

ICT Research&Development Institutions for Sustainable Development of National Economy

K. Kotoyants, S. Seilov

Kazakh Academy of Infocommunications

Kazakhstan. Basic figures

Major economic indicators (2011)

Area: 2,717,300 km²

Population: 16,8 mln people

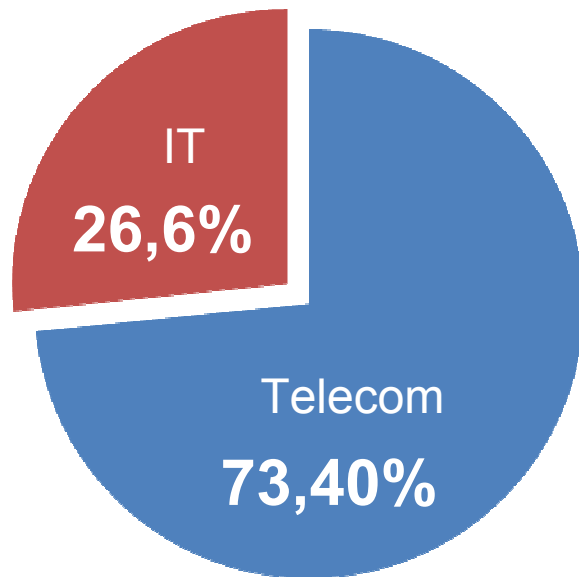
Population density: 5.5 /km²

GDP: 186.20 billion USD

GDP per capita: 11245 USD

Real GDP Growth Rate: 8% ave

ICT market. Total value 5.7 bln USD (2011)*



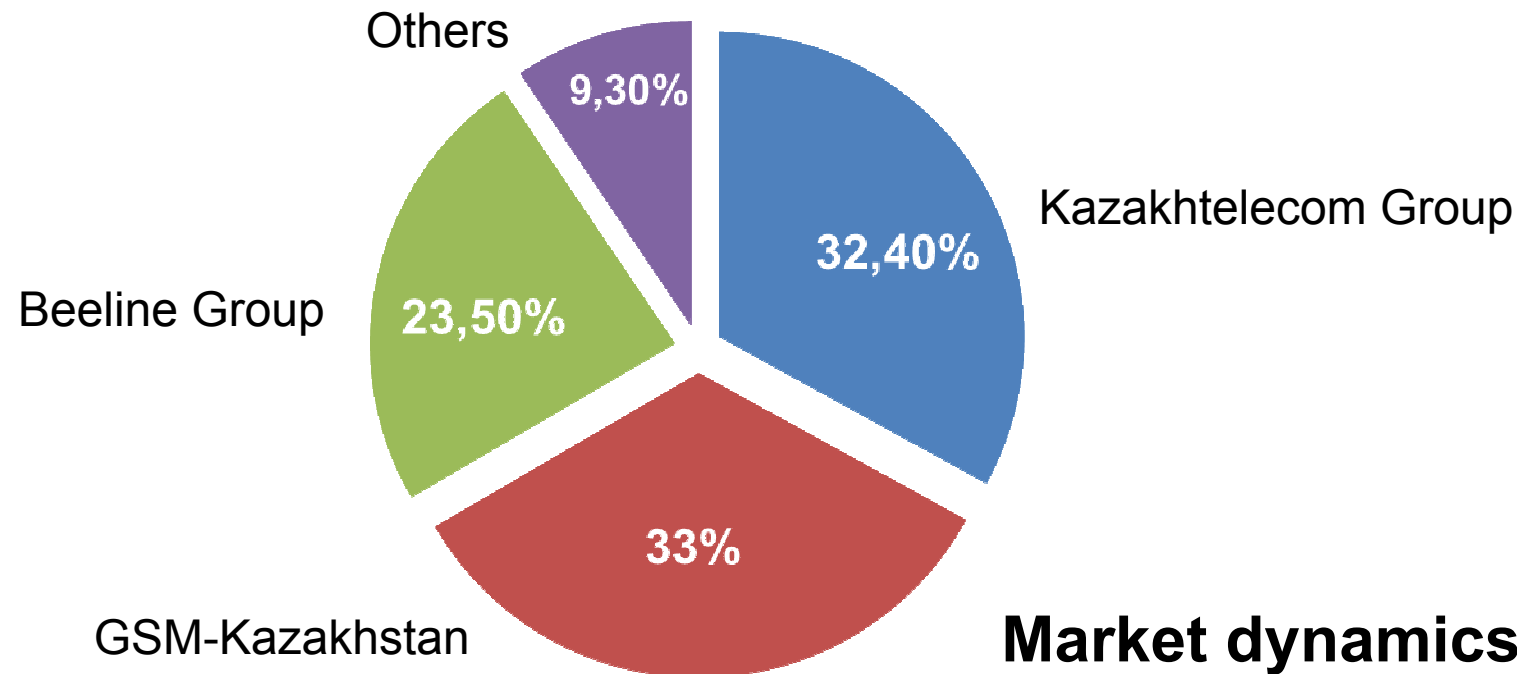
ITU Measuring the Information Society

ICT Development index — 49

ICT Price basket — 57

Telecom Market

Telecom market Share



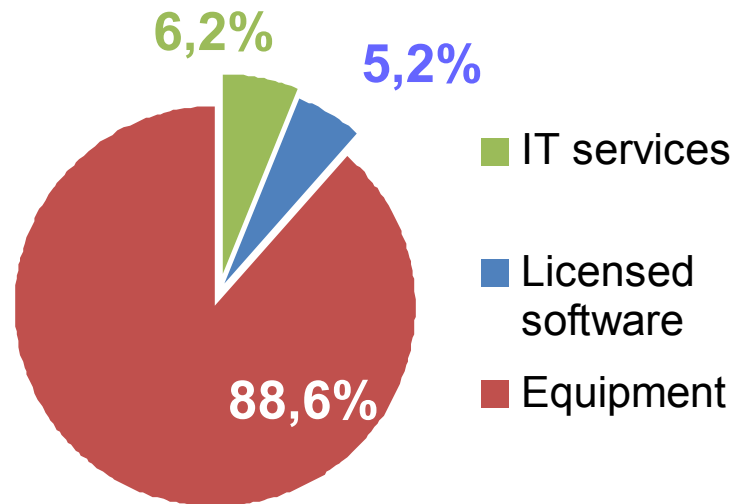
Market dynamics

- fixed and mobile Data transfer
- VAS-services

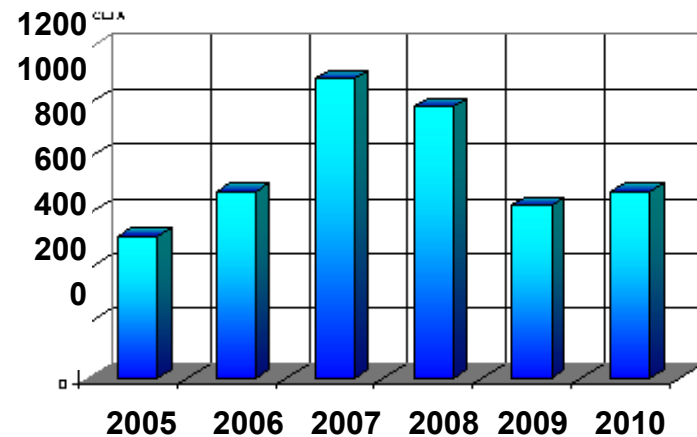
IT Market

IT total value 1394 mln USD (2011)*

Structure



Dynamics, mln USD



* - IDC data

Evolution of Kazakhstan's R&D system

First Generation: Centralized (1930s-1980s)

- Promotion of national Research programs performed by the Soviet, and later Kazakh, Academy of Sciences
- Low level of R&D programs under other Ministries

Second Generation: Decentralized (1990s-2000s)

- Shrinkage and isolation of R&D sector
- Decentralized promotion of R&D projects by each Ministry

Third Generation (general trend): Coordinated (starting 2010s)

- Establishment of creative National Innovation System with innovation networks
- Promotion of S&T policy and national R&D programs by government, based on National Program of forced industrial and innovation development

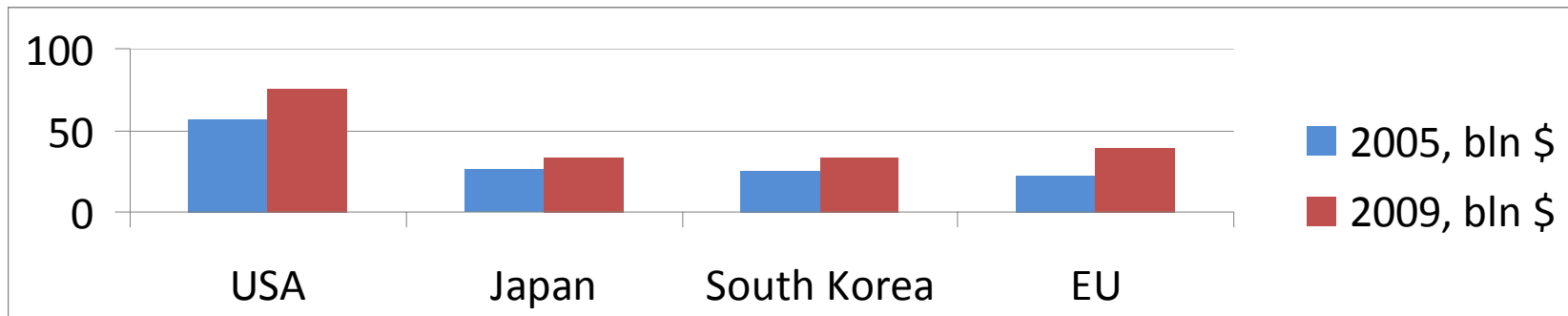
The role of ICT in national Economy

- Increase in Gross domestic product (GDP)
- Growth of productivity in priority sectors of National Economy
- Growth in the number of innovation enterprises
- Increase in non-extractive export share

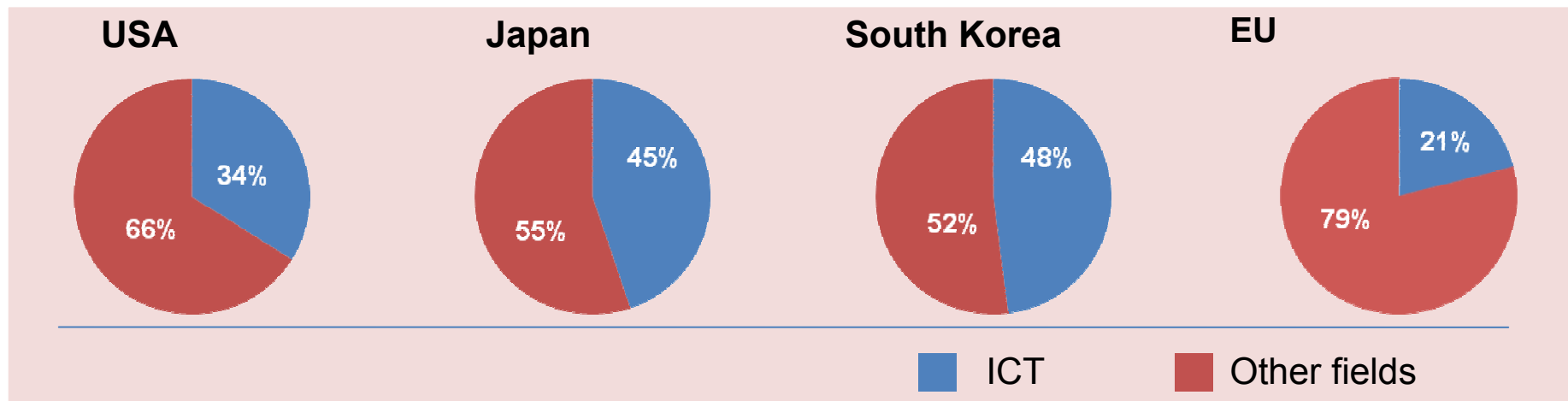
ICT serves as an instrument for creation of stability and competitiveness of the country in post crisis world.

ICT and Productivity Growth. International experience.

R&D expenses in the field of ICT



R&D expenses, 2005



* - OECD data

Objectives of R&D for ICT in Kazakhstan

- Kazakhstan's transition to information society and innovation economy
- Progression of information and communication technologies
- Effort and funding consolidation for R&D and S&T advances
- Influencing ICT personnel training
- Creating the unified regulatory base for ICT domain standardization

Creation of leading R&D Institute of ICT. Its main goal is the regulation and co-ordination of ICT research and development work initiated by the Government (Ministry of Communication and Information).

Kazakh IT Research Institute

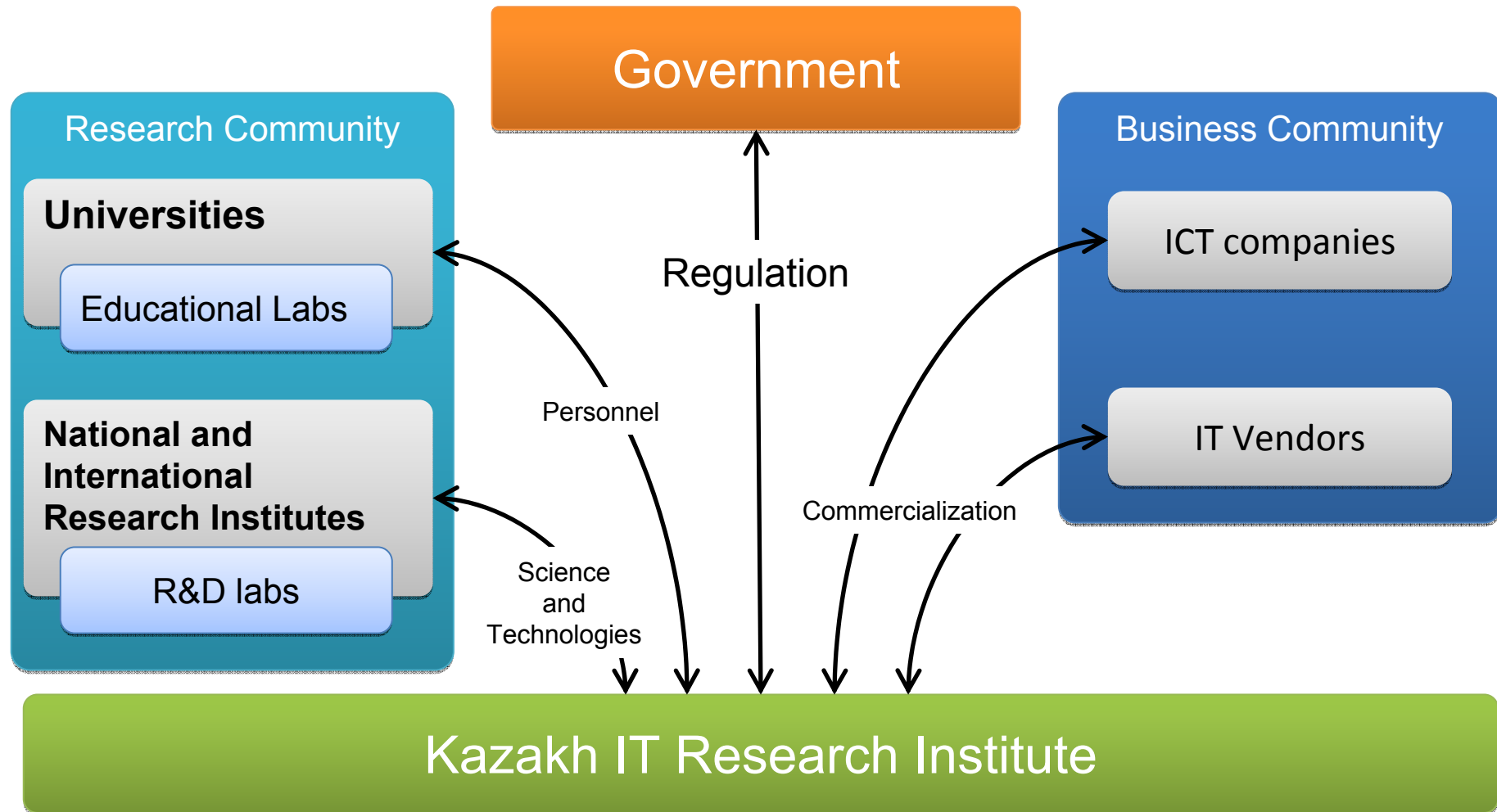
DIRECTION I. ICT field regulation

- Field and service progress analysis
- Creation of ICT regulatory acts (development, adaptation, systemization)
- Standardization
- Consulting and project management

DIRECTION II. Research and co-ordination

- R&D
- Expert council on topics
- Forming of state order for R&D programs and their coordination
- ICT personnel training regulations
- Technology transfer

IT Research Institute — Centre of the Technology innovation community



ICT market players interaction

Universities

IT RI	Universities
<ul style="list-style-type: none"> - Order for specialists - Order for research 	<ul style="list-style-type: none"> - Specialists - Research and Development

Government

Government	IT RI
<ul style="list-style-type: none"> - Order for field regulations - Order for applied research 	<ul style="list-style-type: none"> - Legal acts - Standards - Products

Research Institutes

IT RI	Research Institutions
<ul style="list-style-type: none"> - Order for research - Information and technology exchange 	<ul style="list-style-type: none"> - Research work

Business Community

IT RI	ICT companies	Vendors
<ul style="list-style-type: none"> - Examination - Quality control - Legal requirements 	<ul style="list-style-type: none"> - Technology commercialization - Order for technology transfer 	<ul style="list-style-type: none"> - Technologies and products

Karine Kotoyants

karin.kz@mail.ru