

HERE HD Live Map now at 555,555 km; beyond 1 million km later this year

January 9, 2018

Las Vegas, CES 2018 – Two years on from its first-generation release at CES 2016, HD Live Map, HERE Technologies' pioneering map for automated cars, continues to blaze a trail for others to follow.

Today, that trail runs to 555,555km; later this year, it will have grown to 1 million km of roads across North America and Western Europe charted to sub-meter accuracy. This includes lane configurations with lane markings, lane centerlines, speed limits and shoulders, as well as a complete layer of roadside objects and 3D obstacles for vehicle localization.

HD Live Map is the de facto global standard

HERE's build out of HD Live Map is tightly aligned with the global strategies and product development cycles of automakers as they introduce advanced autopilot applications into their cars. Numerous partners around the world are following HERE's lead by adopting HD Live Map specifications, making it the de facto global standard in mapping for the cars of the future. The ongoing expansion of HD Live Map into China and Japan, where HERE is working respectively with partners NavInfo and Pioneer, will further increase the coverage available to automakers well beyond 1 million km.

The HD Live Map data ecosystem just got bigger

Crucially, HERE is also ensuring global coverage availability is in step with its ability to keep the map fresh and useful. This is where the company's unmatched access to real-time sensor data from vehicles comes into play. Last week, automotive technology leaders Bosch and Continental signaled their plans to join a growing constellation of data providers that will further enrich HD Live Map. This follows LG Electronics' announcement in December that it plans to enable HD Live Map for its customers too. Practically every major automaker and automotive tier 1 globally, along with a handful of cities, are exploring how HD Live Map can support their products and services. All in all, there are now 70 partners either evaluating HD Live Map or already using HD Live Map in live deployments across North America, Europe and Asia. At this week's CES 2018 in Las Vegas, HERE plans to make further partnership announcements demonstrating how HD Live Map is gaining traction across the technology industry. These partnerships will

facilitate a technology exchange that helps accelerate speed and automation in HD Live Map development.

"Maps for autonomous cars are the beginning as we look towards an Autonomous World," said Edzard Overbeek, CEO of HERE Technologies. "As we build the data infrastructure required, collaboration across industries is mandatory. With HD Live Map living on an open location platform that is accessible to everyone, HERE is well positioned to catalyze that collaboration."

HERE's new and unique safety services are a key ingredient in HD Live Map

Road users need not wait for the self-driving era to benefit from innovative connected services. Last week, HERE launched HERE Safety Services, a suite of unique safety-enhancing services that are the first step towards a self-healing map, with BMW the first customer. The services are unique because they are the first to aggregate real-time, rich sensor data generated by cars of different brands on the road. By utilizing data emitting from a vehicle's on-board sensors, such as hazard lights, fog lights, camera, emergency brakes and electronic stability control, HERE identifies change in the real world, such as a broken-down car or changed speed limit. The services then deliver that information back out to vehicles and drivers. This demonstrates HERE's ability to 'close the loop' in near real-time – a fundamental requirement for maps for self-driving technology. These services will form an integral data layer in HD Live Map.

QI: an innovation in HD Live Map that's set to be the new industry yardstick for how automakers measure and utilize autonomous driving maps

One of the conundrums for vehicle manufacturers developing highly automated cars is determining when the car or the driver should be in control. A vehicle in self-driving mode has to make thousands of driving decisions on the fly, yet it does so without the luxury of perfect information about the road environment. At its booth at CES 2018, HERE is demonstrating a new advance in autonomous driving mapping designed to help: a new technology being tested with select customers called Quality Index, or *QI* for short.

For every road segment and lane model attribute within HD Live Map, QI assigns scores denoting the predicted quality of the map information. By fusing these scores with its other data inputs, the car is then able to make more informed decisions about its driving strategy, including whether to be in self-drive mode, adjust its speed, or simply hand back control to the driver.

QI scores broadly reflect how HERE HD Live Map updates rapidly on busy roads, and less frequently on quieter roads. On highways and city roads during daytime hours, for example, there are more real-time camera and other sensor observations from cars on which HERE can draw. HERE processes this data using machine learning techniques into map information which can then be rapidly redistributed to other vehicles. If the road ahead is mapped with the aid of a high volume of recent observations, QI can tell the car with a high degree of certainty that the map represents reality.

QI is unique to the HERE HD Live Map, and HERE has filed a patent application for it.

"We're developing QI to address a real industry need," said Ralf Herrtwich, SVP Automotive

at HERE Technologies. "It will help developers of automated cars to adjust their implementation exactly to the level of accuracy and freshness of map data available on any stretch of road travelled. This is another major step forward in our development of the world's leading dynamic map for the self-driving era."

###

Media Enquiries HERE Technologies James Etheridge +49 151 1004 1241 james.etheridge@here.com

Dr. Sebastian Kurme +49 173 515 3549 <u>sebastian.kurme@here.com</u>

Jordan Stark +1 312 316 4537 jordan.stark@here.com

About HERE Technologies

HERE, the Open Location Platform company, enables people, enterprises and cities to harness the power of location. By making sense of the world through the lens of location we empower our customers to achieve better outcomes – from helping a city manage its infrastructure or an enterprise 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