



# **Recent Developments in the Field of Space in Turkey**

**İlter Haliloğlu**  
**The Scientific and Technological Research Council of  
Turkey (TUBITAK)**  
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# DEVELOPMENTS AT THE POLICY LEVEL

## National Space Research Program Coordination

### - National Space Technologies Platform

In the coordination of TUBITAK, necessary arrangements have been finalized to establish “National Space Technologies Platform”. The founding workshop of the platform, in which institutions that are active in the field of Space Technologies in Turkey will participate, aims to determine the vision of the sector and to set the strategical research agenda.

### - 2010 National Space Research and Technologies Forum

National Space Research and Technologies Forum will be organized for the evaluation of Turkey’s Space R&D Infrastructure capacity and developments in the field of Space in the last 5 years. “National Space Research and Tehcnologies” titled Forum is planned to be held in the 1st half of 2011.

### - Scholarships

TUBITAK has initiated a scholarship programme for gradute level students who want to do research in the field of space. In 2010, two scholars have graduated and working in companies which are active in Space Technologies. 14 scholars are still continuing their education abroad.

# DEVELOPMENTS AT THE PROJECT LEVEL

## Projects related to Science, Technology and Application

### ❖ RASAT SATELLITE

RASAT is the second remote-sensing satellite after the launch of Turkey's first remote sensing satellite BİLSAT of TÜBİTAK UZAY. RASAT, having a high-resolution optical imaging system and new modules developed by Turkish engineers, will be the first Earth-observation satellite to be designed and manufactured in Turkey.

### ❖ GÖKTÜRK 2

Göktürk-2 project is the first step in the formation of facility, equipment and personnel infrastructure and in meeting the future satellite requirements locally. TUBITAK UZAY and TAI Consortium has all the system level responsibility.

### ❖ ITUpSAT

First CubeSat satellite (ITUpSAT), designed and manufactured in Turkey by İstanbul Technical University Faculty of Aeronautics and Astronautics, has been launched successfully from India in September 2009.

## DEVELOPMENTS AT THE PROJECT LEVEL (Cont.)

Public institutions and organizations have been continuing to develop and propose projects to be submitted to especially TÜBİTAK support programmes (Science and Society, Industry, Public and Academic). Furthermore, DPT (State Planning Organization) and other institutions have been continuing to contribute to our country's development in the field of space. Titles of the sample projects are:

- Moment Control Gyroscope and Power Saving Varying Speed Moment Control Gyroscope Development for Satellite Attitude Control  
Coordinator: Turkish Aerospace Industries (TAI)
- Development of a High Resolution Electrooptics Camera  
Coordinator: Middle East Technical University
- Installation of 1 m Mirror Radius Robot-Automated Telescope to TUBITAK National Observatory (TUG) in October 2009. This is the first state of the art Telescope belongs to TUG.

# DEVELOPMENTS IN INTERNATIONAL COOPERATION

## BILATERAL RELATIONS IN THE AREA OF SPACE

- Roscosmos (Federal Russian Space Agency)
- DLR (German Aerospace Center)
- BNSC (British National Space Agency)
- NIVR (Netherlands Agency for Aerospace Programmes)
- NSAU (National Space Agency of Ukraine)

## MULTILATERAL RELATIONS IN THE AREA OF SPACE

- IAF (International Astronautical Federation)
- GEO (Group on Earth Observation)
- ESA (European Space Agency)
- EURISY
- APSCO (Asia-Pacific Space Cooperation Organization)
- UN (United Nations)

# IAF (International Astronautical Federation)

- IAF is an international non-governmental and non-profit organisation consisting of 199 members in nearly 50 countries including space agencies, space companies, societies, associations and institutes.
- TUBITAK is a member of IAF since September 2009

## GEO (Group on Earth Observation)

- The Group on Earth Observations (GEO) is a voluntary partnership of governments and international organizations.
- GEO is coordinating efforts to build a Global Earth Observation System of Systems (GEOSS).
- TUBITAK, is a member of GEO since 2008 on behalf of Republic of Turkey.

# GEO (Group on Earth Observation)

- 3<sup>rd</sup> GEO European Project Workshop was held on 8-9 October 2009 in İstanbul, Turkey



The aim of this Workshop is to continue and extend the effort to develop the collaboration between European Commission projects on Earth Observation funded through the Framework Programme of Community Research and the GEO initiative.

## GEO (Group on Earth Observation)

- 13<sup>th</sup> Meeting of the Science and Technology Committee Meeting was held in Ankara, Turkey on March 25<sup>th</sup>, 2010
- 14<sup>th</sup> Meeting of the Architecture and Data Committee Meeting will be hosted by TUBITAK in Ankara, Turkey between the dates August 31-September 3.

- **APSCO**

TUBITAK has followed the process necessary to be a member of APSCO. The membership process will be finished after the international convention published on the Official Gazette, after being approved by the Grand National Assembly of Turkey. Experts from TUBITAK are regularly participating workshops and events organized by APSCO.

- **EURISY**

TUBITAK is a member of EURISY since June 2007 and representatives from TUBITAK are regularly participating to the meetings and workshops organized by EURISY.

## ESA (European Space Agency)

- TUBITAK on behalf of the Government of the Republic of Turkey signed a Framework Agreement on cooperation in the exploration and use of outer space for peaceful purposes with ESA in 15 July 2004.
- In the framework of this agreement several visits and annual working meetings have been organized.
- In 2010 a meeting will be arranged for discussing the future of the ESA-Turkey relations and the agreement.

# United Nations / ESA



**United Nations/Turkey/European Space Agency  
Workshop  
on  
Space Technology Applications for Socio-Economic Benefits**

**Istanbul, 14-17 September 2010**

Hosted by  
The Scientific and Technological Research Council of Turkey  
(TUBITAK)

# UN/TURKEY/ESA SPACE WORKSHOP

The specific objectives and expected outcomes of the workshop:

- ✓ address principles for national, regional, and international cooperation in space technology development and its applications;
- ✓ explore socio-economic benefits of using satellite remote sensing (including InSAR), satellite communications and GNSS;
- ✓ strengthen regional awareness, information and data exchange networks on the use of space technology;
- ✓ discuss the means, mediums and tools to create awareness among public, to outreach public, to promote and to attract public support about space programs, space activities and space technologies;
- ✓ initiate pilot projects for joint work at the regional and international level;
- ✓ develop ideas on space technology and infrastructure for research application, education, industry, space-based and ground-based space facilities and the establishment of space culture within the society.

### Thematic Sessions:

- **Capacity building in space technologies:** Contemporary education systems on space science and technology, science and society activities or promoting space awareness, etc.
- **Remote sensing applications:** Earth observation from space for natural and human induced hazards; case studies and lessons learned (earthquakes, sea pollution, etc.)
- **GNSS applications and satellite communication**
- **Regional and international cooperation**

## UN/TURKEY/ESA SPACE WORKSHOP (Cont.)



- The Workshop is being planned for a total of 100 participants including policymakers, decision makers and senior experts from: international, regional, national and local institutions, governmental institutions, research and academic institutions, multi-lateral and bi-lateral development agencies, non-governmental organizations, and industry.
- Within the limited financial resources available, a limited number of selected participants will be offered financial support to attend the Workshop. This financial support will defray the cost of travel (a round trip ticket – most economic fare – between the airport of international departure in their home country and Istanbul, Turkey) and/or the room and board expenses during the duration of the Workshop

## UN/TURKEY/ESA SPACE WORKSHOP (Cont.)

- In the beginning of the Workshop, a special concert is being organized in cooperation with NASA.
- Conductor: Emile De Cou, Associate Conductor of the National Symphony Orchestra in USA.
- Narrator: Buzz Aldrin, Astronaut, Apollo 11 mission who landed with Neil Armstrong on the moon.
- The orchestra will play Gustav Holst's "The Planets", complemented by beautiful HD images from NASA, with Buzz Aldrin narrating the concert.



## UN/TURKEY/ESA SPACE WORKSHOP (Cont.)

Applications to the Workshop are accepted through UN's web site!

**Deadline: 30 June 2010**

For further information:

<http://www.oosa.unvienna.org/oosa/en/SAP/act2010/un-turkey/index.html>

[www.tubitak.gov.tr/spaceworkshop](http://www.tubitak.gov.tr/spaceworkshop)

# UN/TURKEY/ESA SPACE WORKSHOP (Cont.)

Venue: Hotel Ramada Plaza

Istanbul

Date: 14-17 September 2010



Thank You...