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Author: Dr. Tamer Özalp
Türkiye

AN INSPIRING EARTH OBSERVATION MISSION OF TURKEY, GÖKTÜRK-2; NEW OPPORTUNITY FOR SPACE APPLICATION COMMUNITY

Abstract

Space technologies play a key role in accelerating the development processes of the countries. Monitoring the Earth systematically provides scientific, technological, economic, social and political contribution to the country's progress. Since more than 20 years, Earth Observation (EO) missions have provided a wealth of data on our living planet Earth. For many years Turkey lagged behind in these developments, despite having a great potential and enough capacity to compete at a world level. In the frame of the first National Space Research Program (annexed to resolution no: 2005/9 of the 11th Supreme Council of Science and Technology meeting), Turkey initiated an inspiring project in 2006 called as GÖKTÜRK-2. It is a higher precision dual use EO system (in terms of ground, 2.5 m GSD and multi spectral resolutions 5m, 20 m and accuracy) which was manufactured entirely by Turkish space entities. Satellite payload is built to provide routine very high and medium resolution observation capability. Ground infrastructure is provided for planning, control, processing, dissemination and archiving. Possible free data access is provided for public research activities. GÖKTÜRK-2 specifically designed for space road map of Turkey to ensure the long-term collection and operational delivery of high quality satellite data for especially land, emergency and security services. The main goals of the project are to establish a dedicated model for space RTD infrastructure in Turkey and to build a specific knowledge and capacity for the country requirements. The project's other objective is to meet imagery requirements of defence and public sectors of country's for monitoring natural and artificial resources and for mapping and GIS applications. This paper outlines the mission background in general and user requirements, a brief overview of the space segment and the ground segment concept, and a summary description of data products, possible contributions to the world EO community, to space applications and their anticipated results and its performance. GÖKTÜRK-2 is now fully operational since 2014