

PREDICTIVE FAULT ANALYTICS FOR POWER NETWORKS

Predict electrical faults **weeks before** they cause outages.

IntelliView reads the disturbance recordings your substations already produce — and tells you which asset is failing, why, and when — all from standard substation measurement infrastructure. Physics-informed AI built on more than a decade of research at Chalmers, spun out in 2019.

Proven on customer networks

15 days

AVERAGE WARNING

Fault risk rose to a high level a full fortnight before the fault — time to schedule an inspection instead of answering a callout.

100+

OUTAGES PREDICTED IN ADVANCE

Documented across customer deployments — insulation breakdown, transformer failure, joint wear and foreign objects.

Cause + source

NOT JUST A TIME

Insulation degradation identified as the dominant cause, with the likely source indicated.

A lightning strike or a dug-up cable cannot be predicted by anyone. The faults that matter commercially develop slowly — insulation, connectors, earth contact — and those are the ones we catch.

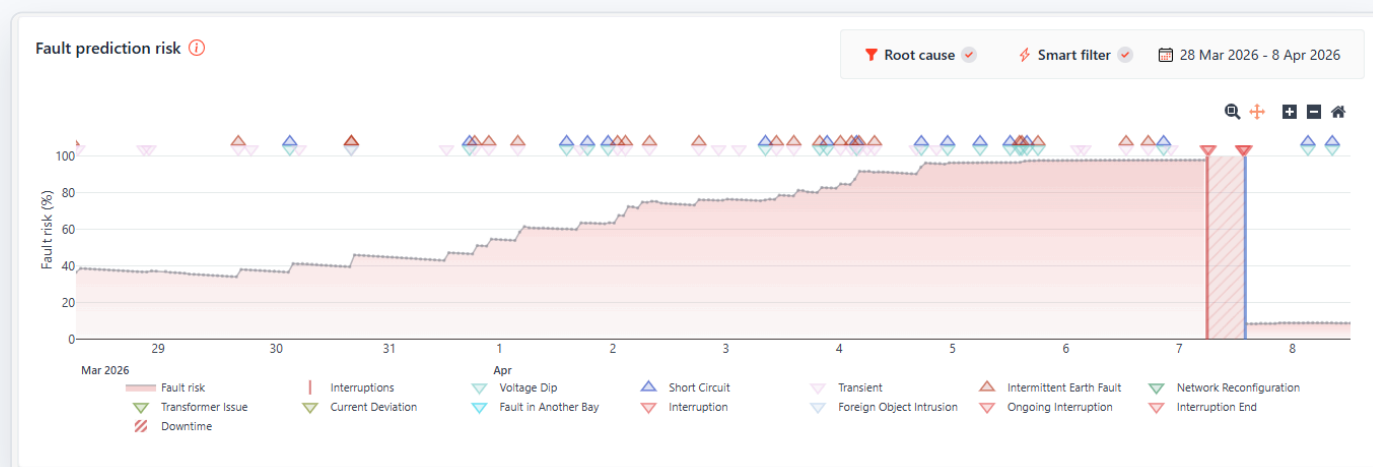
In service with utilities and industry



Further deployments and evaluations: **UK Power Networks, Stedin, RTE, Meram, E.ON, LKAB, PDO, Taiwan Power, Härryda Energi, Göteborg Energi, DNV** and 7 more — delivered directly and with digitalization partners **ABB** and **EcoPhi**.

"A system that can predict problems and identify causes could be invaluable in maintaining the resilience of the transmission system — not only for NYPA but other utilities as well." **ALAN ETTLINGER · SENIOR DIRECTOR OF RESEARCH, NYPA**

What a developing fault looks like



Fault risk accumulating across ten days of small disturbances, ahead of the interruption at the right. Real product output — not an illustration.

The question is not whether the next fault is coming.

It is whether you find out three weeks early — or at the moment the breaker opens.

Explainable, not a black box

Physics-informed AI on 400 expert-designed waveform features. Every risk breaks down into the recordings that produced it — a number crews can interrogate.

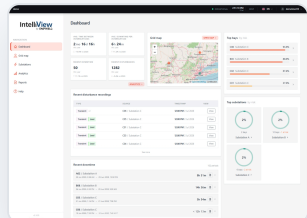
Built for imperfect field data

Channels drop out and signals read constant zero. Automatic screening removes compromised recordings before analysis and flags them in the interface.

No sensors of its own

The analytics layer reads waveform data the substation already produces — no substation visit, no retrofit, nothing to procure.

One place to see the whole fleet



- 1 Fleet dashboard** — highest-risk bays and substations, recent disturbances and interruptions, grid map and single-line diagram.
- 2 Substation view** — every bay ranked by risk, with the single-line diagram and interruption history.
- 3 Bay view** — fault-risk timeline with the disturbance history behind it; click any risk value to see what drove it.
- 4 Recording inspector** — waveforms with RMS, harmonic spectrum (FFT) and impedance.
- 5 Reports and alarms** — status, interruption and analytics reports, scheduled or on demand, plus threshold alarms delivered to your inbox — no one has to watch a screen.
- 6 Fits your workflow** — REST API to your SCADA/ADMS, historian or work-order system.

The arithmetic, in your numbers

A Developing faults flagged per year — from the replay on your history

B Share that would have become an interruption — from your outage record

C Cost of one unplanned interruption — your regulatory or production figure

D Cost of the planned intervention — your maintenance rate

$$A \times B \times (C - D) = \text{avoided cost per year on the estate we monitor}$$

Every term comes from you or from the replay — none from us. We fill this in together in the first meeting.

Three ways in — you choose the depth

OPTION 1

Full digitalization

ecOPhi

QMU 800 merging units (up to 2 MHz; virtualised PQ, PMU, DFR, partial discharge) with the IEC 61850-3 **CMPC 800** server — live at Hårryda Energi.

OPTION 2

Digital substation

ABB

Deployed with ABB substation digitalization — IntelliView as an application on the **ABB CogniEN** platform, the route used at UK Power Networks.

OPTION 3

Standards-based, any vendor

Standard-compliant relays, recorders or PQ meters from any vendor — COMTRADE or IEC 61850. We read them as they are — **no hardware, first result in weeks.**

WHATEVER THE ROUTE Three-phase current and voltage (neutral / ground recommended) · event-triggered captures of a few seconds · minimum 1 kHz sampling · COMTRADE or IEC 61850 sampled values

Deployment, security and access

Hosted cloud

We host, monitor, maintain and update. Users need only a browser.

On-premise

Docker and Kubernetes in your environment, including fully offline.

Access control

Role-based access with administrator, read-only and custom roles.

Data protection

TLS in transit, encrypted at rest; each organisation in its own schema. No VPN required.

Find out in six weeks, on your own data.

Send us historical recordings and your fault log. We replay the models and report what we would have flagged, when, and why — against criteria you set before we start.

Replay fee scoped up front · nothing installed · you set the success metric · six weeks from data to result

Then **€3,000 per monitored bay** — one-time perpetual licence, with service & support included for the first three years. A 20-bay substation: **€60,000 one-time.**

Founded 2019, a Chalmers spin-out — backed by ABB and Chalmers Ventures; in operation since 2020.

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IntelliView