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The Abdus Salam
**International Centre
for Theoretical Physics**
50th Anniversary 1964–2014



THE REPUBLIC OF AZERBAIJAN
MINISTRY OF COMMUNICATIONS
AND HIGH TECHNOLOGIES

**United Nations/Abdus Salam International Centre for Theoretical Physics
Workshop on the Use of Global Navigation Satellite Systems for
Scientific Applications**

Navigation in Azerbaijan

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INTRODUCTION

Global Navigation Satellite Systems (GNSS) are among the fastest growing businesses in the World. GNSS technology is currently being used in a wide range of sectors like land, maritime, aviation transport, safety, land cadastre and urban mapping, engineering survey, construction and other.

The evolvement of ICT in Azerbaijan is not a long path, but is an exciting one, which has allowed the fast-growing South Caucasus republic to fill the ranks of the most developed ICT countries in the region and connects it with the rest of the world.



AERO NAVIGATION

On April 1, 1996, by decision of the Board of Directors of the State Civil Aviation Company, under the auspices of ICAO and the European Bank for Reconstruction and Development, the air navigation service company Azeraeronavigatsiya (AZANS) was created, making it the first of the structural divisions of Azerbaijan Hava Yollari State Company to obtain a legally independent status.

The main objectives of the company's operations were:

- to guarantee high-quality air navigation services in accordance with international standards;
- to utilize new international standards and recommendations flexibly, and to develop and modernize technical systems and information support;
- to train and prepare qualified personnel;
- to provide reliable and high-quality air navigational and meteorological information.



CASPIANNAVTEL

<http://www.caspiannavtel.com/>

"Caspian NavTel" is the largest company in Azerbaijan that deals with :

- creation of the local electronic maps and appropriate software
- providing, controlling and service the appropriate equipment

The Company was established in 2007. "Caspian NavTel" has made a detailed electronic map that covers the whole territory of the country and made satellite navigation achievable by every person.

"Caspian NavTel" is a very first company that created GPS navigation system based on electronic map of the country. Staying a unique production, the electronic map covering the whole Azerbaijan was developed due to joint effort of the professionals, working at the company. In addition to that, in order to use the map appropriate software, software-equipment system for transport controlling, different software packs for mobile devices were developed.

As a result the information system that might be interesting for a large consumer groups was developed. The following points were reflected on the map:

- cities & regions
- street names
- existing hotels
- banks
- restaurants & shops
- hospitals
- shopping malls & trading centers
- schools & universities
- service centers
- petrol stations
- traffic jams





Ministry of Culture and Tourism
of the Republic of Azerbaijan



In 2011 The Ministry of Culture and Tourism of Azerbaijan has held a presentation of the GoMap online tourism navigator. The electronic navigation system contains information about:

- 70 cities
- 4,530 settlements
- 3,300 cultural and historical monuments
- 43,000 kilometers of roads

All these shows the Azerbaijan interests and efforts for developing navigation systems in the country, and makes important to maximize the benefits of the use of GNSS applications and the mastery of this technology by training and capacity building to support sustainable development in Azerbaijan.



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Azerspace/Africasat-1a

<http://www.mincom.gov.az/> | <http://azercosmos.az/>



Azerbaijan has joined the ranks of the space nations with the launch of its first ever satellite. The Azerspace/Africasat-1a blasted into orbit from the European Space Port in French Guiana on 7 February, 2013. Azerspace-1 has 36 active C- and Ku- band transponders, enabling it to provide top-class communications services to Azerbaijan, Central Asia, Europe, the Middle East and Africa.

Its launch was the first step in the implementation of prospective projects on turning Azerbaijan into a country with a space industry. The existence of a national satellite establishes:

- qualitative and reliable communication
- ensures the creation of VSAT multi-service networks
- renders digital television services
- Internet access
- ensuring information independence and forming a common information space.

CHARACTERISTICS OF AZERSPACE-1 SATELLITE:

Type of satellite: telecommunication satellite

Present status: operational

Orbital position: 46E

Coverage area: Europe, Africa, Central Asia, Middle East, Caucasus

Manufacturer: U.S. Orbital Sciences Corporation

Bus platform: Star-2.4

Launch vehicle: Ariane-5ECA of Arianespace

Launch date: 8 February 2013

Launch site: Guiana Space Centre, Kourou, French Guiana

Lifespan: min. 15 years

COMMUNICATION PAYLOAD:

Ku-BAND:

Active transponders: 12 (36 MHz equivalent)

Uplink: 13750-14000 MHz

Downlink: 10950-11200 MHz

Beams: Europe beam, Central Asia beam

Polarization: Linear

TWTA Power: 120 Watt

C-BAND:

Active transponders: 24 (36 MHz equivalent)

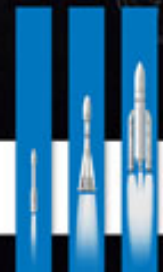
Uplink: 5925-6425 MHz

Downlink: 3700-4200 MHz

Beams: Central Asia & Europe beam, Africa & Europe beam

Polarization: Linear and Circular

TWTA Power: 65 Watt



United Nations/Azerbaijan/United States of America/ESA Workshop on the Applications of Global Navigation Satellite Systems Baku, Azerbaijan, 11 – 15 May 2009



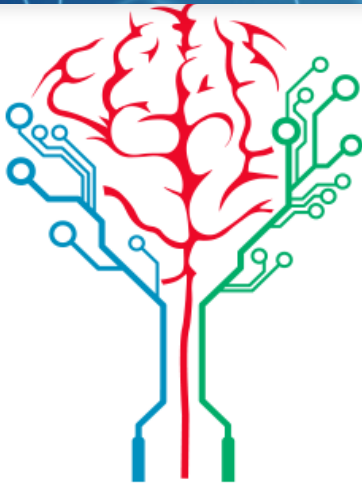
Striving to be an active participant of international outer space cooperation, the Government of Azerbaijan hosted a regional workshop on the applications of GNSS which was held in Baku, Azerbaijan from 11 to 15 May 2009 in the framework of the UN Program on Space Applications, in partnership with the Office for Outer Space Affairs.

The Conference addressed, inter alia, the space technology applications such as:

- remote sensing
- aviation
- transport and communications
- e-learning
- natural resources management and environmental monitoring by applying GNSS technologies



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HIGH-TECH PARK
AZERBAIJAN



CREATE, COLLABORATE, INNOVATE
-ALL ON PIRALLAHI ISLAND.

Azerbaijan is a country of growth and ambition. Our economy has more than quadrupled in a decade and this progress is highly visible across our country. This economic boom has been driven by growth in the oil and services sectors. Throughout this growth, the goal of the Azerbaijan Government has been economic diversification by transformation into a knowledge economy.

To reach this goal, there was a Presidential Decree in November 2012 to establish a “Golden Triangle” to foster Azerbaijan’s High Tech Sector. The Golden Triangle comprises of the High Tech Park, the High Tech Fund, and the IT University as sister organizations. All three organizations have been established in 2013 and are operational under the guidance of the Ministry of Communications and High Technologies.



WELCOME TO
PIRALLAHI
ISLAND

OUR
LOCATION

CREATE, COLLABORATE, INNOVATE -ALL ON PIRALLAHI ISLAND

<http://www.mincom.gov.az/> | <http://hightech.az/>

High Tech Park (HTP) was launched by Presidential decree on November 5, 2012. The decree was signed within the Azerbaijan 2020: Vision of the Future framework aiming to transform the oil based economy to a knowledge-based economy.

High Tech Park is the cornerstone project of the Vision with the goal of developing a sustainable and competitive environment for ICT.

HTP is established as a company wholly owned by Azerbaijan Government reporting to the Ministry of Communication and High Technology.

50 hectares of land on Pirallahi Island has been granted for use of High Tech Park.

MISSION...

Our mission is to foster the high tech economy in Azerbaijan and its region by providing a business friendly environment composed of state-of-the-art facilities, economic incentives, and business services.

We aim to achieve this mission by being a change agent in our ecosystem by

- ✓ **making policy recommendations that support the high tech sector**
- ✓ **holding countless events to become the hub of high tech knowledge activities in the region and**
- ✓ **by partnering with renowned international institutions that share our vision.**

If you would like to be part of this high tech economic development mission, you are welcome to visit us in Baku. We are driven to support the success of your high tech business based in Azerbaijan.



Thanks for your attention!

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