



## **SCREENING CHAPTER 20 ENTERPRISE AND INDUSTRY POLICY**

### **AGENDA ITEM XVI: SPACE**

**Country Session: The Republic of TURKEY  
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# CONTENT

- Overview
- Policy Documents
- Institutions Involved
- Activities Conducted
- Current Capabilities
- Space Projects Still in Progress
- International Activities Conducted
- Foreseen Activities for the Future

## Overview

- Turkish space industry;
  - ✓ requires a large amount of investment and in particular specialised staff,
  - ✓ is largely dependent on foreign industry.
- Many companies are interested in this field.

## Overview (CONT'D)

- Some companies have partial capabilities,
- These partial capabilities are present in different companies in a rambling order,
- Most of these capabilities are not yet being used in space applications.



## Policy Documents

On 8 September 2004;

“Space Research” determined as one of the four primarily prioritised areas by , the Supreme Board of Science and Technology

## Policy Documents (CONT'D)

On 8 March 2006, the Supreme Board of Science and Technology envisaged the followings (Prime Minister's Circular No:2006/12):

- Improvement of available statistics to reach international standards,
- Preparing the legal and financial infrastructure enabling the required flexibility to carry out the science, technology and innovation activities,



## Policy Documents (CONT'D)

- Focusing on conducting more space R&D projects,
- Applying projects that are developed under defence and space programmes without delay,
- Increasing efforts to bring out scientists,
- Spreading R&D projects all over the country and increasing the resources to support their achievement.



## Institutions Involved

Institutions	Functions
Ministry of National Defence	<ul style="list-style-type: none"><li>• Carry out spatial military R&amp;D and procurement projects</li><li>• Coordinate space activities</li></ul>
Turkish Armed Forces (Air Force Command)	<ul style="list-style-type: none"><li>• Operate military satellites,</li><li>• Establishment of TSA</li></ul>
Ministry of Environment and Forestry (General Directorate of Meteorological Service)	<ul style="list-style-type: none"><li>• Carry out meteorology related space activities</li></ul>





## Institutions Involved (CONT'D)

Institutions	Functions
TUBITAK (The Scientific and Technological Research Council)	<ul style="list-style-type: none"><li>• Coordinate space research programmes,</li><li>• Carry out activities related to ESA,</li><li>• EU 6<sup>th</sup> Framework Programme,</li></ul>
Ministry of Transport (TURKSAT Corp. International Satellite and Cable Operator)	<ul style="list-style-type: none"><li>• Procurement of civil-purpose satellites,</li><li>• Operate satellites,</li></ul>



## Activities Conducted

Following actions were performed related to decisions taken by the Supreme Board of Science and Technology on 10 March 2005:

- Coordination of the national space research programme by TUBITAK,
- Preparation of National Space Road Map for the following 10 years by TUBITAK.



## Activities Conducted (CONT'D)

- TURKSAT Corp. has prepared its own Satellite Road Map, which includes all civilian satellite requirements.
- The contract for the launching of T3A communications satellite by 2008, which is existing in this road map, has been signed between TURKSAT Corp. and ALCATEL in February 2006.

## Activities Conducted (CONT'D)

- Space R&D 1 Project, the aim of which is to search the need for the infrastructure on satellite design, integration and testing for Turkey, has been completed.
- BILSAT Research Satellite has been developed together with the English SSTL company and launched into outer space and put in progress on 23 September 2003 by TUBITAK BILTEN.



## **Current Capabilities**

### **TUBITAK BILTEN :**

Within the context of BILSAT satellite developing project, testing and integration laboratories for small satellites have been established at TUBITAK BILTEN and a satellite ground station has been set up.

### **TURKSAT A.S. :**

Construction and operation of infrastructure for the communication satellites belonging to national and international operators.

## Current Capabilities (CONT'D)

### ITU-UHUZAM :

- Center for Satellite Communications and Remote Sensing (ITU-UHUZAM) has been established to acquire and process images from satellites.
- Satellite systems pertaining to the images and information acquired, processed and archived are; SPOT 2 and 4, ERS-2, RADARSAT-1, NOAA-AVHRR, METEOSAT.



## **Current Capabilities (CONT'D)**

### **TAF (Air and Space Technology Institute=HUTEM)**

Providing graduate programmes on space for the commissioned military personal and arranging seminars on aerospace.

### **Universities such as METU, ITU, BILKENT**

Acts in the fields such as establishing and managing various laboratories and technoparks, carrying out scientific studies, participating in space projects, providing graduate programmes on space.



## **Current Capabilities (CONT'D)**

**TAI, ASELSAN, ROKETSAN, HAVELSAN, AYESAS, GATE, MILSOFT, VESTEL, SELEX and METEKSAN**

These are the companies which have potential, interest and/or partial capability in the field of satellite and satellite subsystems.

### **INTA and NIK Companies**

Acting as service providers in respect of acquiring, evaluating and particularly marketing satellite images.





## Space Projects Still in Progress

- Scientific Research and Technology Satellite Development Project intended for 2,5 m Resolution Imaging,
- GOKTURK project which aims the procurement of 1 m resolution Reconnaissance Surveillance Satellite System,



## Space Projects Still in Progress (CONT'D)

- Several satellite subsystem projects that have been initiated with the purpose of establishing the infrastructure related to the design, integration and testing of satellite subsystems and acquiring the necessary satellite technologies.
- RASAT satellite developing project, by TUBITAK BILTEN, in which the results acquired from BILSAT satellite project are employed.



## International Activities Conducted

A cooperation agreement for the Examination and Use of Outer Space for Peaceful Purposes, prepared by TUBITAK and European Space Agency, has been signed.

## International Activities Conducted (CONT'D)

- A ground station, existing in the GALILEO programme and planned to be used for the Mediterranean Region applications, has been founded in Ankara-Golbasi facilities of TURKSAT Corp., within the framework of a cooperation agreement signed between ESA and TUBITAK in 2004.
- General Directorate of Meteorological Service functions as a member of the European Union Meteorology Satellite (EUMETSAT) Group.



## International Activities Conducted (CONT'D)

Agreements/Conventions, signed/ratified in the framework of space research activities conducted within the UN are;

- “Agreement on The Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space” dated 1968,



## International Activities Conducted (CONT'D)

- “Convention on International Liability for Damage Caused by Space Objects” dated 1972,
- “Convention on Registration of Objects Launched into Outer Space” dated 1975,
- “Agreement Governing the Activities of States on the Moon and Other Celestial Bodies” dated 1979.



## **Vision 2023 Technology Foresight Project: Future Activities**

- Establishment of Turkish Space Agency to direct all activities concerning space from a single center,
- Preparation of National Space Policy in order to guide the national space activities,
- Establishing Turkish Satellite Testing and Integration Center to be used for all space projects,
- Establishment of National Defence Research Perfectness Center and Collaboration Network,



## **Vision 2023 Technology Foresight Project: Future Activities (CONT'D)**

- Creation of a regional database network concerning the space activities and its effects,
- Defining basic standards regarding near-earth space and its systems,
- Conducting R&D projects that improve national capabilities regarding near-earth space and its systems,
- Providing effective participation to space related international activities.





**Thank you for your attention**