

## ELECTRIFICATION X

# Distribution Grid Monitoring

Bringing transparency in distribution grid stations and street cabinets

### Distribution Grids challenged globally

Aging infrastructure, volatile renewable infeed, charging of e-vehicles, just to name a few, are impacts to be handled in technically efficient, and economic way. Transformer substations are the strategical component in the cable grid to deliver input for all decisions necessary. On short term with precise fault information and on the long run with insight about medium and low-voltage usage.

### Electrification X - Distribution Grid Monitoring

Electrification X - Distribution Grid Monitoring notifies operators about faulty line segments or grid components at risk. Overloads or unbalanced loads are identified based on measured values, such as voltage, current and reactive power, using recorded load profiles. The network capacity is also made transparent and assessable in order to, for example, facilitate the connection of new charging stations for e-vehicles.

### Automatic onboarding – effortless Engineering

Once authenticated, the assets and signals of the station will be sent to Electrification X and automatically create a database. No typos, no false assignment during engineering, everything will be at your fingertips in a moment.

Additionally, the flexibility of Electrification X - Distribution Grid Monitoring allows you to create your own screens in combination with the automated onboarding assets.








It's a way to combine secure automated onboarding with flexibility and **effortless configuration**.

### Two in one and top-notch cybersecurity

The highest priority for Electrification X and SICAM GridEdge is authentication and encryption, so your data are safe in transit and at rest. Thereby, with a Certificate Authority in the cloud and X.509 certificates per device, it is ensured that only authorized devices are onboarded.

### Your benefit

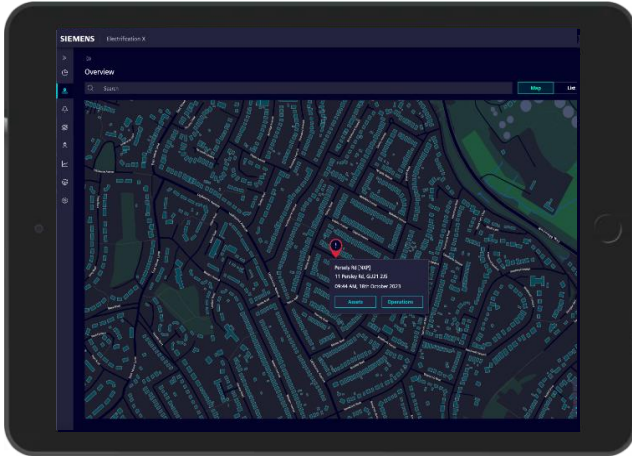
Electrification X - Distribution Grid Monitoring is a browser-based app that offers precise monitoring of all distribution grid stations and street cabinets of medium voltage (MV) and low voltage (LV) grid and visualizes overloads of the grid.

-  Grid monitoring increases grid availability and service quality
-  Evaluation of load consumption profiles provides transparency about grid utilization
-  Simple parameterization and short commissioning times
-  Comprehensive approach to manage load peaks
-  Performance monitoring based on business KPIs
-  Balanced price-performance ratio, optimized OPEX and CAPEX
-  Electrification X - Distribution Grid Monitoring, in combination with SICAM 8 based GridEdge, provides cybersecurity at the highest level

### Functions at a glance

## General

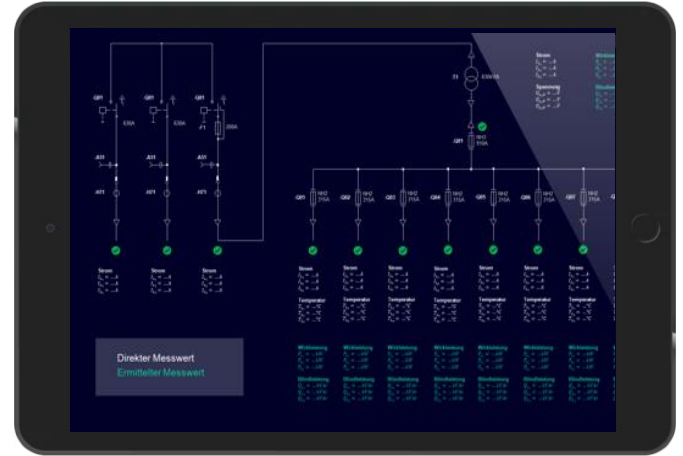
- Multiple views available: Map view, distribution substation view, load profile view and operational electrical view
- Ability to drill down for each event
- Notifications via email



Map view

### Operational electrical view

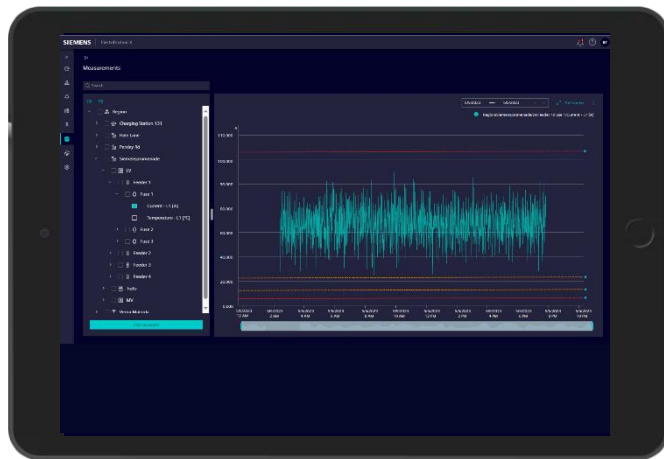
- Monitoring of the communication of each fuse and any other communication devices like SICAM FCM
- Monitoring of electrical parameters in real time



## Operational electrical view

## Load Limit Violation

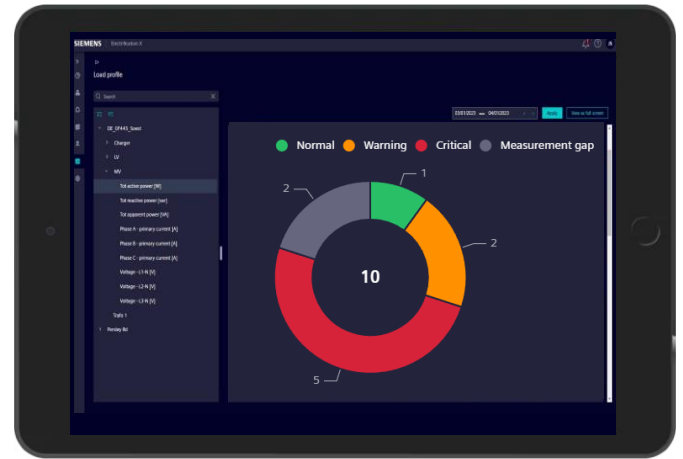
- The user will be notified of a load limit violation as an event. This can also be reported in the email.
- Easily determine the duration of the load limit violation using the mouse pointer



## Load Limit Violation

## Reporting for analysis and planning

- Configurable notification on peak loads and overload
- Load profiles in comprehensions diagrams, e.g. heatmap to identify patterns
- Distribution Station KPIs for Congestion, Current Unbalance, Power Factor and Voltage Deviation Analysis



### Distribution Station KPIs

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