Solar Farm HRJ Monitoring

Customer:

Mycena Systems

Trial completed – First commercial install exp 2023

KEY VALUE PROPOSITION

Fires at Solar Farms are common and costly in terms of damaged assets and lost production. Our system monitors the temperature at critical terminals and detects High Resistance and loose joints, preventing asset damage and potential fires.

MARKET ASSESSMENT

Addressed market

- Clean Energy - Solar Farms
- Smart Factory – Critical Control Panels

Customer segment

- Solar Farm Asset Owners & operators

Value proposition

- Detect high temperature joints preventing damage & fires
- Can detect mal-functioning switchgear
- Current Infrared Measurements are typically done during low production times when temperatures are low and faults can't be seen. New 1500V systems can't be opened to perform IR surveys

TECHNICAL ASSESSMENT

Technical requirements for use case

- Small, innovative, cost effective but accurate temperature sensors
- Full up-the-stack solution to generate Email & SMS alarms
- Ability to predict HRJ up to 6 months in advance has been demonstrated

Existing technology building blocks

- Used existing IWT PCB connected to single wire sensors
- IoT Gateway used to upload the temperature data
- WebScada package used to display temperatures & send alarm emails

KEY CHALLENGES

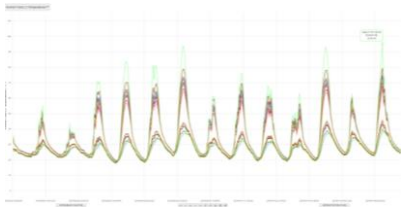
1. Designing miniature accurate temperature sensor cables

KEY OPPORTUNITIES

1. Large numbers of Solar Farms and solar installations would benefit from the system as trialed

NEXT STEPS

1. Obtain order for first commercial installation in the UK
2. Roll out system to large Solar Asset owners in the UK



Key highlights of the project

- Successful trial identified cable terminations reaching temperatures > 110 °C
- Looking at the data produced enabled HRJs to be detected 6 months before high temperatures were reached