

Showcasing the atmosphere-studying Odin mission

What

Part of ESA's Third Party Missions (TPM) programme, **Odin is a remote-sensing satellite focused on improving understanding of the atmosphere.** It has remained operational for more than two decades, far exceeding its planned lifespan of two years

When

Launched on

20 FEB
2001

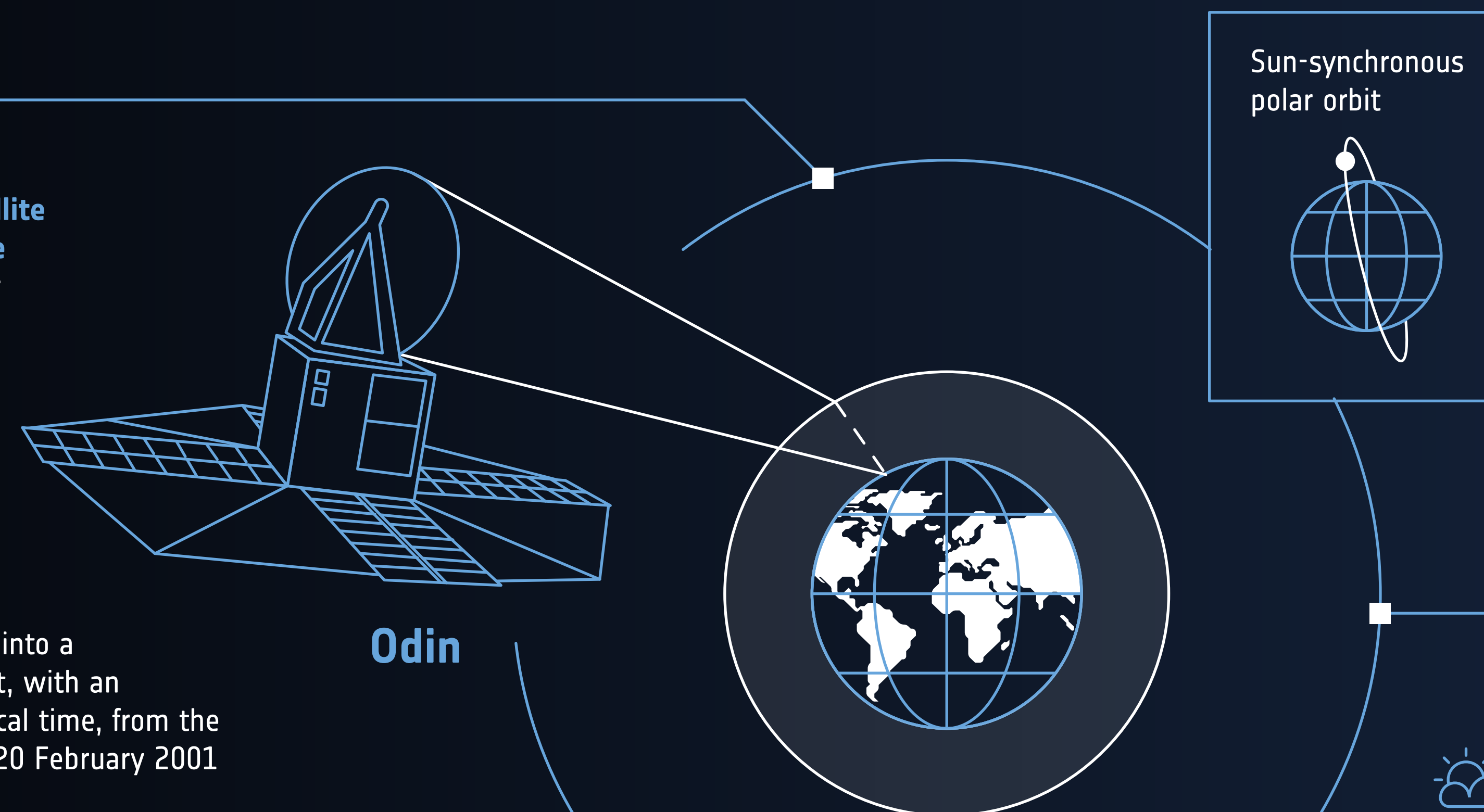
The satellite was delivered into a Sun-synchronous polar orbit, with an ascending node at 18:00 local time, from the Svobodny Cosmodrome on 20 February 2001

Developed by

Odin's development was led by the Swedish National Space Agency in cooperation with counterpart agencies in Canada, Finland and France. The satellite was manufactured by the Swedish Space Corporation (SSC) and is now operated jointly by OHB Sweden and SSC Esrange

Objectives

Odin was initially designed to investigate both the formation of the early Solar System and processes taking place in Earth's atmosphere. Since 2007, it has concentrated solely on the latter application



Instruments

Odin hosts two sensors, which use different measurement techniques to deliver complementary information on the atmosphere:

- The **Submillimeter Wave Radiometer (SMR)** is a passive microwave limb sounder, which retrieves altitude profiles of chemical species and gathers temperature measurements
- The **Optical Spectrograph and Infrared Imaging System (OSIRIS)** is a dual-purpose ultraviolet, visible and infrared limb sounder, which retrieves altitude profiles of chemical species and detects aerosol layers

Applications

Odin enables research into:

- **The health of the ozone layer**
- **The atmospheric impacts of climate change**
- **Interactions between solar activity and Earth's atmosphere**
- **Planetary-scale periodic changes in the atmosphere**

Achievements

22 years after it began operations, Odin is continuing to enable high-impact science. To date*, Odin data have resulted in 406 publications from 298 institutions, with contributions from 1148 unique authors

Data and users

ESA's TPM programme distributes Odin data on a free basis to support research and application development:

earth.esa.int/eogateway/catalog/odin-osiris-data-products

earth.esa.int/eogateway/catalog/odin-smr-data-products

