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German satellite fleet RapidEye is launched

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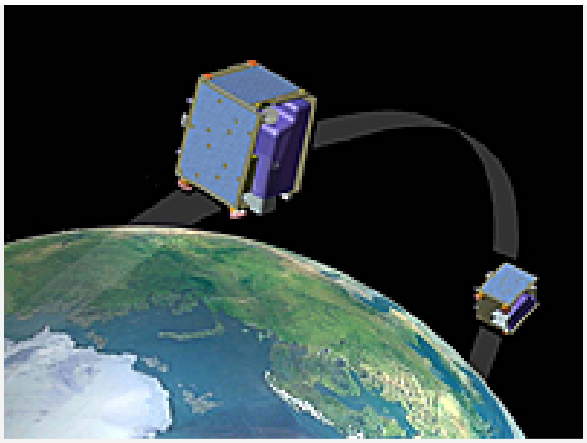

RapidEye: Five satellites in formation flight

Milestone for the commercial application of satellite data

On 29 August 2008 at 09:15 CEST (13:15 local time) the RapidEye satellite fleet launched successfully on a DNEPR-1 launch vehicle from Baikonur spaceport in Kazakhstan. The five identical Earth observation satellites provide data from space for commercial use. The German Aerospace Center (DLR) has supported the German company RapidEye AG, based in Brandenburg, at a level of 15 million euros.

The satellites are in a shared orbit at 630km and will circle the globe 15 times daily. RapidEye will be able to reliably deliver high-quality data from any point on Earth every day. The space segment is supplemented by a satellite control centre, processing and archiving systems. The collected imagery will be an integral part of providing important decision making tools for RapidEye's customers in industries such as agriculture, forestry and cartography.

The constellation will image any area in the world at all latitudes between below 75 degrees north and south within one day on demand, It will also take an average of five days to produce a complete data set for the agricultural land of North America and Europe.

Precise data for agriculture and disaster relief

The constellation is designed to provide insurance and food companies, farmers, governments, and other agencies and institutions throughout the world with up-to-date, customised information products and services. DLR will use some of its scientific data.

RapidEye's applications extend to the area of disaster relief. Future products include thematic maps for harvest planning and provision of crop damage and digital elevation models. RapidEye will also make this information available to international organisations.

Commenting on the launch of the RapidEye fleet, Jochen Homann, State Secretary in the Federal Ministry of Economics and Technology said: "The German RapidEye makes a significant contribution to the growing world market in geo-satellite image data. Today's information society is increasingly dependent on data of this quality and such commercial data distribution is a rapidly-growing and important worldwide economic sector."

Dr Ludwig Baumgarten, a member of the DLR Executive Board and responsible for the DLR Federal Space Agency, said: "The launch of RapidEye is another milestone for Germany on the road to European leadership in satellite projects in the field of Earth observation. After TerraSAR-X, RapidEye is the second major space project in the Public Private Partnership (PPP) area. German space is a pioneer in the private use of Earth observation data and we have a number of German Earth observation satellites in the coming years."

Satellite data for commercial use

Five satellites flying in formation

The satellites were launched by a converted Dnepr rocket under a contract with Britain's Surrey Satellite Technology Ltd (SSTL), to be operated by RapidEye AG.

Each of the five satellites is about the size of a refrigerator and weighs about 150 kilograms. The multi-spectral push broom style imager onboard each spacecraft will image the Earth in five spectral bands, scanning a 77 km swath at 6.5 metre resolution, each strip with a maximum length of 1500 kilometres. After about three months, data will be made available for commerical products as well as for scientists and researchers.

The RapidEye satellite system has involved Kayser-Threde GmbH with the support of DLR since 1996. The construction of the satellite, operation, production of data products and building information services was the responsibility of RapidEye AG.

SSTL designed and built the spacecraft bus, the spacecraft control centre, and performed the spacecraft assembly, integration, and test. Canadian space specialists MDA (MacDonald Dettwiler and Associates Ltd.), have been an important partner in the development of the RapidEye satellite system. MDA has provided the acquisition planning and data pre-processing systems. They also perform all system engineering and programme management tasks.

MDA subcontracted Jena-Optronik GmbH to provide the multi-spectral pushbroom sensors that are the payload of the satellites. These 'cameras' can produce Earth observation data in five spectral bands: red, green, blue, near infrared and red edge. RapidEye's constellation are the first commercial satellites to feature the red edge band. The combination of these five spectral bands is ideally suited to monitor vegetation conditions and to detect growth anomalies.

Support from the German state of Brandenburg, the Federal Republic of Germany and the European Union has helped to bring the RapidEye project to fruition.

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