



# SAFEGRID

**Intelligent Grid System<sup>®</sup>**

LOCATE. PREDICT. PREVENT.

# From reactive to proactive grid monitoring.

Safegrid provides a simplified, scalable solution that helps electric transmission and distribution utilities shift from reacting to faults to **predicting and preventing** them.



Locate faults within seconds with pinpointed accuracy of  $\pm 100$  meters on a map.



Predict failures before they happen with 24/7/365 partial discharge detection and advanced analytics.

## Powerful Grid Monitoring

Safegrid gives grid operators full **visibility** across overhead lines and underground cables, all day, every day. With precise fault-location data, crews can respond and repair faster, cutting downtime and avoiding unnecessary field work. Faster FLIRS and lower **SAIDI** and **SAIFI** not only boost customer satisfaction but also translate directly into measurable **OPEX** savings.

Safegrid hardware is designed for fast installation and deployment. The devices operate on a fully standalone basis without time-consuming integrations. Yet, they feature powerful APIs for connecting them with other systems at any time, when needed.

**Our Intelligent Grid System<sup>®</sup> gives you full visibility to the grid, advanced analytics, and the power to stay ahead of faults, and not just respond to them.**

# Why choose Safegrid?



## Operational Efficiency

Reduce outage management OPEX by up to 80% through better resource allocation, thanks to accurate fault detection and prediction.



## Cut downtime. Cut costs.

Instant fault detection and predictive analytics help crews get to the right place faster reducing outage durations, operational costs, and unnecessary patrols.



## Move from reactive to proactive grid operations.

Safegrid helps you see what's happening now, and what's about to happen next. With continuous condition monitoring and predictive insights, potential failures are identified before they disrupt service.



## Deliver unmatched reliability and customer satisfaction.

Fewer interruptions and faster restoration times translate directly into happier customers and stronger reliability metrics across your entire network.



## Reduce wildfire risks and enhance safety.

Our real-time analytics help mitigate high-risk scenarios such as wildfires, lightning events, and equipment degradation, keeping both infrastructure and communities safer.



## Bring all your data together.

Safegrid effortlessly integrates other third-party data sources such as weather and lightning data for smarter decision-making.

**Changing the paradigm of utility operations from reactive to proactive grid management.**

# Locate. Predict. Prevent.

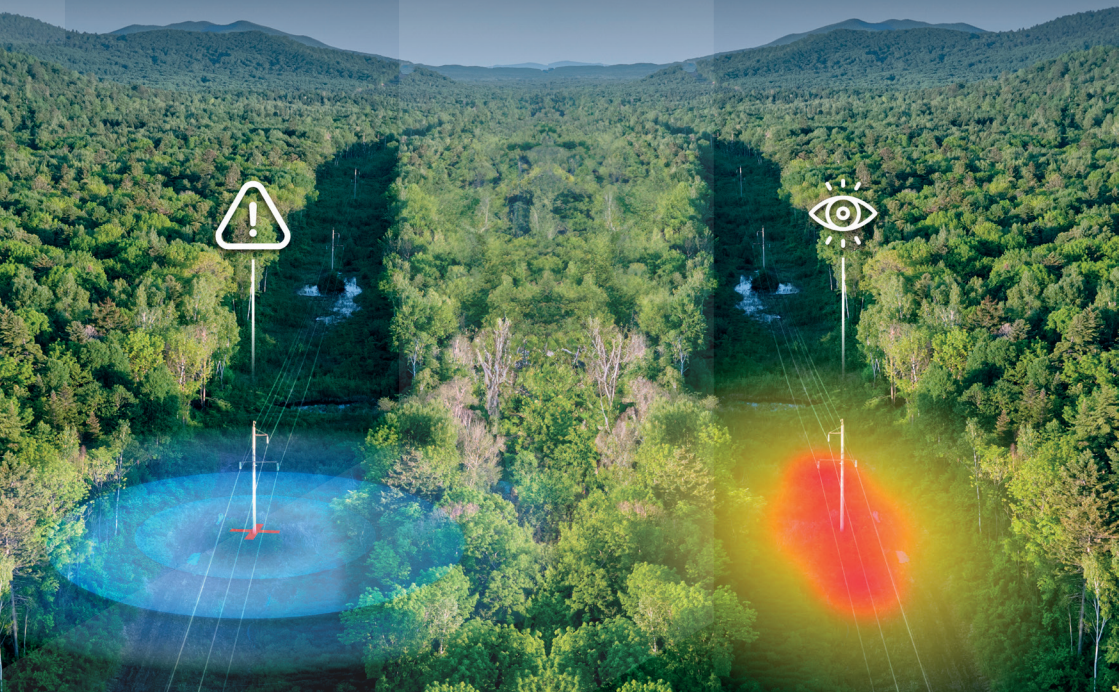
## Smart Fault Location™

Smart Fault Location™ is a suite of tools capable of providing accurate fault location to within +/- 100 meter(yard) accuracy within seconds. With Smart Fault Location™, grid operators can identify faults quickly and dispatch work crews faster, thus minimizing both costs and downtime.

## Smart Fault Prediction™

The ability to monitor grid components and conditions enables effective predictive maintenance measures which improve the reliability and service life of the components. Smart Fault Prediction™ is Safegrid's suite of applications designed to assist grid operators in making the transition to predictive maintenance routines. With 24/7/365 partial discharge detection, Smart Fault Prediction™ complements Safegrid's existing Smart Fault Location™ capabilities by pinpointing signs of failure in grids before outages can occur.

**Designed for both overhead lines and underground cables, our solution scales across medium- and high-voltage grids.**



# GridGuardian®

## Transforming data into grid intelligence

### Your Grid. Your Data. Your Control.

At the core of Safegrid's Intelligent Grid System® lies GridGuardian®, our cloud-based analytics and visualization platform. It transforms complex grid data into clear, actionable insights that enable faster decision-making and help utilities predict and prevent faults before they occur.

### From Data to Decisions

GridGuardian® collects and analyzes high-frequency data from Safegrid sensors. Using proprietary algorithms and GPS-synchronized event detection, it classifies grid events by type and severity in real time. The system locates faults with high accuracy, typically within 100 meters, and delivers instant alerts directly to your team.

Whether viewed on desktop, tablet, or mobile, GridGuardian® presents your entire grid on an intuitive GIS-based interface. With just a glance, operators can see where an issue has occurred, and how severe it is.

### Key process description:

1. Sensors detect high-frequency transients or anomalies
2. GridGuardian® analyzes the event, determines what's happening and where
3. Faults are located within seconds, and trends suggest future issues
4. You dispatch the right crew, to the right place, at the right time.

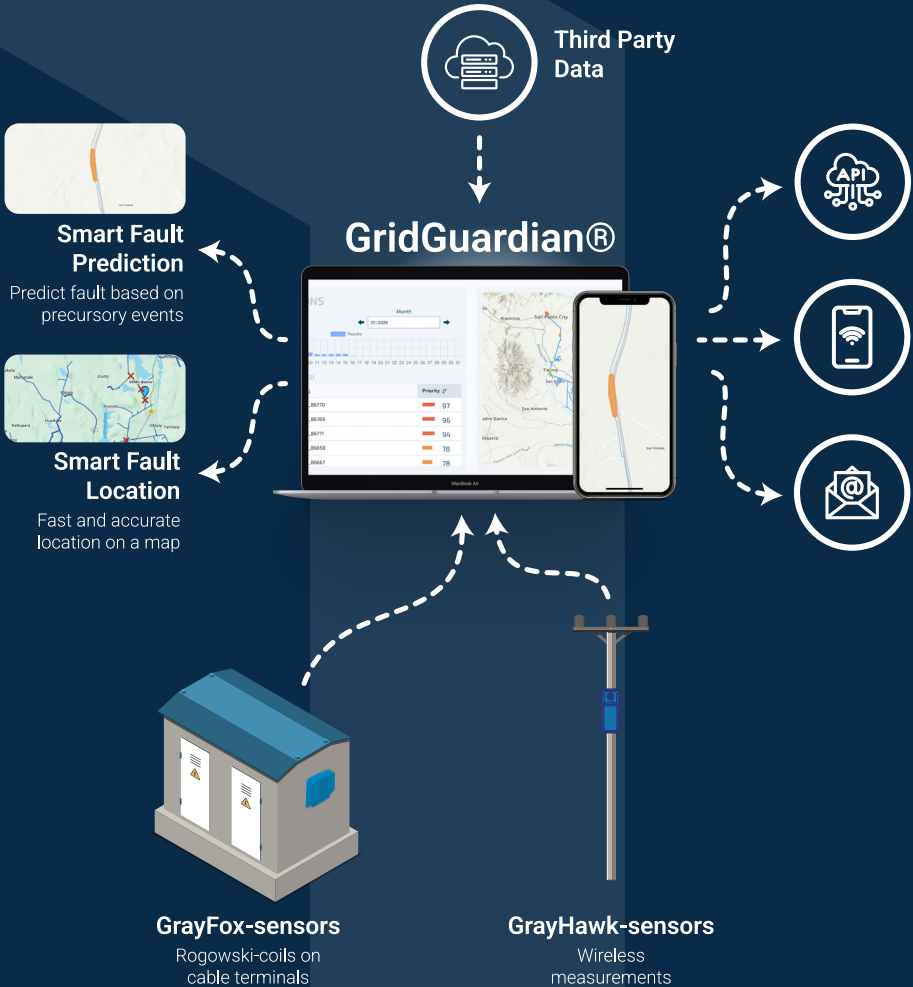
### Key GridGuardian® features

-  Full Real-Time Visibility
-  Smart Fault Location™
-  Smart Fault Prediction™
-  Alerts
-  Seamless Integration
-  Secure & Scalable

GridGuardian® gives utilities the power to turn data into foresight. It helps operators detect faults, prevent failures, and optimize maintenance schedules saving time, reducing costs, and improving safety.

# The solution in action

Our solution is built around the powerful synergy of wireless sensors and data-driven analytics so you can see, understand and act on grid health in real time.



**Grayfox and Grayhawk sensor families for underground cable and overhead line networks, supporting voltage levels from 1 kV upward with no upper limit.**

# Use cases

Whether you're monitoring overhead lines, underground cables, rural feeders or complex urban grids, Safegrid gives you clarity, control and confidence.



## Insulators

Failing insulators can trigger earth-faults or wide outages. By detecting partial-discharge signatures early, utilities locate and replace failing components before they cause disruption.



## Switchgear

Connections and contacts inside switchgear may degrade silently. Real-time monitoring catches hotspots or deteriorating conditions before they lead to outages or costly repairs.



## Transformers

Storm-prone networks implemented our solution and achieved pinpoint fault location (e.g., within ~70 m) versus broad manual search, reducing outage durations and operational cost.



## Vegetation Management

Vegetation or storms can cause intermittent faults. With fast alerts and precise fault-location, crews can respond quicker and avoid escalation into major disruptions.



## High Impedance Faults

High impedance faults challenge conventional FPIs and standard protection solutions as they can easily slip under the radar. The intelligence of Safegrid's Intelligent Grid System® lies in recognizing the precise moment when a change occurs in the grid, detecting even the slightest anomalies through highly sensitive, high-sampling-rate data.



## Transient faults

Safegrid's Intelligent Grid System® captures high-frequency transient signals from across the grid and analyzes them in real time, immediately identifying the precise location on the map that triggered the transient and any subsequent reclosing action on the grid.

Read more about use cases:





# SAFEGRID

## About Safegrid

Founded in Finland in 2019, Safegrid is a world-leading innovator in intelligent power-grid monitoring and fault-prevention solutions. Our mission is to revolutionize power-grid management by helping utilities move from reactive to proactive grid monitoring.

With our **Intelligent Grid System**<sup>®</sup>, Safegrid provides utilities and grid operators with real-time visibility, predictive insights, and instant fault location, making electric transmission and distribution grids smarter, safer, and more sustainable.

Trusted by a wide and growing base of utilities and industrial operators across the globe, Safegrid combines top-level engineering and data-driven analytics with sustainability to build a more resilient energy future.

### Read more:

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