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New and improved European satellite observation capabilities for hazardous weather to be available from 2022 onwards: Meteosat Third Generation (MTG)

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EUMETSAT has provided the user community with more than three decades worth of satellite data, starting with the geostationary missions of the Meteosat First Generation, and since 2002 with the Meteosat Second Generation (MSG) series satellites.

The development of the next generation geostationary program, the Meteosat Third Generation (MTG), is now in its final stages. The MTG system will host a more advanced 16-channel VIS/IR Flexible Combined Imager (FCI) as well as a Lightning Imager (LI) on its geostationary imaging platform (MTG-I), whereas the sounding platform (MTG-S) will host the MTG InfraRed Sounder (IRS) and the Copernicus Sentinel-4 ultraviolet/near-infrared (UVN) sounding missions. The launch of the first two satellites MTG-I1 and MTG-S1 hosting the imaging and sounding instruments is foreseen in 2021 and 2023, respectively.

The new and improved capabilities will significantly enhance the potential for convective storm monitoring, from the earliest initial phases to full maturation and dissipation. In addition, as examples of dedicated applications where the improved capabilities will play a significant role, one can mention fog monitoring and especially the enhanced fire monitoring capability.

The presentation will give an overview of the MTG system, its observation missions, and the main improvements and novelties over Meteosat Second Generation (MSG) in terms of new missions and expected product performance. As a primarily Nowcasting mission, MTG will provide significant additions to the hazardous weather observations in the coming years. The emphasis of the presentation will be on the new observational capability provided by the Lightning Imager.