

Line Ratings

Digital Engineering and MetraWeather partner to provide innovative, cost-effective solutions for the energy industry.

Optimising infrastructure performance is a key challenge for transmission and distribution companies and weather conditions play a critical role in this task.

To effectively optimise a network asset, performance data is essential. Installing sensors on existing infrastructure can be both costly and time consuming. It also limits the capture of data from the installation point forward, making historical analysis difficult.

By using weather simulations and data analytics, Digital Engineering and MetraWeather work in partnership to calculate operating temperatures for overhead lines and corresponding sag values. This provides performance data in a shorter timeframe and at a fraction of the cost, allowing network operators to safely increase the performance of their networks, without expensive upgrades.

Increasing thermal ratings provides network operators more flexibility to operate a network safely in the event of a fault, which can help avoid outages. This service gives network operators probabilistic data to work with, enabling decision making automation that removes the guesswork from the process.

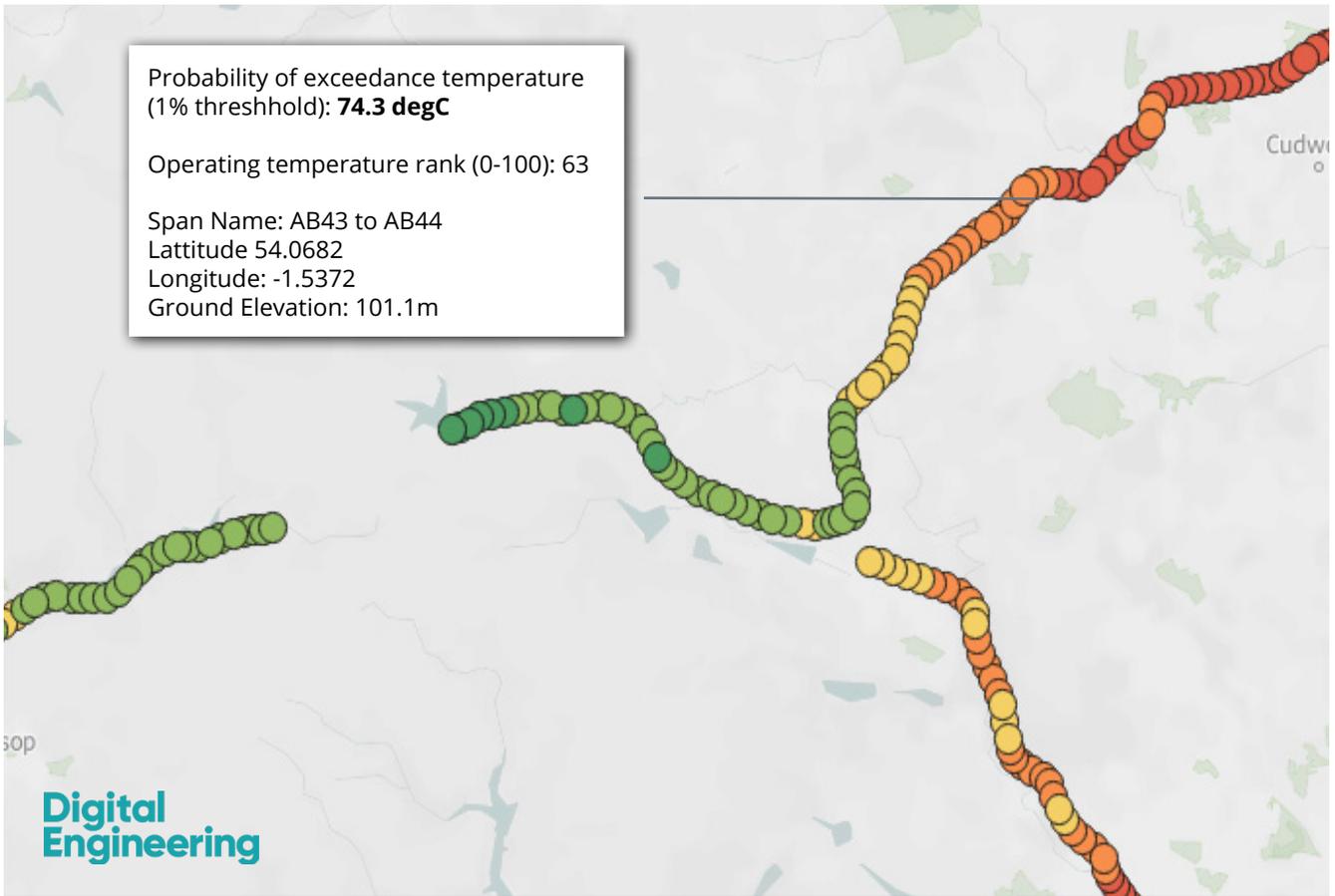
Key Benefits

- **Avoid upgrades** – Identify which lines sit in environments that naturally allow higher ratings
- **Increase resilience** – Increasing line rating safely gives network operators more flexibility in the event of outage
- **Understand risks** – Accurately assess the probability of exceeding thermal ratings



“Accurately determining the impacts of shielding and microclimates on transmission corridors is one of the keys in unlocking the dynamic capacity and robust design of transmission lines. This is an important aspect for TransGrid going forward, as we augment our transmission network to meet the energy transition to a lower emissions future, without compromising the delivery of reliable and affordable energy to customers”

Principal Engineer, TransGrid



Map output from Digital Engineering's line rating assessment. Each dot represents an overhead line span. Red indicates spans that experience higher operating temperatures. Routes that have spans with higher operating temperatures are more likely to break clearances and have less thermal headroom so may need to be upgraded sooner. Lines that have spans that experience lower operating temperatures can have more current passed down them, avoiding upgrades.

"At Digital Engineering we help companies by leveraging our understanding of both climate and power systems. We are delighted to team up with MetraWeather to provide services that support the Australasian energy sector to reduce costs, as we have in other parts of the globe"

Rob Sunderland - Managing Director, Digital Engineering.



"We are delighted to partner with Digital Engineering in Australasia. Combining our weather expertise, accredited meteorologists and in-depth technical support, with the work of Digital Engineering can only help enhance further efficiencies for the energy sector"

Lucy Batt - Australia General Manager, MetraWeather.



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