to accumulate all the educational institutions in a single network;
- Creation of new media channels predominantly in the official language;
- 100-% territorial coverage of Kazakhstan by digital television.

A major challenge for innovation policies in Kazakhstan is the weak domestic demand for innovation, which reflects the structural characteristics of the economy and the dominance of extractive industries. A relatively low degree of competition and the specialization in traditional sectors which are subject to low rates of technological change helps to explain the lack of interest of many companies in innovation.

Besides, most innovations in Kazakhstan are in machinery and other business-to-business markets while innovation in consumer products is relatively low, given the lack of sophistication of consumer demand, the limited size of the market and the reliance on imports.

This low demand is compounded by the mismatch with domestic capabilities, which are often unable to attend the needs of the export-oriented, resource-based sector. The most dynamic sectors often cover their technological needs abroad, as the underdeveloped domestic research sector is unable to meet their requirements.

Annex 3: Overview of Innovation Policy Documents

Title of document	Date	Organisation responsible	Legal status
State Program of Accelerated Industrial and Innovative Development of the Republic of Kazakhstan, 2010–2014 (SP AIID)	March 19, 2010	Ministry of Trade and Economic Development of the Republic of Kazakhstan, Ministry of Industry and Innovative Technologies of the Republic of Kazakhstan	Decree of the President of the Republic of Kazakhstan dated March 19, 2010 no. 958
Program for Information and Communication Technology Development in the Republic of Kazakhstan, 2010 – 2014 (SP ICTD)	September 29, 2010	Ministry of Transport and Communications	Decree of the Government of Kazakhstan no 983 dated 29 th September 2010

Annex 4: Overview of Innovation Policies

Policy Measure Fiche: overview

IP Number	Title of measure	Overview
1	State Program of Accelerated Industrial and Innovative Development of the Republic of Kazakhstan, 2010–2014 (SP AIID)	The purpose of the Program is to guarantee stable and well-balanced economic growth by means of diversification and improvement of its competitive ability. The Program is a logical continuation of conducted policy on diversification of economy and it contains the main provisions of the Industrial-innovation Development Strategy for 2003-2015, the Program «30 corporate leaders of Kazakhstan» and other

		program documents in the sphere of industrialization.
2	Program for Information and Communication Technology Development in the Republic of Kazakhstan, 2010 – 2014	It is a part of the State Program of Accelerated Industrial and Innovative Development of the Republic of Kazakhstan for the period 2010–2014. The major objective of the ICT development program is to aid the Republic’s transformation into an Information Society and establish an innovation-based economy, as well as to build up the competitiveness and export potential of the national ICT sector. The program covers seven major areas: modernization and development of the ICT infrastructure; development of Kazakhstan's Internet domain and content; development of e-services and e-Government; growth of software development and IT services sector; development of digital TV broadcasting; development of manufacturing the high-technology equipment and development of ICT education.
3	The State Program “Information Kazakhstan – 2020”	The State Program “Information Kazakhstan – 2020” was approved by the President on January 8, 2013. The main purpose of the Program is creation of conditions for transition to the information society. The key objectives of the Program are: <ul style="list-style-type: none"> • Ensuring efficiency of the state administration system • Ensuring accessibility of information and communication infrastructure • Establishment of information environment necessary for social, economic and cultural development of society • Development of the national information space

International Cooperation

International cooperation in research, science and technology is regulated by the Law of Kazakhstan “On Science” chapter 7, article 29. The cooperation is based on international agreements and contracts. There are more than 140 agreements and contracts with different countries on research cooperation. It is necessary to note that any international grant in Kazakhstan is free from any local taxes and duties, with the exception of individual incomes in accordance to the Tax Code of Kazakhstan. International research projects in Kazakhstan are free from any taxation in accordance to the Tax Code of the Republic of Kazakhstan (RK). There are no duties on the import of scientific equipment in accordance with the Tax Law of the RK.

The new Law on Science foresees participation of foreign researchers in national calls for proposals. Participation of scientists in different activities of the Kazakh research mainly includes scientists from EECA. Scientists from other foreign countries participate in the projects based on bilateral and multilateral agreements.

Strategic and legal framework creation.

Kazakhstan for the last few years adopted a set of governmental programs, such as the State program on Accelerated Industrial-Innovative Development (SPAIID) until 2014.

1. State Programme on ICT Development in Kazakhstan for the period 2010-2014
2. State Programme “Informational Kazakhstan - 2020” adopted by the Decree of the President of Kazakhstan no. 464 on 8 January 2013
3. Concept of Kazakhstan to join 30 most developed countries in the world approved by the Decree of the President of the Republic of Kazakhstan no. 732 dated January 17, 2014
4. Development of institutional basis for ICT development. There are number of institutions aimed to develop and regulate the ICT improvement in Kazakhstan, such as National Infocommunicational Holding Zerde, JSC Kazakhtelecom, and International IT University. At the same time list of most advanced CT companies of Kazakhstan includes 11 large companies, such as (Logycom, NAT Kazakhstan, Asia-Soft, Borlas-Kazakhstan, Parma-telecom, Innoforce CA, Real Soft, Arta Software, KAZNET Media, Prognoz Kazakhstan, Newinttech)
5. Development of Infrastructure. In order to create the friendly environment for ICT technologies development the Government of Kazakhstan supports a national infrastructure projects such as ICT Laboratories in the Special Economic Zone Park of Innovation Technologies, International IT University, and Nazarbayev University.
6. International collaboration in the field of ICT with countries, which have competences in ICT development, such as EU countries, USA, Malaysia, Korea, Russia and others.



Table 1: Overview of bilateral Kazakhstan - EECA agreements

Title of document	Date	Country/Organisation	Scope of cooperation
Agreement on scientific cooperation	2012	Azerbaijan – Kazakhstan/ Institute of Philosophy, Sociology and Law (ANAS) - Institute of legislation of the Republic of Kazakhstan	Agreement on scientific cooperation
Memorandum on cooperation	2012	Azerbaijan – Kazakhstan/ Institute of Chemical Problems - Caspian State University of Technologies and Engineering	Memorandum on cooperation
Agreement on cooperation	2011	Azerbaijan – Kazakhstan/ Institute of Architecture and Art - Kazakh National Academy of Arts named after T.Zhurgenov	Agreement on cooperation
Memorandum on cooperation	2011	Azerbaijan – Kazakhstan Institute for Petroleum Chemical Processes of ANAS - D.V. Sokolovsky Institute of Organic Catalysis and Electrochemistry	Memorandum on cooperation
Memorandum of cooperation in ICT	March 4, 2013	Belarus - Kazakhstan	Memorandum
Belarus-Kazakhstan Commission on Cooperation in the field of Science and Technology		Belarus - Kazakhstan	Commission on Cooperation
Agreement between the Government of the Republic of Belarus and the Government of the Republic of Kazakhstan on Cooperation in the field of Science and Technology	May 3, 1999	Belarus - Kazakhstan / Governments	Agreement on Cooperation in the field of Science and Technology
Agreement on cooperation in the field of information, information technology between the Government of the Republic of Kazakhstan and the Government of the Republic of Moldova	December 30, 2009	Moldova – Kazakhstan/ Governments	Agreement on cooperation in the field of information, information technology
Principles and criteria for bilateral coordination of terrestrial TV broadcasting in the frequency band 470-862 MHz	October 13, 2009	Russia – Kazakhstan/ Administrations of both countries	Bilateral coordination



Agreement on cooperation on education and science	September 14, 2010	Ukraine - Kazakhstan	Agreement on cooperation
Agreement between the Government of Ukraine and the Government of Republic of Kazakhstan on Cooperation in the Fields of Science and Technology	1995	Ukraine - Kazakhstan/ Governments	Agreement on Cooperation in the Fields of Science and Technology

ICT policies and programmes facilitating co-operation with the EU

The European Union and Kazakhstan have been partners since the country's independence, sharing a dialogue which has continually expanded. In the early years of cooperation this dialogue initially focused on trade and investment, but since 2002 many important issues have been included, such as Energy, Transport, as well as Justice, Home Affairs and political dialogue in issues of common concern.

The main document, underpinning the EU partnership with Kazakhstan, is the Partnership and Cooperation Agreement (PCA), which was signed in 1995 and came into force in 1999.

At the regional level, Kazakhstan is a priority country within the European Union and Central Asia: Strategy for a New Partnership. In June 2012, the European Council and the European Commission published their Joint Progress Report on the implementation of the EU Central Asia Strategy.

The launch of the negotiations for a new enhanced agreement between the EU and Kazakhstan took place on 27 June 2011 in Brussels.

The start of these negotiations for an enhanced agreement is an important milestone to further advance relations and strengthen the EU and its Member States' cooperation with Kazakhstan.

Still Kazakhstan has neither bi- nor multilateral or joint calls for proposals or tenders launched together with the EU with the exception of joint calls with INTAS launched in 1996 and 1997. These valuable opportunities for the Kazakh researchers are currently under Governmental the consideration.

Kazakhstan has concluded bilateral cooperation agreements with Bulgaria, Germany, Greece, France, Poland, Spain, Turkey, and the UK. All of these agreements allow for joint research, exchange of students and teachers, creation of equal conditions for students and tutors, as well as the joint participation within the EU Framework Programmes, and activities included into DCI, LLL, and ENP instruments.

Within this group of countries Kazakhstan traditionally cooperates closely with Germany. Based on the bilateral agreement between the countries, institutions of Kazakhstan participate in activities of the GTZ, the BBZ, and the DAAD.



Since its independence, Kazakhstan has established a close cooperation with the UK, especially in the field of RTD. About 45% of the projects funded by the EU-FPs are coordinated by the UK institutions.

Development Cooperation Instrument (DCI) was a Programme supported by the EU Delegation in Kazakhstan and well known within the country thanks to its previous activity under TACIS projects. The DCI projects are mainly for social and political issues, and thus do not include special parts for research and scientific tasks, but they do include some research area. At the DCI Workshop organized by the InExCB-KZ under INCONET-EECA on 25-26 March, 2010 in Almaty, it was decided to allow research institutions to participate in DCI projects. The last DCI calls show that there is still no specific research activity. (White Paper on opportunities and Challenges in view of enhancing the EU cooperation with Eastern Europe, Central Asia, and South Caucasus in Science, Research, and Innovation).

There is needed to point that for the moment Kazakhstan in accordance to its fast industrial development left the DCI family and now in the stage of joining the industrially developed Countries (IC+) Instrument of the EU.

The Government of the Republic of Kazakhstan in 2011 signed an Agreement with the European Organization for Economic Cooperation and Development (OECD) on a project to attract foreign direct investment and to strengthen the competitiveness of Information and Communication Technologies in Kazakhstan. It was implemented The Program «Business - Communication» under the agreement and created working group for the development of human capital for the IT industry in Kazakhstan. The focus of the working group was greater use of international best practices, training and certification of employees of IT industry, the transfer of knowledge and technology, exchange of experience. The Program «Business - Communication» worked well in the EU, stimulating strategic mutually beneficial partnership. In Kazakhstan well-known vendors such as SAP, Microsoft, Fujitsu, etc. joined the program. The program «Business - communication» created database of information about the IT industry in Kazakhstan in English for foreign partners.

There are also two Memorandums of Understanding, establishing the basis for extended cooperation:

- Memorandum of Understanding on Co-operation in the Field of Energy between the European Union and Kazakhstan signed on 4 December, 2006, Brussels.
- Memorandum of Understanding in the Field of Transport Networks Development between the European Commission and Ministry of Transport and Communications of the Republic of Kazakhstan signed on 12 June 2009, Almaty.

At the regional level, Kazakhstan is a priority country within the European Union and Central Asia: Strategy for a New Partnership. In June 2012, the European Council and the European Commission published their Joint Progress Report on the implementation of the EU Central Asia Strategy. (http://eeas.europa.eu/central_asia/docs/20120628_progress_report_en.pdf)

Regionally, the political framework for EU-Kazakhstan relations is provided by the EU and Central Asia: Strategy for a New Partnership, signed by the European Council in June 2007.



The strategy strengthens relations in all areas of cooperation, through the reinforcement of EU-Central Asia political dialogue with regular meetings between EU and Central Asian Foreign Ministers, through the reinforcement of dialogue on human rights, through cooperation in the areas of education, rule of law, energy and transport, environment and water, common threats and challenges (including border management and combating drug trafficking), and trade and economic relations. The strategy is supported through a significant increase in EU assistance. The EU and Central Asian countries have since confirmed their commitment to the strategy, and strategy implementation is well under way.

Since April 2014 by the decision of the Government of Kazakhstan InExCB-Kz is appointed as hosting institution for all Horizon 2020 NCPs in Kazakhstan, and supported by the governmental budget through the Ministry of Industry and New Technologies and its operational body, National Agency for the Technology Development. InExCB-Kz as hosting institution for Horizon 2020 NCP-KZ includes the following NCPs:

1. National NCP Coordinator, which in line with general NCP coordination activities is responsible also for Inclusive, innovative and reflective societies, Legal and Financial aspects, SMEs, Spreading excellence and widening participation, and Science with and for Society;
2. Health, demographic change and wellbeing NCP, which is responsible also for Information and Communication Technologies (ICT), Future and Emerging Technologies, and Security;
3. Climate action, resource efficiency and raw materials NCP, which also responsible for Food security, sustainable agriculture, marine and maritime research and the bio-economy & Biotechnology, Nanotechnologies, advanced materials and advanced manufacturing and processing, and Smart, green and integrated transport;
4. Secure, clean and efficient energy NCP, which also responsible for Space, Euratom, and Marie Skłodowska-Curie actions on skills, training and career development.

By creation of national NCP system for the EU Framework Programme Kazakhstan demonstrates its openness to the EU initiatives and cooperation activities. Moreover, this action has to be considered as concrete measure of the Kazakh Government to discuss specific EU-KZ document on cooperation under Research&Innovation initiatives. At the moment the H2020 NCP-KZ works out recommendation papers on the EU-KZ cooperation in RTDI based on participation of Kazakhstan in different FP5/FP6/FP7/H2020 projects. Results of this research will be represented at the EU-EECA STI Policy Stakeholders Conference in September 2014 in Bishkek, Kyrgyzstan. Special attention in the report will be done to common priorities of the EU-KZ cooperation, good practices of cooperation, and strengthening of good partnership.

Table 2: Overview of bilateral Kazakhstan-EECA agreements

Title of document	Date	Country/Organisation	Scope of cooperation agreed
Agreement between the Government of the Republic	February 01, 2011	Austria - Kazakhstan/ Governments	Agreement between the

Title of document	Date	Country/Organisation	Scope of cooperation agreed
of Kazakhstan and the Austrian Federal Government			Governments
Agreement between the Government of the Republic of Kazakhstan and the Government of the Republic of Bulgaria on cooperation in health and medical science. Astana	September 25, 2003 (Entered into force March 12, 2004)	Bulgaria – Kazakhstan/ Governments	Cooperation in health and medical science
Agreement on ratification of the Protocol between the Republic of Kazakhstan and the Czech Republic on Amendments and Additions to the Agreement between the Republic of Kazakhstan and the Czech Republic on the Promotion and Reciprocal Protection of Investments	July 02, 2013	Czech Republic – Kazakhstan	Agreement
Agreement on economic and scientific-technical cooperation between the Government of the Republic of Kazakhstan and the Government of the Republic of Estonia	March 4, 2010	Estonia – Kazakhstan/ Governments	Agreement on economic and scientific-technical cooperation
Agreement for further cooperation for the development of Kazakh-German University in Almaty.	August 20, 2010	Germany - Kazakhstan/ Kazakh-German University	Agreement on cooperation
Memorandum of Understanding and Cooperation between JSC «National ICT Holding» Zerde» and Cambridge University	April 13, 2010	Great Britain – Kazakhstan/ Cambridge University - National ICT Holding» Zerde	Memorandum of Understanding
Agreement between the Government of the Republic of Kazakhstan and the Government of the Republic of Latvia on economic and scientific-technical cooperation.	March 17, 2006	Latvia – Kazakhstan/ Governments	Agreement on economic and scientific-technical cooperation
Agreement between the Government of the Republic	August 01, 2005	Netherlands – Kazakhstan/	Agreement on cooperation and

Title of document	Date	Country/Organisation	Scope of cooperation agreed
of Kazakhstan and the Government of the Netherlands on cooperation and mutual administrative assistance in customs matters		Governments	mutual administrative assistance in customs matters
Agreement between the Government of the Republic of Kazakhstan and the Government of the Republic of Poland on economic cooperation.	January 21, 2006	Poland – Kazakhstan/ Governments	Agreement on economic cooperation
Memorandum on cooperation in ICT development	January 16, 2014	Romania - Kazakhstan / SIVECO	Memorandum on cooperation
Agreement on strategic partnership between Kazakhstan and Kingdom of Spain	September 01, 2010	Spain - Kazakhstan / Government	Agreement on strategic partnership
Memorandum of Understanding in the Field of Transport Networks Development between the European Commission and Ministry of Transport and Communications of the Republic of Kazakhstan	June 2, 2009	The European Commission -Kazakhstan	Memorandum of Understanding
Agreement between the Government of the Republic of Kazakhstan and the Government of the Republic of Turkey on cooperation in science and technology	October 22, 2009	Turkey – Kazakhstan/ Governments	Agreement on cooperation in science and technology