

VisNet[®] Apps: Circuit and Transformer Capacity

Cutting-edge Apps for Smarter Capacity Management

Optimise the capacity of your electrical networks
with real-time actionable insights



Grid-edge Apps: Powering Tomorrow's Grid Today

The low-voltage (LV) distribution network has been in operation for over a century, with much of the infrastructure significantly degrading over time. As demand on this ageing network grows, particularly with the integration of low-carbon technologies (LCTs), fast issue detection and resolution are essential to maintain a stable power supply.

To meet these challenges, network owners and operators are increasingly relying on automation and intelligent data processing to efficiently manage assets, prevent failures and identify areas for reinforcement.

Our Apps, coupled with the VisNet® Hub, provide a cutting-edge solution, using configurable on-device algorithms to filter and process relevant data directly from your network. Insights are visualised through our

intuitive VisNet® Detect Pro user interface, offering a clear view of performance. Operating within a secure, encrypted environment, VisNet Apps ensure data protection. Seamless over-the-air (OTA) updates allow for easy installation of new apps and features, while regular firmware updates keep your system optimised.

With VisNet Apps, the Hub and Detect Pro, you can efficiently monitor and enhance your network.



VisNet® Capacity Apps: Optimise Your Assets!

Stay one step ahead with our powerful insights and innovative solutions.

Our Circuit Capacity App and Transformer Capacity App process real-time and historic loading data, on the Hub, to deliver automated alerts when circuits and transformers approach, reach or exceed their operating limits. The result: enriched, actionable insights into voltage and current to help you optimise your asset's capacity.

By using the Capacity Apps, you can unlock more capacity across all phases. The Apps can automatically signal LV flexibility needs to the grid operator as the LV cables or transformer are approaching their capacity ratings.



DID YOU KNOW?

VisNet Capacity Apps can tell you the amount of time each phase has been overloaded enabling the operator to manage the risk.



DID YOU KNOW?

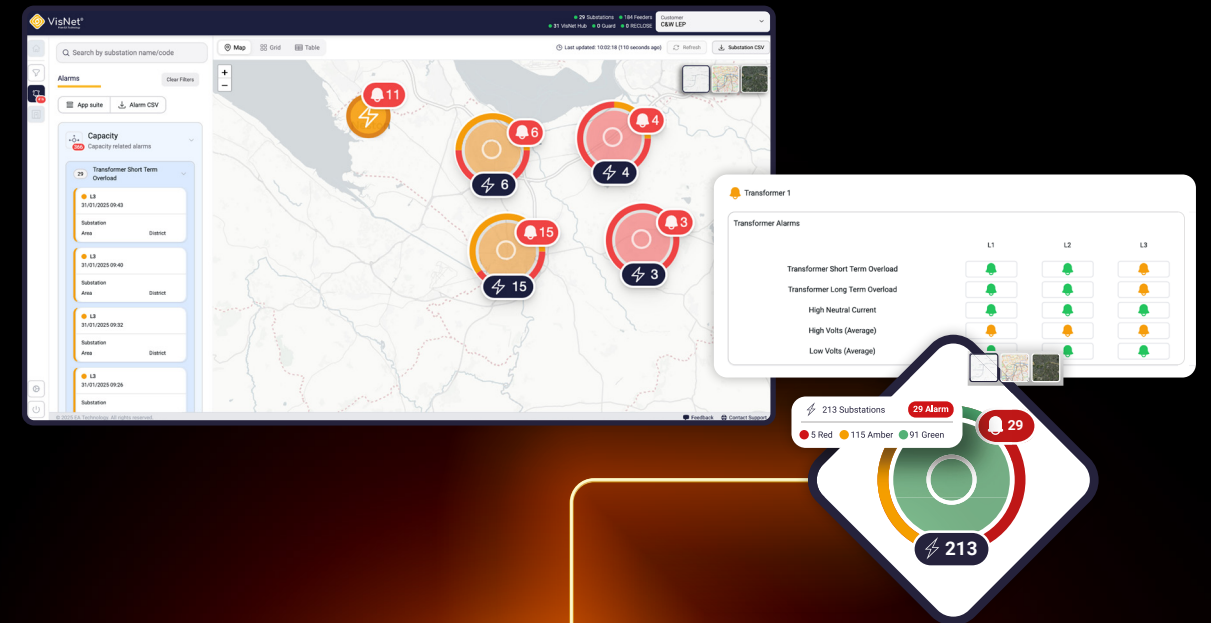
VisNet Capacity Apps help release capacity by enabling grid operators to offer connections to individual phases with headroom.



Maximise The Impact of Your Network With Our Capacity Apps

Our Apps can be remotely deployed onto your Hub to provide valuable insights into your network. Using Detect Pro or your own user interface, the data from our Apps is presented in an easy to understand, meaningful and actionable way.

Providing voltage and current readings, the Hub gives real-time visibility of the demand across LV feeder circuits. Our suite of Capacity Apps process this data locally, on the device, to provide enriched insights into your asset's capacity.



Turn Data Into Actionable Insights

When it comes to network operation, having comprehensive data is crucial. However, it's not enough to simply collect this. To truly benefit from it, we need to present it in a way that is meaningful and actionable. That's where Detect Pro comes in.

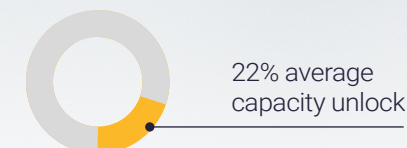
Detect Pro is designed to give you clear insights into your information. With 24/7 web-based access, you can easily view all the captured and calculated details. What sets this system apart is its intuitive way of presenting that information to you.

The user interface of Detect Pro is built for effective visualisation. It allows you to quickly identify any network issues at a glance. If you need to dive deeper, you can drill further down into the data, to understand exactly what is causing the problem. Gain a clear understanding of your network operation and take control of any issues that arise.



DID YOU KNOW?

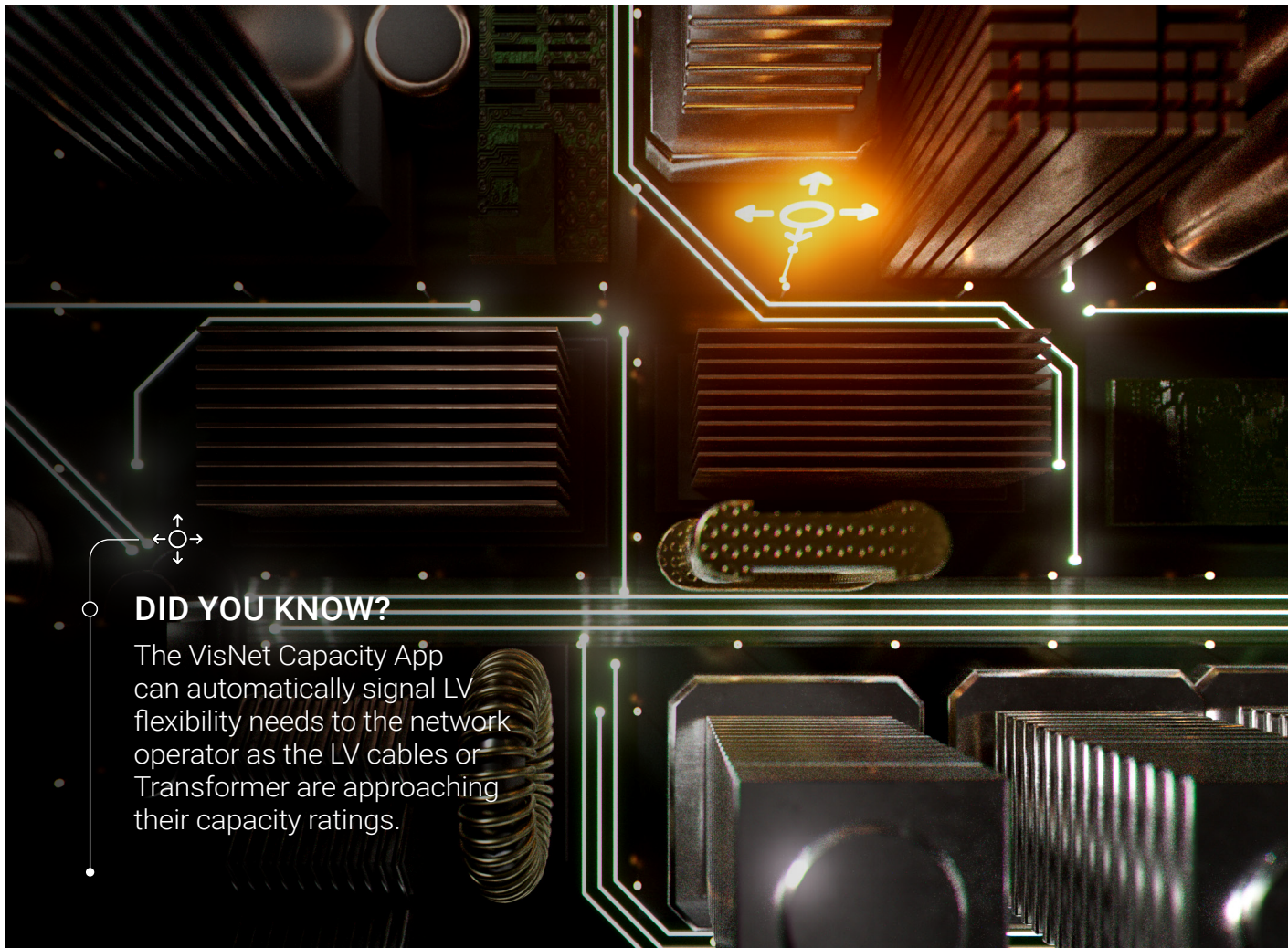
You can unlock an average of 22% more capacity across all phases with the VisNet Capacity Apps. Optimise your asset utilisation now!



VisNet Capacity Apps – An Exceptional Range of Benefits

VisNet Capacity Apps can:

- Provide highly granular available headroom by feeder and phase, allowing fast connection of LCTs to the network.
- Help DNOs release, on average, 22% more network capacity by increasing LV network utilisation.
- Enable network operators to release capacity by offering connections to individual phases with headroom.
- Help operators to manage high penetrations of domestic solar by monitoring the phase, feeder and duration of reverse powerflow, proactively alarming when thresholds are approached or breached.
- Help you to manage the duck curve, telling you when traditional tapping transformers will resolve or accentuate the issue.
- Measure all voltage fluctuations. Even a few seconds of overvoltage or undervoltage can cause electric vehicle (EV) chargers to trip off and not deliver the expected overnight charge.
- Identify LV circuits that could be exceeding statutory voltage limits, even if the volts at the substation are within limits.
- Help you maximise the capacity of your assets through live dynamic ratings, allowing you to add customers or buy time for upgrades.



The Apps Your Network Needs

Circuit Capacity App

Incredible Insights

Developed with a variety of time horizons in mind, from short-term operations to network planning and longer-term asset investment, the Circuit Capacity App flags issues where a single LV circuit feeding one street or local area is experiencing higher demand than another circuit.

The App takes measurement data from the LV circuit to generate insights related to the rating of the cable or overhead line, including:

- Circuit short-term and long-term overload
- High neutral current

- Circuit reverse power
- Overvoltage and undervoltage (compared to statutory limits)
- Phase imbalance

Our Hub monitors with high granularity, allowing the Capacity Apps to alarm before any damage occurs.

Transformer Capacity App

Management Through Measurement

Developed as a tool for day-to-day management and forward-looking planning, the Transformer Capacity App is a critical component in getting the most out of a transformer feeding multiple connected customers, helping operators balance immediate needs with future goals.

The App takes measurement data from the LV circuit to generate insights related to the rating of the cable or overhead line, including:

- Transformer short-term and long-term overload
- Transformer reverse power
- Phase imbalance
- Demand duration curve (coming soon...)

DID YOU KNOW?

1% of LV monitored circuits are over 150% unbalanced, causing a 200% increase in energy loss, but our Apps can help target high-risk assets for intervention.

200% Increase in energy loss

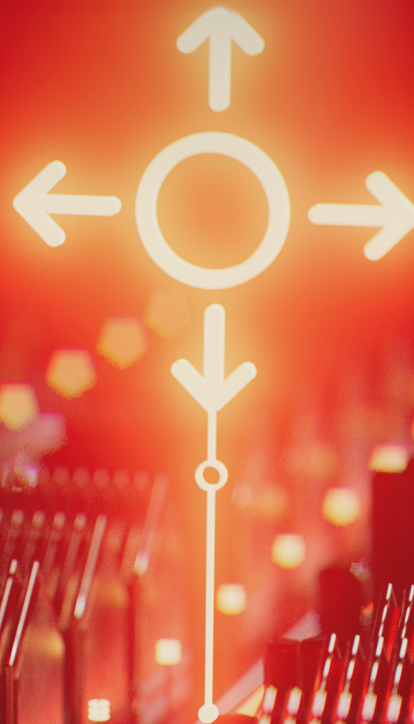
DID YOU KNOW?

Our VisNet Hub monitors with high granularity, allowing Capacity Apps to alarm before damage occurs.

Capabilities For A Changing Market

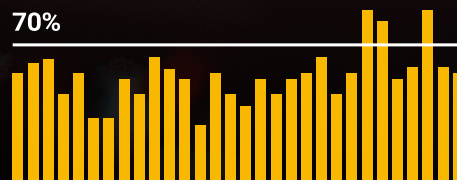
The electricity network is undergoing a period of rapid consumer transition, including the growing popularity of electric vehicles and heat pumps. Pressure is increasing on the LV cables that deliver power to our homes and businesses.

As the pressure society puts on the LV networks grows, optimising the capacity of those networks becomes increasingly crucial. Our Capacity Apps deliver the support you need.



DID YOU KNOW?

On average, 90% of the LV grid is less than 70% utilised. DNOs using VisNet Capacity Apps can release 22% more grid capacity by increasing utilisation.



To book your demonstration or to receive further information, please contact us on:
+44 151 347 2313, email: sales@eatechnology.com or visit: www.visnet.tech