

dLab



**Transforming your
power grid data
into action.**



dlaboratory.com

The background features a complex, abstract pattern of teal-colored wireframes. These wireframes consist of interconnected lines forming various geometric shapes, including triangles, squares, and polygons, some of which are stacked or layered to create a three-dimensional effect. The overall aesthetic is technical and modern, suggesting a focus on engineering or technology.

We give power grid operators advanced knowledge for creating more effective and reliable power grids, increasing both profitability and customer satisfaction.

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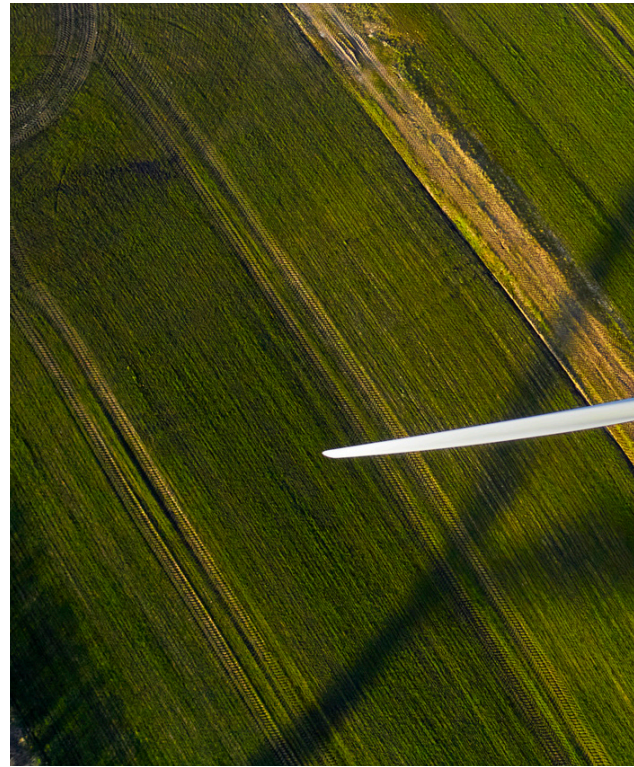
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**In today's
global era of
electrification,
we are
presented with
opportunities
and challenges,
all while our
reliance on
electricity
continues to
surge.**





**In this new
landscape,
where power
grids are
becoming
increasingly
complex, it is
important to be
one step ahead.**

But how?

ABOUT US

At dLab, we are committed to empower power grid operators in the energy transition. With our patented algorithms and extensive database of over 2.0 million disturbances from the power grid. Our platform streamlines the grid transformation process, from data collection to AI-driven insights and information to act on. Avoiding outages and increasing personal safety while maximizing customer satisfaction.



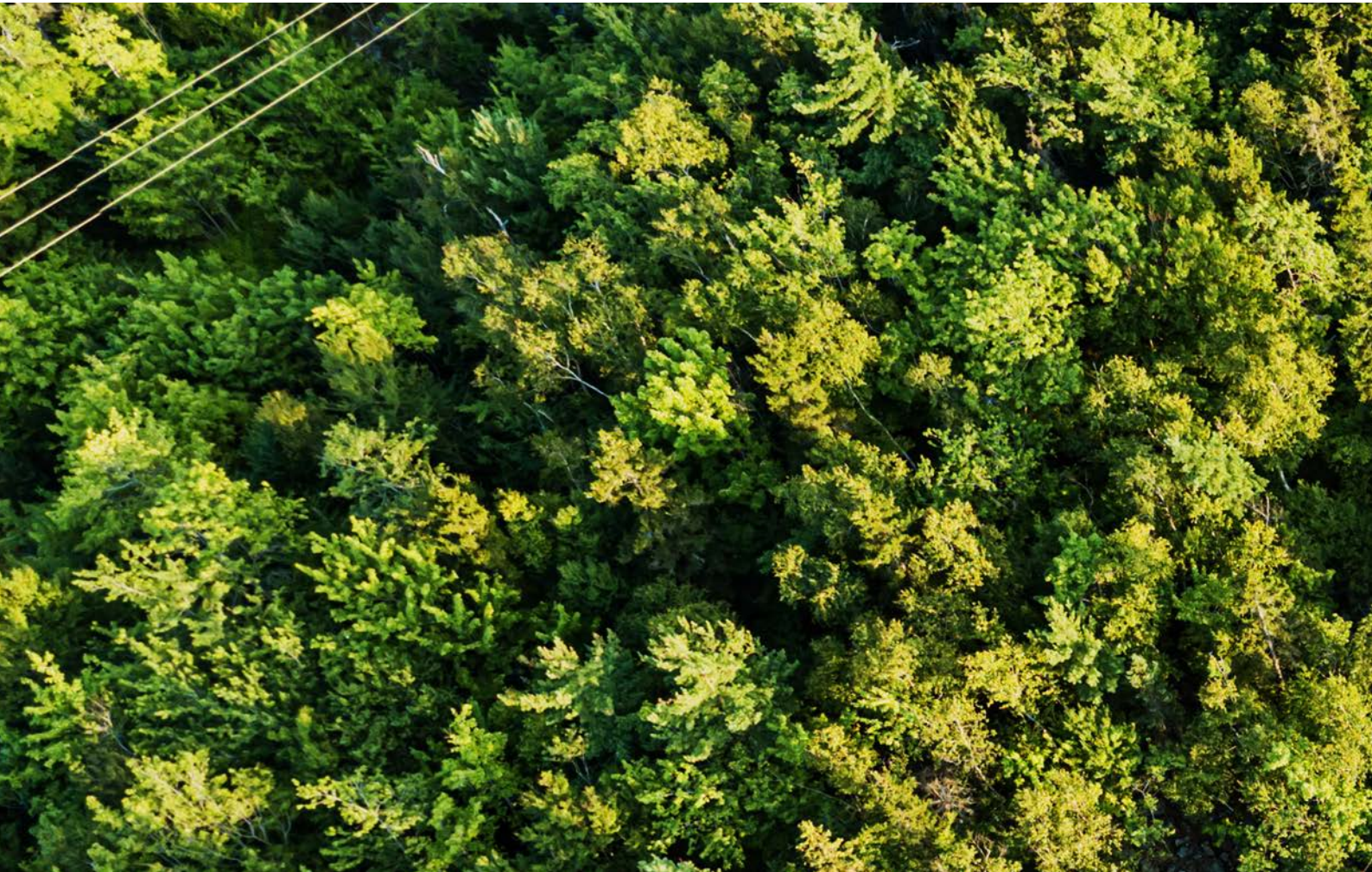
Commercially active since 2015



IPO 2021



Covering 25% of the Swedish DSO market



OUR HISTORY

Established at Lunds University of Technology, dLab is dedicated to unlocking the potential of power grid data for optimizing power grids. In 2015, we commercialized our research and began serving customers. By 2020, our solutions gained international recognition. In 2021, we proudly joined NASDAQ First North Growth Market.

At dLab, we're committed to reshaping power grid optimization with data-driven innovation, fostering sustainability and efficiency in the energy sector. Join us in our journey towards a smarter, greener future.



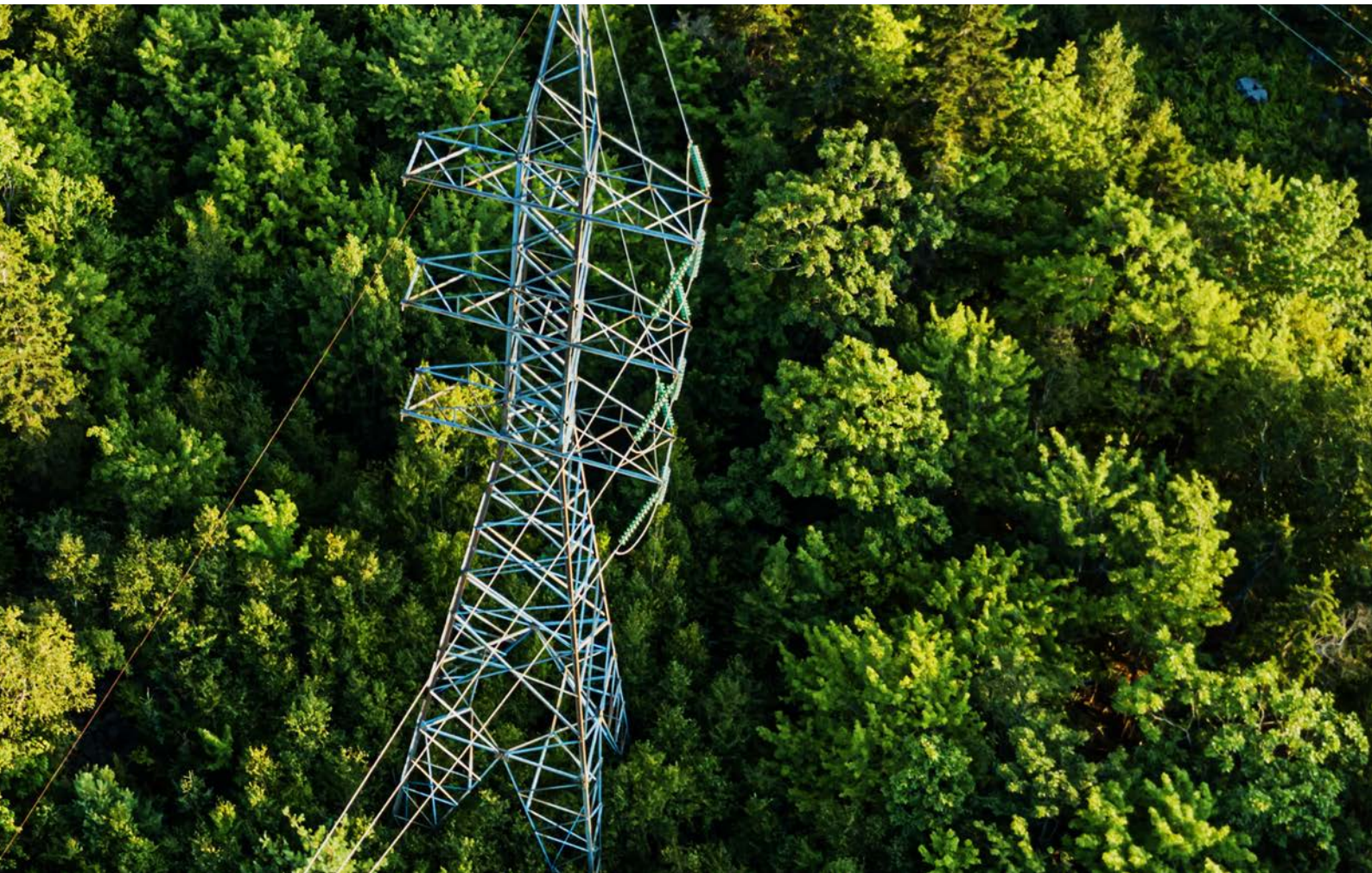
Full roll-out customers



Global presence



Analyzed over 2.0 million events in distribution grids



OUR TECHNOLOGY

With dLab at your side, you can rest assured that your grid is in safe hands. Our state-of-the-art technology continuously monitors your grid and detects and informs you about any disturbances and significant events automatically, such as:

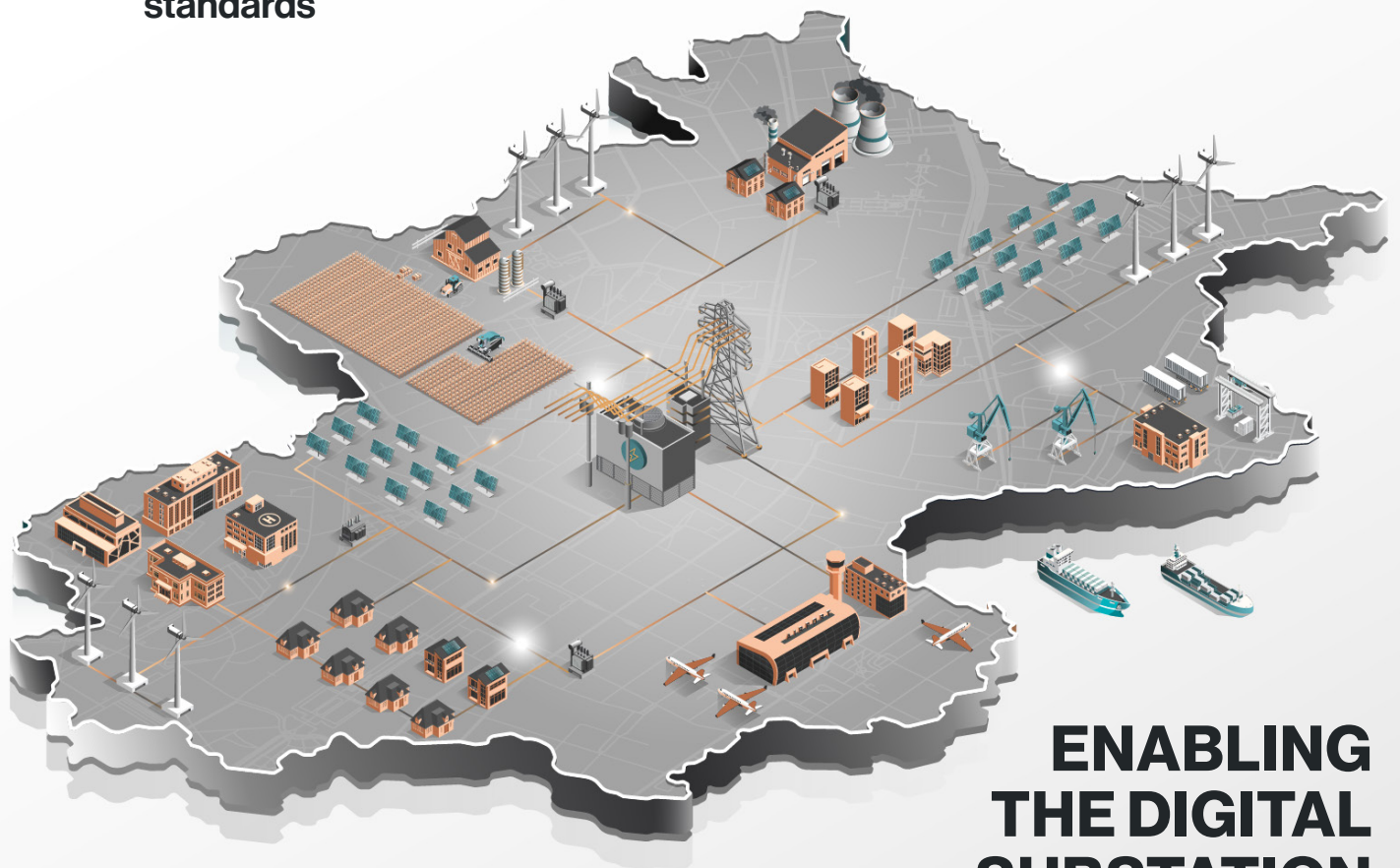
→ Intermittent earth faults

→ High ohmic earth faults

→ Cross-country faults

→ Load /capacity usage

→ Power quality according to standards



**ENABLING
THE DIGITAL
SUBSTATION**

THE BENEFITS OF A DIGITALIZED GRID

1.

AVOID OUTAGES

Automated early warnings to your entire team enable proactive action that can help you prevent outages.

2.

IDENTIFY ROOT CAUSES

Automatically receive incident reports to minimize the risk of recurring issues and enhance overall resilience.

3.

IMPROVE GRID PLANNING

Easily view historical data regarding network load and power quality monitoring.

4.

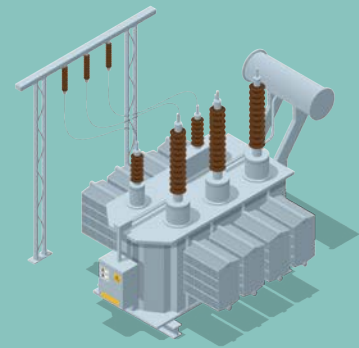
IDENTIFY INVESTMENT NEEDS

Effectively prioritize investments based on a comprehensive overview of weak points and other critical issues.

dLab's focus area in the power grid

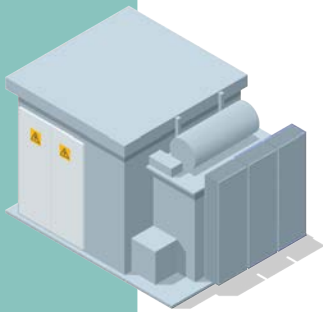


POWER PRODUCER



PRIMARY SUBSTATION

The transmission system



SECONDARY SUBSTATION



END CONSUMER

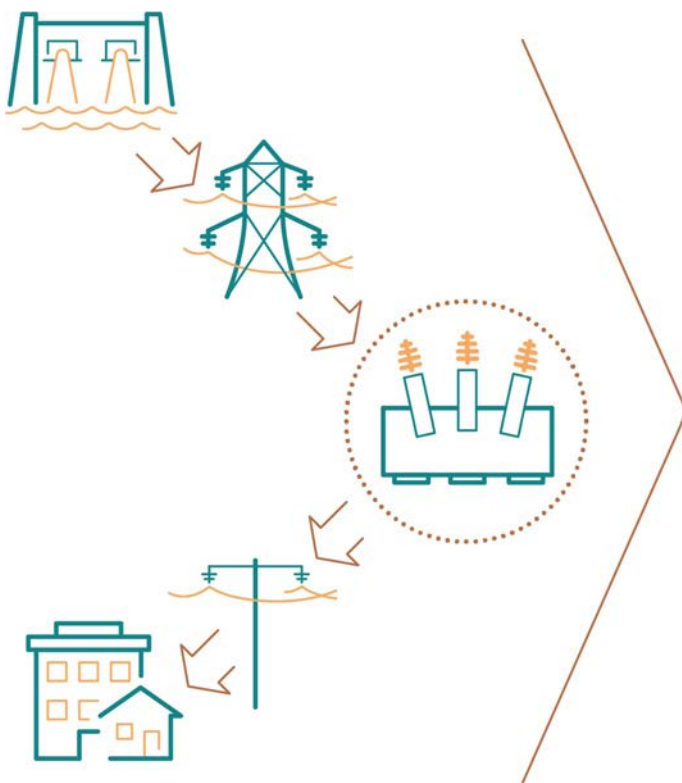
The power distribution system

Primary substations are pivotal in ensuring reliable and efficient electricity distribution. A vast majority of power outages stem from faults in the power distribution network. Among these, most are linked to earth faults (in compensated grids). At dLabs, we recognize the urgency of addressing these challenges to strengthen the power grid's resilience.

As we navigate the dynamic landscape of the energy transition, embracing EV chargers, solar panels, wind power, and batteries, the power grid undergoes a transformative evolution. While taking us towards a sustainable future, this evolution also introduces complexities demanding oversight of power quality, power flows, and loads. Innovative solutions are essential for monitoring and optimizing primary substations, ensuring they remain adaptable to the demands of this evolving energy system.

HOW IT WORKS

With our patented algorithms and extensive database of over 2.0 million disturbances from the power grid, our comprehensive solution is the most effective and informative tool you can find for maintaining grid health and avoiding costly power outages.



1. RECORDS

In-depth data beyond what conventional disturbance recorders can pick up is continuously recorded at your primary substations.

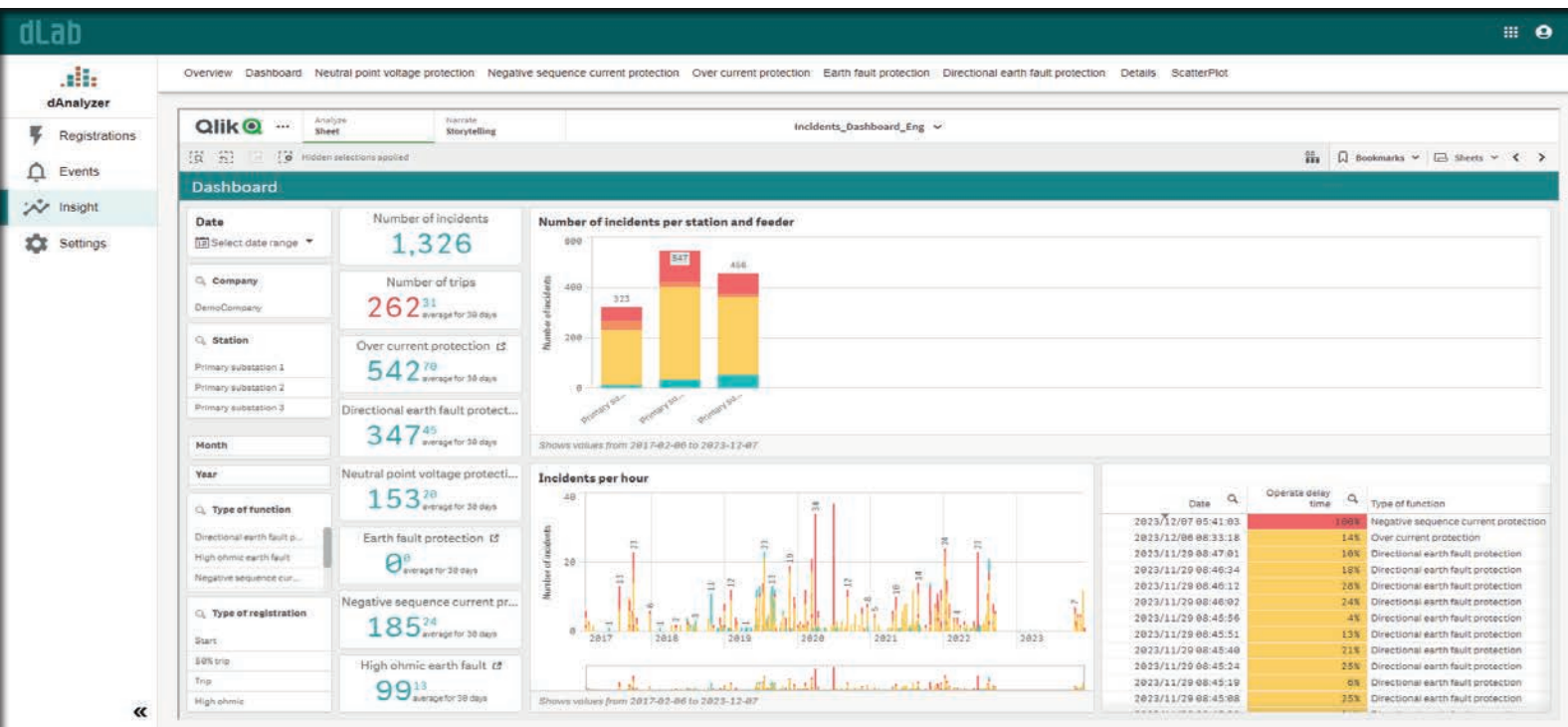
2. DETECTS

Using patented algorithms, our software analyses the data for anomalies, power quality issues and overall grid health



3. INFORMS

Offers grid operators automated, easy to understand analysis and easy to access data for avoiding outages as well as for locating faults and restoring power more quickly. Can also be used for carrying out more extensive disturbance analysis.



AN ALL-IN-ONE SOLUTION

Starting with analysis

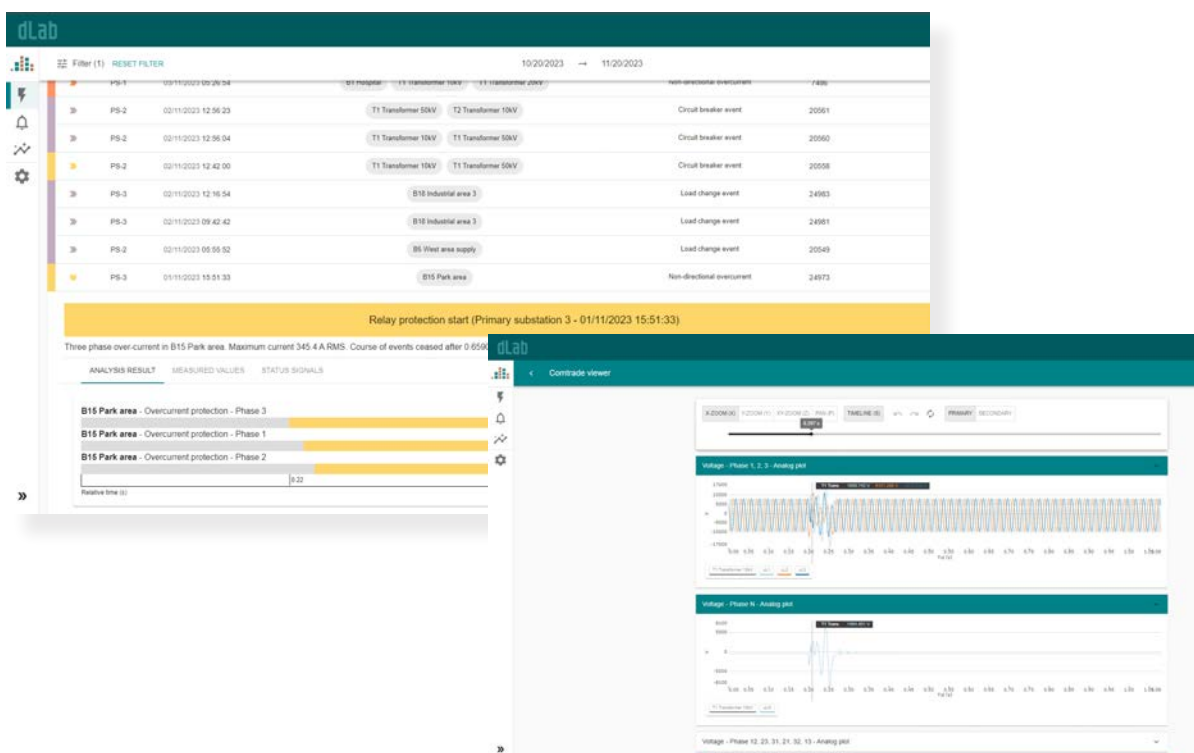
The dLab solution comprises a set of advanced tools, all working seamlessly together to bring you the knowledge you need when you need it.

Examples of the applications available include:

dAnalyzer

Offers grid operators automated, easy to understand analysis and easy to access data for avoiding outages as well as for locating faults and restoring power more quickly. Can also be used for carrying out more extensive disturbance analysis.

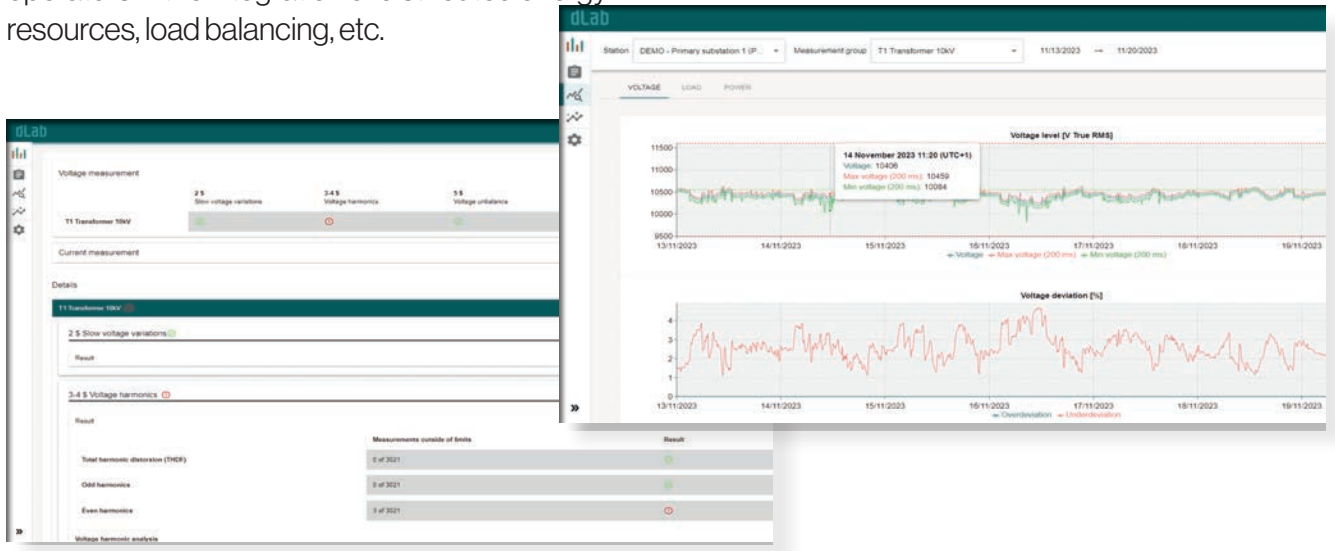
AVOID OUTAGES



dQuality

Full overview of power quality metrics according to standards and of active and reactive power as well as load profiling. A powerful tool assisting network operators in the integration of distributed energy resources, load balancing, etc.

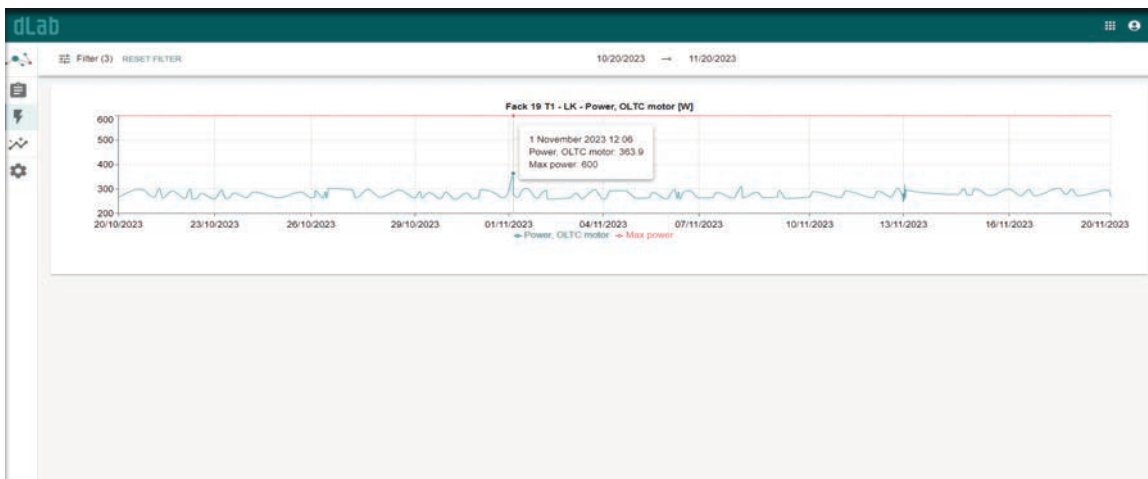
OPTIMIZE YOUR GRID PLANNING



dState

Analyses the wear and tear of assets in the primary substation to enable more intelligent maintenance.

CONDITION BASED MAINTENANCE



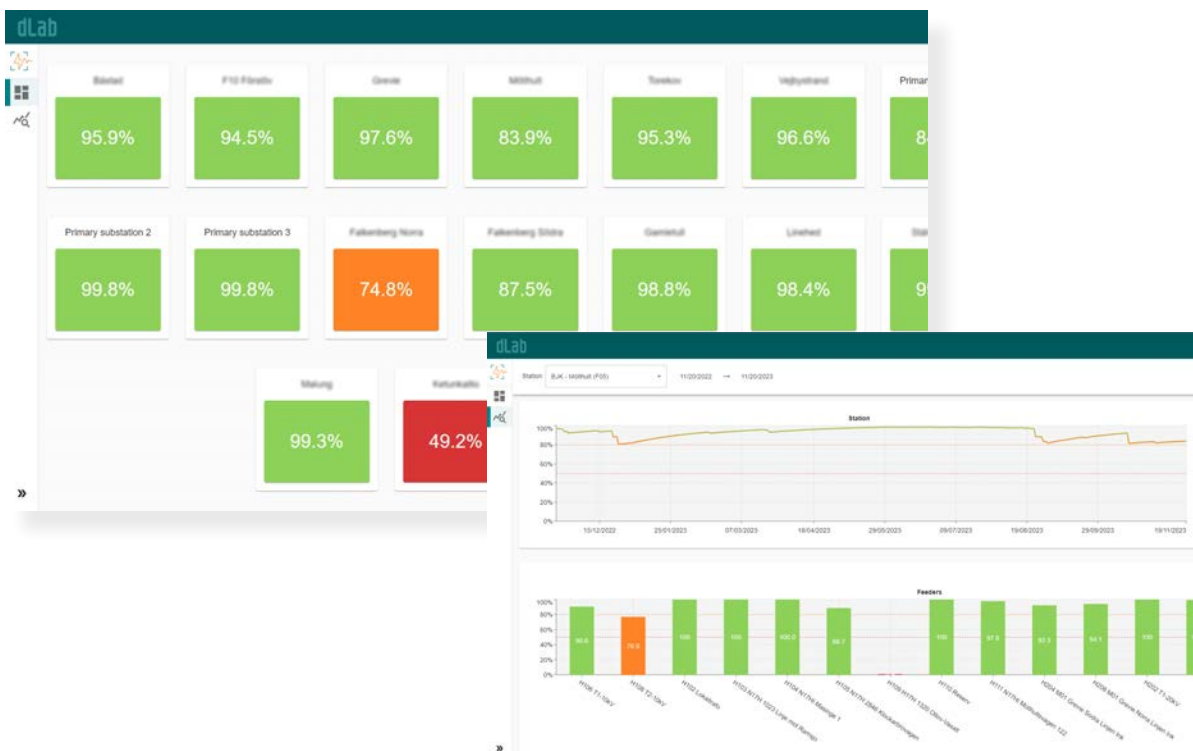
AN ALL-IN-ONE SOLUTION

Continues with visualization

dHealth

A patented solution that identifies patterns and trends by analysing how different anomalies and disturbances propagate over time and vary in severity. Automatically assesses your assets in the power grid and creates a Grid Health index. A powerful tool indicating both short-term trends and long-term behaviour.

COMPLETE GRID OVERVIEW DOWN TO INDIVIDUAL FEEDERS

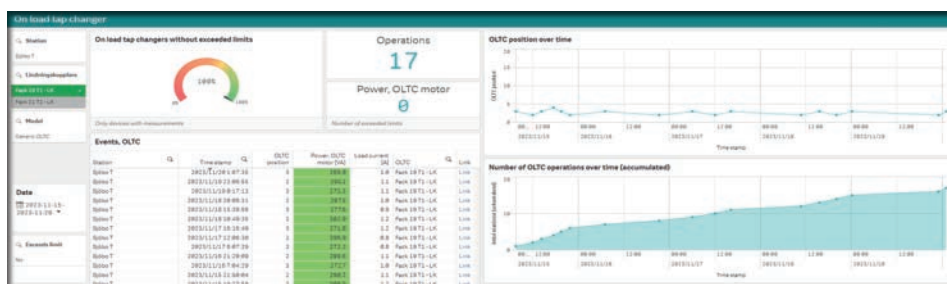
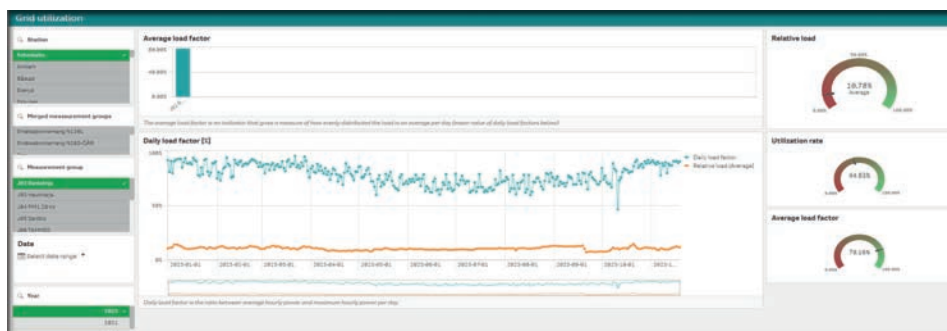


TWO MILLION EVENTS. ONE SOLID SOLUTION.

dInsight

Where large amount of data is visualized enabling a quick understanding of the grid's status, from a complete grid overview down to individual feeders and events. Key Performance Indicators are used to quantify the health status based on deviations and disturbances, enabling more accurate investment need identification.

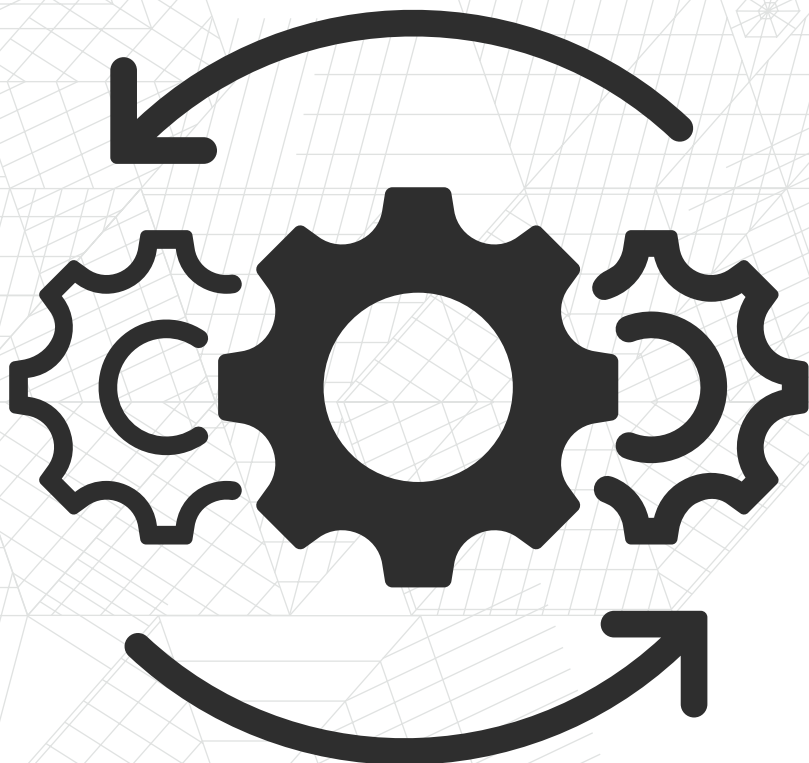
SEE TRENDS & BEHAVIOURS IN YOUR GRID



SEAMLESS INTEGRATION

dImport & dExport

The platform enables seamless interaction with diverse solutions and IT-systems through dXport and dImport. Import valuable data effortlessly from external sources and export critical information to other IT systems, including NIS/GIS or DMS systems.





dService

We understand that digitalization is not just a destination but a journey that requires knowledge-building and support. Our team of experts is here to walk alongside you on this transformative path. Whether you need guidance, consultancy, or hands-on assistance, our dServices are tailored to meet your specific needs.

GUIDANCE AND SUPPORT FOR YOUR DIGITAL JOURNEY



Victor Bagge

Power System Engineer



Kewin Erichsen

Development Manager



Jakob Hägg

Development Engineer

MESSAGES FROM OUR CUSTOMERS

e-on

 kraftringen


VARBERG ENERGI



Vakka-Suomen Voima

“dLab is a very good system that provides something new. Over the year, we have gotten a much better insight into how our grid functions underneath. In addition to all the technical benefits, we could use it to ensure, for example, that our power distribution met the quality standard and to see any deviations accurately through dLab’s quality analysis. This is how we know about possible voltage dips in our power grid.”

- Juho Jussila, Vakka-Suomen Voima Oy



“It feels safe to know that dLab’s system supervises our grid reliably and notifies us when something deviates from normal. In this case, we could, with a few actions, quickly pin-point the problem for further investigation, which in turn led us to a proactive component replacement before failure happened.”

- Hans Fernlund, Dala Energi

dalaenergi

TelgeNät



Vimmerby
energi & miljö ab



ÖRESUNDS
KRAFT



"Because of dLab's incident analyzer detecting and identifying a transient fault at an early stage, we were able to find and repair a faulty arc extinguishing chamber in a load disconnecter and prevent an outage. If undiscovered, this fault would have led to a backup trip of the whole busbar in the substation and would then have affected over 9000 customers"

- Bo Undemar, Olofström



e.on

"We need to transition troubleshooting from today's reactive behavior to proactive action, addressing issues before they impact our customers. This is dLab's greatest merit."

- Peter Hjalmar, E.ON

SUCCESS STORIES



In late 2020, the system detected incipient faults on a crucial outgoing line. Advanced cable diagnostics were carried out, which confirmed a defect. This discovery led to replacing 12 cables over 6,000 meters, a vital preventive measure that ensured uninterrupted power distribution. Without dLabs' system, Falkenberg Energi might have missed this issue, reinforcing the platform's role in early warnings, efficient operations, and their commitment to reliable power distribution.



Bjäre Kraft, serving 14,000 households in the Bjäre Peninsula, transformed their power grid with dLab's AI technology. Real-time monitoring and early warnings from the dInsight Analytics Platform prevented potential outages. In 2020, they quickly addressed high ohmic earth faults, preventing major disruptions. In 2023, they identified a switchgear issue, saving over 300 customers from losing power. Bjäre Kraft enhanced personal safety, boosted customer satisfaction, and reduced operational costs, thanks to dLab's early warnings and efficient maintenance planning.



Telge Elnät, serving over 50,000 customers on Sweden's east coast, partnered with dLab in 2019. Early warnings from dLab's platform enabled proactive maintenance, avoiding outages, reducing costs, and enhancing safety and customer satisfaction. They detected and addressed an incipient fault, replacing a faulty surge arrester, thanks to dLab's platform. This proactive approach and data-driven risk identification have transformed their operations, ensuring a robust power supply.



Vakka-Suomen Voima



VSV, covering 3,900 km of electricity networks and serving 25,000 customers in western Finland, partnered with dLab to enhance security of supply. Through the collaboration, dLab's Platform empowered VSV to proactively manage their grid, resulting in tangible benefits such as improved fault detection, outage prevention, and compliance monitoring. A notable success involved dLab's swift analysis resolving a transient earth fault, showcasing the effectiveness of our partnership.

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