

CEOS MIM Database Quarterly Report

January 2025

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The CEOS MIM Database provides information on CEOS agency Earth observation satellites based on an annual survey of CEOS members, and is available online at database.eohandbook.com. This report is a summary of key mission activities from the past quarter and provides a look at the next six months.

Latest News

ROSKOSMOS and ROSHYDROMET's **Ionosphaera-M N1 & N2** satellites successfully launched onboard a Soyuz-2-1b rocket from Vostochny spaceport on November 5, 2024. Ionosphaera-M, also spelled Ionosfera-M, is a four-satellite constellation aimed at monitoring space weather. The remaining Ionosphaera-M satellites, **N3 & N4**, are planned for launch later in 2025.

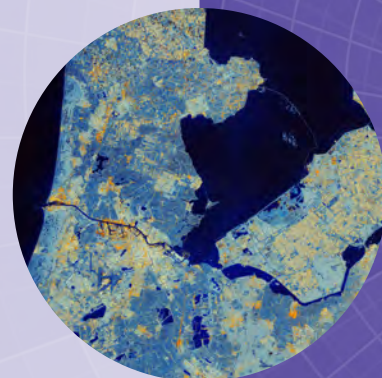


Ionosphaera-M N1 & N2 launch (ROSKOSMOS)

Kondor-FKA N2, an S-band Synthetic Aperture Radar (SAR) mission, launched on November 29, 2024. The ROSKOSMOS mission will monitor disasters, the sea surface, and environment, with a particular focus on sea ice measurements. The satellite is operating in a sun-synchronous orbit, at an altitude of 510 km and inclination of 97.4°.

ESA and the European Commission's **Copernicus Sentinel-1 C** launched successfully on December 5, 2024. Sentinel-1 C replaces **Sentinel-1 B**, following a failure in December 2022, and joins **Sentinel-1 A** in orbit, which launched in 2015. With two satellites once again operational, the Sentinel-1 constellation will be able to resume nominal operations and restore a 6-day revisit period. The launch of Sentinel-1C also marked the return to flight of Vega-C, Europe's lightweight, high-performance rocket.

The fifth Resurs Prospective satellite, **Resurs-P N5**, launched on December 25, 2024 from the Baikonur Cosmodrome in Kazakhstan. The Russian high-resolution optical satellite carries both hyperspectral and multispectral imagers, achieving resolutions up to 0.7 m for its Geoton-L1 instrument designed for land and vegetation observation.



First image from Sentinel-1 C (ESA)

NORSAT-4, the Norwegian maritime monitoring microsatellite, launched on the SpaceX Transporter-12 rideshare mission on January 14, 2025. The satellite carries an AIS receiver as well as a novel Low Light Imager. The latter is capable of detecting ships longer than 30 meters, even during periods of darkness or under poor lighting conditions.

Upcoming Launches

Mission	Agencies	Launch	Purpose
THEOS-2 Small Satellite	GISTDA	January 2025	Companion mission for THEOS-2A. Capacity development of Thai engineers in satellite manufacture and operations is a priority.
NISAR	NASA / ISRO	Q1 2025	Will track movement of the Earth's crust and ice cover. The only current satellite to carry two SAR instruments with different radar frequencies.
Biomass	ESA	H1 2025	Carries the first space-based P-band SAR instrument which will provide comprehensive measurements of global forest biomass.
CO3D	CNES	H1 2025	Will provide global Digital Surface Models in 3D of landmasses between 70° N and 70° S with a resolution of 1 m.
GOSAT-GW	JAXA / MOE / NIES	H1 2025	A follow-on mission to GCOM-W and GOSAT-2, focusing on greenhouse gases and the global water cycle.
LOTUSat-1	VAST	H1 2025	Vietnamese X-band SAR mission. Will support disaster risk reduction and climate change mitigation.
MicroCarb	CNES / UKSA	H1 2025	Carries an imaging spectrometer to measure atmospheric carbon dioxide concentrations.