

smallgeo

→ SMALL GEOSTATIONARY PLATFORM

WHAT IS SMALLGEO?

SmallGEO is a telecommunications satellite platform capable of accommodating a wide range of commercial payloads and missions, from TV broadcasting to multimedia applications, internet access and mobile or fixed services in a wide range of frequency bands.

Its new, modular and flexible design boosts European industry's ability to play a significant role in commercial satcoms by easing entry into the lower mass class telecom satellite market.

The platform is developed by OHB System (DE) under ESA's Advanced Research in Telecommunication Systems (ARTES) programme. The SmallGEO platform's first mission will be the Hispasat 36W-1 satellite under a public-private partnership with operator Hispasat (ES).

The SmallGEO programme is composed of three subelements.

- subelement 1 concerns the development and first flight model manufacturing of the generic SmallGEO platform.
- subelement 2 is the development, manufacturing and launch of the platform's first satellite mission, Hispasat 36W-1, providing flight heritage and in orbit demonstration.
- subelement 3 aims to increase the competitiveness of the SmallGEO product by speeding up the production and testing process, reducing costs and broadening the range of design options, like offering a fully chemical propulsion system option instead of a hybrid chemical and electric model.



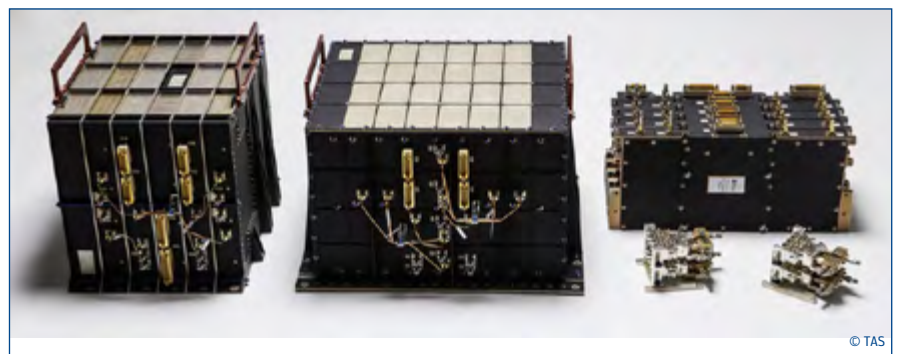


FIRST FLIGHT

Hispasat 36W-1 will be the first telecommunications satellite to use the SmallGEO platform.

H36W-1 will provide Europe, the Canary Islands and South America with faster multimedia services through its Redsats payload, which offers better signal quality and flexible land coverage. This, together with a traditional commercial payload that uses advanced Ka- and Ku-band transmitters, means H36W-1 can operate at higher transmission speeds compared to previous generations.

Hispasat will integrate H36W-1 into its existing fleet of geostationary communications satellites. OHB System (DE) will be responsible for integrating the satellite, testing it in orbit and kickstarting the satellite into early operations.



REDSAT PAYLOAD

Hispasat 36W-1 is a standard commercial telecommunications payload coupled with the Redsats payload, based on an advanced on-board processor and a Direct Radiating Antenna (DRA).

Redsats was developed by Thales Alenia Space (ES) with flight units built by TAS and Airbus Defence and Space (ES). It is a regenerative on-board processor for next-generation internet broadband data services with much improved signal quality and speed. Its antenna can service four reconfigurable areas over the visible Earth.

The Redsats system is able to process four Ku-band 36 MHz communication channels simultaneously, and can convert data received in the DVB-RCS standard to the newer Digital Video Broadcasting Second Generation DVB-S2 standard.

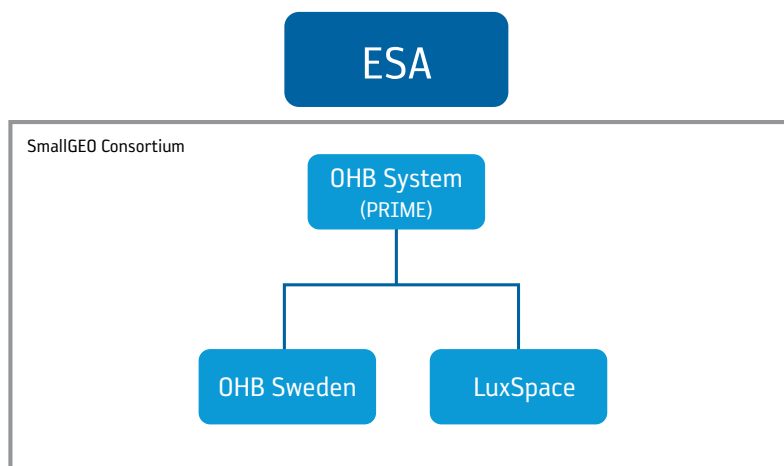
The Hispasat 36W-1 prime TESAT (DE) integrated and tested the Redsats equipment with the 36W-1 payload, which includes Tryo Aerospace (ES) equipment in Ka- and Ku-bands.

BIG PARTNERSHIPS FOR SMALLGEO

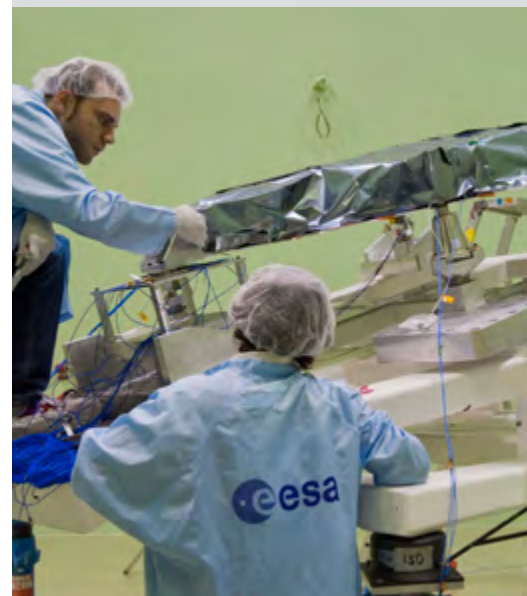
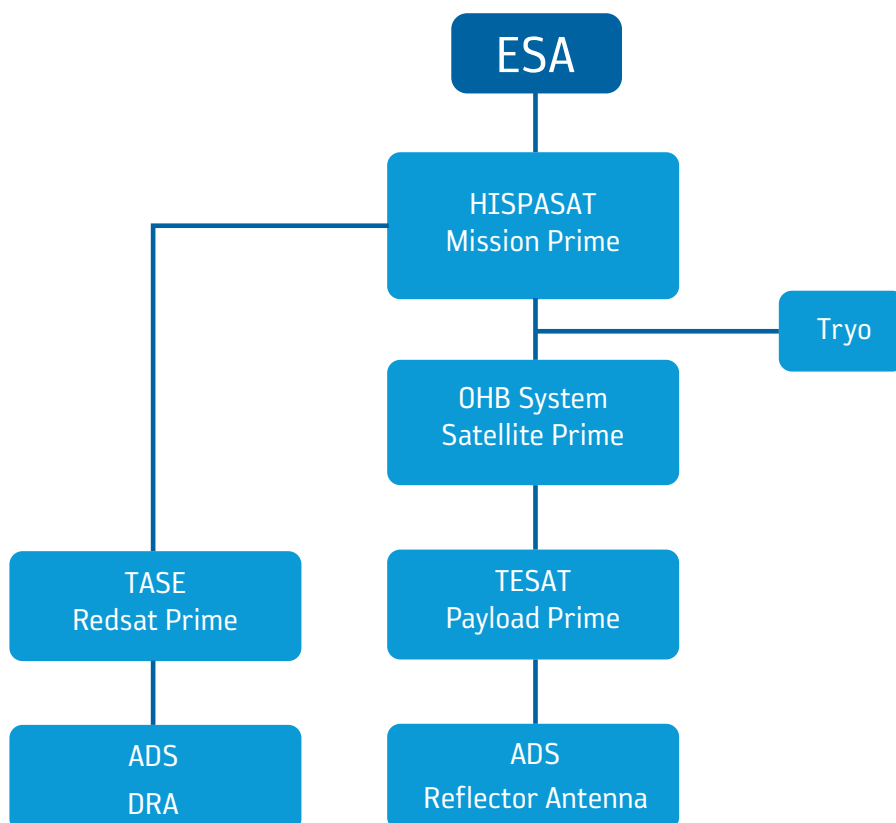
The SmallGEO Platform Initiative is an industrial consortium led by OHB System with OHB Sweden (SE) and LuxSpace (LU) as core team partners working with several suppliers. This core team will also commercialise the platform for future business.

The first flight opportunity is under a public–private partnership between ESA and the telecom satellite operator Hispasat, who defined commercial payloads especially for the SmallGEO platform. This led to the Hispasat 36W-1 satellite for Hispasat's fleet. Hispasat also funds the launch and in-orbit operations.

SMALLGEO PARTNERS




HISPASAT 36W-1 PARTNERS





FACTS AND FIGURES

SmallGEO product line

First flight	Hispasat 36W-1 (Hispasat)
Second flight	EDRS-C (Airbus D&S/Avanti)
Orbital position	Geostationary orbit
Lifetime	15 years
Payload mass	up to 300 kg
Payload power	up to 3 kW
Propulsion	Transfer to GEO: chemical Orbital station-keeping: electric
Launcher compatibility	Ariane 5, Proton, Falcon 9, Soyuz
Prime contractor	OHB System (DE) 

Hispasat 36W-1

Launcher	Soyuz
Launch site	Kourou, French Guiana
Launch date	Q1 2017
Orbital position	Geostationary orbit
Lifetime	15 years
Payload	<ul style="list-style-type: none"> • 3 Ka-band transponders • 20 Ku-band transponders • Redsat (up to 4 Ku-band channels) • 3 reflectors (2 deployable) • 1 DRA Rx antenna
Coverage	Europe The Canary Islands South America
Size	3.7 m x 1.9 m x 2 m
Satellite mass	3200 kg at lift off
Platform	SmallGEO
Control centre	Hispasat, Arganda del Rey, Spain
Operator	Hispasat (ES) 

HOW DO I FIND OUT MORE?

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