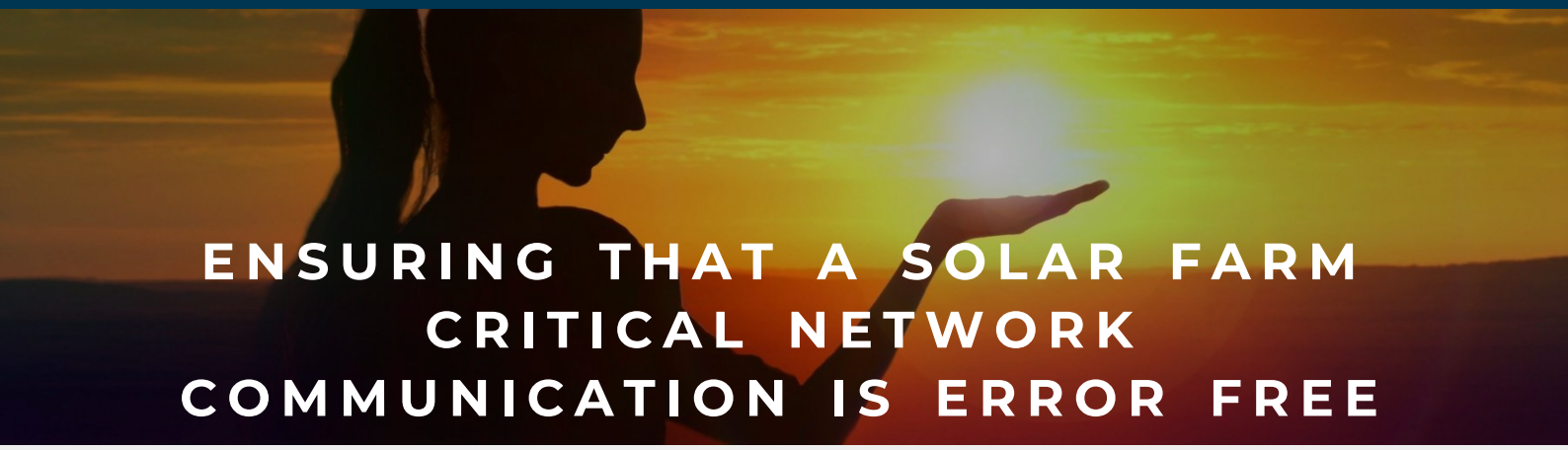
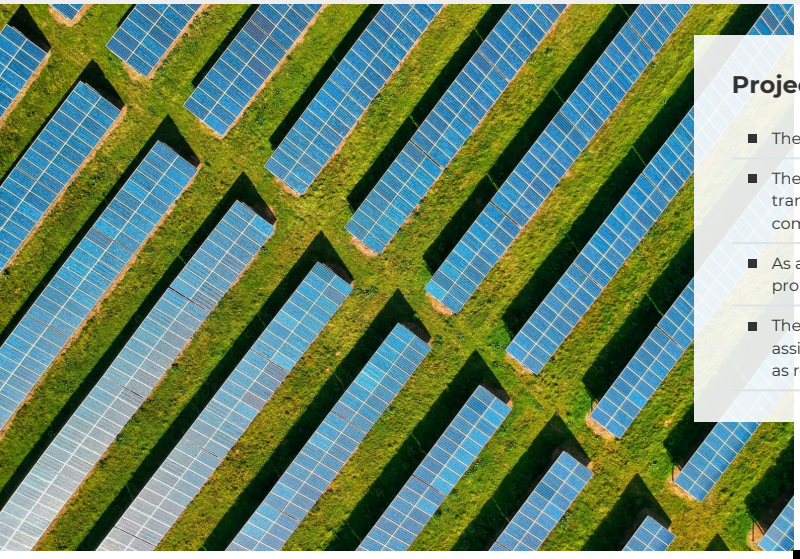


ENSURING THAT A SOLAR FARM CRITICAL NETWORK COMMUNICATION IS ERROR FREE

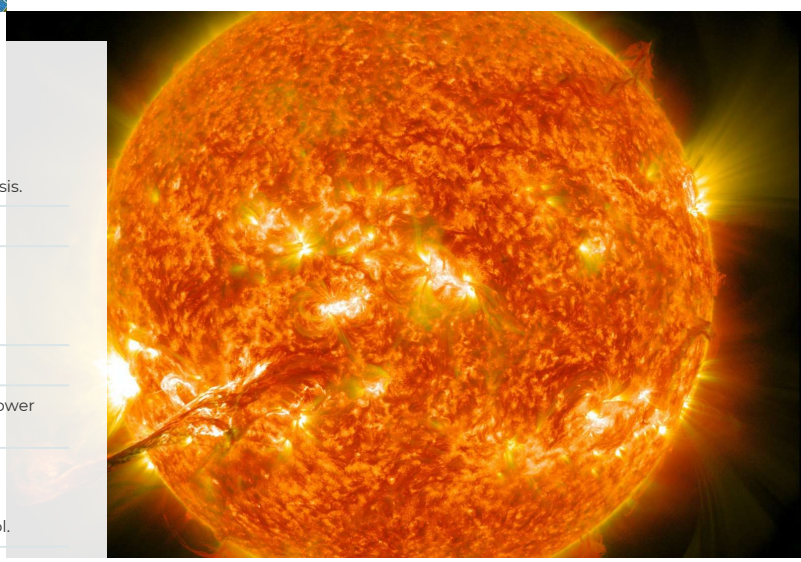
"A cloudy day is no match for a sunny disposition" - *William Arthur Ward*

Industry	Sector	Segment
Energy	Renewables	Solar



Project

- The client is an operator of a newly constructed 175MW solar farm.
- The operator was unable to meet Hold Point Testing requirements for reliable transmission of both power to the grid and data to the regulator, due to communication network issues.
- As a result, liquidated damages were in effect until the Hold Point Testing could be properly completed.
- The client needed to quickly resolve the issue and asked Cromarty Automation to assist assessing the root cause of the issues preventing the system from operating as required.



Solution

To find a solution, Cromarty Automation firstly:

- Conducted a communications network audit involving network traffic analysis.
- Reviewed the network topology and network switch configurations.

After review of the findings, Cromarty Automation identified:

- The redundancy protocol was improperly configured.
- Non-managed switches were installed and configured with default settings.
- The Plant Power Controller had an issue with the TCP conversation to the Power Quality Meter and inverters.

Cromarty Automation then addressed the issues by:

- Correcting the redundancy by implementing vendor specific *'chain'* protocol.
- Removed non-managed devices from the network.
- Notifying the Power Plant Controller vendor of the issue.

Outcome

The client was delighted with the outcome. Cromarty Automation had investigated the PPC TCP conversations thoroughly which identified the root cause of the PPC communication issue and also identified an underlying issue with the PPC, which even the manufacturer wasn't aware of. With both the network redundancy protocols implemented properly and PPC replaced, the operator was able to complete Hold Point Testing successfully and liquidated damages ceased.