Project Report

Project Number:	Project Acronym:	Project Title:
288279	PICTURE	Policy dialogue in ICT to an Upper level for Reinforced EU-EECA Cooperation

Instrument:	Thematic Priority
SUPPORT ACTION	International collaboration

Title
Updated Report about the ICT R&D Environment in Azerbaijan

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Dissemination level (Project co-funded by the European Commission within the Seventh Framework Programme)		
PU	Public	**X**
PP	Restricted to other programme participants (including the Commission)	
RE	Restricted to a group defined by the consortium (including the Commission)	
CO	Confidential, only for members of the consortium (including the Commission)	

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Abstract :

This document presents the ICT R&D environment in Azerbaijan and the R&D ICT Co-operation with the EU and foreign countries. It's an update of an older document created under EXTEND project.

AZERBAIJAN, Research and Development in Information and Communication Technologies

GEOGRAPHICAL LOCATION: Eastern Europe
AREA: 86,6 km2
POPULATION: 9,022 million people
CAPITAL: Baku
BORDERING COUNTRIES/REGIONS: Iran, Turkey, Russia, Georgia, Armenia,

Research and Development (R&D) in Azerbaijan is mainly carried out by research organizations of Azerbaijan National Academy of Sciences (ANAS), at scientific research organizations of the various ministries and universities.

According to the President's decree (04.01.2003) the Azerbaijan National Academy of Sciences (ANAS) is considered to be the main organization which provides and organizes the development of science in Azerbaijan Republic, carries out the scientific and technological policy of the state, connects and leads the scientific research activity in all scientific and educational institutions

Along with above mentioned duties ANAS participates or provides suggestions in determination and qualification of the directions of science's development, in general, the directions of the scientific and technological policy. Following directions are determined as main priorities of scientific, technical and technological development in Azerbaijan:

1. Information Communication Technologies
2. Energy and environment
3. Efficient utilization of natural resources
4. Natural sciences
5. Nanotechnologies and new materials
6. Safety and risk factors

Information and communication technologies (ICT) sector holds leading position in innovative technologies and attraction of foreign and domestic investments compared to other sectors of the economy
The most developed ICT areas**:**

- automatic management systems for department of the Treasury, Tax Ministry, Ministry for Labor and Social Issues, Health Ministry, Ministry of Justice, Ministry of the Interior, State Frontier Service, National Bank, State Customs Committee, State Fund of Social Protection, Central Election Commission, International Bank,
- distant learning, e-learning, computerized learning system, e-books and e-libraries, automated testing systems for students and college entrants,
- introduction of computer management systems and computer data exchange.

MAIN ICT R&D INSTITUTIONS:

- **Cybernetics Institute of ANAS** (http://www.science.az/en/cyber/)

The structure of the Institute includes 31 research laboratories and 2 departments.

Main achievements:
1. The new generation of intellectual systems of monitoring of the control of oil-extracting objects which have passed pre-production operation under production conditions.

2. Principles of work and construction of the seismoacoustic intellectual system working on the basis of the information, received from deep layers are suggested by means of a steel trunk of tinned oil wells. Novelty of the project is confirmed by two international and two Euroasian patents.
3. The first versions of a system of recognition of speech and scoring of texts of the Azerbaijan language are created, which were shown at the international exhibition (ITU Telecon WORLD 2009, 5-9.10.09), holding in Geneva.

- **Information Technologies Institute of ANAS** (http://www.ict.az/en/index.php)

The structure of the Institute includes 18 research departments and Education Centre.
Main achievements:
1. Development of operative refine system for flying information in "black boxes" of fighting planes had been prepared and at present is applied successfully in all military aerodromes.
2. Knowing flying objects for Defense system from air attack and by special corporative net information transferring system for control punks was created.

- **Institute for Space Research of Natural Resources of NASA** (http://www.mdi.gov.az/index.php?/en/content/743/)

The Institute has 12 departments.
Main achievements:
1. Mapping of the vegetable cover & lend tenure area of Azerbaijan with regard to the Landsat 5TM data. Elaboration of instruments for investigation of X-ray radiation sources (RS-17, Pulsar X-1) on orbital stations “Salute” and “Mir”.
2. Elaboration of Software/Hardware package for reception, registration and processing of meteorological information from space vehicles of NOAA, Meteor type.
3. Sub satellite measurements and processing of experimental results.

Research Institute of Aerospace Information of NASA (http://www.mdi.gov.az/index.php?/en/content/731/)

The Institute has 16 departments.
Main achievements:
1. Development of methods for evaluation of natural and industrial disasters and accidents on the base of geographic information & remote sensing systems data.
2. R&D of methods of study of atmospheric physical parameters using modern microprocessors.
3. Development of 3- dimensional seismometer with the extended dynamic frequency band. –- Development of GSM structures for ecological safety of the Absheron peninsula.

- **Baku State University** (http://bsu.edu.az/en)

The University is the centre of 37 scientific research and teaching labs which cover natural, humanitarian spheres, Scientific Research Institute of Applied Mathematics and Scientific Research Institute of Physics Problems where work more than 200 employees.

National ICT Priorities for 2010-2015 *(National ICT Priorities are based on the ICT objectives of the 7th Framework Programme for Research and Technological Development of the European Union)*

1.2 Internet of Services, Software & virtualization
2.2. Language Based Interaction
3.6 Computing Systems
4.1 Digital libraries and digital preservation
4.2 Technology-Enhanced Learning
4.3 Intelligent information management

7.1 ICT and Ageing
7.3 ICT for Governance and Policy Modeling

Cooperation:

Projects funded in the framework of EU programmes

- **ERA WIDE**

Organizations: Baku State University, Institute of Physics (ANAS)

- **BS ERA NET**

Organizations: Azerbaijan National Academy of Sciences (ANAS)

- **INCO NET EECA**

Organizations: Azerbaijan National Academy of Sciences (ANAS)

- **INCO NET CASC**

Organizations: Azerbaijan National Academy of Sciences (ANAS)

- **7th Framework Programme**

Black Sea ERA-NET Project "Networking on Science and Technology in the Black Sea Region" (National Academy of Sciences of Republic of Azerbaijan), 2009-2011

- **ECO-NET EGIDE**

*"*Inverse problems and shape optimization with applications to mechanical systems*"* (IAM BSU – Institute of Applied Mathematics, Baku State University (Azerbaijan), 2006-2007

- **INTAS Proposal for South Caucasian Republics**

"Development of a unified approach and software for numerically solving inverse and optimization problems for distributed systems" (Institute of Cybernetics of National Academy of Sciences of Azerbaijan, State Oil Academy of Azerbaijan), 2007-2008.

- **COST539 Action**

"Electroceramics from Nanopowders Processed by Innovative Methods (ELENA)" (**NanoCenter,** Baku State University, Azerbaijan), 2008-2009.