

# HERE HD Live Map

## Crowdsourced data to precisely locate cars and understand their surroundings

HERE HD Live Map helps autonomous vehicles understand their precise position and surroundings. The product is a highly-detailed, cloud-based map for autonomous systems. It's updated in near-real time with sensor data from connected vehicles. HERE HD Live Map enables a self-driving vehicle to plan beyond sensor visibility, apply contextual awareness of its environment and process local road rules to make safer and more pro-active driving decisions. In doing so, it brings together critical pieces of the self-driving puzzle to enhance trust in autonomous driving solutions and pave the way for automated driving.



HD Live Map is integrated, scalable, off-the-shelf product with three distinct content layers. The Road Model contains ADAS map content at a global scale to provide local knowledge that goes beyond the visibility of onboard sensors. It's based on the HERE navigation map, with road topology, ADAS attributes and embedded semantic data.

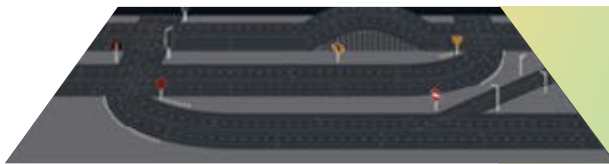
The HD Lane Model provides precise, lane level detail to assist self-driving vehicles. It supports high definition lane topology and geometry, modeled with 3D positions. It also enables additional redundancy for advanced ADAS features. The HD Localization layer contains accurate road furniture, such as signs and poles. Vehicles also use its near-exact location for path planning and other decision-making functions.

# How does the service work?

The base map is the foundation of HERE HD Live Map. Data for the base map is captured using HERE True Vehicles, which are equipped with LiDAR. They collect 28TB of data everyday – with accuracy down to centimeters. Using crowdsourced vehicle sensor data, we also collect information on drive paths, lane markings and more. These sources are combined with others - like satellite imagery – to maintain a fresh HERE HD Live Map, which is then made available through HERE Marketplace and is published in the HERE Native format (Protobuf) and as NDS 2.5.4.

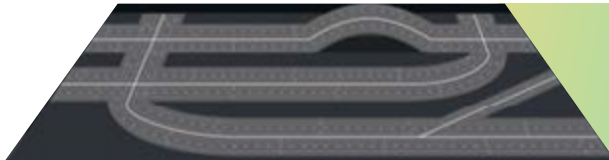
Vehicles differ in size, sensor set-up and drive path. These variations result in many observations of the same roadside objects. Machine learning aggregates this varying data to determine the precise location of roadside artifacts. Data is then turned in our three layers, with each enabling a higher level of ADAS and automated driving capabilities. Layers are delivered tiles, for more efficient over-the-air updates.

## HERE Live HD Map layers



### → HD Localization | L2+/L3/L4

Roadside furniture, such as signs, barriers, poles, signals, road surface marking, places of interest and overhead structures



### → HD Lanes | L1/L2

Lane level features, such as types, lines, widths, markings, boundaries, access characteristics, stop areas, raised surfaces, and speed limits



### → HD Road | L0/L1

Road characteristics, such as topology, direction of travel, elevation, slope, ramps, rules, boundaries, tunnels and intersections

## Differentiators

### Scalable, open and flexible

Access a range of products and services for automated vehicles through the HERE HD Live Map.

### Enhance safety and driver trust

Help a self-driving vehicle make more informed decisions and use machine learning to validate map data against the real world in real time.

### Expand into new markets

Sustain a global rollout with map data that lets you build reliable and scalable solutions for current and future customers.

### Reliable and fresh

Use the most recent data to inform driving decisions. The self-healing map analyzes data from multiple sources for fresh and reliable maps.

**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 [360.here.com](https://360.here.com) and [www.here.com](https://www.here.com).

**Want to talk?** We do, too. [Get in touch here.](#)

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