Case Study:
Network | CCTV

Customer:
SmartWatch Solutions Ltd
Lancaster University

Overview

As part of Lancaster University's ambitious decarbonisation and sustainability programme, the solar farm was commissioned to deliver renewable energy directly to campus, requiring a high-capacity communication network to monitor and control power generation, inverters, and grid interfacing across the site.
Quadratek was engaged under subcontract to Smartwatch Solutions Ltd, a specialist CCTV and security systems integrator, to design, install, and commission the fibre and switching infrastructure required to connect and manage the solar farm's distributed control network, along with the perimeter fence CCTV cameras. The project was delivered in partnership with Vital Energi, the principal contractor leading Lancaster University's low carbon energy transformation initiative.

Our Task

Working with Smartwatch, Quadratek's scope covered the installation and configuration of a 48 & 96-core fibre network, linking multiple locations around the solar farm back to a central control hub. This resilient backbone provided the essential connectivity for both security and operational systems, enabling real-time monitoring and automated control of the solar farm.
Our engineering team installed and commissioned network switching infrastructure, ensuring seamless integration with the existing campus systems. The switches were configured to support VLAN segmentation, remote monitoring, and future scalability, forming the foundation for the solar farm's data and control environment.

Technical Highlights

- Installation of 48 & 96-core fibre optic network over extensive field runs.
- Termination, testing, and certification of all fibre connections.
- Supply, install, and configuration of managed network switches.
- Integration with Smart Watch CCTV and solar monitoring systems.
- Collaboration with Smartwatch, Vital Energi, and Lancaster University for design, site coordination, and commissioning.

Conclusion

The completed system provides a high reliability communications platform connecting all elements of the solar farm's monitoring and control infrastructure. This network underpins Lancaster University's ability to efficiently generate, manage and optimise renewable energy output as part of its net zero carbon strategy.

The installed solution also reduces the need for onsite maintenance visits, supports secure remote fault diagnostics, and enables the university to operate the solar farm efficiently without increased staffing or infrastructure overheads. Quadratek successfully delivered the fibre and switching infrastructure that powers the site's operational and security systems. SmartWatch Solutions and Quadratek continue to support national energy and infrastructure projects, delivering secure, intelligent networks that combine CCTV, communications, and operational controls across large scale sites.