

Research and Development Satellite Systems

A NEW RUSSIAN RESEARCH AND DEVELOPMENT SATELLITE “MONITOR-E”

Summary and purpose of the WP

A new Russian Earth observation spacecraft “Monitor-E” was launched on the 26th of August 2005.

The satellite was developed by Khrunichev Space Research and Production Center.

The payload of “Monitor-E” includes two main instruments: a panchromatic survey instrument with 8-m spatial resolution and a multispectral survey instrument with 20-m resolution.

Action proposed: no action required.

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“MONITOR-E”**

Launch of SC “Monitor-E” took place on 26th of August, 2005 by Russian launcher light class ROKOT from Plesetsk cosmodrome. SC launched at SSO altitude 540 km, inclination 97,5 degree.

Space information from SC “Monitor-E” will solve the following thematic tasks:

- Agriculture and forestry;
- Hydrology;
- Mapping in scale 1: 100 000 – 1: 200 000;
- Risk management;
- Environmental monitoring;
- Geological mapping and mineral prospecting;
- Geodynamical hazards forecasting;
- Monitoring of urbanized territories;
- Planning and construction;
- Ice condition control;
- Oceanology.

Main developer – Khrunichev Space Research and Production Center.

SC “Monitor-E” includes panchromatic survey instrument (PAN) with 8-m spatial resolution and multispectral survey instrument (MS) with 20-m spatial resolution. Swath width is 90 km and 160 km correspondingly. Transmission rate – 15.36, 61.44, 122.88 Mbit/s.

SC “Monitor-E” represents the new generation of Earth Observation Satellites. For the first time in Russia small Earth Observation Spacecraft is created in nonhermetic performance. Actually all onboard systems of SC “Monitor-E” are the new developments of Russian space industry. Index “E” in its name means – “experimental”.

SC “Monitor-E” has the possibility to realize the survey in route and track modes and also in route of tangage tracking with the possibility of switching panchromatic instrument and multispectral instrument or panchromatic and multispectral instrument in common. Duration of survey on one turn is 25 and 15 minutes for different instrument. Field of view of survey instrument retargeting is provided by SC turn to an angle of ± 30 degree.

Users will be provided with images of different processing levels: from 1A-level to mosaics and digital maps.

Program of the flight tests is planned for 6 months. During the flight tests adjustment of Generic Space Bus and payload will be carried out. After the successful flight tests users will receive constantly the space information.

Strategy of images proposals to customers is flexible and depend of different conditions. For education institution, universities we propose privilege program. In case of urgently situation use priority program.

Space information will be delivered on Khrunichev Ground Receiving Station and Receiving Complex PK-7 of Roskosmos , situated in Moscow, and also on all ground receiving stations wanted to receive such information and for this purpose will be adopted.

Khrunichev Space Center cooperates in this area with organizations and firms – developers of Ground Receiving Stations.

Informational Resource of SC “Monitor-E” is divided between Federal Space Agency and Khrunichev Space Center. For coordination the operating activity the United Management is created which includes the representatives of Khrunichev Space Center and Center of Space Observations of Federal Space Agency.

We hope that this SC will take value place in Russian Space Program and will be useful for our foreign colleges to receive additional information in environmental researches.