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LineSIGHT

See the network clearly.
Act with confidence.





Overhead Line Continuous Monitoring and Management System

LineSIGHT transforms how overhead networks are monitored and managed – providing complete visibility of faults, risks, and emerging issues, even in the most complex conditions.

Designed for 4–25kV overhead distribution networks, LineSIGHT delivers high-precision fault detection and location across all fault types – including high and low impedance faults, earth faults, lowered lines, and nested outages, even on de-energised networks.

By continuously analysing network behaviour, LineSIGHT identifies developing issues before they escalate into failures, enabling operators to move from reactive fault response to proactive network management.

By identifying emerging faults, often days ahead of failure, LineSIGHT reduces disruption, supports safer working practices, protects the public, and strengthens overall network resilience.

LineSIGHT enables operators to:

- Detect and locate all types of faults within +/- 100m even on lines of over 100km.
- Identify 70% of faults before failure, allowing repairs to be made before customers are interrupted and minimising disruption.
- Improve the efficiency of response crews in both normal operating conditions and storms, enabling opex savings, restoring power sooner and improving customer satisfaction.
- Accurately locate all HV faults that occur in storms, even those downstream of tripped circuit breakers.

How LineSIGHT Delivers High-Confidence Insight

1 Detect

Highly engineered sensors are installed across the network to continuously monitor conditions and detect disturbances – capturing the data needed to identify faults, risks, and emerging issues at source.

2 Understand

Sapient processes over 200,000 waveforms per hour, enabling LineSIGHT to seperate signal from noise - analysing complex network behaviour to deliver precise, reliable fault detection and location, even in challenging conditions.

3 Act

Filtered, prioritised information is delivered directly to control room teams – enabling faster, more confident decisions around switching, dispatch, and fault response.

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Engineered for Today's Weather and Tomorrow's Challenges

The biggest risk on your network isn't the fault – it's not being able to see it.

Severe weather is exposing a critical weakness in overhead networks – lack of fault visibility.

When faults cannot be located quickly, operators are forced to:

- Dispatch crews to walk the line
- Miss secondary or nested faults
- Extend outages and restoration times

The result:

Increased costs, regulatory pressure, and declining customer satisfaction.

LineSIGHT is a strategic response to the demands of Regulators and customers to improve resilience for all customers wherever they live and work. Real-time intelligence is critical to improving restoration performance during storms and is a key aspect of severe weather management plan.



Proactive Asset Management

LineSIGHT detects early-stage deterioration across overhead lines - including:

- Cracked insulators
- Vegetation contact
- Damaged conductors
- Emerging nested faults

These issues are difficult to find, costly to locate, and often only discovered after failure, LineSIGHT changes that.

With LineSIGHT, operators can:

- Identify repeat faults and underlying defects
- Target maintenance before failure
- Plan interventions instead of reacting to outages
- And understand network capacity and performance proactively.



See deterioration before failure. Eliminate hazards before outages.

Why LineSIGHT

From signal overload to actionable insight

Overhead networks generate constant noise - transient events, disturbances, and overlapping fault signatures. While most systems detect this activity. Few can interpret it reliably.

LineSIGHT generates huge volumes of network data. Sapient makes sense of it.

By separating real events from background noise, Sapient enhances LineSIGHT's sensitivity - delivering faster detection, greater accuracy, and insight operators can act on immediately.

Outcome

- Automated location even on developing faults
- Holistic monitoring asset
- Optimised operational costs
- Long-lasting platform with clear growth plan



✓ Locate Faults. Faster.

Locate faults within ±100m with high precision – directing teams straight to the correct span and significantly reducing restoration time and cost.

✓ Detect What Others Can't

Identify high and low impedance faults, including sub-sensitive earth faults and nested outages that conventional systems cannot reliably detect.

✓ Accuracy You Can Act On

Processing over **200,000 waveforms per hour,** LineSIGHT separates signal from noise – isolating genuine fault signatures to deliver precise, reliable fault detection and location in complex network conditions.

✓ Clarity When It Matters Most

Provide clear, prioritised fault information to control room teams – reducing uncertainty, avoiding false dispatches, and improving response effectiveness

✓ Stop Outages Before They Start

Detect developing faults before failure – enabling planned intervention and reducing unplanned outages and disruption.

✓ Proven in the Field

Proven across operational networks in the UK, LineSIGHT is deployed at scale, delivering consistent, real-world performance where it matters most.

Performance That Drives Measurable Outcomes

Eliminate up to 1 in 5 outages
Predictive technology allows pre-configuration of networks before an outage

Reduce the scale and impact of outages
Minimise interruptions and restoration times

Pinpoint outage locations instantly
Control room integration removes guesswork and speeds response

Work smarter in the field
Defect visibility enables targeted, coordinated interventions

Move from reactive to proactive operations
Reduce pressure on resources, especially during storm events

Improve safety across the network
Detect and prevent downed and lowered lines before they become critical risks

LineSIGHT consistently:

- Identifies up to **70% of faults before they lead to outages**
- Accurately locates faults across the network, including during complex storm conditions

Unlocking additional Network capacity

By providing visibility of power flow and voltage across the network, LineSIGHT enables:

- Earlier connection of new demand and generation
- Improved utilisation of existing infrastructure



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Proven over 10+ years

Since its inception in 2015 as part of an RIIO-ED1 innovation project, LineSIGHT has evolved to a regulator recognised, business-as-usual solution. Today, it is delivering proven accuracy at scale, transforming performance across HV overhead networks by:

- **Proven to detect faults within 100m on overhead lines.**
- **Enables quicker restoration, cutting storm related downtime by up to 75%.**
- **Currently trusted to protect over 3200km of overhead lines across the UK Network.**

Impact
57%
of alerts were for proactive faults

Confirmed
140
positive locations Jan to Nov 2025

Success
62%
of attended alerts resulted in successful fault identification

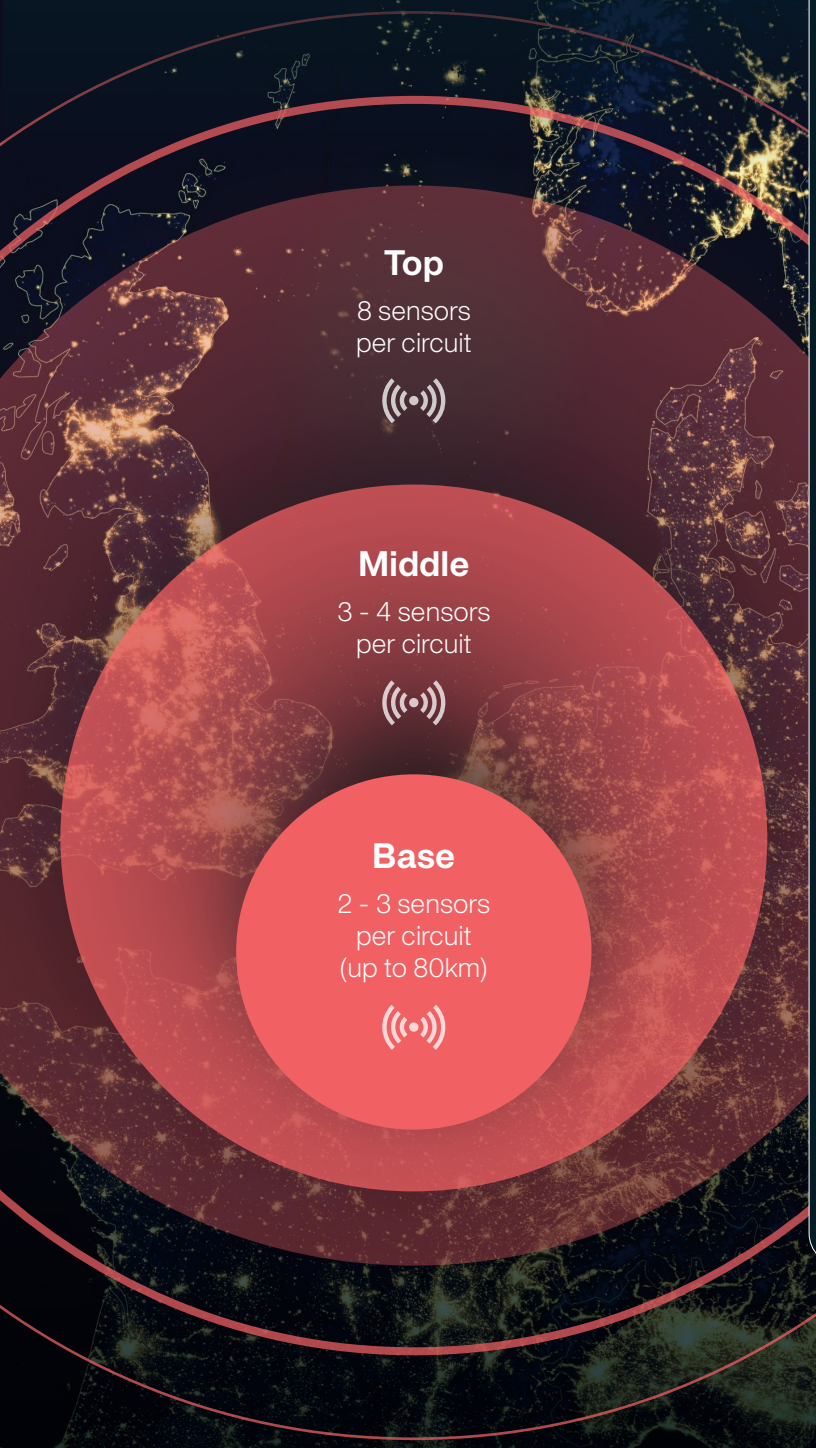
Customer
10>
Customer minuets lost (CML) saving on average



Deployment + Outcomes

LineSIGHT can be tiered to provide your business with the performance you need now but can also be scaled over time as your needs increase.

Three general deployment strategies which the option to tailor each one to suit business requirements:



Top:

Safety & Risk Reduction

Focus: full visibility

Outcome: detect downed/low lines, reduce risk to public & teams

Requires 8 sensors per circuit.

Middle:

Network Resilience

Focus: broader visibility

Outcome: better storm response, nested fault detection

Requires 3 - 4 sensors per circuit.

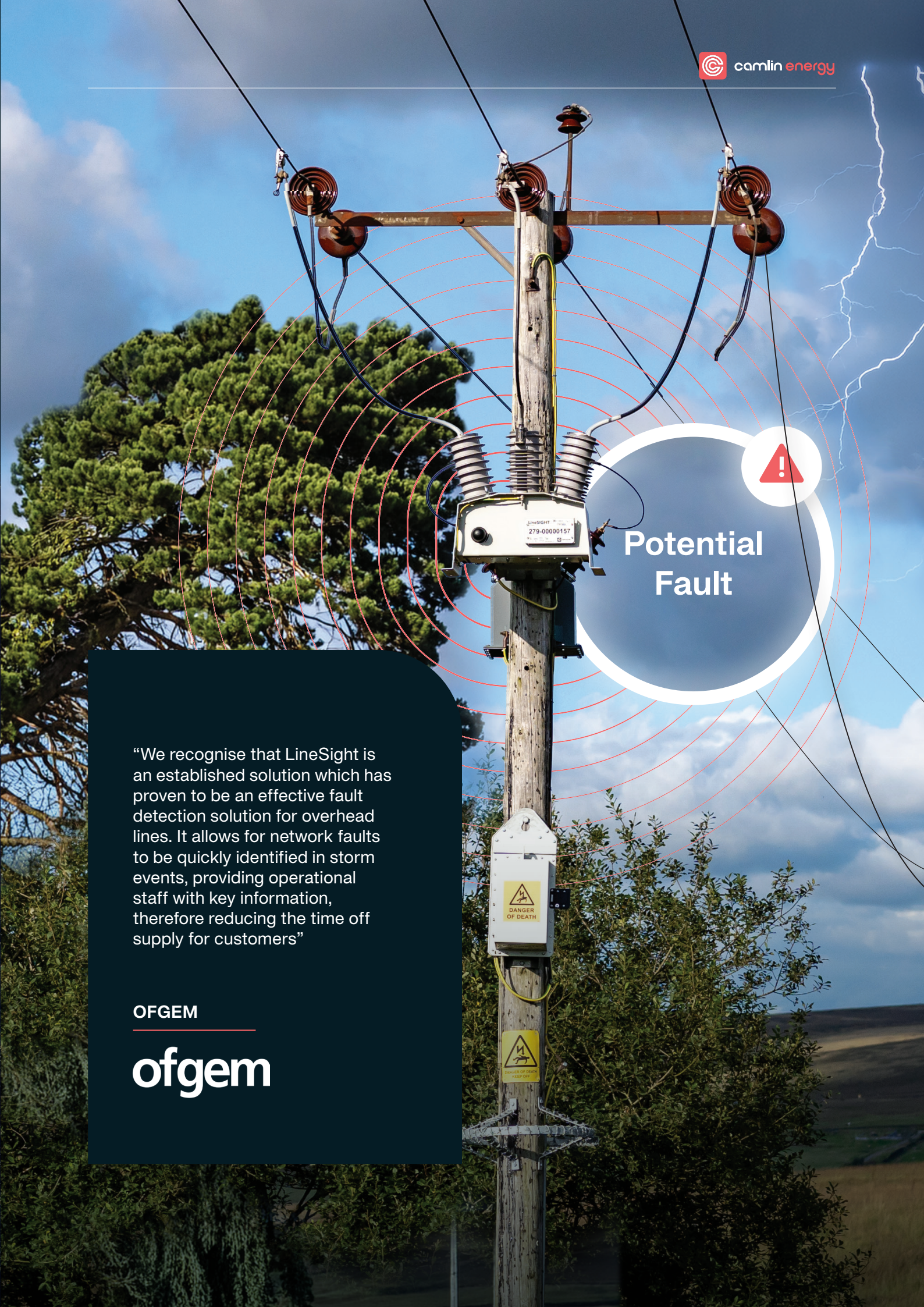
Base:

Targeted Performance

Focus: worst circuits

Outcome: faster fault location, reduced outages

2 - 3 sensors per circuit up to 80km.



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"We recognise that LineSight is an established solution which has proven to be an effective fault detection solution for overhead lines. It allows for network faults to be quickly identified in storm events, providing operational staff with key information, therefore reducing the time off supply for customers"

OFGEM

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