

CEOS MIM Database Quarterly Report

January 2022



The Earth Observation Handbook, prepared by the European Space Agency (ESA) in support of the Committee on Earth Observation Satellites (CEOS), presents the main capabilities of satellite Earth observations, their applications, and a comprehensive overview of present and planned civil space agency Earth observation satellite missions and their instruments. The database which serves as the foundation for the missions, instruments, and measurements information at the heart of the Handbook content is updated annually and is always available online at:

<http://database.eohandbook.com>

This page provides a summary of key mission activities from the past quarter (Oct-Dec., 2021), and the coming two quarters (Jan-Jun., 2022).

Latest News

Two CEOS Agency EO satellites were successfully launched in the last three months, with approximately 11 launches expected in the first half of 2022.

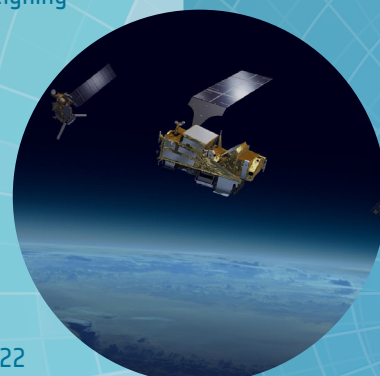
The Vietnam-made micro-satellite **NanoDragon** was launched into an orbit of 530km on 9 Nov. 2021. Weighing 3.8kg, the satellite belongs to the CubeSat category, with its main task being integration of an Automatic Identification System used for the purpose of tracking and monitoring vessels at sea.

EUMETSAT's **MetOp-A** satellite, launched on 19 Oct. 2006, reached the end of its life on 15 Nov. 2021. The satellite was Europe's first polar-orbiting satellite dedicated to operational meteorology, and far exceeded its design lifetime of five years. **MetOp-A** is survived by its successors, **MetOp-B & C**, which make up the EUMETSAT Polar System (EPS). EUMETSAT is currently developing **MetOp Second Generation (SG)** to follow on from the successful EPS, with launch targeted for 2024. The design and manufacture of the MetOp missions is facilitated by ESA, while other country-level European space agencies, such as CNES and DLR, contribute to the development of onboard instruments.

Light-1 was launched to the International Space Station on 21 Dec. 2021, and will be deployed in Q1 2022 from the Japanese Experiment Module. Built and designed in a collaboration between Khalifa University, New York University Abu Dhabi, the National Space Science Agency in Bahrain, and the UAE Space Agency (CEOS Member since 2018), the nanosatellite will be the region's first mission to monitor and study terrestrial gamma ray flashes from lightning storms and cumulus clouds.



VAST-VNSC
NanoDragon
team

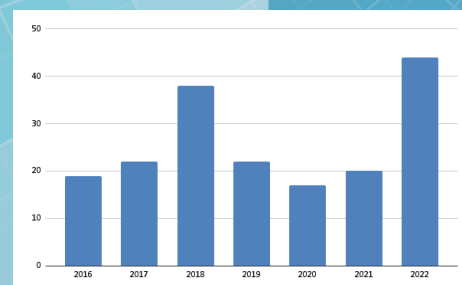


Metop series

Upcoming Satellite Launches

In collaboration with the Cape Peninsula University of Technology, the South African National Space Agency has developed **MDASat-1**, a mini-constellation of three satellites for maritime domain awareness. The mission will use Automatic Identification System (AIS) data to monitor the waters off South Africa's coast for shipping movements within their Exclusive Economic Zone (EEZ), and is expected to launch in the 2021-22 Southern Hemisphere summer.

With the successful launch of the **TROPICS Pathfinder** mission in Jun. 2021, NASA will launch the other six satellites that comprise **TROPICS** (Time-Resolved Observations of Precipitation structure and storm Intensity with a Constellation of Smallsats) in the first half of 2022. The first two are expected to launch in Mar. 2022, with a further two launches planned for the remaining four satellites.



CEOS Agency satellite
launches 2016-2022

Launched

NanoDragon
VAST-VNSC
9 November 2021

Light-1
UAE SA / KU / NYUAD
21 December 2021

Upcoming

MDASat-1
SANS / CPUT
January 2022

CSG-2
ASI / MoD (Italy)
January 2022

GOES-T
NOAA / NASA
March 2022

ALOS-3
JAXA
March 2022

CAS500-2
KARI / KAI / NGII
March 2022

TROPICS
NASA
March 2022

RISAT-1A
ISRO
Q1 2022

OCEANSAT-3A
ISRO
Q1 2022

Lares-2
ASI
April 2022

EnMAP
DLR
April 2022

EMIT-on-ISS
NASA
May 2022