

PRESS RELEASE

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Berlin, Germany

The SpaceDataHighway is becoming a reality

On 28 November 2014 an important milestone for the building of the European SpaceDataHighway was reached. For the first time, a high-volume data connection at a distance of 36,000 km between a satellite stationed in a low-Earth orbit (LEO) and a satellite located in a geostationary orbit was realized.

Both satellites – the Earth observation satellite Sentinel-1A which has been in outer space since April of this year as well as the European communication satellite Alphasat that was launched in July 2013 – are each equipped with a laser communication terminal (LCT) that was developed and manufactured by Tesat-Spacecom GmbH & Co. KG based in Backnang near Stuttgart. These laser communication terminals contain several optical components and systems manufactured by the Berliner Glas Group.

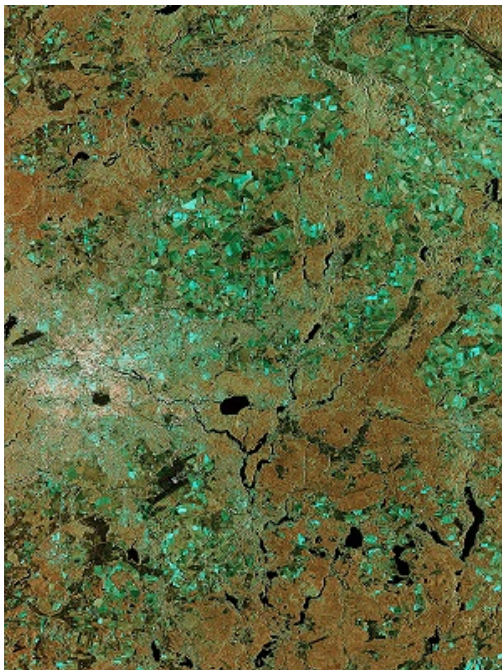
The terminals allow high-speed data transfers of 1.8 Gbits per second (corresponding to the content of three DVDs per minute) between the low Earth orbit and the geostationary orbit. This can significantly improve Earth observation applications and services.

One of the first images delivered using this state-of-the-art technology was a picture showing Berlin in Germany. This image that was published by ESA is shown below.

The optical link between Sentinel-1A and Alphasat is a first step in the development of the European data communication system EDRS. This system will allow low-flying observation satellites to transmit their data to the Earth in near real time. Optical communication allows enormously increasing amounts of data to be made available in a faster, more reliable way to customers for further use on the Earth. In order to exploit the advantages of data transmission with laser light, very sophisticated technologies have been developed and qualified for use in space.

Sentinel-1A is the first of a planned fleet of ESA satellites important to the European Commission's Copernicus environmental monitoring programme.

The Berliner Glas Group currently produces additional optical systems for laser communication terminals at its locations in Berlin, Germany and Heerbrugg, Switzerland.



Berlin from Sentinel-1A via laser; released 28/11/2014 1:51 pm;
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About Berliner Glas:

The BERLINER GLAS GROUP (www.berlinerglas.com) is one of the world's leading providers of optical key components, assemblies and systems as well as high-quality refined technical glass. With more than 1,100 employees, BERLINER GLAS develops, produces and integrates optics, mechanics and electronics into innovative system solutions for its customers. As OEM partners from prototyping to volume production, the BERLINER GLAS GROUP companies serve innovative customers in various market segments – laser and space technology, semiconductor industry, medical technology, metrology, analytics, defense and the display industry.

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