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EUMETSAT – Providing accurate, reliable and timely satellite data for weather, climate and environmental applications

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The demand for timely and reliable high-quality Earth-observation data is continuously growing. As the European Organisation for the Exploitation of Meteorological Satellites EUMETSAT today operates several remote sensing satellite missions. As part of the mandatory programmes three EUMETSAT Polar System (EPS) Metop satellites are today in orbit. The last satellite, Metop-C, was only launched in November 2018, whereas the first satellite, Metop-A, launched in 2006, will continue to operate until end of 2021, providing unique opportunities for deriving multi-satellite data from three high-quality polar orbiting satellites and assessing their impact on global NWP.

The second back-bone of the EUMETSAT meteorological satellite fleet is the Meteosat Second Generation system, today a constellation of four geostationary satellites. These satellites provide full-disc service over the European/African/Atlantic region, rapid scan data over Europe and full disk coverage over the Indian Ocean.

Both of the aforementioned systems will be continued with six next generation satellites through the EPS-Second Generation (EPS-SG) and Meteosat Third Generation Programmes. EPS-SG will consist of three sets of two platforms one for imaging and sounding, the second for microwave observations. MTG on the other hand is composed of four imaging platforms including lightning observations and two platforms with infrared and ultraviolet sounders.

As the future focus is moving towards Earth modelling with strongly coupled atmosphere and land/ocean models, EUMETSAT is also engaged in further Earth observation missions. In addition to the meteorological satellite systems EUMETSAT operates and provides data services for oceanography and marine meteorology through the current and future Jason altimetry missions in a multi-agency cooperation involving NOAA, CNES, NASA and Copernicus and the Copernicus Sentinel-3 satellites, with the latter also providing observations for SST and ocean colour.

The EUMETSAT data and products services, which also include reprocessing activities supporting climate services, are provided through a distributed network including Satellite Application Facilities. This presentation will give an overview of the current and future satellite systems, their products and current impact on various application areas