

Next Generation of SAR Satellites See the World in Colour



The recent World Radiocommunication Conference (WRC 2015) in Geneva, Switzerland, has allocated new frequency bandwidths for Earth Observation Synthetic Aperture Radar (SAR) systems by doubling the current 600 Megahertz to now reach 1,200 Megahertz. This decision, following four years of preparation and several weeks of intense discussions prior to the Conference, opens the door to an unprecedented resolution quality in colour images from SAR satellites in the future.

This is an important breakthrough for the development of the next generation of SAR systems, which will lead to new applications for a wide range of needs in all the domains where data accuracy is really key, said Evert Dudok, executive vice president of Communications, Intelligence and Security at Airbus Defence and Space.

Improved applications

Thanks to this larger frequency allocation, the next generation of SAR satellites will be able to offer high-quality 25cm resolution imagery and quad polarimetry data to visualise imagery in colour and better analyse surface features such as infrastructures and vegetation. This will drastically improve applications such as surface movement detection due to more precise information on the instable layers near the surface, or maritime safety through detection of smaller vessel and refined identification of suspicious activities. Environmental applications will also benefit from this, especially in land cover and land use mapping as well as forestry monitoring.

This achievement has been made possible through excellent collaboration between the German Aerospace Centre (DLR) and the German, US and French delegations, added Evert Dudok.

Airbus Defence and Space has already been working on the next generation of SAR satellites for several years – as a follow-on mission to the successful TerraSAR-X and TanDEM-X. It can now move forward in offering new applications based on this unprecedentedly high-quality SAR imagery.