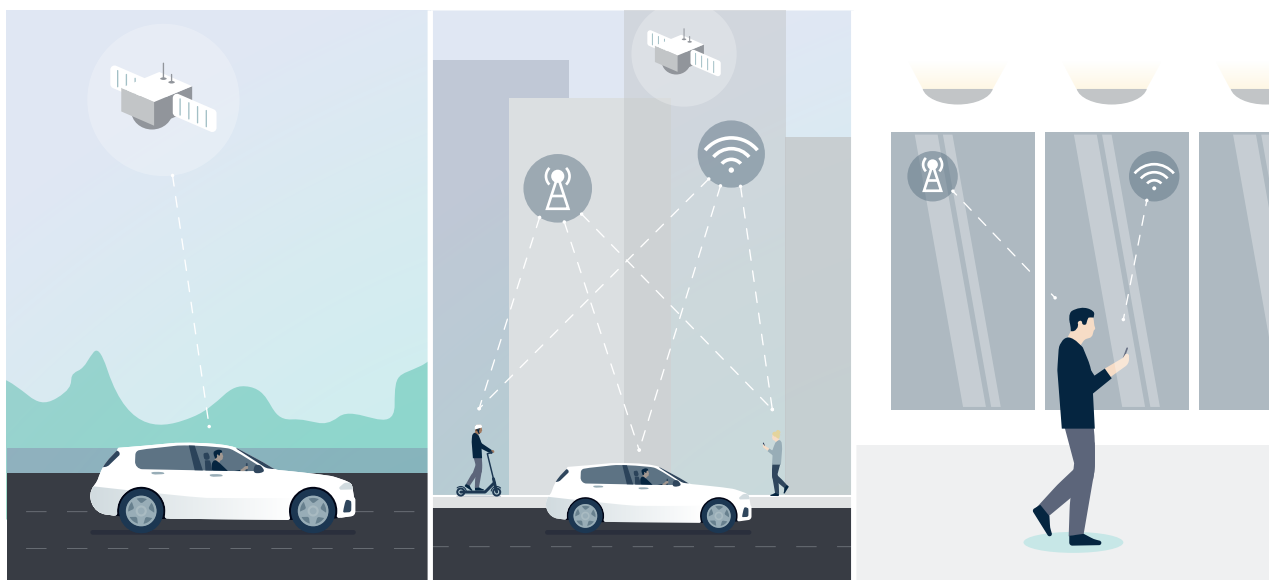


HERE Positioning

Locate devices and assets outdoors and indoors

HERE Positioning is a suite of cloud-based services and SDKs to accurately locate devices and assets through the use of satellite (Global Navigation Satellite System, known as GNSS), cellular and Wi-Fi signals in different environments – outdoors under open sky conditions, urban environments where satellite signals may be compromised, as well as indoors. **HERE Positioning** has three components: HD GNSS Positioning, A GNSS Positioning and Network Positioning. They work together or independently to provide a comprehensive solution for highly accurate positioning.



HERE Positioning has applications across industries. In **automotive**, it can provide lane level guidance for ADAS, assisted and autonomous driving and parking. In **fleet management**, it can reduce inaccuracies that put drivers in a wrong location. It can also be used to recreate driver paths to aid post-trip analysis. For **network operators**, it provides Z level information - like the floor in a multi-story building - to determine the precise location of emergency calls.

HERE Positioning helps **public sector agencies** route calls to appropriate dispatch or response centers by using Wi-Fi to determine a caller's location. **Device and chipset manufacturers** can enable Wi-Fi-only devices to become location aware using cell and/or Wi-Fi signals. For **ride-share/ride-hailing operators**, **HERE Positioning** prevents drivers from spoofing or jamming GPS locations, as well as helping locate assets, riders and drivers.

How does it work?

The three components of **HERE Positioning** ensure accurate positioning under different conditions. **HD GNSS Positioning** provides hyper precise sub-meter level accuracy using a satellite system under open sky conditions. **A GNSS Positioning** reduces time to first fix (TTFF) of devices. In urban environments and indoors, when satellite signal is compromised or not available, **Network Positioning** uses a database of constantly updated mobile Cell IDs and Wi-Fi access point measurements to locate devices with high precision. For private environments, where crowdsourcing is not optimal, **HERE Positioning** also provides radio mapping tools that use Wi-Fi signals.

- A GNSS and HD GNSS Positioning support GPS, GLONASS, BeiDou, Galileo and QZSS
- Network Positioning uses global and crowdsourced cell IDs, Wi-Fi, HD Wi-Fi and hybrid positioning that is constantly updated
- Optimized for power and data usage
- Global data centers with premium SLAs support critical use cases

Differentiators

Seamless outdoors to indoor transitions:

Enables solutions that provide end-to-end positioning under a wide range of environmental conditions and requirements.

High precision: Satellite-based positioning with accuracy up to 0.2 meters. Where satellite signals are compromised, exceptional accuracy comes from Wi-Fi access points and cell tower density.

Scalable and low cost: HD GNSS Positioning works with mass-market devices and doesn't need extra hardware. Network positioning benefits from global machine learning, reliable and scalable infrastructure.

Flexible implementation: SDK available for client-side network positioning development. With HERE HD GNSS Positioning, a reference implementation is provided with a positioning engine.

Global coverage - with multi-cloud

availability: Can be deployed quickly and easily anywhere - including in both China and Japan. Available on AWS and Azure.

Online and offline: When network connectivity is unavailable, devices can locate themselves through offline radio map tiles. This provides a faster TTFF, with low power consumption.

On-premises positioning: A self-hosted version of Network Positioning for customers needing added security. Uses Wi-Fi access points observed by a device on a customer hosted database for more immediate results.

About HERE Technologies

HERE, a location data and technology platform, moves people, businesses and cities forward by harnessing the power of location. By leveraging our open platform, we empower our customers to achieve better outcomes – from helping a city manage its infrastructure or a business optimize its assets to guiding drivers to their destination safely. To learn more about HERE, including our new generation of cloud-based location platform services, visit <http://360.here.com> and www.here.com.