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European MetOp-SG weather satellites CNES and Eumetsat sign agreement on new-generation IASI-NG instruments

Today at CNES's Head Office in Paris, the agency's President Jean-Yves Le Gall and Alain Ratier, Director General of Eumetsat, signed a cooperation agreement to develop a new generation of Infrared Atmospheric Sounding Interferometers (IASI-NG) to be flown starting in 2021 on the three MetOp-SG A weather satellites of Eumetsat's Polar System Second Generation (EPS-SG).

With the COP21 climate conference underway in Paris, this agreement extends the successful cooperation established for the development of the first generation of IASI instruments on the current MetOp satellites. The ingestion of vertical profiles of temperature and humidity extracted from IASI data by advanced numerical weather prediction (NWP) models has been a key factor in significantly improving 10-day weather forecasts over the last decade.

Under the agreement, CNES will fund 70% of the development cost of the first instrument, develop the full IASI-NG system composed of the instrument and the data processing chain, supply recurrent instruments and provide support to operations. Eumetsat will fund 30% of the development costs of the first instrument and the recurrent instruments in full, integrate the IASI-NG data processing chain in its operational ground systems and exploit the IASI-NG instrumental chain.

The IASI-NG instruments will measure infrared spectra with twice the spectral resolution and radiometric accuracy of IASI. This will allow extraction of more accurate vertical profiles of temperature and humidity with higher vertical resolution close to the surface, a key requirement for further improving NWP models at global and regional scales, at ranges of 12 hours to more than 10 days ahead.

These improvements will also allow more quantitative information to be retrieved on trace and greenhouse gases like ozone, methane and carbon monoxide than from IASI data, including vertical profiles where currently only total columns are measured. IASI-NG will thus play an essential role for air quality forecasting and climate monitoring, in combination with other instruments, including the Copernicus Sentinel-5 instrument also to be flown aboard the MetOp SG-A satellites and the MERLIN methane-profiling mission developed by CNES and the German space agency DLR.

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