Royal
HaskoningDHV
Enhancing Society Together

VOLT

Plan and manage your EV public charging infrastructure

Royal HaskoningDHV has developed a platform – VOLT – to enable city authorities across the world to plan and mange area-wide public EV charging infrastructure.

The market challenges

Across the globe, sales of electric cars are racing forward. As mobility continues to shift and change in our world today towards electric vehicles, ensuring adequate access to a reliable and trustworthy charging infrastructure is an ever-growing challenge faced by city authorities and the private sectors. The challenge that we have in hand is to make our cities EV-ready by ensuring a charging infrastructure that is adequate, safe, reliable, and in line with the overall demand. The integration of charging infrastructure with a broad network (both transport and power) is critical. As such, appropriate investment decisions need a robust and sound evidence-based plan to maximise the value for money.

What VOLT does to address the market challenges?

VOLT is a spatial panning tool developed to plan and optimise locations of EV charging infrastructure across a wide area. The tool applies an optimisation algorithm and uses various data, including traffic flows, urban features, network geometry, and access to the electricity grid, to develop an area-wide plan. We enrich this data with insights based on our domain knowledge in sustainable mobility to optimise infrastructure in and around a city further.

VOLT offers several advantages to planners, public sector decision-makers and private investors:

- Spatial maps provide a more efficient way to plan charger placements and applications.
- It helps a shift from ad-hoc reactive planning to a proactive approach by giving a good overview of what infrastructure supply should look like.
- It helps to find the most optimal infrastructure for charging stations by a data-driven algorithm which can be tuned to local preferences and knowledge.
- It offers a single platform to plan and monitor charging infrastructure.

How does VOLT work?

VOLT offers a dynamic, real-time dashboard that helps users to gain insights into optimal locations and the required distribution for their charging infrastructure. VOLT auto-generates insights and also provides options to generate tailor-made user-defined analyses. Some of the default parameters that VOLT uses are walking distance, available curbside, and proximity to the grid.

The end-user of VOLT gets access to an intuitive web-based application as a front-end tool to visualise, edit and communicate the results of the underlying data algorithms. The tool offers a friendly and interactive user interface. The dashboard provides various analytics and outputs that help to create robust evidence bases.

Who are using VOLT?

Our VOLT tool is already in use by multiple municipalities in the Netherlands. It is helping them to manage their network of public charging stations. It is currently supporting some significant area-wide plans for several municipalities, including:

- 🚗 Provinces Zuid-Holland and Zeeland, with 36 participating municipalities.
- 🚗 Provinces Gelderland and Overijssel, with 72 participating municipalities.
- 🚗 Amsterdam Municipality.

We are gradually rolling out VOLT globally to support our international clients to help them develop their e-Mobility and charging infrastructure roadmaps.
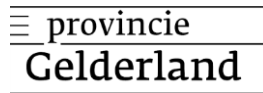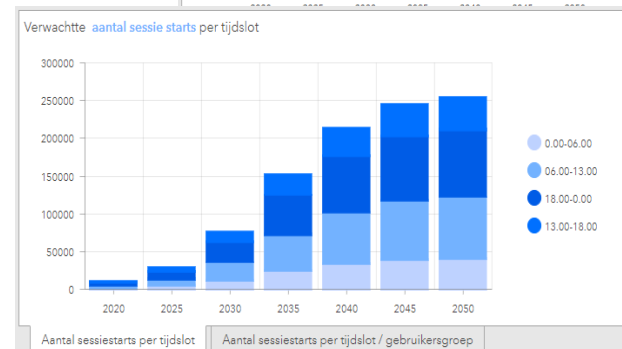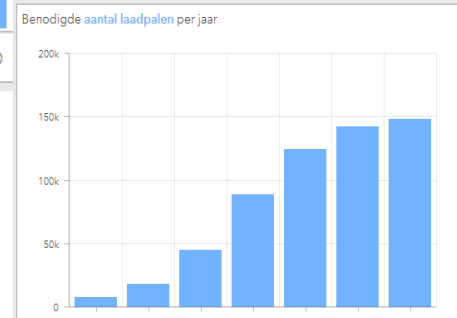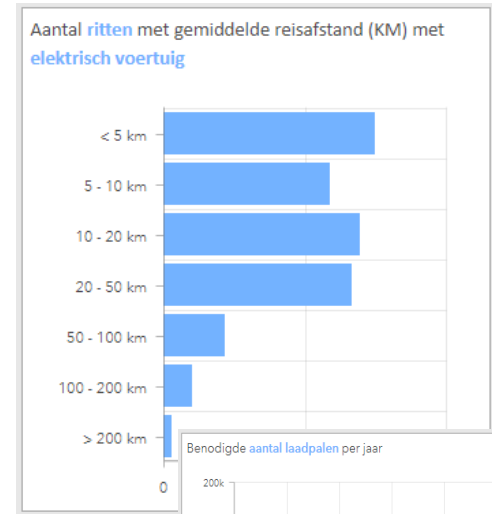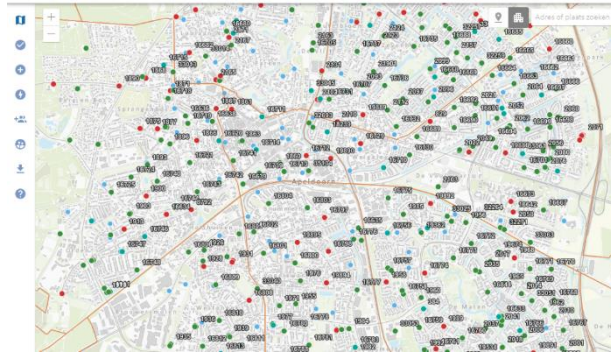
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