Next-generation EUMETSAT satellite missions: key features, improvement to meteorological forecasting, and user preparation

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Starting in 2022, EUMETSAT is launching its next generation satellites Meteosat Third Generation (MTG) and EUMETSAT Polar System – Second Generation (EPS-SG) as a follow on to its current operational Meteosat and EPS programmes. Data from these new missions will provide enhancement to operational forecasters as well as offer great research potential for better characterising convection, clouds, aerosols, atmospheric chemistry, and other parameters. Meteorological applications based on nowcasting and NWP are expected to benefit significantly.

EUMETSAT is supporting users in operational services as well as in research and academia in their preparation for next-generation satellite data through the MTG User Preparation (MTGUP) and EPS-SG User Preparation (EPS-SG UP) projects. The main objective are to ensure an early uptake of data from the heritage instruments of MTG and EPS-SG thus ensuring a smooth transition and continuity of operations for the National Meteorological Services. A second objective of the UP projects is to support the users in their preparation to gain advantage from the enhanced capabilities of the heritage missions and novel missions that are part of MTG and EPS-SG. These projects also provide a platform for the user communities to share their experiences and cross-fertilise their user preparation activities. The User preparation activities are centered around five core themes: Science support, Test data and format support, User information and communication, training and data access support.

This paper will highlight key features of the next-generation operational EUMETSAT missions, cover the achievements of the user preparation projects over the last two years and the plans for the period 2021-2025. EUMETSAT joins hands with partners and Member States, particularly in national meteorological and hydrological services, in the user preparation activities.