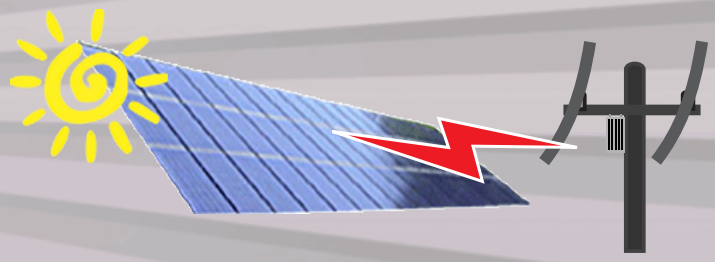
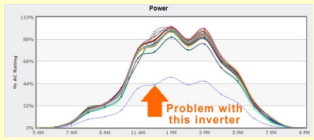
SolarVu®
ENERGY PORTAL



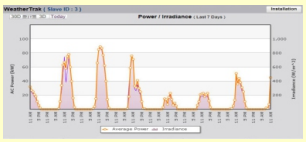
Manage Solar Farms with SolarVu®

A solar farm with hundreds of string inverters and thousands of panels needs a comprehensive monitoring solution to detect faults and provide diagnostic tools to quickly perform corrective maintenance. SolarVu is a cost effective, scalable alternative to an expensive custom design. Divide the site into logical zones for faster troubleshooting and performance analysis. When an alarm message is received indicating an equipment malfunction, use diagnostic tools like PowerWatch to identify a low output inverter. Then download site layout and SLD documents to quickly locate and repair faulty equipment. Create performance analysis reports comparing actual output to PVsyst forecast. Lifetime data is stored in the cloud on SolarVu servers and accessed by any browser device which eliminates programming and maintaining onsite computers.



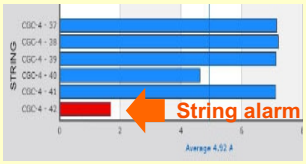
PowerWatch™

PowerWatch compares all inverter outputs to identify a faulty inverter. 30 day energy ratio log tracks intermittent operation.



WeatherTrak™

SunLowPower alarm if any inverter output is lower than expected for measured irradiance. Min/max temperature and irradiance logs.



SmartStrings™

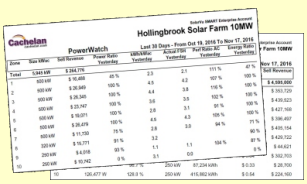
Compares each string to detect low output panels. Alarm shows string location on downloaded roof layout drawing for fast O&M repair. Eliminates routine checks.

PayCheck™

Verify correct utility payment. 90 day revenue grade meter log for troubleshooting. PVsyst forecast to actual variance performance analysis reports.

SnoCam™

Live roof conditions and local weather. Lifetime daily photo storage to see impact of snow on output. 24/7 in-camera video for security and insurance.



SMART Enterprise™

Create custom reports on demand for any time period for performance analysis by zone or the entire site. Navigate directly to each inverter for diagnostic logs.

SolarVu gages and analytics will detect and help diagnose problems that occur on large solar farm systems for effective O&M

TYPICAL PROBLEMS

COMMISSIONING
- Incorrect comms settings in inverters and BOS devices
- Serial wiring errors by electrician
- Meter CT/PT wiring errors/settings
- Router network settings incorrect or change
- Weak 3G cellular reception, antenna placement
- Wrong/missing equipment data supplied

EQUIPMENT FAILURE
- Inverter failure, stops communicating
- Solar panels fail
- Corroded connections
- Loose connection = overheating, fire hazard
- Equipment left off after maintenance
- BOS equipment failure weather sensors, meter, SCADA

ENVIRONMENT
- Combiner box water ingress
- Rodent chews through panel wires
- Lightning damages equipment
- Grid issues cause shutdown - under/over voltage
- Snow cover / dirt buildup / structural damage

COMMUNICATIONS
- Loss of internet connection
  - Router/network configuration
  - Customer changes router settings
  - Router/ network failure
  - 3G SIM card disconnected for non-payment
  - Weak reception in rural areas, antenna damage
- Equipment loss of communications
  - Faulty connection
  - Incorrect settings after replacement
  - Noisy environment, data corruption
  - Inverter design - firmware bugs

GETTING PAID
- Utility payment below expected - meter fault / accounting
- LDC SCADA problem = shutdown by LDC
- RMA for warranty claim - support data required

Cachelan
SMART GRID ENERGY

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