

Maps API for JS API

About Maps API for JavaScript



The Maps API for JavaScript gives access to a variety of location features so that customers can easily integrate mapping, geocoder, traffic, routing and fleet telematics capabilities into applications. It is designed not only for desktop web development but also for mobile HTML5 browsers.

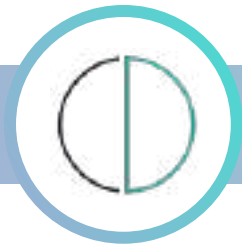
- Built on HERE's high content quality map and data
- Consolidates all back-end capabilities of HERE Platform into one single API
- Supports various types of map objects: markers, Geo-Shapes and overlays
- Offers pre-built, customizable User Interface (UI) elements: pan, zoom in/out, scale etc.
- Supports clustering of large data sets on top of the map
- Allows display of heat maps as map overlays: value-based and density-based



Capabilities offered through a robust structure

HERE JavaScript API

The HERE JavaScript API offers an easy way to display geospatial data on the web page or to build location-based rich internet applications both for the desktop and mobile



Modular

features can manually be switched ON/OFF



Controllable

direct support for objects and layers



Flexible

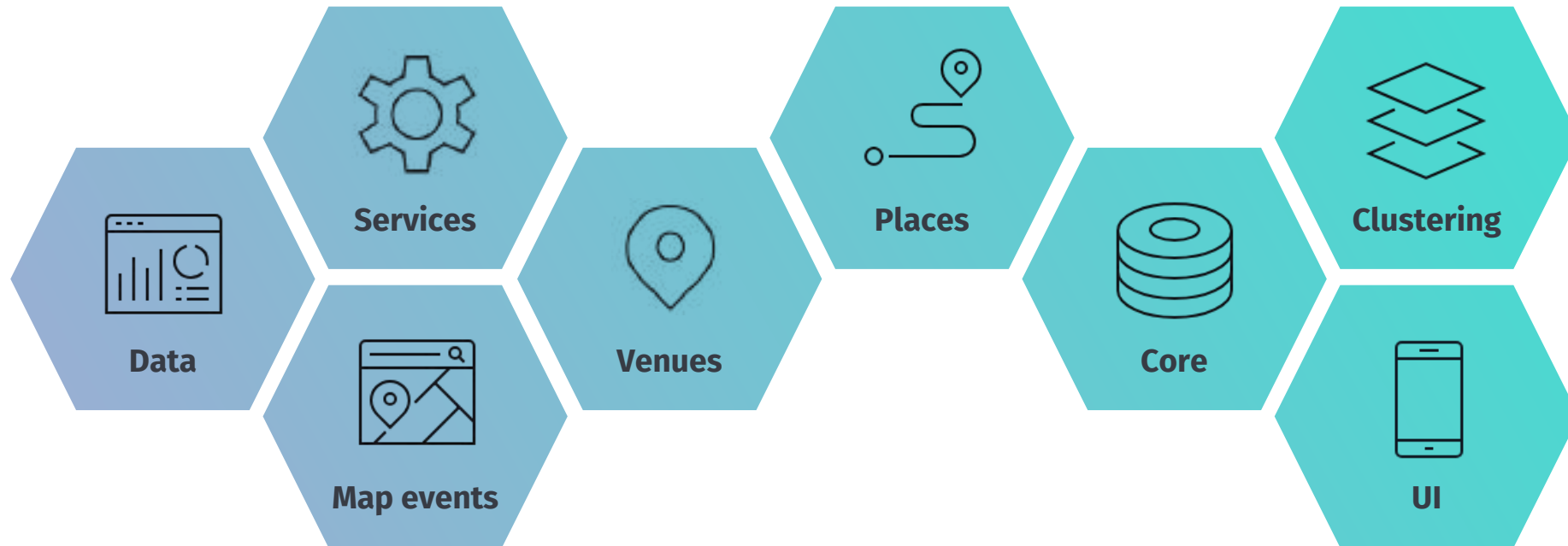
easy switch between services



Interoperable

web development “standards” support for an easy integration

Modular architecture of Maps API for Java Script



```
<script type="text/javascript" src="https://js.api.here.com/v3/3.1/mapsjs-core.js"></script>  
<script type="text/javascript" src="https://js.api.here.com/v3/3.1/mapsjs-service.js"></script>  
<script type="text/javascript" src="https://js.api.here.com/v3/3.1/mapsjs-ui.js"></script>
```

```
<script type="text/javascript" src="https://js.api.here.com/v3/3.1/mapsjs-mapevents.js"></script>  
<script type="text/javascript" src="https://js.api.here.com/v3/3.1/mapsjs-venues.js"></script>  
<script type="text/javascript" src="https://js.api.here.com/v3/3.1/mapsjs.bundle.js"></script>  
...
```

Supporting different browsers



Google Chrome
(latest)
(Desktop,
Android 7.0+
on mobile/tablet)



Firefox (latest)
(Desktop)



Apple Safari 11+
(Desktop, iOS 11+
on mobile/tablet)



Edge (17+)
(Desktop)



Internet Explorer 11
(Desktop,
Legacy support)



Enabling mobile aware interaction



Supports mouse and touch-screen interactions with the map, including pan, zoom and pinch-to-zoom on a broad range of devices



Supports retina display (high dpi display)



Provides high dpi map tiles (rendering)

Maps API for JavaScript as NPM Package

Easy coding



Available as NPM package
for local installation



Easy bundling and configuration
with bundlers as Webpack and Rollup



Typescript .d.ts type definitions allow
easy coding in IDE by displaying all
methods for an instance

```
const map = new H.Map(  
  this.ref.current,  
  layers.vector.normal.map,  
  {  
    pixelRatio: window.devicePixelRatio,  
    center: {lat: 0, lng: 0},  
    zoom: 2,  
  },  
);  
onResize(this.ref.current, () => {  
  map.getViewPort().resize();  
});  
map.addEventListener('mapviewchange', this.handleMapViewChange);  
map.  
new  
  this  
}   
}   
component  
const  
  lat,  
  lng,  
  zoom  
} = th  
  getBaseLayer  
  getCenter  
if (this.map) {  
  clearTimeout(this.timeout);  
  this.timeout = setTimeout(() => {  
    this.map.setZoom(zoom);  
    this.map.setCenter({lat, lng});  
  }, 100);  
}
```

(method) globalThis.H.Map.geoToScreen(geo: x
Point: H.geo.IPoint): H.math.Point
This method retrieves the screen coordinates
corresponding to the geographical coordinates supplied
by the caller.
@param geoPoint: — point on the map.

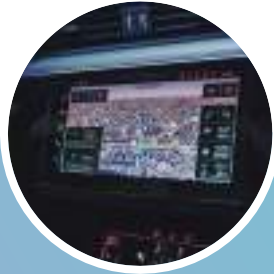
Key functionalities supported by HERE Maps API for JS



Value proposition

Value propositions

Why Maps API for JavaScript



Access to world class map content

- Industry leading maps – over 900 attributes and continuously update global road network coverage
- Comprehensive coverage – HERE Map database contains 57 million kilometers of roadways that connect over 125 million Points of Interest, in more than 200 countries globally



Easy access to highly integrated location services for web developers

- Easy access to highly integrated HERE locations service like Map Rendering APIs, Data Hub, Geocoding and Search API, as well as Routing, Fleet Telematics and Public Transit API for web developers



Enhanced visualization capabilities

- Fast and easy way to build map visualizations like heat maps, clusters, choropleth maps, custom markers incorporating HERE and custom data
- Advanced capabilities to customize map appearance towards specific customer use cases or brand guidelines. Predefined styles e.g., for truck attributes

Features and capabilities



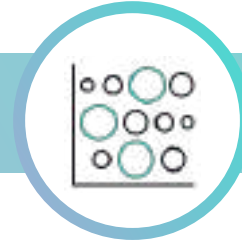
Product features

HERE Maps API for JavaScript



Service integration

- Vector Tile API
- Map Tile API
- Geocoding & Search API
- Routing API
- Traffic API
- Fleet Telematics API
- Data Hub API
- Interactive Map Layer API
- Public Transit API
- Indoor Maps



Visualization features

- Standard and customized Markers
- Geoshapes
- Clustering
- Heat maps
- 3D Map, Tilting, Rotation



Built-In features

- User interaction – event-system
- Vector rendering and map customization
- Gestures support
- Rich format support
- User Interaction – pre-defined UI controls

Service integration

JavaScript API integration with Vector Tile API/ Map Customization Tool



Map styling

Styling the map based on HERE Vector Tile API gives full design flexibility to customize the map. It allows the design of as many map styles as desired applied to the global HERE Map data.



Full flexibility to style the map available

- Style map according to your needs
- Design as many different map styles as required
- Hide layers not necessary for your use cases
- Run-time modifications of map styles/property settings (e.g., colors, width, size of labels, zoom level)

The Map Customization Tool helps to realize your style

- Support style generation and inspection of map attributes
- Download options for designed styles

Japan Map Style based on Vector Tile API

Feature rich Map Style for Japanese Market



Japan Map Style

Addresses uniqueness of Japan with extreme density in opposite to sparse mountainous areas in a basemap style utilizing HERE Vector Tile API as data source.

Map style emphasizes local market needs:

- Toll road network, facilities & POIs
- Public transport (network, stations & POIs)
- Building types
- Labeling (administrative & address structure, buildings)
- Geographical names



JavaScript API integration with Map Tile API

HERE Maps API for JavaScript provides access to various Map Types



Different pre-rendered Map Tile styles available

- Base map (image tiles/vector tiles)
- Transit map
- Fleet map
- Hybrid map with satellite imagery



Built for HTML5 capable environments to maximize map and map object rendering efficiency on mobile devices and desktops

Acts as a flexible access facilitator, giving not only the means to retrieve basic map tile sets, but also the full selection of all possible map styles provided by the [HERE Map Tile API](#)

JavaScript API integration with geocoding and search services

HERE Maps API for JavaScript provides direct access to the HERE Geocoder and Search API

HERE JavaScript API

Permits integration of the following:



Geocoding

matching an address to its location on the map



Reverse geocoding

obtaining a street address that corresponds to a set of geo-coordinates



Places search

finding Places with different categories like hotels, restaurants airports



Autosuggest

Autosuggest allows the submittal of free-form, incomplete or miss-spelled addresses or place names



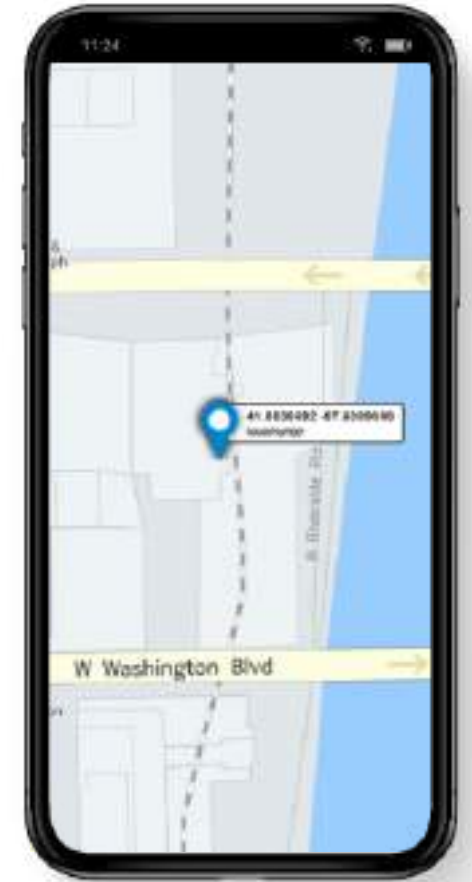
Browse

Browse provides a structured search for places through filtering by name and category ID



Lookup

Lookup finds one result based on its unique location ID



JavaScript API integration with routing services

HERE Maps API for JavaScript provides direct access to the HERE Router API

Permits calculation of optimal routes which

offers global coverage for local roads and highways, allowing you creation of routes considering customization modes such as fastest, shortest, avoiding toll-roads, ferries, etc. Supports historical speed patterns for improved planning



Calculation

Match your own calculation criteria



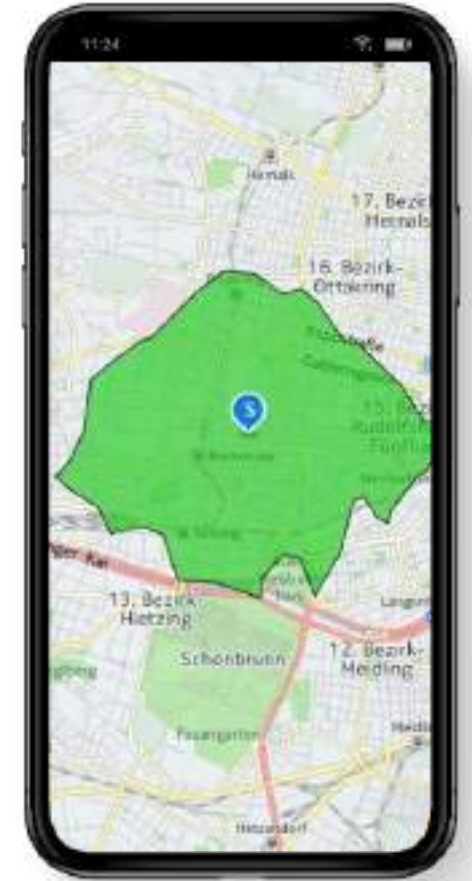
Data

are based on up-to-date map data



Account

Take into account real-time traffic information



JavaScript API integration with Fleet Telematics API

HERE Maps API for JavaScript provides easy ways to overlay Advanced Data Sets thematic layers on the map

It includes



A tile provider that enables you to overlay on top of the map meta information from the platform data service



Search request functionality that allows you to search data available via the Platform Data API and to match it by various attributes (link ids, names, etc.) to the data received from other HERE Location Services



The thematic layers e.g., covers adv. link info, admin areas, building, fuel, point addresses info, road roughness, speed limits etc.



Full list at: <https://developer.here.com/documentation/platform-data/topics/layers-indexes-attributes.html>

JavaScript API integration with Fleet Telematics API

HERE Maps API for JavaScript provides easy ways to overlay custom locations layers on the map

It allows for



Display of customer objects (e.g., POIs) stored through the Custom Location service



Proximity, Bounding Box, Route Corridor and Isoline Search



Search customer POIs by attribute



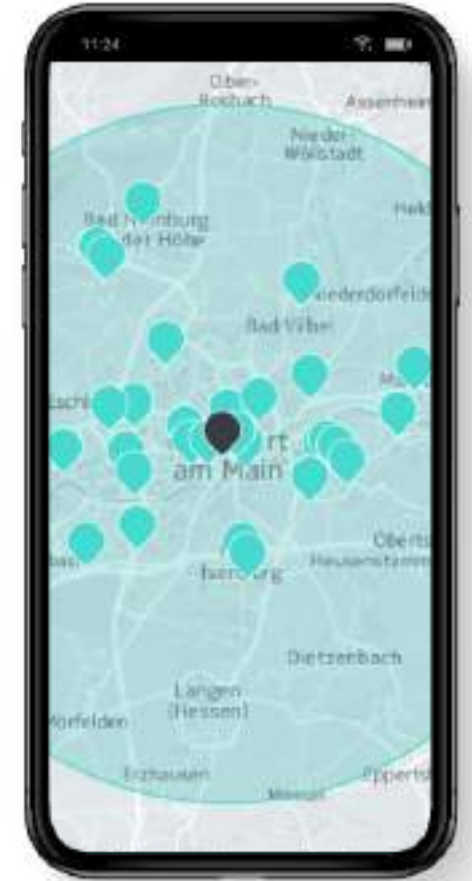
Search of customer data



Custom styling for data display



Creation and managing of data layers directly from customer application



JavaScript API integration with Fleet Telematics API

HERE Maps API for JavaScript provides easy ways to overlay Advanced Data Sets thematic layers on the map

It allows for



Mapping

Display geofences on top of the map



Matching

Matching assets to geofences



Information

Information on distance between asset and geofence border





The custom route can be easily displayed on the existing HERE road network



JavaScript API integration with Fleet Telematics API

HERE Maps API for JavaScript provides easy ways to overlay Custom Route layers on the map

Java Script integration with Traffic Flow API & Traffic Incidents API

HERE Maps API for JavaScript provides access to traffic flow and incidents information

Provides the means for retrieving and displaying traffic data on top of the map, for major urban areas around the globe



Traffic flow:

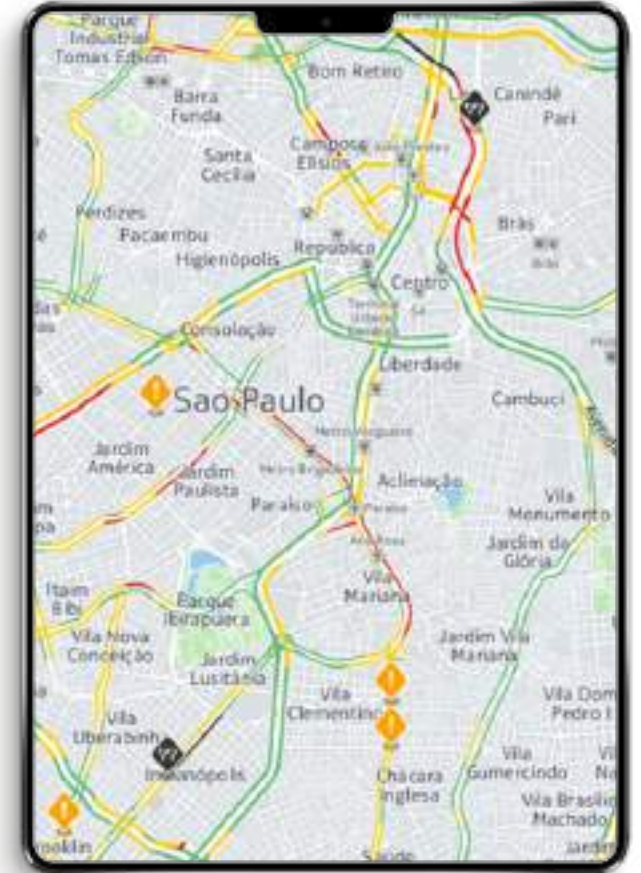
- Access to map tiles with traffic information overlay
- On/off switch of traffic flow information display on available map types



Traffic incidents:

- Traffic incident data through markers displayed on top of the map
- On/off switch of traffic incidents display on top of available map types

Advantages from new version –



Java Script integration with Indoor Maps

HERE Maps API for JavaScript provides access to rich Indoor Maps

Provides the means for retrieving and displaying Indoor Maps on top of the map



Features available:

- Display indoor maps
- Access secure private indoor maps
- Indoor routing
- Control the map and define map view e.g., level/zoom/view
- Custom map style, fonts and UI elements
- Dynamic styling for e.g., real-time status display
- Search your indoor content (e.g., Points of Interest inside buildings)



Java Script integration with Interactive Map Layer

HERE Maps API for JavaScript provides access to Interactive Map Layer on Platform

Geospatial management system in the cloud



Geospatial management:

- Read/write access to Geodata
- Manage location data
- Visualize geodata in top of the map



Data access features:

- **Spatial and property Search**
- **Clustering:** Generate server side HexBins on-the-fly
- **Sampling:** return a subset of features while maintaining the geographical distribution of the source data
- **Simplification:** remove points from large and complex polygons or lines that are beyond screen resolution



Java Script integration with Traffic Flow API & Traffic Incidents API

HERE Maps API for JavaScript provides access to Public Transit API

Provides the means for retrieving and displaying traffic data on top of the map, for major urban areas around the globe



Transit routing

- A to B simple transit routing
- Timetables
- Mode filtering



Station search

- Search by name, ID and Coordinates
- Pedestrian connectivity and walk

Next departure search

- Search by ID and Coordinates



Built-in features & functions

Markers

Provides the means to display points of interest (POIs) or other locations on the map



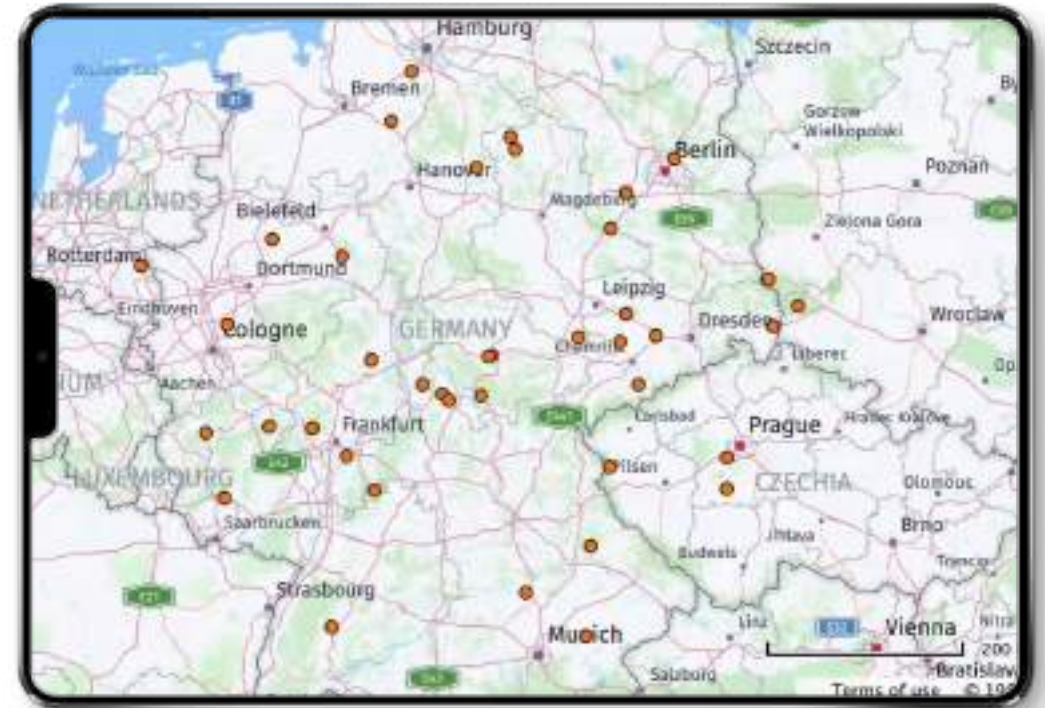
Standard Markers:

- Use static images to be displayed as icons
- High volume of markers can be displayed on the map quickly and efficiently



DOM Markers:

- Support HTML (and SVG) content, which can be dynamic
- Are best displayed individually or in small sets



Geoshapes

Provides easy ways to highlight and define areas on the map through custom shapes



Types of geoshapes available:

- circles
- rectangles
- polylines
- polygons

All these can be easily created from a set of geographic coordinates



User interaction – UI elements

Offers pre-built, customizable User Interface (UI) elements to help augment applications built around an interactive map



These elements allow for the following:



- zoom in or out



- pan the map



- map scale

- change map type

- ...and more



User interaction – event system

Offers capabilities to edit and interact with HERE and customer map content

These capabilities enable the following:



Map editing

Allows to realize advanced map editing use cases in client applications



Map data interaction

Allows for an enriched map experience through identification and highlighting of objects like buildings, street names, etc. on the map



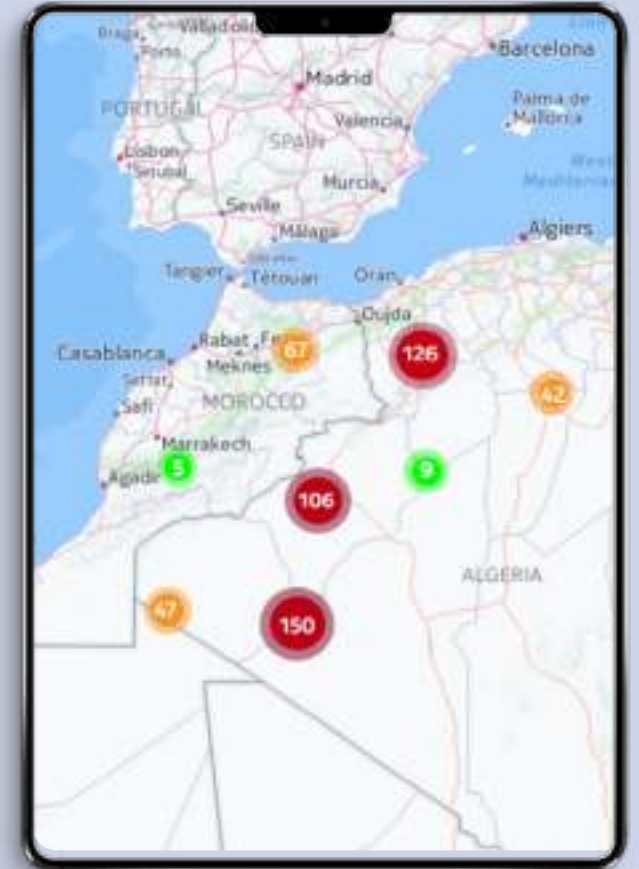


Allows display of large data sets on top of the map (i.e. several thousands of points)



It provides great performance even when all markers are visible at low zoom levels or when markers are located in close geographic proximities to one another and could overlap

Clustering



Heat maps

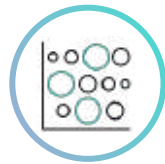
Offers capabilities to edit and interact with HERE and customer map content

Supports two kinds of heat maps



Value based:

Colors represent values associated with data points on the map



Density based:

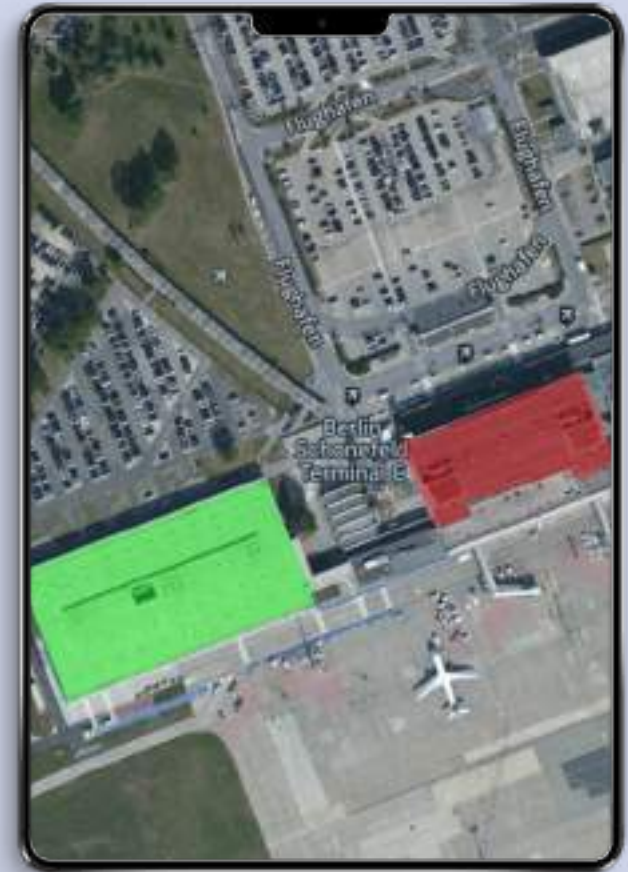
Colors represent the density of data points on the map





Supports import of KML, GeoJSON and WKT (Well Known Text) data sets while creating standard JSAPI map objects from this data, such as Markers, Polygons, Polylines, etc.

Rich format support



3D Map, tilting, rotation



The third dimension

- Visualization of actual building heights
- Altitude for Markers
- Full styling capabilities



Tilting and rotating the map 360°

- Virtual horizon
- Proper label placement while rotating the map



Product use cases

Cross-industry product use cases

HERE Map Rendering

Use cases	Applicable markets/PMK initiatives						
	Connected driving	Urban mobility	Supply chain	Fleet management	Consumer engagement	Public safety	Infrastructure planning
Asset management – customers who want to locate and track assets – fixed and mobile – both during the planning stage and in real time	✓	✓	✓	✓	✓	✓	✓
Extensible vehicle – customers who want to synchronize routes from any device into their vehicle's navigation with last- and first-mile pedestrian friendly walking paths	✓	✓	✓	✓	✓	✓	✓
Buyer/user experience (Store Locator) – customers who want to enhance a product and/or service with location as a innovative feature to drive adoption and new user acquisition	✓	✓	✓	✓	✓	✓	✓
Journey planning – customers who want to enable users to plan journeys prior to embarking on their trips	✓	✓	✓	✓	✓	✓	✓

Asset management

- Locate and track fix/mobile assets
- Map location of delivery locations or warehouses
- Manage mobile assets within geographic boundaries

Management of assets takes place both during the planning stage and in real-time

HERE Maps for JS API gives access to:



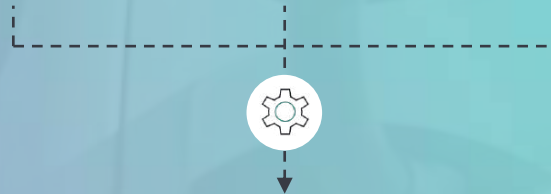
Map rendering
display locations on the map (e.g., warehouses, garages, depot)



Traffic
display traffic conditions and incidents along the calculated route on the map



Routing
to provide routing instructions to vehicles to make it to their final destination



Accurately pinpoint fixed/mobile assets and display locations on the map



Extensible vehicle

- Plan routes on any mobile device, outside your vehicle
- Send routes to the vehicle's navigation dashboard
- Find locations of interest and get walking instructions

Enhance your user experience outside a vehicle's environment with location tools

HERE Maps for JS API gives access to:



Geocoding and search

Allows search for places of interest and other locations



Map rendering

to give user with location context and insights into its surroundings



Routing

to provide pedestrian instructions to the final destination



Augment your user experience with tools that to continue their journey outside the vehicle



Store locator

- Get location context for surrounding areas
- Route to a Place/POI (e.g., museum, airport)
- Show 3rd-party data on the map (e.g., shops, schools)

Enhance your experiences with location information to drive adoption and new user acquisition

HERE Maps for JS API gives access to:



Map rendering

display locations on the map (e.g., stores, coffee shops, libraries)



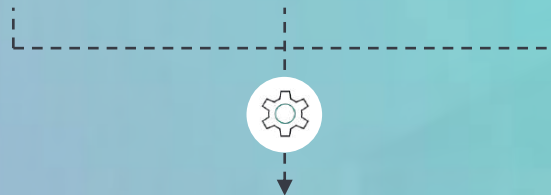
Geocoding and search

to search through a rich database of ~120M POIs/places



Data hub

store 3rd-party custom data and display them seamlessly on top of the HERE Map



Accurately provide location context and display 3rd party data on the map



Journey planning

- Search for an address or place
- Plan your journey ahead of time
- Show 3rd-party data on the map (e.g., rest areas, bike sharing)

Plan your journey prior to embarking on your trips to meet your most important ETAs

HERE Maps for JS API gives access to:



Map rendering
display locations on the map (e.g., bike sharing stations, bus stops)



Geocoding and search
to search through a rich database of ~120M POIs/places



Routing
to plan a journey taking into account various transportation modes



Accurately show surrounding places and 3rd-party data on the map



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