



IN FIGURES

Ephemeris



One notable advantage that Galileo has over GPS is the refresh rate of its ephemerides, which continuously define the satellite's time and range parameters and send them to receivers. GPS refreshes these parameters every 24 hours, whereas Galileo does it every ten minutes. The constellation is also interoperable with other satellite navigation services, consolidating its near-metre accuracy and even centimetre accuracy for professional users.

80 ms

23,222 kilometres is the altitude of the Galileo satellites' orbit. Their signals reach receivers in near-real time, taking 80 milliseconds to 0.1 seconds.

3

Frequency bands used by Galileo, including E6 centred on 1.28 GHz, also used by ham radio.

SYNCHROCUBE



The Synchrocube nanosatellite project launched in 2002 by a consortium¹ of French manufacturers has big ambitions for a small satellite. Looking to become a complementary solution to the GNSS network, it will pack innovative technologies into a small form factor, including a microwave receiver the size of a cigarette packet. The system will provide robust synchronization when GNSS signals are

unusable as a result of atmospheric disturbances, masking, being indoors or jamming. Synchrocube prefigures a type of future constellation in low Earth orbit which, once complete, could serve sectors like energy, telecommunications, smart transportation and finance to name a few. It was one of the first projects selected and funded by the government's recovery plan for space and is therefore being supervised by CNES. The first satellite in the series is scheduled to launch in 2023.

1. U-Space, Syrlinks, Anywaves, Comat and Microtec.

11

IT HAS TAKEN

11 launches to place the 28 satellites in the Galileo constellation into orbit, 24 of them operational.

2000

Operational since 1979, COSPAS-SARSAT today saves more than 2,000 lives every year. With its global coverage and return link service since 2020 via SAR-Galileo (see Timeline p. 28-29), it's now set to save even more.

99,7 %

Percentage of global coverage as of December 2021 where Galileo's Open Service (OS) was available.

30

Optimal composition of the Galileo constellation, comprising 24 nominal satellites and 6 on-orbit spares, expected to be reached by 2024.

4

The minimum number of satellites that must be in view for Galileo users to determine their position. To meet this requirement and ensure global coverage, a constellation of at least 24 satellites is needed.

3,000,000,000

GALILEO-ENABLED SMARTPHONES AS OF MID-APRIL 2022.

Source: <https://www.usegalileo.eu/accuracy-matters/EN>

1m

The current positioning accuracy of Galileo. This parameter is measured independently and performance is checked by CNES, in particular at the reference station in Toulouse.



An infinite number of users can benefit from Galileo's freely accessible "open" signals.