

## Press Release

SPACE SYSTEMS

### **Sentinel-2B satellite ready for launch from Kourou – Copernicus’ ‘Colour Vision’ gets its second eye**

Multi Spectral Instruments provide unique image quality

Data to be transmitted via Airbus’s laser-based SpaceDataHighway (EDRS)

Friedrichshafen, 24/02/2017 - Sentinel-2B, Europe’s next Copernicus satellite is being readied by engineers from Airbus for a 7 March 2017 lift-off from Kourou, French Guiana. Sentinel-2B will be the fifth satellite of Europe’s environmental monitoring programme Copernicus to be launched. Copernicus is an operational programme led by the European Commission (EC) in partnership with the European Space Agency (ESA). The Copernicus Sentinels supply remote sensing data of the Earth to deliver key operational services related to environment and security.

“Sentinel-2B is the next important milestone in Europe’s Copernicus programme for which Airbus is a key contributor. With two highly sophisticated satellites the Sentinel-2 mission will reach its full capability,” said Nicolas Chamussy, Head of Space Systems at Airbus, “and the wide ranging user community will get more "colourful" data in near real-time.”

Offering ‘colour vision’ for the Copernicus programme, Sentinel-2 delivers optical images from the visible to short-wave infrared range of the electromagnetic spectrum. From an altitude of 786 kilometres the 1.1 ton satellites provide images in 13 spectral bands with a resolution of 10, 20 or 60 metres and a uniquely large swath width of 290 km. The optical design of the Multi Spectral Instruments (MSI) has been optimised to achieve state-of-the-art imaging quality across its very wide field of view.

The telescope structures and the mirrors are made of silicon carbide, which provides very high optical stability and minimizes any thermo-elastic deformation to give an excellent geometric image which is unprecedented in this category of optical imagers. The data gathered are used for monitoring land use and changes, soil sealing, land management, agriculture, forestry, natural disasters (floods, forest fires, landslides, erosion) and to assist humanitarian aid missions. Environmental observation in coastal areas likewise forms part of these activities, as does glacier, ice and snow monitoring.

The Sentinel-2 mission is based on a constellation of two identical satellites in the same orbit, 180° apart for optimal coverage and data delivery. The satellites are orbiting the Earth every 100 minutes covering all Earth’s land surfaces, large islands, inland and coastal waters every five days. Sentinel-2A, which is identical in design, was launched on 23 June 2015.

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The Sentinel-2 mission has been made possible thanks to the close collaboration between ESA, the European Commission, industry, service providers and data users. Its development has involved more than 40 companies, led by Airbus in Germany for the satellites and Airbus in France for the multispectral instruments, while Airbus in Spain is responsible for the mechanical satellite structure.

The mission has been supported by the French space agency CNES to provide expertise in image processing and calibration, and by the German Aerospace Center DLR that provided the laser communication payload, developed by Tesat Spacecom, a subsidiary of Airbus in Germany. This piece of technology allows the Sentinel-2 satellites to transmit data via laser to satellites in geostationary orbit carrying the European Data Relay System (EDRS) developed by Airbus for ESA. This SpaceDataHighway allows large volumes of data to be relayed very quickly so that information can be even more readily available for users.

As of February 2017, a total of 63,981 users self-registered on the Sentinels Scientific Data Hub. About 484,000 products are available for download, with a total volume of 585 TB. Overall, a total volume of 2.74 petabytes has been downloaded by the user communities.

### **About Copernicus**

Copernicus is the most ambitious Earth observation programme to date. It will provide accurate, timely and easily accessible information to improve the management of the environment, understand and mitigate the effects of climate change and ensure civil security. This initiative is headed by the European Commission (EC) in partnership with the European Space Agency (ESA) and the European Environment Agency (EEA). ESA is responsible for the coordination of the space component of the programme and coordinating the delivery of data from more than 30 contributing satellites and operates – in tandem with Eumetsat – the Sentinel satellites while the EEA is responsible for data from airborne and ground sensors. The EC, acting on behalf of the European Union, is responsible for the overall initiative, setting requirements and managing the services.

### **The Sentinel satellites**

ESA is developing seven Sentinel missions specifically for Copernicus, the first of which - Sentinel-1A with a radar instrument built by Airbus - was launched in April 2014. The Sentinels provide a unique set of observations, which started with the all-weather, day and night radar images from Sentinel-1, and continue with optical images from Sentinel-2. Airbus is core partner in the Copernicus Programme leading 5 of 7 Copernicus Missions as Prime Contractor: Sentinel-2, -4, -5P, -5, -6 and contributes significantly to Sentinel-1 (Radar-Instrument) and Sentinel-3 (MWR-Instrument).

### **About Airbus**

Airbus is a global leader in aeronautics, space and related services. In 2016, it generated revenues of € 67 billion and employed a workforce of around 134,000. Airbus offers the most comprehensive range of passenger airliners from 100 to more than 600 seats. Airbus is also a European leader providing tanker, combat, transport and mission aircraft, as well as Europe's number one space enterprise and the world's second largest space business. In helicopters, Airbus provides the most efficient civil and military rotorcraft solutions worldwide.

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