

# AI Aware Scale Up

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DRIVE:SWEDEN

With support from

VINNOVA

Swedish  
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# AI Aware Scale Up

- A **research project** developing an AI algorithm for accident risk prediction.
- We aim at using AI to **predict events** in traffic and **prevent accidents** to occur.
- A vehicle-related application of AI with the potential to take us **one step closer to Vision Zero** – no one should be killed or severely injured in road traffic.

AI powered  
awareness for  
increased traffic  
safety

# Project overview

- The previous **AI Aware project** (Nov 2020 – Dec 2021) has been extended into a second phase: **AI Aware Scale Up**.
- **Time frame:** Sep 2022–Dec 2023 (the second phase)
- **Funding:** Vinnova/Drive Sweden
- **About:** The idea is to develop AI solutions that can be used to predict events in the traffic system and thereby create a safer traffic environment.
- **Partners:** Volvo Cars, Zenseact, Carmenta Automotive, HERE Technologies, Trafikverket (the Swedish Transport Administration) and RISE

AI AWARE Scale Up | Drive Sweden



Every 24 seconds  
someone is killed on a  
road

# Road deaths

- Worldwide there are 1.3 million road deaths every year.
- It is the eighth highest cause of death for people of all ages.
- Road deaths are the number one killer of those between the ages of 5-29.
- In EU there were 19 900 road deaths in 2021 (45 per million population). (The fatality rate ranges from 20/million in Sweden and 92/million in Romania.)
- What is positive? **Road traffic injuries can be prevented!**

# What if...

Can we predict a traffic accident by using available data?

Can preemptive measures be taken based on predictions to avoid accidents?

Can we prevent traffic accidents from happening? Or at least mitigate their impact?



An aerial view of a city at sunset, with a 3D architectural overlay of buildings and roads. The sun is low on the horizon, casting a warm glow over the scene. The 3D model is semi-transparent, allowing the city below to be seen. The text is overlaid on the right side of the image.

# AI aware

How can AI enable predictive awareness in a Smart City context?

AI Aware establishes a solution for data collection and fusion to feed an AI algorithm to issue accident risk alerts.

Accident risk alerts are dispatched in real-time to connected organizations – showing the potential to prevent accidents.

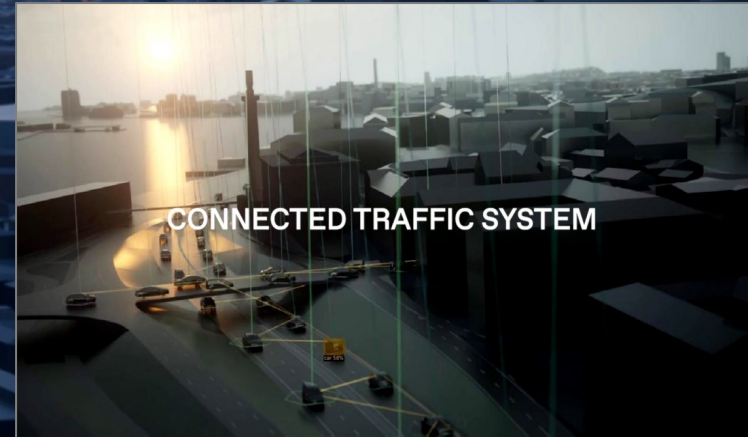
Achieved by a collaborative approach (traffic authorities, traffic management providers, map and location data providers and OEMs).

# AI aware

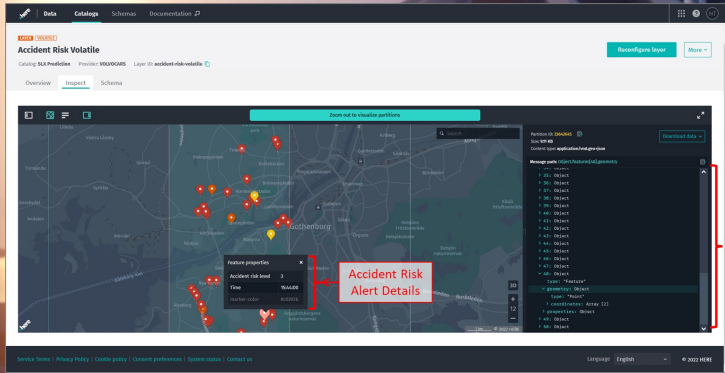
Real-time data streams and static traffic system data are fused through an algorithm producing a predictive accident risk alert.

Data includes road attributes, weather, traffic flow, road friction, accidents and hazards.

Interfaces (“APIs”) allowing for additional data sources to be utilized, such as other connected vehicle fleets.

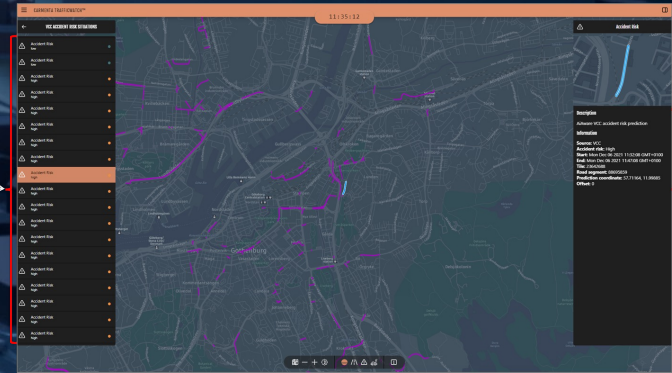


# Accident risk alerts in use

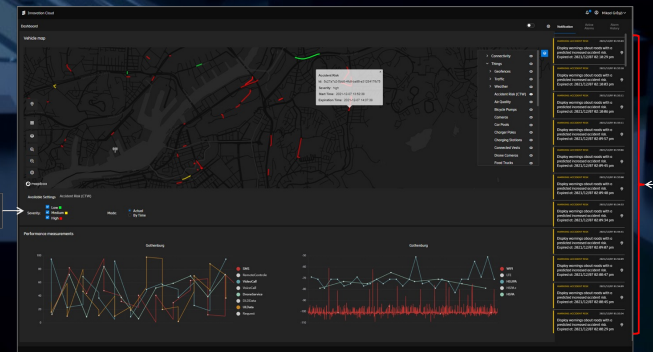


List of Accident Risk Alerts

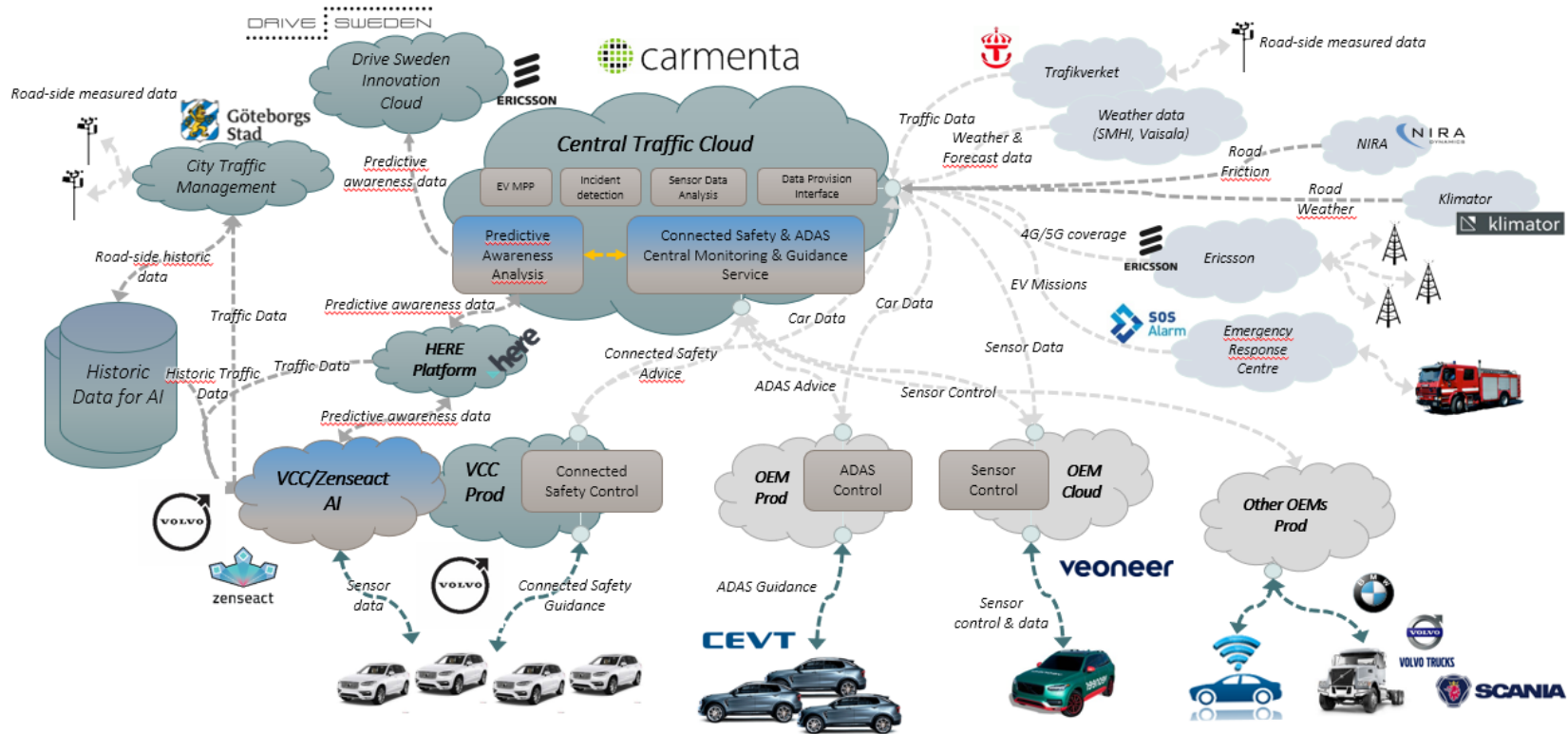
List of Accident Risk Alert



Accident Risk Alert Layer Settings







# AI Aware Scale Up

- The project builds on and **scales up** the results of the previous AI Aware project.
- **New data collection sources** are added.
- **California** is added as a new geographic area.
- **Tests** will be scaled up and **public demonstrations** will be made in Sweden and California.
- We will arrange bilateral **workshops** with participants from Sweden and California on data exchange to ensure two-way knowledge transfer and discuss policy issues.

# Policy

Through a **bilateral policy investigation**, we will explore policy issues regarding access to data, data sharing and handling of privacy-related issues, investigate differences in such policies between Sweden and California (and federal law where applicable), and identify the main differences and similarities between the two geographies.



# Thank you

Any questions?

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