Agenda

About HERE

Open Data Use Cases

Conclusion
About HERE
Your world in numbers

300% Increase CO2 emission from traffic congestion 2011-2021

3.5 Deaths every day in road accidents

<0.5% of all data today is ever analyzed and used

300% Increase CO2 emission from traffic congestion 2011-2021

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50B # of smart connected devices in the world, all developed to collect, analyze and share data by 2020

Today, HERE provides services to nearly all global OEM brands as well as many market leading brands such Microsoft, Amazon, Facebook etc.

HERE in numbers

200 Countries mapped

7,000+ Employees in 56 countries focused on delivering the world’s best map and location services

30+ Years of experience transforming mapping technology

4 of 5 In-car navigation systems in Europe and N America use HERE maps

Millions of changes made to the map every day

50B # of smart connected devices in the world, all developed to collect, analyze and share data by 2020
A history of transforming potential into meaningful products

- **1985**: Navigation Technologies formed
- **1994**: 1st map for **in-car nav**
  1st map for **Web** (1995)
- **2004**: 1st map for **ADAS**
  1st map for **phone**
  1st map for **Adaptive Cruise Control** (2005)
- **2007**: Community mapping
  Offline maps for mobile
- **2009**: 1st **pure location cloud**
- **2011**: High precision data collection and map-building technology (2010)
  Use of sensor data for map building
- **2014**: Augmented Reality technology
- **2015**: HERE gets new investors: Audi, BMW, Daimler
  First commercial cloud service for automated vehicles
Open Location Platform as the go-to destination for location services

Open Location Platform
Analytics, services, data exchange, data enrichment, multi-cloud, cloud-to-cloud, developer tools, privacy and security, customer-specified sandboxes

Reality Index
Map data  Traffic lights  Public transit  Vehicle sensors + probes  Weather  Logistics fleets  Smart devices + wearables  City + govt.  Points of Interest
The power of location

- Road re-opened 4 mins ago
- Black ice 650m ahead
- Head trauma patient arriving in 7 mins
- Cargo ETA 13:47
- Charging point available on route
- Coffee shop ahead
- Heavy rain in 10 mins.
- Ltd.
- Billy's location: school
- Insulin level normal
- Car-share 300m away
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Open Data Use Cases
TN-ITS Service was first realized in Sweden and Norway in close cooperation with INSPIRE.

Steady flow of changes (speed limits, truck restrictions) from the road authorities.

Standardized process flow can be used for all new members implementing TN-ITS.

New pilot running in 5 more member states (Finland, France, Flanders, UK and Ireland).
Explaining the process: from road authority to end user

Daily incremental updates

Receive the updates
Decode the data
Match the data towards HERE database

Delivery

Monday

Friday
Metropole Ruhr: Region with highest density of Trucks in Germany

Municipalities have defined a network of preferred routes and collected all Transport Restrictions

Data is free of charge and open to every service provider

Regular Updates are delivered

Urban Compliant Truck Navigation
HERE has implemented the data

First products with data from Metropole Ruhr are available since March 2015

Extension of the project to other cities and regions
Road Database Saxony

Road Signs from **LIST Gesellschaft für Verkehrswesen und ingenieurtechnische Dienstleistungen mbH**

Dataformat OKSTRA

Challenge: transform point information to line information

used to analyze speed limits in HERE Database
Example:
Road Database
Saxony
Conclusion
How does data exchange benefit the road authorities?

Traffic Routing
• Traffic routing according to traffic planning and concepts, **prevention of traffic jams**

Immediate Implementation
• Immediate implementation i.e. truck restrictions, **prevention of accidents and breaches of rules**

New Road Constructions
• New road constructions to be made available to end users for routing immediately after the official traffic release
Mobility of the Future – the importance of Geodata

Service Provider

New Services (Bike Navigation, On-Street Parking, Multimodal Routing)

New requirements in quality – semi automated driving, dynamic content, changes in real time

Easy Data Licensing and harmonized data formats
### Mobility of the Future – the importance of Geodata

**Data Provider**

<table>
<thead>
<tr>
<th>Digitization enables a more intelligent use of road infrastructure</th>
<th>Routing follows traffic management, impact on navigation</th>
<th>Fast implementation of restrictions (speed limit, truck restriction) → reduction of accidents</th>
<th>Economic advantage for the region</th>
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Thank you

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