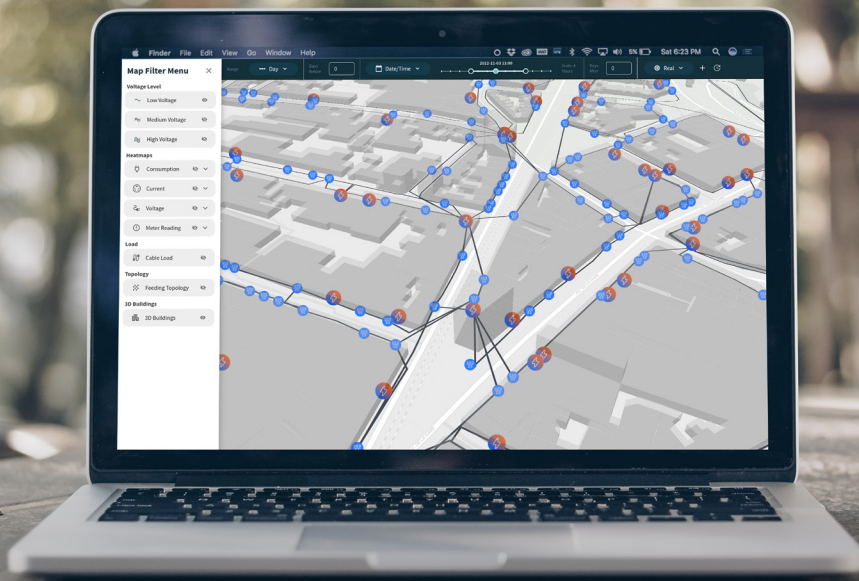




ALVA

THE SMART GRID AI TWIN THAT SUPPORTS THE ENERGY TRANSITION



DATATHINGS



ENERGY CRISIS

Managing electricity distribution is a constant technical challenge, recently exacerbated by the energy crisis. Furthermore, the currently needed **energy transition** is pushing the integration of renewable energies, like solar panels or wind turbines, and a growing number of electric vehicles and heat pumps into the distribution grid. These new production and consumption devices are more and more plugged into the grid and progressively increase the pressure on the distribution capacity of the current infrastructure.



OUR SOLUTION

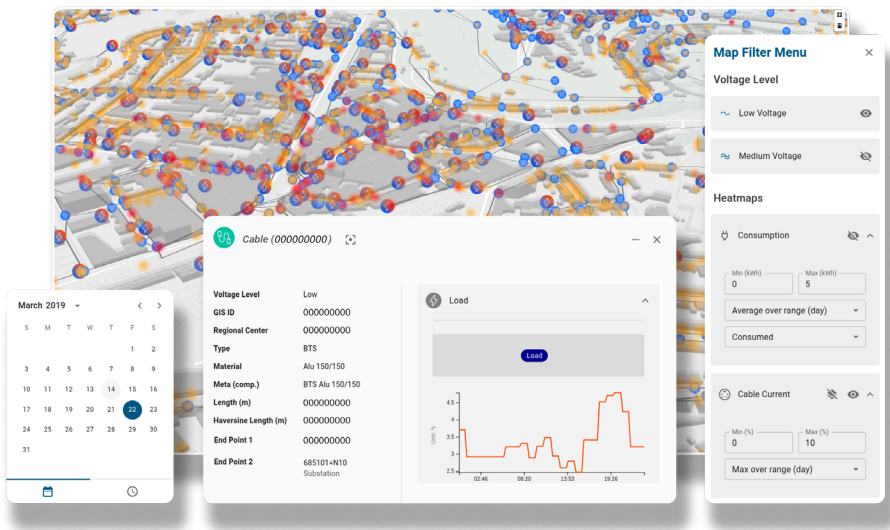
To prepare for these events, DataThings has elaborated **Alva**, an **AI Twin solution** that enables to unify several databases, systems, and functionalities that constantly learns from the increasing amount of daily data. This operational decision helper analyzes, learns, and augments data visualization from various systems into a single map-view format of a country's grid infrastructure. All relevant data coming from the GIS, ERP, metering infrastructure, and real-time sensors are correlated and contextualized with the weather forecast, calendar specifics, and patterns of all grid's clients.



Powered by DataThings' unique geo-temporal graph database & AI platform named **GreyCat**, Alva continuously learns from complex systems composed of millions of grid assets that generate billions of data points per year and can profile all grid clients in seconds.

Powered by highly performant AI stack, Alva helps DSOs to operate and plan their low-, medium-, and high voltage grids more efficiently by providing a fine-grained view of the status, loads and capacities of each grid element.





Not only does it integrate **power-flow calculations**, but it also rationalizes maintenance scheduling and mid-term transition-related investments. It allows **simulation** and **planning** of the effects of any potential grid adjustment, such as new infrastructure commissioning or (un)scheduled reparations.

Alva allows users to access and trace past and current grid-related information in a single application and generate time-based predictions by sliding a time-slider on top of the map view interface to visualize how the grid will behave tomorrow, next week, or next month.

Come and visit us at Enlit Europe at the **“Initiate!” Zone**, we will be more than happy to show you how this breakthrough solution may help DSOs in managing and planning their grid in a smarter way than ever.



ABOUT DATATHINGS

DataThings is a software development company, which is specialized in developing dedicated **machine learning**, **digital twins**, and **artificial intelligence** solutions for a wide range of industries. From capturing and storing raw data to creating and going live with bespoke software solutions, our team supports our clients in uncovering and utilizing the potential of their data. Our **agile solutions** enable our customers to be **quickly integrated** into their production environments.

Our software solutions are based on the **GreyCat technology** we developed in Luxembourg. **GreyCat** is a platform for creating extremely efficient and **scalable digital twins** combined with **state-of-the-art machine learning models**.

Our technology is already being used successfully in various business areas, e.g., **intelligent power grids, Industry 4.0, but also in the banking sector.**



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