

SpaceDataHighway Starts Full Copernicus Service



The Airbus-operated SpaceDataHighway has begun regularly relaying data from the Sentinel-2A satellite, after the successful end of the commissioning period. This marks the start of the SpaceDataHighway service using all four Copernicus Sentinel satellites and the beginning of a new era for space-based imagery users.

The first two sets of Earth-observing Copernicus Sentinels-1A and -1B and -2A and -2B are signed up to this service as SpaceDataHighway's anchor customers under an agreement between the European Union and the European Space Agency (ESA) as owners of the Copernicus programme, and Airbus as the owner and commercial operator of SpaceDataHighway.

Increased amount of data

Since using the SpaceDataHighway, the Sentinel-1 constellation has increased the amount of data it produces by about 50%. The service is also able to bring operational added-value to Sentinel-1 users by greatly improving the data timeliness for observations outside Europe. This is an important asset for users, especially when it comes to the routine monitoring of remote areas in the domain of maritime applications or assessment of natural disasters and first line response to an emergency.

The SpaceDataHighway is the world's first "optical fibre in the sky" based on cutting-edge laser technology. It will be a unique system of satellites permanently fixed over a network of ground stations, with the first - EDRS-A - already in space. Each day, it can relay up to 40 terabytes of data acquired by observation satellites, UAVs and manned aircraft, at a rate of 1.8 Gbit/s.

Low-orbiting satellites

The relay satellites are designed to lock on to low-orbiting satellites via laser and collect their data as they travel thousands of kilometres below, scanning Earth. SpaceDataHighway then immediately sends the collected data down to Europe from its higher position hovering in geostationary orbit, acting as a go-between. This process allows the lower satellites to continuously downlink the information they are gathering, instead of having to store it until they travel over their own ground station. That way, they can send down more data, more quickly.

The [SpaceDataHighway](#) is a public-private partnership between ESA and Airbus, with the laser terminals developed by Tesat-Spacecom and the DLR German Space Administration. EDRS-A, the first SpaceDataHighway relay satellite launched in January 2016, offers coverage from the American East Coast to India. A second satellite will be launched in 2018. It will double the system's capacity and extend the coverage and redundancy of the system. Airbus is willing to expand the SpaceDataHighway with a third node, EDRS-D, to be positioned over the Asia-Pacific region.