HERE Product Catalog 2021

HERE is your destination for the most accurate location-driven data solutions.

Table of contents

Want to talk? We do, too. Get in touch here.

HERE Map Content

Want to talk? We do, too. Get in touch here.

HERE Maps

From autonomous driving and business intelligence, to zone-based geofencing, HERE offers a map to meet every need, enabling an increasing number of use cases across a wide range of industry segments.

Essential Map

Essential Map is a basic 2D canvas of the world that enables use cases such as basic map display, data visualization, search, localization tracking and tracing.

Advanced Map

Built on Essential Map, Advanced Map is the most complete and detailed map available. It includes detailed features for modelling road networks, such as navigable attributes, speed limits, sign text and the full set of Places*. Advanced Map enables use cases such as point-to-point routing, turn-by-turn navigation, advanced navigation for cars and trucks, business intelligence, planning and optimization and much more. The HERE Maps product line can be further enriched with additional curated and specialized location content products that enable you to build differentiating location-enabled services and applications. Over 50 premium location content products seamlessly integrate with the HERE Map Data product line, such as Places, Point Addressing, Trucks, Road Infrastructure and many more.

Features

Global dataset:

- → Worldwide coverage with more than 65.2 million km of roads
- → Over 900 different map attributes that provide meaning and location context to all relevant characteristics, restrictions and rules that are needed to create a representative 2D or 3D model of the world
- → Maps for 200 countries and territories, with varying levels of coverage of road, pedestrian and bicycle geometry and attributes
- → Worldwide coverage of more than 100M Places, covering the most relevant categories for your application
- → Over 270 million footprints of buildings and structures and expanding rapidly
- → Building footprints and cartography provide detailed land-use and land-cover information, including how and where the Earth's surface is populated with buildings and structures

Format
Available in the following formats: GDF, RDF, NavStreets, FGDB and NDS.

Coverage
More than 200 countries and local territories globally

*Only limited attributes of selected Places categories are included.

Product group description	Product reference	Can be combined with	
		Essential Map	Advanced Map
HERE Guidance & Routing Suite	Voice Phonetics	✓	✓
	Natural Guidance		✓
	Routing Configuration Scenic Routes		✓
	Trucks		✓
	Pedestrian		✓
	Bicycles		✓
	Outdoor Recreation	✓	✓
	Off-Road Africa		✓
	Off-Road (rest of world)		✓
HERE Road Rules & Regulations Suite	Environmental Zones	✓	✓
	Toll Costs Static		✓
HERE Imagery & Topography Suite	Digital Terrain Models	✓	✓
	Elevation Contours	✓	✓
	World Map	✓	✓
	Offline Satellite Imagery	✓	✓

HERE Road Infrastructure & Usage Suite

Road Infrastructure	—	Extended Lanes & Markings	—	—	✓
		Road Curvature	—	—	✓
		Road Elevation	—	—	✓
		Road Roughness	—	✓	—	✓
Road Furniture	—	Signs, Signals and Warnings	—	✓	—	✓
		Distance Markers	—	✓	—	✓
		Speed Limits Static (FC1-5)	—	✓	—	✓
Road Usage	—	On-Street Parking Restrictions Static	—	✓	—	✓
		Built-Up Area (BUA) Roads	—	✓	—	✓
		Diminished Priority Road	—	✓	—	✓
Maneuver Assist	—	Traffic Analytics - Traffic Patterns	—	—	✓
		2D Signs	—	—	✓
		2D Generalized Signs	—	—	✓
		Advanced 2D Generalized Signs	—	—	✓
		2D Junctions	—	—	✓
		2D Generalized Junctions	—	—	✓
		Advanced 2D Generalized Junctions	—	—	✓
		3D Junctions	—	—	✓
		3D Generalized Junctions	—	—	✓

HERE Utility & Network Infrastructure Suite	—	HERE Cellular Signals	—	✓	—	✓
HERE Buildings & Structures Suite	—	3D Buildings	—	✓	—	✓
		2D Landmarks	—	✓	—	✓
		3D Landmarks	—	✓	—	✓
						✓
HERE Places & Points Suite	—	Advanced 3D City Models	—	✓	—	✓
		Point Addressing	—	✓	—	✓
		Micro Point	—	✓	—	
		Places	—	✓	—	✓
		EV Charge Points Static	—	✓	—	✓
		Fuel Types	—	✓	—	✓
			—		—	✓
HERE Areas & Boundaries Suite	—	Administrative Boundaries	—	✓	—	✓
		Postal Code Boundaries	—	✓	—	✓
		Postal Code Points	—	✓	—	✓
		Census Boundaries	—	✓	—	✓
		Census IDs	—	✓	—	✓
		Street Name Government Codes	—	✓	—	✓
HERE Spatial Relationships Suite	—	HERE Places Footprints	—	✓	—	✓

HERE Maps

HERE Indoor Map

Feature-rich, searchable and routable maps of indoor spaces, produced at scale

Description

HERE Indoor Map provides a wealth of hyperlocal information about indoor spaces including building geometry, points of interest and routing networks, spanning across multiple floors.

Features

→ Detailed representations of building geometry

→ Routing graphs, including connectivity between floors (eg. stairs, escalators and elevators)

→ Entrances and exits that seamlessly connect to HERE's outdoor maps

→ Availability in HERE SDK and Maps API for JavaScript

→ Self-service indoor map editor for maximum control over content quality

Availability
Commercially available

Format
HERE Indoor Map is available in a range of formats including GeoJSON, JSON and SVG/PNG. The product is also available in HERE SDKs and a list of 3rd party partner solutions.

Coverage
Offered globally, except China

HERE Maps

HERE HD Live Map

Highly accurate and continuously updated tiled mapping layers

Description

HERE HD Live Map is a cloud-based service that supports connected ADAS and highly automated driving solutions. Comprised of various tiled mapping layers that are highly accurate and continuously updated through multiple data sources, the layers are logically structured into HD Road Model, HD Lane Model and HD Localization Model.

Features

→ HD Road Model - robust map content at a global scale, providing vehicles with local knowledge that goes beyond the visibility of onboard sensors. HD Road Model is based on the HERE navigation "infotainment" map, consisting of road topology and numerous ADAS attributes

→ HD Lane Model – provides more precise, lane level detail to assist self-driving vehicles in making safe decisions for a comfortable experience. It supports high-definition lane topology and geometry, modeled with 3D positions

→ Quality Index – provides values representing the predicted quality of the provided HERE HD Live Map data for the vehicle to consider in its HAD system decisions

→ HD Localization Model – allows for utilization of multiple different localization approaches, to assist the vehicle in accurately locating itself within the lane it travels. The data includes object level data as well as generic localization data allowing to suit different OEM sensor setups and localization methods

→ OneMap Alliance - mapping alliance to offer a truly global solution. NavInfo (China), Pioneer (Japan) and SK Telecom (South Korea) will adhere to the HDLM specification to ensure our customers have a global go-to-market strategy

Availability
Commercially available

Format
HERE HD Live Map is a content service available and updated 24/7. All updates are on tile level and are version-controlled. The data is published in application-consumable, ready-to-use tiles in either Protocol Buffer format or the NDS industry standard format. Access is provided through a REST API.

Coverage
Initial coverage of North America and Western Europe, FC1-2 roads only initially, and expanding rapidly.

HERE Maps
HERE HD Live Map

HERE Road Signs

A cloud service that delivers layers of up-to-date traffic signage information to connected cars

Description

HERE Road Signs enhances Traffic Sign Recognition systems and ensures cars navigate safely - even when the view is obstructed - by delivering the freshest road signage information directly from the Cloud to a vehicle. The product includes additional types of road signs, such as temporary and variable speed signs (previously not supported) and extremely important for C-ADAS use cases. HERE Road Signs allows OEMs to support greater safety on the roads and eventually achieve higher EURO NCAP scores.

Features

- → Static Speed Limits
- → Dynamic Speed limits (VSS) from Sensor data or road operators' data
- → Lane-level dynamic Speed Limits
- → Permanent roadworks - including roadworks zone and planned roadworks

Availability
Commercially available

Format
HD Map Protobuf

Coverage
26 countries, including the USA, Canada, Puerto Rico and 23 countries and independent states in the European Union

HERE Lanes

Digital representation of road lanes to enable vehicle positioning for precise lane-level guidance and visualization

Description

HERE Lanes is a digital representation of lanes that combines Lane Topology, Lane Geometry and Lane Attributes along complete routes.

The lane content richness and accuracy is designed to support advanced guidance and ADAS use cases that require lane level localization, i.e. for SAE Level 0 – 2 use cases, leading to increase in safety, comfort and convenience for the end user.

Features

HERE Lanes contains the following key features:

- → Lane Topology (Lane Count, Lane Direction of Travel, Lane Connectivity)
- → Lane Geometry (Lane Boundaries and Lane Drive Path/Centerline)
- → Lane Attributes (Examples: Lane Marking Style, Lane Type, Lane Access Characteristics, Lane Forming-Ending, Lateral Traversal Restriction, Direction Category Markers, Lane Width Restriction)

Other features include:

- → Road Boundary Geometry
- → Lane Traversal 'Condition Applies To'
- → Lane Traversal 'Date/ Time Modifiers'
- → Lane Marking Color
- → Lane Speed Limit
- → Lane Height Restriction
- → Lane Transition Status
- → Lane Level Transport Access Restriction
- → Spec Compliance

Availability

- → Commercially availability since Q2-2020
- → Marketplace availability: HERE Lanes Protobuf
- → Quarterly releases; moving to monthly releases in 2021

Format

- → RDF plug-in
- → Protobuf (Protocol Buffer)
- → HDLM Native and NDS

Coverage

YE 2021: WEU, USA/Canada, Mexico*

YE 2020: selected countries/ cities in WEU, EEU, MEA, USA/ Canada, Mexico, South America, Singapore, Malaysia, Australia, New Zealand, Taiwan*

* Specific limited access areas

HERE Places & Points

A group of products that provides the precise location of a single place or a logical grouping of places.

HERE Places

Helping customers find their favorite places

Description

Places is a content product that offers rich information on points of interest worldwide. It enables customers to easily reach their desired destination and explore nearby destinations quickly and conveniently.

The product offers additional rich attribution fused from a vast array of sources, which are continuously updated. Places includes Core, Extended Listing and Supplemental POIs, plus additional trusted Places source data.

Global, fresh and accurate place content available on demand in a single extract format.

Features

→ Every place is accurately geo-coded to the HERE map

→ Every place has a "navigable" routing point, allowing accurate destination arrival

→ Places include over 400 categories (hotels, gas stations, banks, tourist destinations, etc.) and hundreds of rich decision-making attributes such as reviews, ratings, hours of operation and payment methods

→ Data can be associated to multiple categories enabling more accurate search results

→ Quality scores enable content to be tailored to any use case

→ Adjustable product scope: countries, categories, update frequency and quality levels

Availability
Available in XML

Format

→ Commercially available

→ On-demand delivery, 24/7 access

→ Available on EDD as monthly extracts

Coverage
114M+ POIs in 190+ countries globally

HERE Places & Points

Advanced Places

Consolidated premium Places content offline

Description

Advanced Places is a content product offering the most comprehensive, consolidated Places content in the industry, enabling navigation, voice and search applications.

The product exposes additional and relevant attributes related to Fuel, Electric Vehicle Charging Points and Embedded Phonemes for greater customer convenience, eliminating customers' cumbersome efforts to merge content, streamlining the compilation process.

Features

→ Base, extended attribution enriched with Quality Scores that allow parsing the content to meet the specific customer use case

→ Files organized by map region, decreasing file size

→ The product comes with a reduced attribution, including only the name, address, contact and quality score attributes

→ Accessible via EDD and the HERE website/catalog

→ Includes all suppliers HERE can distribute

→ Place format, with multiple categories per record

→ Monthly releases

Availability

→ XML

→ GeoJson planned later in 2021

Format
Launched commercially in May 2020

Coverage
Available in 196 countries worldwide

Places RDF Plug-In

The enhanced quality and coverage of the Places offering in a convenient Plug and Play RDF format for automotive OEMs

Description

Places RDF Plug-In aggregates the significantly improved geographic coverage with the fresh and rich content of the Places product in RDF, a format traditionally used by OEM automotive customers. This offering makes it possible for OEMs to enjoy the freshest Places content without having to change their compilers.

The product is offered in an easy-to-use, Plug and Play design making it ideal for single map updates as well as an aftermarket solution.

Features

- → The product is delivered in RDF - a simpler format than XML
- → RDF is a proprietary HERE format widely used by automotive OEMs. This makes it possible for these customers to access the freshest Places content without having to invest time and money into a new compilation
- → The product is ready for the future, when most POIs will be stored online, instead of in the head unit
- → The product comes with a reduced attribution, including only the name, address, contact and quality score attributes
- → Places RDF Plug-In includes a quality score attribute that allows users to filter and select content to fit specific use cases

Availability
Commercially available

Format
RDF

Coverage
196 countries and territories worldwide

Fuel Types

Fueling up made easy

Description

Fuel Types is a content product that provides a POI database of fuel varieties available at stations to enhance the user experience.

The product allows drivers of hybrid and other low-emission passenger/light commercial vehicles to locate appropriate fuel stations, minimizing delays or detours.

Features

- → Drivers can select their favorite fuel brand in the navigation system and be directed there
- → Drivers are informed about station locations and different fuel types availability
- → Fuel Types allows drivers of hybrid and other lower-emission passenger or light commercial vehicles to locate specific fuel types that are not widely distributed
- → Includes the varieties of eight alternate fuel types available at fuel stations:
  - → Fuel
    - → Gasoline
    - → E85 (Ethanol)
    - → Biodiesel
  - → Gas
    - → LPG (Liquified Petroleum Gas)
    - → CNG (Compressed Natural Gas)
  - → Hydrogen
  - → Other
    - → AdBlue
    - → EV Charging stations

Availability
Commercially available

Format
Available in POI-XML

Coverage
550K+ Fuel Types POIs globally

HERE Places & Points

EV Charge Points Static

Electric Vehicle charging stations information

Description

EV Charge Points Static is a content product that provides the locations of electric vehicle charging stations geocoded to the HERE map.

The product provides the locations of charging stations along the route or at a specific place and allow users to identify stations with the type of charging connector compatible with each type of electric vehicle.

Features

The product includes the following electric vehicle attributes:

- → Connector type
- → Charge manufacturer
- → Charge capacity
- → Charge mode
- → Number of connectors
- → Power feed
- → Maximum power level

Access and payment attributes:

- → Payment methods/ Subscription information
- → Opening hours
- → Customer charge level

Availability
Commercially available

Format
Available in POI-XML

Coverage
175K+ EV charging stations in 59 countries

HERE Places & Points

Point Addressing

A point adjusted to the road providing precise address locations

Description

Point Addressing is a content product that helps drivers locate their destination despite complex addressing systems. It provides a point, adjusted to the road, with the precise address location, enabling the highest level of destination selection and “to-the-door” arrival accuracy.

Point Addressing resolves non-standard addressing issues in countries where non-sequential numbering is used or where address ranges/traditional addresses do not exist.

Features

- → Cadastral number support: in some countries many buildings have both, sequential house numbers and cadastral numbers, and it is likely that both numbers are used daily. In addition, there are countries where only cadastral numbers are used.
- → Point suppression: to address concerns with database size in the United States, we suppress selected points to offer improved performance on the most beneficial road segments, such as longer sections of road. All data can be delivered to customers as special delivery for additional cost
- → Road adjusted point: in standard product we publish a “point” address which is based on a parcel’s location shifted to be closer to the road
- → Micro Point Addressing: to further complement Point Addressing by providing additional location information within buildings, (including building unit name, floor or level name and suite numbers) that is associated with the point address of the building. Micro Point Addressing is available in Australia, Bulgaria, Canada, New Zealand, Puerto Rico, Romania and the United States.

Availability
Commercially available

Format
Available in the following formats: GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)

Coverage
422M+ points globally

Postal Addressing

Resolving non-standard address issues in countries with complex postal systems

Description

Postal Addressing is a content product that enables accurate destination selection in countries with complex address systems, by relating complete postal codes to addresses and to the HERE map.

Features

- → HERE Postal Addressing is delivered as a look aside table (LAT) containing a list of addresses included in the HERE map
- → HERE Postal Addressing combines HERE Postal Codes and HERE Addressing into one product
- → HERE Postal Addressing supports the ability to reconstruct incomplete addresses (addresses without a postal code, addresses with incomplete/ misspelled street address)
- → Updated quarterly
- → HERE Postal Addressing supports reversed geocoding, creating the full address (including postal code) based on location/coordinates

Availability
Commercially available in selected countries

Format
LAT

Coverage
The United Kingdom, Republic of Ireland, The United States, Canada, Netherlands, Israel and Singapore

HERE Road Infrastructure & Usage

A collection of products that describe a road’s physical characteristics, what's on it and what's alongside of it, for a more realistic visualization.

Maneuver Assist - 2D Junctions

Customizable 2D images of motorway junctions
and ring roads for realistic visualization

Description

Maneuver Assist – 2D Junction is a comprehensive set of customizable, detailed 2D images of motorway junctions and ring roads with realistic, graphical representation of motorway signs that provide an accurate visualization of the situation for better guidance.

This product facilitates improved visual orientation and lane-level guidance at complex decision points for easy recognition of the real situation, helping drivers reduce stressful, last-minute maneuvers. The product enables applications to customize display for specific guidance or to create a unique look and feel.

Features

- → The product provides a unique image for each location with corresponding sign component
- → Country-specific road textures and sign details including overpasses, lane counts, lane connectivity and markings create situation-specific context
- → Vector format allows for flexible scaling, meaning images can be resized to different screen resolutions with no loss of quality
- → Flexible and customizable design elements and layers are included to create a unique look and feel, day and night scenarios, and terrain and sky
- → Guidance arrows indicating direction of travel can be used for route visualization
- → Generic images of motorways and signs to visualize simple motorway exits are available to provide additional support

Availability
Commercially available in 65+ countries and territories

Format
SVG

Coverage
73K+ unique decision points in 65+ countries and territories globally

Maneuver Assist - 2D Generalized Junctions

2D images and sign templates representing junctions
and highway rings for visual guidance

Description

Maneuver Assists – 2D Generalized Junctions is a comprehensive set of 2D images and sign templates that can be used to represent similar junctions and the general design of motorway traffic signs.

This product empowers applications to provide more context to the driver with graphical representations of highway intersections and motorway rings around urban areas, including signs that enable directional visual guidance.

Features

- → 2D images of junctions are based on all probable combinations of lane counts found at decision points, with a maximum number of five lanes depicted per direction
- → Junction images include customizable design layers, including day and night scenarios, terrain, horizon and sky
- → Guidelines on describing what the most appropriate junction image is to display at a given decision point, as well as how to combine sign graphics with sign text
- → A structured graphical toolbox consisting of country-specific sign templates and icons (airport icon, motorway icon, etc.)
- → Vector format allows flexible scaling: images can be resized to different screen resolutions with no loss of quality

Availability
Commercially available in 58+ countries

Format
SVG

Coverage
146K+ decision points in 58+ countries and territories globally

Maneuver Assist – Advanced 2D Generalized Junctions

2D generalized junction views that visually represent decision points along high-speed roads

Description

Advanced 2D Generalized Junctions consists of visual components designed to assist drivers when using turn-by-turn navigation. The product provides guidance ahead of stressful points such as bifurcations or road exits. It is designed with drivers in mind as it elevates pivotal visual elements while delivering visual appeal in the design.

Features

Advanced 2D Generalized Junctions allows optional customization based on the design motif selected. Options offered:

→ Day/night scheme

→ Road shape accuracy

→ Global design themes

→ Sky

→ Terrain

→ Horizon

→ Road & road paint

→ Guidance arrows

→ Guardrails

→ Fog

→ Vegetation (trees)

→ Tunnel view

→ Shadows cast on terrain

Availability
Commercially available in 65+ countries

Format
SVG, LAT, CSS and SVG Toolbox for export to raster formats

Coverage
140K in 65+ countries and territories globally

Maneuver Assist - 2D Signs

Detailed images representing directional signs at high-speed roads

Description

Maneuver Assists – 2D Signs is a comprehensive set of detailed images representing directional signs at complex, high-speed road network decision points and bifurcations. The dataset provides a strong digital representation of reality with respect to sign content but is not photorealistic in nature. 2D Signs is typically combined with the 2D Junctions product component to provide a realistic visualization of maneuver locations.

Features

→ A unique sign image for each location

→ Sign boards/panels

→ Background: different colors of the signboard reflecting accurate representations of sign color in each country

→ Vector format allows for flexible scaling: images can be resized to different screen resolutions with no loss of quality

→ SVG Toolbox + CSS file for customization (eg. guidance arrow color selection, terrain selection, converting SVGs to bitmaps, etc.)

→ Sign elements:

  → Exit number: provides accurate exit number information where applicable

  → Text: identifies unique roadway, interstate and destination names

  → Shield: used for route purposes (country dependent)

  → Icon: used for visual confirmations and additional destination information (certain countries have generic icons)

  → Arrow: indicates general direction

Availability
Commercially available

Format
POI-XML

Coverage
550K+ Fuel Types POIs globally

Maneuver Assist - 2D Generalized Signs

2D signs along high-speed roads

Description

Maneuver Assists – 2D Generalized Signs are country-specific SVG files containing sign templates for the signs displayed on controlled access roads in each country. User guidelines are supplied in a manual which can be used for populating the sign templates with HERE sign records.

2D Generalized Signs can be used to fill the gaps where no 2D Signs coverage exists but where sign records are available. 2D Generalized Signs enables developers to show end users direction signs which closely match the signs visible alongside the road in a given country.

Features

- → Country-specific sign templates: in each country the signage will resemble the sign style used locally
- → Broad coverage: by utilizing existing sign text on the motorway delivered in our map, virtually all situations on the motorway can be illustrated this way
- → Vector format allows for flexible scaling: images can be resized to different screen resolutions with no loss of quality
- → SVG Toolbox + CSS file for customization (eg. guidance arrow color selection, terrain selection, converting SVGs to bitmaps, etc.)
- → The following group elements can exist inside a template group:
  - → ARROWS (a group element containing lane arrows)
  - → ROWS (a group element containing the signpost text rows)
  - → SHIELDS (Route Type and Route Name Shields) - (logically), inside, but the resulting position may be outside
  - → EXIT (Exit Number)
  - → PANEL (a template group may contain multiple panels)

Availability
Commercially available in 60+ countries

Format
SVG 1.1 Basic

Coverage
150K decision points on FC1 and FC2 roads, in 60+ countries and territories globally

HERE Road Infrastructure & Usage

Maneuver Assist – Advanced 2D Generalized Signs

Detailed 2D images representing directional signs in high-speed roads

Description

Advanced 2D Generalized Signs is a comprehensive set of detailed 2D images representing directional signs at complex high-speed road network decision points and bifurcations.

The dataset takes a parametric approach to creating junction views using HERE map attributes, and therefore, providing a generalized representation of reality with respect to the sign content.

Additionally, the visual theme of Advanced 2D Generalized Signs provides an abstract rather than a photorealistic design aesthetic. Advanced 2D Generalized Signs is typically combined with the Advanced 2D Generalized Junctions product component to provide a complete visualization of maneuver locations.

Features

Maneuver Assist – Advanced 2D Generalized Signs content includes:

- → Sign boards/panels
- → Background: different colors of the signboard reflecting accurate representations of sign color in each country
- → Vector format allows for flexible scaling: images can be resized to different screen resolutions with no loss of quality
- → SVG Toolbox + CSS file for customization (eg. guidance arrow color selection, terrain selection, converting SVGs to bitmaps, etc.)
- → Sign elements:
  - → Exit number: provides accurate exit number information where applicable
  - → Text: Identifies unique roadway, interstate and destination names
  - → Shield: used for route purposes (country dependent)
  - → Icon: used for visual confirmations and additional destination information (certain countries have generic icons)
  - → Arrow: indicates general direction

Availability
Commercially available in 110+ countries and territories

Format
SVG, LAT, CSS and SVG Toolbox for export to raster formats

Coverage
130K+ available in 110+ countries and territories globally

HERE Road Infrastructure & Usage

Distance Markers

Detailed information on the exact location and sign number of road distance indicators

Description

Distance Markers enable applications to provide location information on roads where addresses or cross streets do not exist. Distance Markers can be used for locating vehicles in roadside assistance situations, destination selection and for reverse geocoding of road furniture (including lamp posts, signs, traffic lights and more) for asset-management use cases.

Features

Content includes:

→ Sequential number of the marker

→ Unit of measurement: miles or kilometers

→ Associated link name

→ Position on link

Availability
Commercially available

Format
GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)

Coverage
Available for 1.8M+ KM in 30+ countries and territories globally

HERE Road Infrastructure & Usage

Safety Cameras Static

Traffic cameras and radar zones database

Description

Safety Cameras Static is a database of traffic cameras and radar zones linked to HERE Map Content. This product enables applications to inform users about locations of speed cameras, radar zones, stoplight intersection cameras, speed limits and other traffic restrictions.

Features

→ The file contains types of cameras, X,Y positions and attributes to ensure that warnings come through to the driver of the car only when they are meaningful, avoiding false alerts (such as warnings for cameras that do not exist)

→ Content is delivered in an external file

Availability
Commercially available in +50 countries and territories

Format
POI-XML

Coverage
200,000+ camera locations in 50+ countries and territories globally

Signs, Signals and Warnings

Information on road regulations or conditions that require special attention

Description

Signs, Signals and Warnings is a collection of road regulations or situations that require special attention, including the presence of traffic lights, stop signs and other alerts such as sharp curves. This product enables applications to warn drivers of upcoming locations with special conditions. It can also be used to improve route calculations (eg. taking steep conditions or sharp curves into consideration) or to avoid high-accident areas.

Features

→ Includes both the location and type of various warning and regulatory signs and traffic signals

→ Data set varies by country

→ In the United States, the data set includes the location of accident hotspots derived from accident location information

Availability
Commercially available

Format
GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)

Coverage
6M+ KM covered in 70+ countries and territories globally

Speed Limits Static FC 1-5

Attributes concerning maximum legal or permitted vehicle speeds on a road or road segment

Description

This product enables applications to advise users of traffic speed violations or traffic restrictions.

This product also facilitates various ADAS use cases such as predictive cruise control or curve speed warning and contributes to the safety rating of vehicles.

Speed limits Static FC1-5 can also be used to improve arrival time estimations and allows for more choices in route selection.

Features

→ Content includes legal speed limit values for vehicle travel which are collected and included only when applicable to vehicles (no vehicles with trailers, or any other configuration and truck speed limits are stored separately)

→ Speed limit values include:

→ Unconditional speed limits

→ Conditional speed limits, reflecting special situations like rain, school, snow, fog, date/time and speed bumps

→ Variable speed limits

Availability
Commercially available

Format
GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)

Coverage
5.5M+ KM covered in 85+ countries and territories globally

On-Street Parking Restrictions Static

Information of allowed on-street parking in metro areas

Description

On-Street Parking Restrictions Static helps drivers to find a parking spot on the street close to their destination. This data vastly expands the number of options a driver can consider when looking for a place to park beyond parking garages and lots, including free and cheaper parking options.

Through this product, drivers can make informed decisions about which parking place best meets their needs. Especially when there is no data connection available, drivers can rely on On-Street Parking Restrictions Static content.

On-street parking content consists of link-based attribution which indicates the presence and type of allowed on-street parking for each side of a street in major urban areas.

Features

Content is tailored to assist drivers with some of the most pressing parking challenges:

→ Parking restrictions: find out where parking is allowed and avoid parking tickets

→ Parking type: learn if the parking is free, paid or if a permit is needed

→ Seamless integration with the HERE Map, Extended Navigation and Places supports true door-to-door routing

→ Suitable for display in a navigation application: easy visualization as the parking data is linked to the HERE map

→ Coverage focused on areas and destinations where parking is difficult to find, confusing, expensive or otherwise challenging

Availability
Commercially available

Format
On-street parking content component is available in an additional XML-based layer that can be integrated with HERE Map Content formats GDF, RDF, and File Geodatabase (FGDB)

Coverage
Available in 257 cities in 20+ countries and territories globally

HERE Road Infrastructure & Usage

Built-up Area Roads

Data that identifies the relation of a road to a Built-Up Area

Description

Built-up Area Roads identifies whether a road is inside or outside of a built-up area. Unlike the urban flag, which represents the housing area for display purposes and follows the build-up-area polygons for inclusion, Built-Up Area Roads is primarily based on the location of the start and end of the built-up area sign, or when the sign location is not known or not verified, on the location of the built-up area polygon.

Certain traffic-related rules might apply inside and outside of the built-up area. Built-Up Area Roads can be used to trigger ADAS functionalities based on the location of the vehicle inside or outside of a built-up area. Build-Up Area Roads is not a product by itself but rather a feature.

Features

Built-Up Area Roads attributes:

→ Built-Up Area Roads

→ Built-Up Area Roads Verified

Availability
Commercially available

Format
GDF and RDF

→ For GDF it will be included as default for the ADAS flavors (Road Curvature, Road Elevation)

→ For RDF it will be included as part of the ADAS plug-in

Coverage
Available in 33 countries and territories globally

Extended Lanes & Markings

Lane attributes that enable guidance and visualization use cases, including turning at complex intersections

Description

Extended Lanes & Markings are lane attributes that enable advanced navigation and ADAS use cases, including but not limited to turning at complex intersections, lane changing and lane keep assist functionality.

In combination with Junction Visuals and Voice Phonetic, the product enables advanced lane guidance with voice, text and/or visual cues to the driver.

Features

Extended Lanes content includes:

- → Number of lanes: indicating the total number of lanes along a stretch of road, including turn lanes and exit lanes
- → Lane connectivity: how lanes are connected between origin and destination road elements
- → Lane restrictions: what restrictions apply to certain lanes in terms of time and usage
- → Lane type: based on how the lane is used in a real acceleration/deceleration lane, drivable shoulder lane, turn lane, bicycle lane etc.

Lane Markings content includes:

- → Appearance and type of lane separators between lanes
- → Type of separator for center dividers on two-way roads
- → Arrow direction shown on a sign or by road markings for a specific lane

Availability
Commercially available

Format
GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)

Coverage
Available for 3M+ KM in 65+ countries and territories globally

Road Curvature

Preview of approaching curves

Description

Road Curvature is information that enables or enhances ADAS applications by providing a preview of approaching curves.

Those applications include: adaptive cruise control, adaptive front light systems, black spot warning, blind spot detection and lane change assistant, curve warning system, drowsy driver detection, eco-friendly routing, electronic stability control, forward and side collision warning, lane departure warning and lane keeping assist systems, overtake assistant, powertrain control/ fuel economy, speed advisory system, stoplight and stop sign warning.

Features

Curvature is published for X, Y, Z coordinates for road parts or for X, Y, Z coordinates for nodes (Junctions)

Availability
Commercially available

Format
GDF and RDF

Coverage
Available for 5M+ KM in 60 countries and territories globally

Road Elevation

Preview of vertical road trajectory

Description

Road Elevation is information about the road that enables or enhances ADAS applications by providing a preview of the vertical road trajectory.

Those applications include: adaptive cruise control, adaptive front light systems, black spot warning, blind spot detection and lane change assistant, curve warning system, drowsy driver detection, eco-friendly routing, electronic stability control, forward and side collision warning, lane departure warning and lane keeping assist systems, overtake assistant, powertrain control/ fuel economy, speed advisory system, stoplight and stop sign warning.

Features

- → The slope accuracy is plus or minus 1% over 100 meters
- → Height is published for every node and shape point X, Y, Z coordinates for road parts

Availability
Commercially available

Format
- → GDF and RDF
- → ADAS compliance is indicated by means of an accuracy flag

Coverage
Available for 6M+ KM in 60+ countries and territories globally

Road Roughness

Information on the general conditions of the road

Description

Road Roughness provides data on the measured roughness of the road network, following the International Road Roughness Index (IRI) for evaluating and measuring pavement.

Road Roughness identifies poor pavement, locates sudden change in elevation (dips/bumps) and provides a general view of the road network.

Road Roughness measures the variable pavement quality within a road network. This feature can be useful when planning the budget and resources deployment for road maintenance.

Road Roughness optimizes routing for fleet and automotive OEMs, taking into consideration fuel economy and maintenance costs, while improving safety and comfort for passengers.

Features

- → Data is delivered in a premium content layer outside of core map formats, aligned to HERE Map Content
- → Road Roughness has two layers:
  - → Interpreted layer – provides road segment classifications (good/fair/poor) based on average IRI readings
  - → Condition type layer – provides further context of the rough area by detecting “bump” or “dip” location
- → Road Roughness is developed by leveraging data collected by HERE proprietary vehicles

Availability
Commercially available

Format
Shapefile and File Geodatabase (FGDB)

Coverage
Available for 5.2M+ KM in 30+ countries and territories globally

HERE Imagery & Topography

A group of products that enable advanced map rendering and visualization of the earth’s surface through contours, elevation models and imagery.

Digital Terrain Models

A representation of elevation visualized as topographic lines

Description

Digital Terrain Models (DTM) is a content product that provides a bare view of the earth's surface (free of buildings, trees and other features). It includes land elevation via a regularly spaced grid of points with x/y/z values to provide insight into the landscape and to enhance map visualization with 3D height information.

It includes a Terrain Texture Map (TTM), derived from the DTM, a colorized version of the DTM showing the Earth's surface as a continuous plane of variable height.

Features

- DTM resolution is 30m, refined to achieve higher height accuracy and more granular terrain depiction
- DTM data files contain the elevation data of the terrain in a digital format which relates to a rectangular grid
- DTM content includes:
  - Latitude/longitude grid
  - Inaccurate peaks and troughs in elevation have been smoothed
  - Additional urban canyon corrections were completed in the following areas:
    - New York (USA)
    - Macau/Zhuhai, Shenzhen, Hong Kong, Guangzhou and Wuhan (China)
    - Singapore
    - Kuala Lumpur (Malaysia)
    - Sydney (Australia)
- Water areas have been aligned to HERE water layers (FGDB v11.0)
- Texturing enhances the DTM by adding color related to height
- DTM is computed from ALOS, EU-DEM and ArcticDEM data
- The absolute accuracy of the source datasets is:
  - ~5m RMSE for ALOS
  - ~4m RMSE for ArcticDEM
  - ~3m RMSE overall for EU-DEM
  - Replacement tile sets should be used for 'restricted' countries
  - All pixel values are set to 0 (black) to reflect sea level
- Three-letter ISO country codes are included to allow extraction/suppression/removal of data at the country level
- Aligned to the most accurate map on the market

Availability
Commercially available

Format
- The DTM is a 16-bit
- GeoTIFF raster dataset

Coverage
Coverage extends from 72N to 56S

Elevation Contours

Visually-enhanced map display with 3D height information to provide insight into landscapes

Description

Elevation Contours is a content product offering comprised of lines and polygons depicting worldwide terrain relief and configuration to enhance map display.

Elevation Contours can be used to enhance map display by outlining the landform configuration or relief.

Features

- Elevation Contours is derived from the 30m Digital Terrain Models product and depicts elevation isolines at 50m, 100m, 200m, 300m, 400m, 500m, 1000m, 1500m, 2000m, 2500m, 3000m, 4000m, 5000m, and 6000m
- The product is delivered in clusters of 30 x 30-degree grid cells
- The absolute accuracy of the source data sets is:
  - 5m RMSE for ALOS
  - 4m RMSE for ArcticDeM
  - 3m RMSE overall for EU-DEM

Availability
Commercially available

Format
SHP and GDF

Coverage
Coverage extends from 72N to 56S

HERE Imagery & Topography

Offline Satellite Imagery

Birds-eye views of the globe in multiple scales

Description

Offline Satellite Imagery is a content product that provides aerial views of the world to facilitate enterprise customers' solutions, as part of the HERE platform data ecosystem.

The product renders maps in a more realistic way, improving visualization and orientation.

Features

- Offline Satellite Imagery offers global coverage at a maximum resolution of 30m and it is comprised of two datasets:
  - Global data set covers seven layers with resolutions of approximately 32km to 1km
  - Regional data set covers four layers with resolutions of approximately 500m to 30m
- Resolution is 30m in select countries. All other countries are 500m resolution
- Three-letter ISO Country Codes allow to extract/suppress/remove data at the country level
- Offline Satellite Imagery is closely aligned with the HERE map and with all other HERE topography/imagery products for ease of implementation and integration
- Tightly aligned to the most accurate map on the market

Availability
Commercially available

Format
Offline Satellite Imagery is in the WGS84 system and is available in GeoTIFF format

Coverage
Global coverage, excluding Antarctica and Greenland, from 72°N to 56°S

HERE Imagery & Topography

World Map

A generalized view of the world

Description

World Map is a standalone content product that provides a generalized view of the world for general orientation, visualization and display.

Features

- Supports rendering of a world map at 1:1,000,000 or smaller scale
- Supports the creation of country specific views, in areas where territory is in dispute
- Aligns with the more detailed HERE map, enabling a seamless transition when moving between different zoom levels
- Content is filtered to improve rendering time and to deliver cleaner renditions

Availability
Commercially available

Format
Available in Shapefile and FGDB

Coverage
Global

HERE Road Rules & Regulations

A group of products that enable analytics, planning and routing applications, taking specific road usage regulations into account.

Environmental Zones

Indicating if an area is subject to environmental restrictions

Description

Environmental Zones is content which indicates if an area is subject to restrictions based on environmental criteria. This product enables applications to avoid specific areas and provide an alert if the destination prohibits certain vehicle types.

This product also offers polygons to enable visualization of the area on the map.

Features

Environmental Zones consists of a map component and an XML look-aside file containing detailed accessibility information including:

- → Environmental zone polygon
- → Environmental zone condition
- → Environmental zone ID
- → Environmental zone XML (look-aside file containing detailed accessibility information)

Availability
Commercially available

Format
- → Map components (zone polygon, zone condition, zone ID) available in the following formats: GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)
- → Vehicle accessibility information available via XML look-aside file

Coverage
Available in 19 countries and territories globally

Toll Costs Static

Road use costs information

Description

Toll Costs Static is information on all variables that impact toll charges. This product enables users to select a route based on knowledge of specific toll costs attributed to vehicle information, toll entry and exit points, vehicle attributes and more.

Features

Toll Costs Static contains cost information on several variables including:

- → Commercial
- → Hazardous type
- → Vehicle type
- → Number of axles on a trailer
- → Number of axles on a vehicle
- → Number of passengers
- → Number of tires
- → Trailer type and the number of trailers

Availability
Commercially available

Format
XML with reference to Core Map

Coverage
Available in 50+ countries and territories globally

Vehicle Regulations

Timely display of driving information and legal requirements

Description

Vehicle Regulations provides the capability to display admin/country-specific driving rules (ie, default speed limits), legal requirements (ie, blood alcohol limit) and general country information (i.e. driving side) at border crossings.

Features

This product covers the following information:

- → Default speed limits for:
  - → Motorways
  - → Built-up areas
  - → Raining/snowing
  - → Nighttime speed
- → Legal requirements
  - → Toll sticker
  - → Headlights
  - → U-turn and right turn on red
  - → Driving side
- → Pre-trip planning, including:
  - → Safety requirements
  - → Winter tires
  - → Blood alcohol limit

Availability
Commercially available

Format
- → A plug-in, compatible with RDF and FGDB
- → Available as part of NDS (version 2.5.4)

Coverage
Available in all countries in Western and Eastern Europe, the United States and Canada

Commercial Vehicle Regulations

Road rules and regulations applicable to heavy vehicles

Description

Commercial Vehicle Regulations provides administrative-wide rules/ regulations which are applicable to trucks and transport vehicles.

Features

This product covers the following information: Truck Speed Limits and Access Restrictions applicable within specific administrative areas.

This is in addition to the Core Map Trucks product attribution and conditions coding that has been applied on the link level. Truck Access Restrictions and Speed Limits are specified for administrative areas, and in certain cases including specific road types within those areas. Attributes are published when their value influences an Access Restriction or Speed Limit. The general principle is that this product codes the restriction on top of the restrictions.

Availability
Commercially available in 59 countries since Q2 2020.

Format
XML

Coverage
The product is available in 28 countries in Eastern Europe (Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Georgia,

Greece, Hungary, Kazakhstan, Kosovo, Latvia, Lithuania, Montenegro, North Macedonia, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia, Ukraine, Uzbekistan); 24 countries in Western Europe (Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Gibraltar, Iceland, Ireland, Italy,

Liechtenstein, Luxembourg, Malta, Monaco, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, U.K. and Vatican City State)

5 countries in the Middle East (Israel, Morocco, Namibia, South Africa and Turkey)

2 countries in Oceania (Australia and New Zealand)

HERE Spatial Relationships

Direct geospatial association between real-world places, buildings, objects and their precise location on the map to enable location intelligence use cases.

HERE Spatial Relationships

HERE Places Footprints

Associating precise location of businesses or points-of-interest with their building shape

Description

HERE Places Footprints is a content product that establishes a mappable connection between a business, the floorplans of its building and relationship to surrounding buildings.

That association enables deeper understanding of location and spatial connectivity. It can help optimize route planning and last mile delivery for fleets, enhance search, destination selection and the overall navigation experience for drivers. HERE Places Footprints can also support precise location or guidance in case of emergencies e.g. health alerts, evacuations, natural disasters, etc.

Features

- → Highly accurate data via proprietary IP, built into matching algorithm
- → Based on the most accurate navigation map on the market
- → Based on proprietary and highly accurate 2D footprint and Places content
- → Each POI association is given a Confidence Score to enable filtering out less confident data
- → Supported with a global, comprehensive and mature quality monitoring program that includes ground truth and field testing

Availability
Commercially available

Format
GeoJSON format

Coverage
Available in +100 countries globally

Tenant Spaces content is available globally. Parking Areas content is available in North America since Q3 2019.

HERE Buildings & Structures

Geocoded features and characteristics of a variety of buildings and structures to enable data visualization, guidance, routing, planning and analytics.

HERE Buildings & Structures

Advanced 3D City Models

Detailed 3D visualization of cities optimized for navigation

Description

Advanced 3D City Models is a content product that contains a complete 3D representation of entire city areas including navigable roads, parks, rivers as well as textured buildings to provide orientation and guidance.

Features

- All elements of the city visualization are referenced to HERE Map Content — updates to the core map are automatically reflected in Advanced 3D City Models
- Navigable road geometry in line with HERE Map updates
- Major cartography elements included
- Overlay additional guidance information, e.g. 2D Junctions
- Detailed, textured 3D representation of buildings
- Detailed representation of roads, bridges, tunnels and other content
- Textured land use visualizations (such as rivers and parks)
- 3D Landmarks that are situated within the city model coverage
- Delivered separately as a premium product

Availability
Commercially available

Format
Available in Collada (DAE) and references Core Map products based on PVIDs

Coverage
120+ cities in +50 countries worldwide

HERE Buildings & Structures

Premier 3D Cities

Highly detailed 3D representation of urban areas

Description

Premier 3D Cities is a content product that delivers visually engaging, accurate, compact, highly detailed and abstract 3D representation of city centers.

The product is fully interactive and customizable and enables unique 3D map visualization solutions for a wide range of industries and use cases. Customers can add HERE SD and HD maps as they are not included in Premier 3D Cities.

Features

- Indexed and accurate surface-based 3D models of downtown cores of key global cities:
  - Indexed features: each object (buildings, structures) is separate and addressable
  - Continuous surface model: each visible object composes a polygonal surface, forming a continuous 3D model
  - Includes abstract 3D landmarks –3D objects that represent key buildings, with detailed textures that work with rendering customizations
- Platform-enabled 3D location data
  - Delivered as a content format (Cesium 3D Tiles (glTF)), for flexible integration into customer systems
- Customizable 3D canvas layer
  - All 3D surfaces ready to be rendered with dynamic real-time lighting for customized look & feel, or 3D data visualization
  - Lat/long accuracy, ready for integration of 3rd party data
- Abstract 3D representation:
  - Accuracy and visual appeal at street level (graceful, seamless bird's-eye to street-level camera transitions, unlike photorealistic stereo photogrammetry DSMs)
  - Representative building volumes feature, accurate height and descriptive base color and roof style
  - Realistic, textured 3D representation of landmarks
  - Abstract window pattern texture system: for recognizability, scale appearance and compact highly customizable look & feel, at selected locations (e.g., high priority intersections)

Availability
Commercially available via EDD. Later in 2021 Premier 3D Cities will also be available via our Platform

Format
Cesium 3D Tiles (glTF)

Coverage
Premier 3D Cities is available for the following 70 metro areas as of January 2021:

EMEA
Amsterdam, Barcelona, Berlin, Birmingham, Brunswick, Cologne, Copenhagen, Dubai, Dublin, Dusseldorf, Frankfurt, Geneva, Glasgow, Gothenburg, Hamburg, Ingolstadt, Lisbon, London, Lyon, Madrid, Moscow, Munich, Oslo, Paris, Stockholm, Stuttgart, Vienna, Warsaw, Zurich

APAC
Bangkok, Brisbane, Melbourne, Perth, Singapore, Sydney

AMERICAS
Atlanta, Austin, Buenos Aires, Charlotte, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Detroit, Fort Lauderdale, Houston, Kansas City, Los Angeles, Mexico City, Miami, Minneapolis, Nashville, New Orleans, New York, Oakland, Orlando, Philadelphia, Phoenix, Portland, Rio de Janeiro, Saint Louis, Saint Paul, Salt Lake City, San Diego, San Francisco, San Jose, Seattle, Toronto, Washington D.C.

3D Buildings

Accurate representations of building polygons enabling display applications

Description

3D Buildings is a content product that provides accurate representations of building shapes in the form of polygons, with height attributes within HERE Map Content. This product enables navigation applications to display entire city areas using the shape and height of buildings to facilitate orientation and guidance for drivers and pedestrians.

The product also provides high precision geometry (sub-meter x/y positioning and sub-meter x,y,z) for 5G mmWave network planning, drone/UAV ground obstruction maps, SimViz, AR VR/Mixed Reality, and similar applications.

Features

- 3D Buildings includes untextured 2D polygons describing the footprint of a building with a basic rooftop shape and a height attribute to define its height.
- All building footprints are manually referenced to existing HERE Map Content road network data to avoid intersections between building polygons and the road network
- Buffers around the road centerlines are also used to ensure enough space for streets when displaying the map
- Provides basic 3D volumes in the form of uncolored extruded footprints with flat roofs

Availability
Commercially available

Format
Available in the following formats:

- GDF
- RDF
- NAVSTREETS
- File Geodatabase (FGDB)

Coverage
118M+ 3D Buildings globally

3D Landmarks

Detailed and photo-realistic three-dimensional representation of well-known buildings

Description

3D Landmarks is a content product that delivers three-dimensional visual representations of well-known buildings.

3D Landmarks are fully detailed and photo-realistic illustrations of real-world buildings/landmarks (historic buildings, tourist attractions, transportation hubs, iconic high-rises, etc.) that are instantly recognizable and, therefore, facilitate orientation and navigation.

Features

- → 3D Landmarks is based on polygons that can be scaled and rotated 360 degrees
- → Each structure is delivered in 2 levels of detail with varying polygon counts:
  - → Light resolution: < 500 polygons (average 200 polygons)
  - → Standard resolution: < 1000 polygons (average 500 polygons), depending on complexity of the structure
- → Icons are also available for smaller scale applications in 64 x 64 pixels
- → Zoom to any angle or perspective

Availability
Commercially available

Format
- → Available in .OBJ and TGA (for icon)
- → Support for the following formats: GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)
- → South Korea format support limited to GDF and UMF* (proprietary)

Coverage
44K+ 3D Landmarks globally

*Maintenance only

2D Landmarks

Abstract, two-dimensional representations of real-world, instantly recognizable buildings and landmarks

Description

2D Landmarks is a content product that delivers two dimensional representations (height and width) of well-known or easily recognized architectural structures.

2D Landmarks enable customers to provide context for entry-level devices and for connected applications to offer meaningful reference cues for visual guidance and orientation during navigation in crowded cities.

2D Landmarks improves search and display functionality by combining text with associated images, so that users can more easily recognize and select their destination.

Features

- → Separate outline layer for a highly customizable experience
- → Increased contrast and outline color customization
- → Separate detail and Shadow layer bitmap
- → Low on data volume - light on detail
- → Optional, customizable Background Layer
- → Scalable vector format allows images to be displayed in any size without compromising clarity
- → Flexible data models can be linked with corresponding POI and 3D Landmarks to enable the creation of unique brand experiences across a variety of use cases, including map orientation, search and display and augmented reality
- → Facades are delivered as bitmap graphics, allowing for more detail while maintaining small file-size

Availability
Commercially available

Format
- → SVG (Scalable Vector Graphics) for icons
- → PNG (Portable Network Graphics) for textures

Coverage
16K+ 2D landmarks in 90+ countries globally

HERE Geodata Models

Global, scalable, high precision 3D datasets

Description

HERE Geodata Models is a set of global, scalable, high precision indexed datasets derived from terrestrial LiDAR (Light Detection and Ranging) and other remote sensed sensor-based content.

HERE Geodata Models can greatly simplify 5G wireless network planning, design and maintenance for telecommunications companies. The product can be instrumental in effective public/utility owned infrastructure and urban planning, in road furniture asset identification/maintenance/placement/replacement.

HERE Geodata Models can be used by public agencies in emergency management, evacuations and disaster recovery. In Media, HERE Geodata Models can support the selection of the best locations for outdoor advertising on building facades, underpasses, and road furniture like bus/trains shelters. In the automotive space, the product can be used in Autonomous Vehicle Simulation AKA – AV/SIM and Computer Vision Perception. For transportation and logistics, HERE Geodata Models has the potential to be utilized as the basis for UAV/drone ground obstruction maps.

Features

- HERE Geodata Models delivers sub-meter 3D geometric and spatial accuracy, taking network design precision to a new level far surpassing conventional GIS datasets
- HERE Geodata Models includes high precision 3D building objects, 2D poles, 3D tree trunks, 3D tree canopies and Digital Terrain Models
- The product is offered in 3 variants:
  - Premium 3D Geometry - the highest fidelity version using maximum number of polygons
  - Standard 3D Geometry - a simplified version of the premium dataset
  - Basic 2.5D Geometry - a flat file with basic geometric parameters for rendering

Availability
Commercially available since April 2020 in selected cities (see the Coverage section).

Format
Available in the following formats:

- shp, OBJ, and glTF for 3D objects
- GeoTIFF for DTM)

Coverage
HERE Geodata Models has an initial footprint covering portions of 50 global city centers across the Americas, EMEAR and APAC, and will rapidly expand to provide broad global coverage based on the 5G service rollout plans of Mobile Network Operators and site location aggregators.

Americas: Sections of the following 35 cities:

The USA: Atlanta, Austin, Boston, Charlotte, Chicago, Cincinnati, Cleveland, Columbus, Dallas, Denver, Detroit, Ft. Lauderdale, Houston, Kansas City, Las Vegas, Los Angeles, Miami, Minneapolis, Nashville, New Orleans, NYC, Oakland, Orlando, Philadelphia, Phoenix, Portland, SLC, San Diego, San Francisco, San Jose, Seattle, St. Louis, St. Paul, Washington D.C.
Canada: Toronto

EMEAR: Sections of following 10 cities:

Berlin, Braunschweig, Cologne, Dusseldorf, Frankfurt, Hamburg, Ingolstadt, Munich, Stuttgart and Wolfsburg

APAC sections of following 5 cities:

Brisbane, Melbourne, Perth, Sydney and Singapore

HERE Guidance & Routing

A group of products that contains specific geometry, voice phonetics, and routing criteria to enable guidance and routing for all types of road users: cars, trucks, pedestrians and cyclists.

Voice Phonetics

Phonetic transcriptions of names and POI names for more intuitive driving

Description

Voice Phonetics contains phonetic transcriptions of specific names and Core POI names in the HERE Map Content database. This product enables applications to improve the accuracy of text-to-speech and voice recognition engines, which is a more intuitive and natural way for consumers to interact with navigation systems.

Features

Provides phonetic transcriptions of the following attributes:

- → Administrative areas such as cities or states
- → Highway sign text
- → Local geoqualifiers
- → Core POI names
- → POI chain names
- → POI categories such as cuisine types and POI category names
- → Select POI locations such as named places and nationally important POIs
- → Street names and numbered street names (e.g. 104th Street)

Availability
Commercially available

Format
VIF/VAF, GDF, RDF and File Geodatabase (FDGB)

Coverage
Available in 80+ countries and territories globally

Natural Guidance

Descriptive attributes to provide directional cues emulating the way humans give directions

Description

Natural Guidance is a set of descriptive attributes coded to provide directional cues in a way that is similar to how humans give directions. This product enables guidance with more intuitive navigation commands that support users in making driving decisions with confidence.

Natural Guidance enables applications to provide context to the surrounding environment to help drivers more easily orient themselves in unfamiliar or complex situations. This product includes voice phonemes to provide additional and more natural context to the surrounding environment.

Features

- → Provides a descriptive name to an associated feature that is more natural, optionally including properties such as shape, color or building material
- → Includes an “importance value” to classify the relevance of a specific feature to support route guidance developed based on visibility from the maneuver, considering angle (direction), seasonal elements, permanence and distance
- → Consists of a broad set of features and all relevant decision points that are relative to each other to support improved situation awareness in the direction of travel
- → Contains phonetic transcriptions of prepositions and descriptive names of reference cues

Availability
Commercially available

Format
GDF, RDF, and File Geodatabase (FGDB)

Coverage
1,400+ cities in 40+ countries and territories globally

Routing Configuration - Scenic Routes

Attributes of the road network that identify a segment of road as scenic

Description

Scenic Routes is a set of road network attributes that designate a segment of road as scenic. This product enables users to set preferences to maximize scenic views for a given route when driving through natural landscapes.

Features

- Scenic Routes are navigable and connected (no small gaps exist). Any single scenic route is navigable from start to end (and back) meaning guidance is not blocked by prohibited maneuvers, gates, dividers and directions of travel
- Coding is a link level attribute with Y/N flag on route name
- Scenic Routes is only applied to road elements that allow autos and through traffic, 24 hours a day
- Scenic Routes is not applied to boat, rail ferry or frontage roads
- Scenic Route “spurs” are not coded. These spurs are roads that lead to a scenic view off the main route

Availability
Commercially available

Format
GDF, RDF, NAVSTREETS and File Geodatabase

Coverage
Available in Canada, the United States and Argentina with 136k+ km of coverage

Trucks

Relevant road attributes for fleet and mobile asset management

Description

Trucks is a database of relevant attributes for the logistics management industry and truck drivers. The truck bundle allows customers to develop a wide range of solutions to support both truck management and truck drivers. This product enables sophisticated truck navigation as well as routing and dispatch optimization.

Features

- Legal restrictions – detailed information on exact areas or roads where certain legal restrictions apply (e.g. trucks not allowed or trailers forbidden)
- Environmental Zones – information on areas where access restrictions apply to certain vehicles or trucks due to environmental reasons
- Hazmat – information on areas or roads where transport of hazardous materials is prohibited
- Warnings – detailed information on the exact location and sign warnings for where certain road conditions apply to trucks (e.g. lateral wind or the risk of grounding)
- Physical restrictions – information on areas where access restrictions apply to certain vehicles or trucks due to physical dimensions such as height or vehicle weight
- Truck POIs – information about fuel stations for trucks, including lower emission fuels and additives as well as valuable and practical information about special truck facilities
- Distance markers – detailed information on the exact location and sign number of road distance indicators
- Loading dock locations – actual location of loading and unloading docks at buildings, truck entrance locations and associated geometry
- Truck preferred routes – identifies links as being part of a preferred route for trucks

Availability
Commercially available

Format
- GDF, RDF, NAVSTREETS and File Geodatabase (FGDB)
- Available as an XML look-aside file: Truck POI, Environmental Zones and Commercial Vehicle Regulations

Coverage
8M+ KM in 70+ countries and territories globally

Bicycles

Information on bicycle navigation, supporting multimodal routing and promoting driver awareness

Description

The Bicycles product provides data to our customers that help users recognize bike lanes while driving, navigate routes while biking, find protected bicycle lanes and paths and bike related POIs such as repair and bike sharing locations, increasing visibility and safety for cyclists.

Features

- → Data provides ability to create custom, relevant algorithms for bike routing
- → Content alerts drivers where bike lanes and crossings exist for added awareness
- → Navigable, Routable Bike Lane and Path Geometry
- → Provides popular Bicycle Routes & Names
- → Road Elevation to help determine paths based on difficulty preferences
- → Seamless integration with HERE Map
- → Supports multi-modal transportation

Availability
Commercially available

Format
RDF

Coverage
Available in 125 cities around the world

Pedestrian

Enhancing the walking experience by enabling display, destination selection, pedestrian routing and navigation

Description

The Pedestrian product provides data to our customers that shows the pedestrian infrastructure, navigates them while walking to their destination and helps complete their last mile. Enhances pedestrian experiences by enabling accurate orientation and supporting multi-modal navigation.

Features

- → Includes pedestrian geometry and attributes (virtual connections, pedestrian-preferred and stair-traversal)
- → Seamlessly extends in-car navigation by guiding users in their last mile from the car to their final destination
- → Perfectly complements Bicycles, transit and in-car products for a complete urban multimodal solution

Availability
Commercially available

Format
GDF, RDF and File Geodatabase

Coverage
Available in 1900+ cities globally

Recreational Vehicles

Warning signs and restriction information specific to Recreational Vehicles

Description

The Recreational Vehicles product is a bundle of specific warning signs and legal restriction information enabling a more pleasant travel experience, improving ETAs, increasing safety and reducing stress.

Features

The product includes:

- Traffic Sign Types - Signposted restrictions specific to RVs (circulation restrictions, speed limits)
- Supplemental Signs Applicable Vehicles (traffic sign condition)
- RV Access Restrictions (weight, width, height and length restrictions)

Availability
Commercially available

Format
RDF

Coverage
Full or partial coverage in 24 countries

Outdoor Recreation

Enhancing the walking experience by enabling display, destination selection, pedestrian routing and navigation

Description

Outdoor Recreation provides customers with rich, activity-centric data to support exploration and the reliving of experiences.

The following information is included:

- Hiking, running and walking
- Fishing and boating
- Skiing and snowboarding
- Camping and horseback riding
- Surfing, kayaking and rafting
- Mountain biking and BMX

Features

- Navigable, routable path geometry (e.g. hiking trail, ski trail, ski lift) properly named for use with reverse geocoding
- Attributed with rich detail such as:
  - Difficulty level (e.g. ski slope difficulty)
  - Restrictions
  - Direction of travel
  - Dogs allowed (Y/N)
- Basic height profiles to help determine paths based on difficulty preferences
- Differentiating POIs such as:
  - First aid
  - Service amenity
  - Equipment rental locations
  - Water source

Availability
Commercially available

Format
Outdoor plug-in compatible with GDF, RDF and File Geodatabase (FDGB)

Coverage
Available in Australia, Malaysia, Singapore and the United States

Off-Road Africa

Outdoor geometry and POIs for off-road travel in Africa

Description

Unique content of Africa built from the collective travel experience of the off-road Africa traveling community, integrated into HERE Map Data.

Features

- A unique and seamless combination of HERE Map Content and Off-Road Africa “outdoor” content
- Product delivered in two parts:
  - Outdoor geometry integrated into HERE Map Content
  - Rich content POIs delivered as a separate file
- All data is GPS-recorded by a community of several hundred members all over Africa
- Road data includes hiking and biking paths, unpaved roads and off-road tracks
- Rich content POIs cover 19 categories containing detailed information about fuel, natural landmarks, viewpoints, lodges, hotels, restaurants, picnic spots, eco-trails, waterholes, grocery stores

Availability
Commercially available
Updated semi-annually

Format

- Road geometry available in RDF
- Rich POI content available in POI-XML

Coverage
Available in 50 countries in Africa

HERE Areas & Bounderies

A group of products that represents specific areas in the real world, of which the boundaries are based on data from official authorities or specific industry segments.

Postal Code Points

A full postal code in a given geography enabled for highly accurate destination selection

Description

Postal Code Points represent the center point of the most current (full) postal code within the highly accurate context of HERE Map Data. The product enables users to find destinations by postal code only, without using the street address. They can also be used for geocoding support, territory generation and geo-marketing applications.

Features

- A single coordinate acts as the representative location of all the addresses that share the same unit postcode
- The United States: Postal code points are sourced from the United States Postal Service (full) nine-digit ZIP codes
- Canada: Full six-character postal codes <FSA-LDU> are sourced from Canada Post
- Great Britain (England, Scotland and Wales): Postal code points are sourced from Ordnance Survey Code Point Open
- The Netherlands: Postal code points are sourced from Cendris
- Singapore: Six-digit codes, sourced from ORG Informatics Ltd
- United Kingdom (England, Scotland Wales and Northern Ireland): Postal code points are sourced from Royal Mail (PAF)
- The point location is offered as a median/centroid— a calculated midpoint of the spread of addresses along a road or those sitting directly beside the road (on the correct side of the road) if the postal code only applies to one side of the street

Availability
Commercially available. In the United Kingdom, data sourced from the Royal Mail is available for navigation purposes only

Format

- Available in text look-aside file (LAT) and RDF (the United Kingdom and Singapore)
- Available in text look-aside file (LAT) only (Great Britain)
- Available in Shapefile, MapInfo and Pipe Delimited Text File (the United States and Canada) as look-aside files

Coverage
The USA (Puerto Rico, US Virgin Islands, American Samoa, Mariana Islands), Canada, Brazil, Mexico, Singapore, the UK and the Netherlands

Street Name Government Codes

Reliable, accurate and continuously updated government codes and their relations to the HERE streets database

Description

Street Name Government Code is a database containing the HERE Database Street names, database unique codes and the government code of the street name. It helps relate the non-spatial street government code and the spatial HERE Database Streets.

This product enables use cases for land registry, tax registry for public sectors, and government codes required for insurance policies.

Features

Enables accurate matching of government code related data with the HERE streets database to:

- Carry out spatial analysis with government codes
- Publish and query government code related information
- Be compliant with the requirements of government project tender specifications

Availability
Commercially available

Format
Available in DBF file

Coverage
Belgium, Israel and Turkey

HERE Areas & Boundaries

Census IDs

Enable availability of census IDs in geocoding output

Description

Census IDs is a correspondence file between Census Boundaries and HERE Map Data. This product enables additional geocoding that can be used for geo-marketing and site selection applications.

Features

This product contains five geographic IDs and the corresponding link PVID (a unique identifying number for each street segment):

- → Core based statistical area (CBSA)
- → Minor civil division (MCD)
- → Census tracts
- → Census block groups
- → Census blocks

Availability
Commercially available

Format
Available in Pipe Delimited text file

Coverage
Canada and the United States

HERE Areas & Boundaries

Postal Code Boundaries

Point representations and boundaries for postal systems

Description

Postal Code Boundaries is data that provides point representations and boundaries for country postal systems. This product enables visual display and data analysis in demographic, geo-marketing and business intelligence. The point layer represents the centroid of the postal code boundary.

Features

Data is aligned to HERE Map Data

Includes features such as the postal code type:

- → P.O. box for large organizations

Availability
Commercially available

Format
ESRI Shapefile and MapInfo TAB file

Coverage
80 countries and territories globally

Administrative Boundaries

Polygonal boundaries for business intelligence, search and rendering

Description

Administrative Boundaries is a global set of administrative content layers providing polygonal boundaries for business intelligence, search and rendering use cases. This product has standardized each administrative level for global consistency. Administrative Boundaries also contains standard layers of generalization to allow for different zoom and rendering views.

Features

- This product contains a global set of polygons representing government administration boundaries. Administrative Boundaries references the HERE Map Data coded boundaries, creates polygons which are not present in the core map, and may also contain additional boundaries, allowing for an expansion to what is available in HERE Map
- This product contains various content layers representing the administrative boundary. One layer is the detailed boundary, aligned to the HERE Map. It also contains three levels of generalized boundaries to allow for different zoom levels and rendering views
- This product contains a detailed hierarchy of the administrative structure to allow for business intelligence and search use cases
- Starting in Q4 2020, Mahalle Boundaries Turkey will be included within Administrative Boundaries. Mahalle Boundaries is a polygonal administrative area layer covering the entire country of Turkey with the special administrative areas known as Mahalle, Köy, Belde and Belde Mahallesi, including the Government Codes (UAVT). Mahalle Boundaries Turkey offers country level accurate coverage with the support of government originated sourcing and continuous updates.

Availability

- Commercially available since Q1-2017
- Quarterly product delivery

Format
Shapefile and File Geodatabase (FGDB)

Coverage
Global

Census Boundaries

Boundaries for selected geographic areas within a country, defined by the official census authority

Description

Census Boundaries is data that provides boundaries for selected geographic areas within a country that are defined by the country's official census authority. The product enables Census FIPS codes to be used to join demographic data from secondary providers, and then used for geo-marketing and site selection applications.

Features

- Geographies (varying by country) are linked to street centerlines in HERE Map: state boundaries, county boundaries, census division, states and federal districts, municipality census area and more
- Demographic information: a LAT table detailing population, housing, and other census information by geographies
- Census Boundaries with Demographics available for United States and Mexico*

Availability
Commercially available

Format
ESRI Shapefile and MapInfo TAB file

Coverage
The USA (Puerto Rico, US Virgin Islands, American Guam, Northern Mariana Island), Canada, Chile, Mexico, Argentina and Australia

*Census Boundaries with Demographics is available as a separate product

HERE Utility & Network Infrastructure

Geospatial representation of various utilities, pipeline and communication infrastructure aligned to the HERE road network with the purpose of evaluating connectivity as the backbone of multiple services.

HERE Cellular Signals

Information on all available cellular networks along the road network to predict connectivity for connected vehicles and fleets

Description

HERE Cellular Signals is a content product that provides multiple layers of information associated with cellular networks. By providing a “snapshot” of a cellular network at regular intervals, this product helps to identify the areas of optimal coverage to support voice communication and data uploads/downloads.

The layers of HERE Cellular Signals include information on carriers available in the area, network coverage by carrier, and interface (LTE, 3G, 4G, etc.). Additionally, the product provides the signal strength by a cell tower in a polygonal configuration, as well as two layers with signal strength aligned to the HERE road network. All layers represent the cellular connection as experienced by the end-user and allow predicted connectivity for fleets and connected vehicles.

Features

- HERE Cellular Signals includes three data layers:
  - Optimal Cellular Signal Layer: provides a summary view of a single optimal cellular signal available, including the information on network coverage, bandwidth and strength
  - Carrier Layer: indicates the carrier with the optimal cellular signal for a given area
  - Polygonal Layer: produces a polygonal illustration of the signal strength and coverage for each cell site, as experienced by the cellular subscriber
- Those three data layers together with the corresponding geometry, are mapped to the HERE Map Tiles
- Multiple signal types: 2G, 3G, 4G etc.
- Built with data from more than 250M connected devices globally

Availability
Commercially available since Q4 2018

Format
FGDB

Coverage
Available in 196 countries and territories

Dynamic Content

A set of services that provide timely updates on traffic conditions, hazard warnings, fuel prices and parking availability to assist drivers while on the road and at the destination.

HERE Real-Time Traffic

Traffic insights to keep drivers moving

Description

HERE Real-Time Traffic helps drivers reach their destinations efficiently and in a stress free way. It delivers up-to-the-minute information about traffic conditions and incidents that could cause delays, including slower than normal traffic flow, road works and accidents. It then helps drivers make the best decisions about the rest of the journey by improving the accuracy of arrival times.

Traffic data is aggregated and analyzed from a sophisticated mix of sources - including high-quality connected car probes - to accurately reflect real-world road conditions. HERE Real-Time Traffic is also the first service to incorporate vehicle sensor data, which enables fast detection of hard braking events. Sources include:

- → Probe data
- → Vehicle sensor data
- → Fixed sensors
- → Government sources
- → Trillions of historical traffic records

Features

- → Traffic flow conditions
- → Unplanned incidents such as accidents, stalled vehicles and unplanned road closures
- → Planned incidents such as road construction and planned road closures
- → Split-lane traffic
- → Reversible lanes
- → Predictive traffic
- → Tunnels
- → HOV lanes
- → Arterial turn lanes
- → Traffic Safety Warning
- → Automated Road Closure validation & detection
- → The native API enables both online and offline modes while taking advantage of downloaded (cell-ID and Wi-Fi) radio maps

Availability
Commercially available

Format

- → Broadcast Real-Time Traffic is available via RDS, HD radio and TPEG over DAB (availability varies by country)
- → Connected Real-Time Traffic is available over the internet via TPEG over HTTP and XML: OLP APIs & JSON

Coverage

- → Available in 63 countries
- → XML – Available in six countries in the Americas, 46 countries in EMEA and 11 countries in APAC
- → TPEG over HTTP – Available in six countries in the Americas, 46 countries in EMEA and 11 countries in APAC
- → RDS – Available in four countries in the Americas, seven countries in EMEA and three in APAC
- → HD+ – Available in the United States and Canada
- → DAB – Available in Germany

HERE Traffic Analytics

Harnessing location analytics for effective road planning

Description

HERE Traffic Analytics is a suite of data products that helps enterprise and government customers understand what happens on roadways in order to make informed decisions such as future traffic flow management and road network performance.

Speed Data

Description

Vehicle speed data analytics information from a database of trillions of GPS probe data points enable custom traffic analysis in enterprise and government applications.

Features

- → Based on HERE Probe Data, averaged in five-minute increments – includes analytical fields like standard deviation, min/max
- → Speeds for every calendar day, in five-minute epochs (365x24x12)
- → Referenced to TMC* codes or HERE Map Links
- → The Truck Speed data feature offers truck and freight performance reliability to improve economic competitiveness and speed results on roadways
- → Based on an archive of more than a trillion probe points
- → No modelling is applied: this is strictly a record of what was observed without alteration to allow for the best possible analysis
- → Includes arterial probe path speeds to increase the amount of data available for analysis and more accurately represent arterial conditions
- → Product data includes three years of historical probe information
- → Optional gap filling for better compatibility with existing solutions

Availability
Speed data is commercially available in 57 countries

Truck speed data is available in 31 countries

Format
Custom querying to yield precision tailored .CSV tables

Coverage
Speed Data
- → 43 countries in EMEA
- → 6 countries in the Americas
- → 8 countries in APAC

Truck speed data
- → 23 countries in EMEA
- → 4 countries in the Americas
- → 4 countries in APACcountries in APAC

HERE Traffic Patterns

Historical traffic information

Description

HERE Traffic Patterns delivers accurate usual traffic speeds by analyzing trillions of vehicle speed observations on every road in the HERE Map. The HERE Traffic Patterns product is a premium option on top of the HERE Map so that drivers can make more informed and efficient decisions. Average speed data for every road in the map database, each link and each TMC*, is provided in 15 minutes intervals, for each day of the week, based on an average three years of historical observations.

Features

- → Speed information is provided in local time; in mph and kph
- → Includes seasonable patterns to reflect traffic variations through season and in holiday areas/times
- → Average speed data available for every road in map database
- → Average speed data in 15’ or 60’ intervals for each day of the week
- → Built semi-annually based on previous three years’ worth of probe observations
- → Calculates accurate ETAs
- → Updated every year

Availability
Speed data is commercially available in 57 countries

Truck speed data is available in 31 countries

Format
- → For TMC data sets, CSV File in either TMC Referenced flat format or TMC Referenced Relational Format
- → For Link data sets, CSV file in Link Referenced Relational Format
- → On the HERE platform, Traffic Patterns is available at high granularity as a versioned layer in the HERE Map Content catalogue

Coverage
83 countries around the world

* Traffic Message Channel, a technology that allows to transmit traffic and events information to vehicles. It is based on codes in the map that geo reference the location of congested areas or incidents, as well as events impacting mobility, i.e. snow, rain, tornadoes, etc

Dynamic Content

HERE Destination Weather

Weather conditions along the route

Description

HERE Destination Weather is a dynamic (live) service delivering granular, up-to-the-minute, accurate and contextual local weather information to improve driver awareness and safety. The service provides current conditions, forecasts, severe weather alerts, and changing conditions along a journey.

Features

- → Daily forecast – up to seven days
- → Hourly forecast – up to 48 hours
- → Weather alerts – for next 24 hours
- → The dynamic service offers granular, up-to-the-minute details on current weather conditions and alerts, as well as information about when the sun and moon will rise and set across the globe
- → 90 languages supported through the API

Availability
Commercially available

Format
HERE Destination Weather is a RESTful API delivering weather forecasts to embedded navigation systems, so drivers can make more informed and safer route decisions.

Coverage
Global

Dynamic Content

HERE Hazard Warnings

Reliable information on potentially dangerous conditions for connected ADAS applications

Description

HERE Hazard Warnings is a complete solution for vehicle sensor data integration in HERE or proprietary connected services.

It delivers targeted alerts only to road users in the affected area; offers an end-to-end solution stack through close alignment with HD Live Map and CVS; facilitates the integration of HD Live Map or Connected Services in sensor fusion applications to enable next-gen navigation and autonomous driving use cases; allows for deployment within the IVI or the ADAS/AD domain.

Features

Point events:

- → Accident warning
- → Broken down vehicle warning

Point-line events:

- → Slippery road warning

Area events:

- → Reduced visibility warning – affected area
- → Heavy rain warning
- → Fog warning

Availability
Commercially available

Format
TPEG Binary

Coverage
26 countries including the USA, Canada, Puerto Rico and 23 countries and independent states in the European Union

Dynamic Content

HERE Safety Cameras

Fixed and mobile traffic safety cameras locations for connected vehicles

Description

HERE Safety Cameras is a dynamic service for connected vehicles that provides the current locations of both fixed and mobile traffic safety cameras, as well as known enforcement points of other types.

It supports camera filtering according to criteria such as camera type, credibility or proximity (including bounding box and corridor search) and combines validated fixed camera data with dynamic data, so drivers can make more informed and safer route decisions.

The service is updated every few minutes, to ensure that the latest content is always available.

Features

HERE Safety Cameras content includes the following types:

- → Fixed cameras
  - → Red Light Camera
  - → Speed Camera
  - → Speed and Red Light (Combination) Camera
  - → Regular Mobile Zone Camera
  - → Average Speed Zone Camera
  - → Danger Zone Camera (in France only)
- → Mobile cameras
  - → Mobile Camera

Fixed camera listings are updated at least daily, and mobile cameras are updated every few minutes (varies by region), for freshest content.

Availability
HERE Safety Cameras is available now as a REST API and is licensable for in-vehicle systems

Formats
HERE Safety Cameras content is delivered using simple JSON data formats. Fixed cameras and mobile cameras are delivered separately, to minimize data transfer for frequent updates

Coverage
North America: the USA and Canada

Europe: Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Monaco, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, the UK

Note: Actual coverage depends on current legal and regulatory conditions, which can change. Availability in certain countries (for example, Germany and Italy) may require special liability agreements

Dynamic Content

HERE Fuel Prices

Dynamic information to assist in the selection of fueling stops

Description

HERE Fuel Prices is a dynamic service delivering tailored fuel stop recommendations directly to in-vehicle displays at the exact point a driver needs them. HERE Fuel Prices can only be licensed to automotive OEMs or their integrators because of supplier restrictions.

Features

The service provides all the information drivers need to find the right fuel station:

- → Name
- → Location
- → Contact information
- → Opening hours
- → Fuel type
- → Brand
- → Fuel price by type
- → Fuel Price Index - Ranks fuel stations in the returned stations based on current prices and statistically modelled prices, allowing drivers to identify the cheapest options nearby

Availability
Commercially available

Format
HERE Fuel Prices is a RESTful information service

Coverage
Global

HERE Parking

On-street and off-street parking information

Description

HERE Parking is a RESTful API-based service that provides on-street and off-street, static and dynamic information about parking spots, to enable drivers to make more informed and safer route decisions. HERE Parking achieves this by providing dynamic information about the likelihood of finding an available parking spot on the street (unattended curb-side parking), together with static information about parking restrictions and price information.

Features

On-street data:

- Parking restrictions
  - Type: no parking, free, permit, paid/metered (with fees and supported payment methods)
  - Capacity: integer telling the actual parking spot present in that segment
  - Side of street: unknown, left, right, both
  - Restrictions: yes, no, with information about the restriction, such as maximum parking time, parking restriction times

Parking availability (indicates the likelihood of finding a parking spot per street where parking is allowed for the current time)

- Values:
  - High
  - Medium
  - Low
- Based on historical data:
  - Probe data
  - Historical mobile phone data
  - Vehicle sensor data
  - Street sensors
  - parking service providers

Off-street data:

- Opening hours
- Number of available spots
- Pricing and payment methods
- Park & ride information
- Detailed places information
- Facilities & amenities information

Availability
Commercially available

Format
HERE Parking is made from our On-Street and off-Street Parking RESTful APIs to give drivers a complete view of their parking options

Coverage
Global

HERE EV Charge Points

Dynamic information on EV charging facilities

Description

HERE EV Charging Points is a RESTful service providing drivers with highly granular and up-to-date information about EV charging infrastructure. The API contains data on various types of EV chargers, including fast, slow and superchargers; information about opening hours, number of connectors, subscription information, price and much more.

Features

The service provides all the information drivers need to find the right EV charging facility:

- Static content:
  - Name
  - Location
  - Contact information
- Opening hours
- Available charger types
- Brand
- Number of connectors
- Payment types
- Subscription options
- Price information and much more
- Dynamic content:
  - In countries with supporting infrastructure, the service shows drivers in real-time which charging facilities have available connectors

Availability
Commercially available

Format
RESTful API

Coverage
Global

Services

HERE Positioning

Seamless positioning of devices and assets from outdoors to indoors

Description

HERE Positioning is a suite of cloud-based services and SDKs used for accurate location of devices and assets. The positioning process operates on a variety of signals, from GNSS (Global Navigation Satellite System), through cellular and Wi-Fi signals in different environments (outdoors under open sky conditions), to urban environments where satellite signals may be compromised, to indoors.

HERE Positioning has three components: HERE HD GNSS Positioning, Network Positioning and HERE A-GNSS Positioning that work together or independently to provide a comprehensive solution for highly accurate positioning.

HERE HD GNSS Positioning

Hyper-precise positioning for everyday devices

Description

HERE HD GNSS Positioning is a cloud streaming service that provides hyper-precise, sub-meter level positioning for devices and chipsets under open sky conditions. Compared to regular GNSS positioning, the service improves the accuracy of mass-market devices such as mobile devices, wearables, trackers, drones and other IoT gadgets by 3-4 times. It also puts them on the same level as high-end geodetic receivers. HERE HD GNSS Positioning works by providing the clock, orbit and ionospheric corrections.

Features

- → Supports all major constellations: GPS, Galileo, GLONASS, BeiDou and QZSS
- → High definition, hyper-precise positioning with sub-meter level accuracy (<0.2 m horizontally for high-end receivers)
- → Time to first fix <1s; time to convergence <10s
- → Detects spoofing, jamming and adjusts behavior
- → Works with any device that provides access to raw GNSS measurement; no special hardware required
- → Optimized for mobile subscription and consumes a minimum amount of traffic
- → Premium SLA to support critical use cases

Availability
Commercially available

Format
Available either by the native SDKs, on-premise or as a REST API

Coverage
Global

HERE Network Positioning

A continuous positioning experience, even without GNSS

Description

HERE Network Positioning is a collection of services that provides positioning information when GNSS is compromised or not available (mostly in urban environments and indoors). The service provides location estimates that mobile devices can detect to find a geographic position with a confidence radius. It works both indoors and outdoors, online and offline.

HERE Network Positioning leverages a global database of over 160 million Cell-IDs and 3.6 Billion Wi-Fi access points. And it is continuously updated with the latest changes in wireless network infrastructure through a global crowdsourcing effort.

Features

- → Cell ID, Wi-Fi, HD Wi-Fi and hybrid (GPS, Cell, Wi-Fi, sensors) positioning
- → Cellular technologies supported: GSM, WCDMA, LTE, CDMA, TD-SCDMA (China)
- → Cell ID horizontal accuracy (typically 500-1500 meters accuracy with a single cell- ID, and 300-700 meters accuracy with neighbor cell-IDs)
- → The native API supports all positioning methods (GPS, cell, Wi-Fi, hybrid), including sensors, and enables both online and offline modes
- → The RESTful service can support a large variety of devices regardless of their operating system – when Wi-Fi and/or cellular measurements are available
- → Wi-Fi horizontal accuracy (typically 30-50 meters; 2-5 meters with indoor extension)
- → Easily accessible through a RESTful service, on-premise or as a native API (also part of the HERE SDK)
- → Available on AWS and Azure supporting multi-cloud availability

Availability
Commercially available

Format
Available as a streaming service

Coverage
Global

A-GNSS Positioning

Improved GNSS connection speed

Description

HERE A-GNSS Positioning optimizes satellite positioning performance in different types of devices (like mobile devices or the GPS inside of vehicles) and chipsets. It reduces time-to-first fix (TTFF) of devices using a GNSS receiver and increases their sensitivity and reliability.

Features

- → Supports all major constellations: GPS, Galileo, GLONASS, BeiDou and QZSS
- → Extended assistance data validity typically from 2 hours to up to 2 weeks, enabling instant positioning and high performance in offline mode
- → Optimized power and data connectivity usage thanks to offline modes
- → Leverages online and/or offline HERE Network Positioning to provide the initial cellular or Wi-Fi-based location; which in turn aids the GNSS receiver to speed up the position calculation

Availability
Commercially available

Format
Delivered as binary (client) and as a data service (LPP/RRLP)

Coverage
Global

HERE Indoor Positioning

Precise positioning within buildings

Description

HERE Indoor Positioning, a technology developed by HERE that enables indoor positioning within a given venue or space. It can detect the floor where a user is located with up to 95% accuracy. The product is part of the HERE Mobile SDK, a comprehensive toolkit that enables surveying indoor radio environment and managing collected radio data. HERE Indoor Positioning uses signals from Wi-Fi access points or Bluetooth® beacons* with accuracy that ranges between two and four meters.

Users can wield this information to develop mobile applications that involve indoor positioning technology. HERE Indoor Positioning doesn't need to know beacon locations; knowing there are enough beacons in the area is enough. The beacon deployment is a fast process as it requires installing the beacons without marking their location in any tool or map.

Features

Customer application:

HERE Mobile SDK Indoor Component

- → Location estimate & uncertainty value
- → Speed & heading
- → Positioning source (e.g. indoor engine)
- → Positioning technology (Bluetooth, Wi-Fi)
- → Floor level
- → Building information

Infrastructure management:

HERE Indoor Positioning tools

- → Indoor Radio Mapper (deployment tool)
  - → Radio data collection
  - → Radio data quality analysis
  - → Positioning testing
- → Radio Map Admin tool (management & monitoring)
  - → Radio data management and inspection
  - → Troubleshooting

Availability
Commercially available

Format
Available via HERE Mobile SDK and as part of HERE Tracking

Via Indoor Positioning RESTful API

Coverage
HERE Indoor Positioning is a local solution based on contract agreements; it is NOT a global solution

*Beacons are small Bluetooth radio transmitters that repeatedly broadcast their identifier to nearby portable electronic devices like smartphones

HERE Routing

Route information between two or more locations

Description

HERE Routing gives access to a diverse portfolio of routing related features. It calculates routes and provides maneuver instructions in 108 languages for different transport modes covering car, truck, walk, bicycle and two-wheeler. Its routing algorithm takes into account a rich set of HERE Map Data attributes and dynamically updated information, such as real-time traffic information. In addition, it gives access to a variety of routing options considering avoidances, such as toll roads, motorways, ferries, stairs or park paths, and route selections for fastest or shortest. And since traffic information is one of the most important elements to consider when calculating a route, the service considers both real-time and historical traffic.

Features

Route options

- → Fastest/shortest
- → Car, pedestrian, truck, bicycle and two-wheeler modes
- → Avoid road types (e.g. highways, toll roads, unpaved roads, bridges, tunnels)
- → Avoid areas (e.g. environmental zone, vignette, congestion zones, custom bounding box)
- → Pedestrian options (avoid stairs and parks)
- → Support for drag & drop interfaces
- → Itinerary warnings (e.g. country/state border crossing, toll road/booth, seasonal closure)
- → Full time-awareness considering e.g. seasonal closures, reversible lanes, time-restricted maneuvers
- → Stopovers and via points along a route
- → HOV routing (US only)

Route directions

- → Instructions in over 108 languages
- → Maneuver descriptions (structured, descriptive)
- → Distance and driving time to destination
- → Dynamic ETA based on multiple static and/or dynamic data

Traffic-enabled routing

- → Traffic-aware routes based on real-time and/or historical traffic data
- → Time-aware routes based on time of the day, time of the year (seasonal roads, lane configuration changes, etc.)
- → Incident-aware routes based on traffic accidents, construction, etc.

Truck routing

- → Support for all physical and legal restrictions including hazardous goods
- → Truck speed profiles
- → Avoid U-Turns and difficult maneuvers
- → Adjusted road hierarchy

Isoline routing

- → Support for several routing options: pedestrian, car (shortest/fastest) and truck
- → Area of reach based on time and distance or consumption model
- → Considers real-time and historical traffic

Matrix routing

- → Support for several routing options: pedestrian, car (shortest/fastest) and truck
- → Considers real time and historical traffic
- → Multi-route request
- → Matrix size: from 1x1 to 10,000x10,000

Two-wheeler routing

- → Support for maneuver restrictions
- → Two-wheeler optimized ETA calculations
- → Avoid environmental zones

EV routing

- → Consumption model calculation considering speed, ascent, descent, time penalty, auxiliary consumption, acceleration, deceleration
- → Extended consumption model calculation considering traffic and speed information
- → Range map for reachable area based on current charge
- → Multi-stop routing including charging stations stops

Availability
Commercially available

Format
Available either by the native SDKs, the Java Script API, On-Premise or as a REST API

Coverage
Worldwide

HERE Transit

Complete door-to-door transit information

Description

HERE Transit enables a complete door-to-door transit experience with everything from walking directions to transit stations or parking facilities, including information on stops and transfer points along a route, as well as intermodal routing options comprised of car, public transit, pedestrian, bike and taxi. It leverages various sources of data from public transit agencies, external/thrid party services, as well as data collected by HERE to provide deep levels of location data related to transit coverage, lines, stations, platforms and essential information on pedestrian access points.

Features

Route directions

- → Instructions in over 106 languages
- → Distance and walking time to station
- → ETA based on transit schedules or real-time information
- → Estimated ETA based on transit network configuration, stop density, vehicle type and hours of operation
- → Routes made of a total of three connections

Route options

- → Nine transit modes (e.g. bus, train, subway, tram)
- → 14 unique vehicle types (e.g. city train, regional train, monorail, subway)
- → Optimized route: walk distance and speed, number of transfers, first/last mile walk
- → Intermediate stops
- → Alternative transit segments
- → Flexible departure times
- → Pedestrian access point, entrance and exit
- → Transit platform information
- → Real-line geometries
- → Fare cost per journey leg

Transit schedules

- → Real-time transit information
- → Frequency-based schedules
- → Timetables available in more than 1,200 cities

Pedestrian routing to transit stops

- → Current user location
- → Time of day
- → Nearby station search
- → Transit isoline (list of reachable stations within a particular amount of time)
- → Next departure information (select, nearby, all)
- → Optimized route: stairways, sidewalks, crosswalks, bridges, tunnels, elevators, escalators
- → Optimized connectivity between travel modes (pedestrian pathways in transfer points, entry/exit points)

Intermodal routing

- → Transportation modes: car, bike, taxi, pedestrian and public transit
- → ETAs considering transfer times, time windows for walk time, real-time traffic and transit disruptions
- → Supports pre-trip and on-the-go use cases, as well as park early or park late implementations
- → Considers amenities available at or near transit station (e.g. parking)

Availability
Commercially available

Format
Available either by the native SDKs, On-Premise or as a REST API

Coverage
Worldwide

HERE Fleet Telematics

Distinctive location functionalities for Transportation & Logistics

Description

HERE Fleet Telematics gives access to far-reaching features that solve some of the most complex and critical use cases today. It enables advanced location functionalities related to data upload for map display, search, routing and backend connectivity, through ready-to-use algorithms supportive of specific use case, such as route matching of GPS traces, custom data upload, integration of HERE's advanced datasets, toll cost calculations, waypoints sequencing, managing and geofencing managing and monitoring, connectivity between backend and mobile device, custom routes creation and more.

Features

Advanced routing

- Custom speed profiles for any road type for precise ETA calculation
- Routes considering driver rest times for any route type
- Routes based on desired arrival time and day to a destination considering real-time or historical traffic
- Fuel/energy optimized routes considering road conditions like uphill, downhill, etc.
- Cost optimized routes considering toll cost information per vehicle profile
- Routes taking into account admin wide restrictions
- Isoline routing delivering reachable links/roads taking into account time, distance or consumption model

Custom locations

- Search by proximity, bounding box, route corridor, isoline search along route and attribute search
- Content management: automatic upload of custom POIs, user access roles and rights, groupings of POIs in layers and management of POIs (upload, edit, delete)

Accessing advanced datasets

- Basic attributes (e.g. vehicle types, route type, street type)
- Administrative Polygon Display: for country, state, county, city and BUA polygons
- Road shape point geometry and topology (underpass, overpass)
- Signs and warnings (e.g. traffic lights, priority signs warning signs)
- Speed limits (e.g. conditional, vehicle, truck)
- Enhanced geometry/ ADAS (e.g. height, slope, curvature)
- Premium road attributes (e.g. scenic routes, off-road, postal code boundaries)
- Premium junction guidance & census boundaries
- Toll information with toll link and toll booth
- Traffic speed record: live traffic speed data at 15 minutes intervals, stored for seven days back

Toll cost calculation

- Considering 18 vehicle related variables (e.g. vehicle category, Trailer type, number of axels)
- Considering time of the day or day of the week, per collection systems and country

Waypoints sequencing

- Sequence optimization by time and distance considering parameters such as: vehicle type, truck attributes, trip start time, time windows (opening hours), required arrival time at waypoint, and more
- Sequence optimization by commercial value (pick up along a route) with time restrictions applicable to final destination considering parameters like vehicle costs, distance, vehicle capacity, maximum detour time, and more

Geofencing

- Search capabilities related to: position in geofence/polygon, distance from position to border of geofence or distance to geofences within search radius when position is outside
- Customizable search radius around a position: from 1 to 20.000 meters
- Up to 100 coordinates in one request that can be checked against up to 16 geofence layers

GPS traces route matching

- Computes probable routes while generally assuming legal use of public road network
- Detects illegal maneuvers based on the most probable matching alternative
- Provides warnings on illegal access, turns, one ways, vehicles weight violations etc.
- Considers typical inaccuracies of GPS traces
- Provides route attributes based on HERE Map Content and additional drive related information such as:
  - Exact speed limits (date/time/vehicle dependent) for speeding detection
  - Curve speeds (lateral force) for cornering detection
  - Accelerations/breaking
  - Light conditions (horizontal and vertical sun angle towards driver)
  - Weather conditions at the time of driving

Custom routes

- Import custom road data and geometries into custom layers
- Add, change or remove road closures or existing roadblocks
- Add, change or remove road geometry

Fleet connectivity

- Send new destination to device
- Receive message communication if job was accepted, cancelled, or denied
- Receive ETA and updated ETA depending on defined threshold from device
- Send custom message to device
- Send new ETA from mobile device to dispatcher if it changes above a pre-defined threshold

Availability
Commercially available

Format
Available either by the native SDKs, the Java Script API, On-Premise or as a REST API

Coverage
Worldwide

Tour Planning

An API that supports tour planning for an entire fleet

Description

Tour Planning API is a Software-as-a-Service (SaaS) product that offers many-to-many route optimization and dynamic replanning. The product optimizes the cost of operating a fleet by taking into account vehicle properties (capacity, speed profile, maximum distance) and constraints (time windows, opening hours, driver shift times, driver skills).

Features

Multi-vehicle routing

- → offers a scalable service to optimize routes and number of vehicles based on transport demand and vehicle capacity
- → supports a variety of transport jobs (e.g., pick-up, delivery, combined)
- → defines transport jobs and vehicle capacity using many units (e.g., length, width, height, volume, pallets, boxes, etc.)

Optimize for costs

- → chooses as few vehicles as possible to reduce operating costs (e.g., vehicle costs per kilometer, driver wage, or fixed costs per day)
- → allows monetizing service times and waiting times with a customizable cost function
- → in case of unassigned transport jobs, the service responds with a probable reason (e.g., destination not reachable, time slot violation, etc.)

Time windows

- → optimizes each waypoint/transport job with programmable multiple time slots
- → provides time slots for all transport jobs or each individual job

Dynamic replanning

- → optimizes planned routes on the fly with a new transport demand
- → allows route changes to specific routes by flexibly inserting new transport jobs

Traffic-aware ETA

- → provides dispatch-ready routes with ETAs tailored to vehicle profiles and traffic conditions (supports real-time information and patterns)

Flexible vehicle and driver profiles

- → calculates tours for predefined vehicle types (cars and trucks) with customizable profiles (e.g., maximum speed or distance) and attributes (e.g., refrigerated or armored)
- → provides tour plans according to driver skills and shifts

Availability
Available on HERE Developer Portal from Q3 2020

Format
Tour Planning returns results as JSON

Coverage
Albania, Algeria, Andorra, Angola, Argentina, Australia, Austria, Azerbaijan, Bahrain, Belarus, Belgium, Bolivia, Bosnia And Herzegovina, Botswana, Brazil, British Sovereign Base Areas, Brunei Darussalam, Bulgaria, Cameroon, Cambodia, Canada, Cayman Islands, Chile, Christmas Island, Cocos (Keeling) Islands, Colombia, Costa Rica, Croatia, Cyprus Un Neutral Zone, Cyprus, Czechia, Denmark, Egypt, Estonia, Eswatini, Ethiopia, Falkland Islands, Finland, France, French Guiana, Germany, Ghana, Gibraltar, Greece, Guadeloupe, Guatemala, Guernsey, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Isle of Man, Israel, Italy, Ivory Coast, Jersey, Jordan, Kazakhstan, Kenya, Kosovo, Kuwait, Latvia, Lebanon, Lesotho, Liechtenstein, Lithuania, Luxembourg, Macau, Malawi, Malaysia, Malta, Martinique, Mauritius, Mayotte, Mexico, Moldova, Monaco, Montenegro, Morocco, Mozambique, Myanmar (Burma), Namibia, Netherlands, New Zealand, Nigeria, Norfolk Island, North Macedonia, Norway, Oman, Panama, Paracel Islands, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Qatar, Reunion, Romania, Russia, Saint Barthelemy, San Marino, Saudi Arabia, Senegal, Serbia, Seychelles, Singapore, Slovakia, Slovenia, South Africa, South Georgia And S. Sandwich Is., Spain, Spratly Islands, Sri Lanka, Svalbard, Sweden, Switzerland, Taiwan, Tanzania, Thailand, The Bahamas, Tunisia, Turkey, Turkish Republic of Northern Cyprus, Uganda, Ukraine, United Arab Emirates, United Kingdom, Uruguay, US Virgin Islands, USA, Vatican City, Venezuela, Vietnam, West Bank, Western Sahara, Zambia and Zimbabwe.

HERE Map Rendering

Customizable map display and rendering

Description

HERE Map Rendering enables map display through a variety of rendering technologies, either at the client side, through HERE or 3rd party rendering libraries utilizing vector tiles, or through pre-rendered map tiles or images. It provides for a fluid interaction with the map while panning/zooming across various views at varying resolutions and displaying various elements such as polygons, labels, images and other objects. In addition, it allows for deep levels of map customization at the client side, while providing easy ways to configure the map look and feel by changing its color, icon size, width, length and removing/adding objects such as buildings, land features and roads.

Features

Vector tile

- → 2D Vector tiles in the size of 512x512 pixel at different zoom levels
- → Support for HERE or third party rendering engines for map creation
- → Client-side rendering for map interactivity and retrieval of Map Objects at an application level
- → HERE Map Content in industry accepted MVT format
- → Support for build of geopolitical views on client side
- → Includes truck attribute properties (legal and hazmat)
- → Client-side map customization of:
  - → Selection of specific HERE Map Content datasets
  - → Visual appearance of map objects

Map tile

- → Pre-rendered map tiles on the HERE server streamed to the destination/device
- → Traffic flow and incidents tiles for traffic display
- → Support for geopolitical views
- → Show/hide POIs on the map filtered by category
- → Map tile sizes: 128x128, 256x256 and 512x512 pixel
- → Support for map views: base map, hybrid, satellite imagery, terrain view
- → Support for map schemes:
  - → Daylight or night mode
  - → Transparent map tiles as street or label overlays
  - → Truck attributes layer
  - → Fleet map scheme designed for fleet management use cases
- → Support for multi-language tiles

Map image

- → Pre-rendered in advance on the HERE server and streamed to the destination/device
- → Support for map views: base map, hybrid map, satellite imagery, terrain view
- → Support for map schemes: daylight or night mode, fleet map, truck attributes layer
- → Support for tilted-type map, heat map or map with select highlighted regions
- → Support for displaying statistical data in the form of circle diagrams or bar graphs

Availability
Commercially available

Format
Available either by the native SDKs, the Java Script API, On-Premise or as a REST API

Coverage
Worldwide

HERE Geocoding & Search

A vast portfolio of geocoding and search functionality for addresses and POIs/Places

Description

HERE Geocoding & Search gives access to an extensive feature set related to translating an address into geographical coordinates and vice versa, searching for places leveraging HERE's rich database of POIs as well as bringing your own data and service customization capabilities. It leverages a robust geocoding engine that understands complex relationships among locations, people and assets and provides effective ways to accurately pinpoint them on the map. And through its robust HERE platform environment, it provides the flexibility for a customer's own POI datasets to be integrated into the search infrastructure and made available through mapping and location related queries to users.

Features

Geocoding

- → Converts an address into lat/long
- → Free form, structured and hybrid address input capability
- → Point Addressing: provides geographic coordinates of a navigable and display positions; precise house number data for over 400M point addresses in over 102 countries and territories
- → Administrative and Postal Code Boundary shapes as multi-polygon coordinates; High-precision postal codes for the USA, Great Britain and the Republic of Ireland
- → Lookup IDs for easy place retrieval
- → Match quality indicator
- → Location limited search with soft or hard geospatial filtering
- → Places geocoding with integrated POI information in queries

Reverse geocoding

- → Converts a lat/long into an address
- → Address retrieval for the nearest street addresses including long-haul roads (e.g. freeways, interstates) and entry points
- → Area retrieval for administrative area information for given position (lat/long)

Search data

- → Rich database of ~120M POIs/Places
- → Daily data updates with fresh content
- → Display of basic (e.g. name, address, category) and extended attributes information, including operating/open hours, URLs, contact and more
- → Interact with POI: navigate to, get information, call, visit website, email and more

One box search

- → Support for multiple query types input
- → Querying by: place names, addresses (partial and complete, including postal codes), chains, categories, postal codes

Autosuggest

- → Provides suggestions for categories, addresses and places with fewer strokes
- → Suggestions provided starting at one single letter
- → Response language selection based on relevance to query
- → Support for spatial and region filters

Bring your own data

- → Through HERE Workspace: integration of customer own POI data sets into the search infrastructure

Availability
Commercially available

Format
Available either by the native SDKs, the Java Script API, On-Premise or as a REST API

Coverage
Worldwide

Development Enablers

HERE SDK

Location services for native application development

Description

Development Enablers provides a set of native programming interfaces that enable integration of key location-based services into mobile applications. A rich set of location features and functions are available related to Maps, Routing, Navigation, Geocoding and Search, Traffic, Positioning and Fleet telematics.

Through a sophisticated engine for rendering map data and route calculation, Development Enablers facilitates the preloading and offline use of maps for any country or region through a proprietary, highly compressed vector data format that is fast and efficient.

Development Enablers is built on the same set of HERE Location Services and accommodates fast and easy cross-platform development of applications.

Maps

Interactive maps of the world and fastest map rendering

- → Vector maps with 2.5D
- → 3D landmarks
- → Fleet map optimized style
- → Satellite imagery

Routing

Always accurate and reliable routing

- → Car and pedestrian routing
- → Bike and scooter routing
- → Public transit routing
- → Traffic-enabled routing

Navigation

Reliable voice-guided turn-by-turn navigation

- → Hybrid and offline vehicle and pedestrian navigation
- → Dynamic information (e.g. signposts, speed)
- → Warner engine

Geocoding and Search

Precise and complete address and POI information

- → Geocoding with support for address ranges and point addressing
- → Reverse geocoding for addresses
- → One box search
- → Place/POI search
- → Category search

Transit

Complete door-to-door transit experience

- → Station search (nearby, all next departures)
- → Route directions with ETAs based on transit schedules
- → Route options for various transit modes (e.g. bus, train, subway)
- → Pedestrian routing to transit stations with connectivity between travel modes and pedestrian access points

Positioning

Smart positioning without GPS

- → Network positioning (Cell-IDs & Wi-Fi)
- → GSM, WCDMA, LTE, CDMA, TD-SCDMA (China)

Traffic

World's most comprehensive source of traffic data

- → Real-time traffic flow
- → Incidents layer

Availability
Commercially available (in four variants) four variants: Lite, Explore, Navigate and Premium

Format
Available for Android and iOS

Cross-platform development w/ Flutter

Coverage
Global

HERE Live Sense SDK

An AI-powered SDK that transforms camera-enabled devices into hazard awareness sensors

Description

An SDK made up of a collection of AI-based perception models that use forward-facing cameras on smartphones, dashcams, personal navigation devices and vehicles to provide drivers greater real-time awareness of the environment to enhance safety of road users.

- → Provides audio and visual alerts of potential hazards on or near the road so drivers can take action and avoid collisions
- → Improves the navigation experience by providing route guidance using objects in the driver's view
- → Delivers up-to-date maps to drivers which contain real-time change detections such as road closures and road works that may not be in the on-device or on-board map
- → Aids in post-trip analysis by providing real-time detections of the road environment for driver coaching

Features

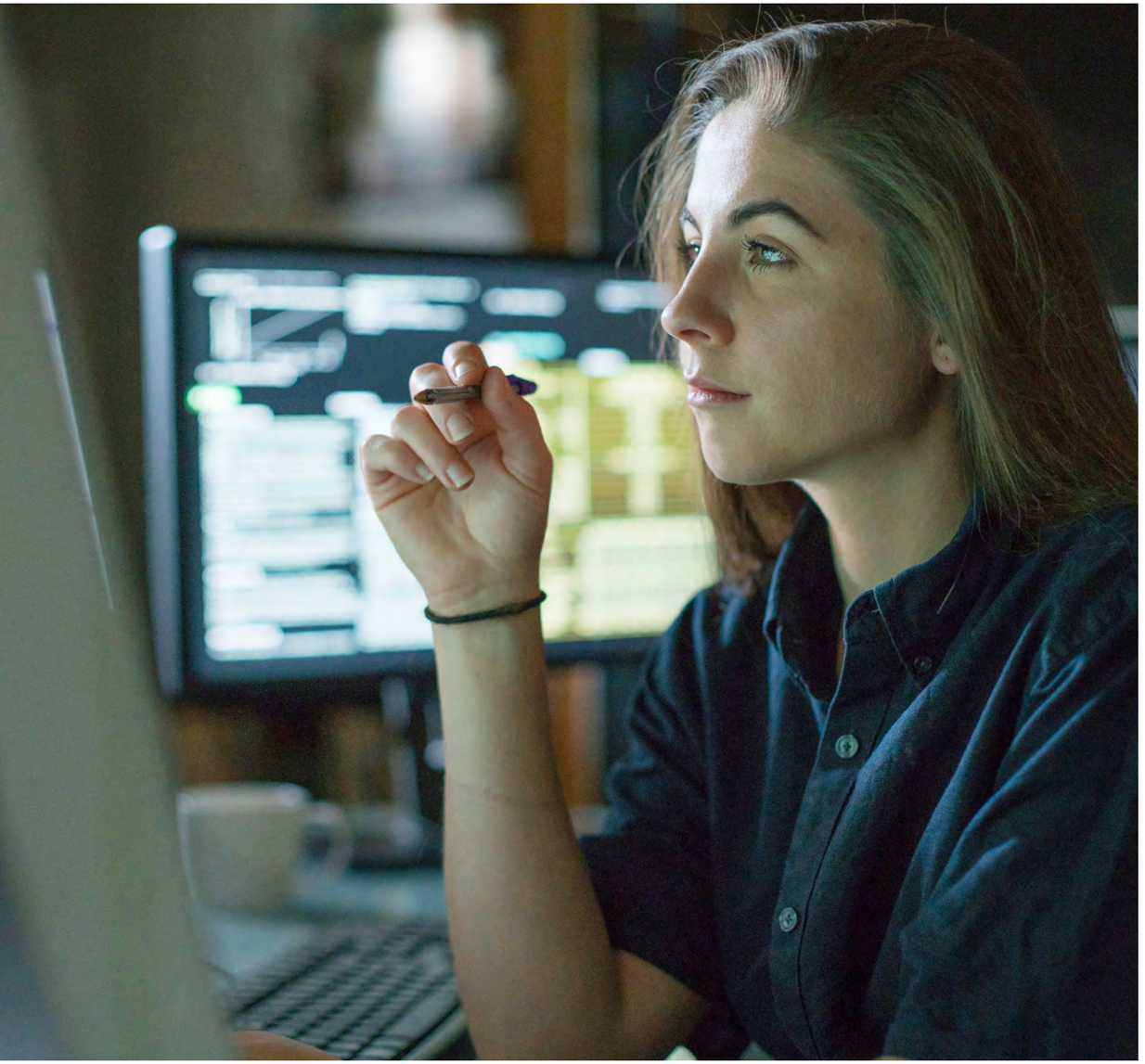
- → Detection, classification and notification takes place on the edge device and does not require connectivity
- → Notifications of potential hazards can be delivered as visual and/or audio alerts to drivers. Developers can customize parameters for detections and alerts
- → Contains additional heuristics such as time-to-collision warnings and alerts for obstacles entering the vehicle's direct path
- → Supports regional models for detections (where available) for greater specificity
- → Optional set of libraries are available for rendering routing using augmented reality

Availability
Commercially available

Format
Live Sense SDK for Android, iOS. Linux is coming soon

Coverage
Global except China and Japan

Want to talk? We do, too. Get in touch here.



HERE Data Hub

Real-time location data management service for location data

Description:

HERE Data Hub is a cloud-based geospatial database that allows storage, editing, retrieval and publishing of location data enabling easy and efficient data management. Developers can interact with data stored in HERE Data Hub using a command line interface (CLI) as well as a RESTful API.

Features:

- → Upload very large geospatial datasets to the HERE Data Hub repository in various standardized formats including GeoJSON, CSV, GPX, JSON and Shapefile
- → Interact directly with data stored in the geospatial repository using API end points
- → Retrieve data efficiently with tags without querying the entire data set
- → Connect and update data directly using the Data Hub QGIS plug-in
- → Use on-demand indexing for quick searches by data properties
- → Get control over multiple repositories at once with JOIN-like functionality using Virtual Spaces
- → Use Hexbins in the CLI to create massive data visualizations and get complete control over data simplification
- → Keep your geospatial repository organized with Schema Validation that allows setting JSON parameters
- → Rule-based tagging for automatic feature tagging based on property values

Availability:
Commercially available

Format:
Data can be uploaded in GeoJSON, CSV, Shapefile and GeoJSONL, GPX and JSON formats

Coverage:
Worldwide

Platform Environments

Visualization

HERE Studio

A web application to visualize geospatial data and create custom web maps for drawing visual insights and storytelling

Description

An intuitive point-and-click web application to create custom maps. Users can upload their geospatial data from different sources, layer it on a map, customize it with colors, markers and styling elements and publish the map.

Studio is powered by HERE Data Hub, a cloud-based geospatial database that provides a RESTful API and a command line interface to interact directly with the data stored and create more sophisticated maps.

Features

HERE Studio allows you to use the following features:

- → Simultaneously upload gigabytes of different geospatial datasets using an intuitive point and click interface
- → Customize the look and feel of your map with different base map styles and choice of different markers, icons and text labels
- → Apply conditional formatting to style subsets of data based on the data properties
- → Switch between map and table view to easily explore and edit data. Data is edited in real-time with changes automatically displayed on a published map
- → Add features such as points, lines or polylines to the map and edit custom geometry by moving and reshaping
- → Publish a map in one click using an automatically generated URL or embed HTML code directly to a website

Availability
Commercially available

Format
Data can be uploaded in GeoJSON formats. Data in CSV, Shapefile, GeoJSONL, GPX formats requires use of Data Hub CLI

Coverage
HERE map is offered everywhere, except China

Software Development & Analysis

HERE Workspace

A cloud environment for development, execution and scaling of location-centric data products and services

Description

HERE Workspace is a cloud-based environment that enables creation, deployment and scaling of location-centric data products, services and applications. As Data-as-a-Service, it provides access to location-domain specific services and content, in addition to tools and capabilities for advanced data modelling, API services, pipeline configuration, and advanced analytics.

Features

- → HERE Workspace provides access to data from HERE, which includes HERE Map Content and dynamic data, such as weather and traffic
- → HERE Workspace also provides four SDKs – SDK for Java and Scala that enables developers with common tasks when writing a pipeline and provides tools for setting up and managing projects; SDK for Python provides tools for exploration, analysis and visualization of data in off-platform environment; SDK for C++ to connect devices like smartphones, IoT robots, and vehicles facilitating read/write access to/from HERE; and SDK for Typescript to connect web applications and connected devices facilitating read-only access from HERE Workspace
- → Customers can also access HERE Location Services, such as HERE Search & Geocoding (including Places, Forward Geocoder and Reverse Geocoder), HERE Routing and HERE Map Rendering

Availability
Commercially available

Format
Data-as-a-Service (DaaS)

Coverage
Available globally (including China and Japan), except Korea

Exchange & Monetization

HERE Marketplace

A cloud environment for the exchange and monetization of location-centric assets

Description

HERE Marketplace is an open, neutral and scalable data exchange platform enabling secure and controlled subscription of location-centric assets from brands across multiple industries. HERE Marketplace allows its customers to either sell to HERE or sell via HERE by tapping into its vibrant ecosystem of customers, partners, and developers. For consumers, HERE Marketplace acts as a single point of integration of all location needs across various providers.

Features

- → Access location-centric assets from HERE and third parties that include map-content, dynamic data sets, services, SDKs, APIs, algorithms, and applications
- → Exchange PII data derived from vehicles responsibly and securely using Neutral Server functionality with blockchain-based consent management
- → Customers are provided with business and technical services. These include advanced services to help customers manage, enrich, price and package their data assets for maximum monetization

Availability
Commercially available

Format
Data-as-a-Service (DaaS)

Coverage
Available globally except in selected countries like China and Korea, where there are restrictions on cross-border data flow

Want to talk? We do, too. Get in touch here.

Applications

HERE Navigation On-Demand

The world’s first SaaS solution for vehicle navigation and connected services

Description

HERE Navigation On-Demand (HNOD) is an off-the-shelf navigation solution for embedded IVI platforms and mobiles, delivered as software-as-a-service (SaaS), so that OEMs can always upgrade the navigation application with new services, and end-users are able to enjoy a fresh up-to-date solution throughout a vehicle's lifecycle.

HNOD supports in-car navigation - embedded, mirrored from mobile, mobile only. It also offers the essential tools for integration of the embedded experience with existing or newly planned, multi-domain mobile companion apps for first/last mile guidance and pre-trip planning use cases. Furthermore, HNOD enables multi-device and multi-device setups integrating further devices such as a smart watch or smart home appliances into the navigation experience.

Features

The solution has the following key components:

- HNOD Client Software: The HERE Navigation On-Demand Client Software operates on the IVI platform or on a mobile. It connects to the HNOD Platform for online services and can make new functionality and updated content accessible to the client over-the-air. The Client Software also caches map content as well as functionality, enabling it to deliver an uninterrupted experience during times connectivity is lost
- HNOD Portal: A web-based tool enabling OEMs to define the navigation experience(s) delivered to drivers through the HNOD Client Software on embedded IVI platforms or mobiles
- HNOD Back-end APIs: Cloud APIs that allow for the integration of the HNOD Portal with an existing OEM Cloud, ERP or e-commerce solution. It enables OEMs to embed the solution in existing infrastructure for user profile management, automated business processes or enable Connected Car e-Shop
- HNOD Sync API: Enables OEMs to sync states across multiple devices through the HNOD Portal to implement mobile companion and multi-device experiences
- HNOD Service Package SDK: It enables OEMs and their development partners to develop custom HNOD Service Packages, which can integrate deeply with the navigation experience enabled by the HNOD mainline services
- HNOD mainline Service Packages: OEMs can develop a new functionality in the SDK's local development environment and publish it on the HNOD Portal to make it accessible to their end users as they desire

Availability
Available for OEM program deployment

Format
Client specific

Coverage
HERE Navigation On-Demand follows the global coverage of HERE Platform and HERE SDK, including China and Japan where our platform operates

HERE Last Mile

A range of solutions to manage fleet vehicles

Description

HERE Last Mile is a way to optimize tour planning and real-time operations for urban fleets. It consists of a Tour Planning API for developers to integrate into their own solutions and an end-to-end product with web and mobile components for drivers and fleet managers.

Features

- Calculate daily tours based on vehicle capacity, driver and vehicle characteristics, delivery time windows and other customer-defined variables
- Cluster stops to improve along-the-route delivery efficiency
- Driver app with turn-by-turn navigation based on real-time traffic flow and incident data
- Dashboard for fleet tracking, management, and analysis
- Near real-time route re-planning for handling new jobs or exceptions

Availability
- Commercially available (Tour Planning API)

Limited customer testing (Driver app and dashboard)

Formats
- Headless API (Tour Planning) for returning per-vehicle tours
- Standalone mobile (Android and iOS) driver application
- Web dashboard for tour planning and post-drive analysis

Coverage
Global

HERE Tracking

A set of components designed to enable seamless supply chain visibility

Description

HERE Tracking brings accurate positioning to low-cost, power efficient IoT hardware enabling supply chain managers with visibility at every stage, from tracking hardware to turnkey solutions.

The product allows customers to follow their assets from start to finish using indoor maps and positioning, optimizing business processes and understanding vendor performance using historical data. By providing these insights, supply chain managers can respond quickly to exceptions with real-time accurate positioning information.

Features

- → Power-efficient cross-platform firmware for device manufacturers that provides low-cost outdoor and indoor positioning
- → A tracking service stores and retrieves device location for real-time monitoring or analytics
- → Can be connected to existing logistics ERP solutions, such as SAP Global Track & Trace
- → Reference apps for web and mobile designed to streamline onboarding time
- → Provides positioning globally, including China
- → Communication between hardware and the tracking cloud is encrypted

Availability
Commercially available

Format
Available as part of SAP Global Track & Trace, as native C code for tracking hardware, or via REST endpoint

Coverage
Global

Services & Support

A portfolio of consultancy, data, implementation and support services helping customers meet their business outcomes and bring their location solutions to market faster.

Professional Services

Description

Professional Services is a portfolio of consultancy and engineering services aimed at enabling customers to bring location solutions to market faster and more easily. Our professional services can accelerate customers' success, reduce project complexity, help them get to market faster and increase their business potential.

Professional Services covers the following areas of capabilities and competences:

- → Advisory / Consulting Services
  - → Ideation
  - → Concept development
  - → Architecture & design
  - → Training
- → Implementation Services
  - → Software development
  - → Migration to HERE
  - → POCs
  - → SW Framework
  - → Validation & Testing
  - → Solution Deployment
- → Data Services
  - → Content processing
  - → Ingestion
  - → Analytics
  - → Pipeline development
  - → Publication

The technology expertise of our team spans a wide range of areas such as: GIS/Location Analytics, Web Development, Backend Application Development, Embedded and Mobile OS, CI/CD, Agile SW Development, Big Data Processing/Analytics, AI/ML, Testing/Validation, AAA, Security, Embedded Development Automotive, Automotive ASPICE and Algorithms (Routing, Vehicle Route Optimization).

Our consultants, architects and engineers have deep location and platform expertise in multiple industries and support different segments, especially:

- → Automotive
- → Transportation & Logistics
- → Media & Internet
- → Telecom & Utilities
- → Retail and Financial Services
- → Public Sector and Infrastructure

Availability
Commercially available

Coverage
The HERE professional team is comprised of 100+ experts around the globe

Technical Support

Description

Technical Support is a robust tiered technical support model provided by a global team of Technical Support Engineers and Customer Engagement Managers.

Support Plan Features

Technical Support plan is available to all HERE customers and can be applied to all Content, Service and Platform offerings.

The Customer Support Portal includes:

- → Submit and manage help tickets for your organization
- → Comprehensive knowledge base for immediate answers
- → Access to documentation and content notifications
- → System status and service reports

It includes three levels of paid support. Plans are defined in detail at: https://developer.here.com/support-plans

Availability
Commercially available

Coverage
The HERE Technical Support team provides support in 20 languages and is distributed in 39 locations, across 22 countries

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 360.here.com and www.here.com.

Want to talk? We do, too. Get in touch here.