

GNSS and your phone

What is GNSS?

Global Navigation Satellite System (GNSS) refers to any satellite constellation that provides global positioning, navigation, and timing services.

Using signals from space, these systems transmit ranging and timing data to GNSS-enabled receivers – such as your phone –, which then use this data to determine location.

With the Galileo constellation now having a significant number of operational satellites, along with GPS and other GNSS, your device can achieve better location accuracy and faster fixes.

Why use GNSS on my phone?

- 1 With the use of the Fused Location Provider (FLP) solution which combines data from GNSS, network location, accelerometer, gyroscope, barometer and magnetometer, the **reliability and accuracy** of location services improve.
- 2 Dual-frequency capabilities in newer devices **reduce signal delays** and enables **quicker positioning**, which is especially beneficial for navigation apps and making emergency calls.
- 3 **GNSS are available worldwide**, with strong coverage in urban areas and challenging environments.
- 4 The use of FLP does slightly improve the PVT¹ accuracy in the vertical component in the **urban environment**.

Which apps use GNSS?



Navigation apps use GNSS to provide more precise directions for driving, cycling, walking and outdoor activities.



In the EU, smartphones with Galileo can transmit precise location data during **emergency calls**, reducing response times.



Ridesharing and delivery apps rely on GNSS for enhanced location tracking for drivers and customers.



Mobile apps using GNSS can support **sustainable tourism** practices, giving end users information on their environmental footprint.

EUSPA's role

- Provides ongoing support for smartphone manufacturers integrating Galileo
- Manages Galileo services provision and the maintenance of the Galileo system including deployment
- Ensures that Galileo services are delivered with the defined performance and without interruption
- Connects space technology and user needs and translates Galileo services into valuable, reliable solutions for European citizens

Facts and figures

95%+

of smartphones are Galileo-enabled (2024)

50+

manufacturers support Galileo

5 m

positioning accuracy at average user location as defined by the OS-SDD.

4.5+ billion

devices worldwide use Galileo

¹ Position, Velocity, and Time

