SolarEdge **ONE** for Optimized Utility

Product overview - for the Agri-PV market

Contents

908kW, Taiwan, installed by INA Energy

"We've seen a significant boost in our O&M efficiency....the SolarEdge platform's Digital Twin feature, combined with remote troubleshooting and advanced analysis tools, has drastically reduced on-site visits and project downtime.

It's been a game changer for managing our energy assets across Minnesota, making operations smoother and more cost-effective..."

David Carbonneau,
VP Operations & Procurement
iDEAL Energies, USA

Introduction to SolarEdge ONE for Optimized Utility

A cloud-based energy monitoring and optimization platform, designed specifically for commercial solar energy professionals.

Incorporating extensive customer feedback as well as our own vast expertise in commercial solar and Agri-PV, SolarEdge ONE places an unprecedented amount of system data at your fingertips. This enables deep performance analysis, monitoring and advanced management capabilities across the Agri-PV site.

Operate & Maintain

For EPCs and O&M teams

Optimize & Manage

For Energy stakeholders

SolarEdge ONE orchestrates a site's entire energy portfolio, including:

PV

SolarEdge inverters and Power Optimizers

Site Assets

Onsite power consumption assets e.g. IOT energy devices, sensors, etc.

Environmental Sensors

Integration with third-party sensors

Main Benefits for Agri-PV Projects

Single Ecosystem for Energy Optimization

- Optimizes Agri-PV production
- Manages and monitors all onsite energy infrastructure
- Saves on complicated third-party integrations

Enables Data-Driven Decisions and Actions

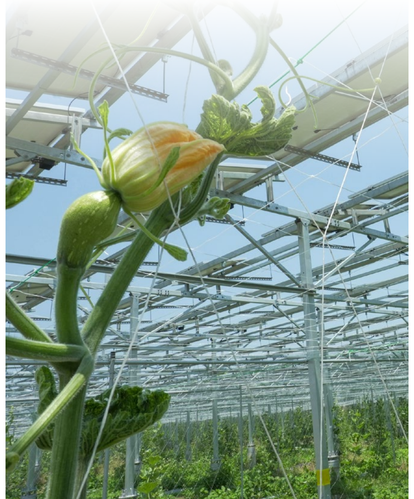
- Allows decision-making based on field data and Environmental conditions, for optimized PV production - based on crops specific needs
- Provides real-time insights at every level: from fleet and site levels down to individual modules and devices
- One data inventory that serves multiple functions and needs of different stakeholders

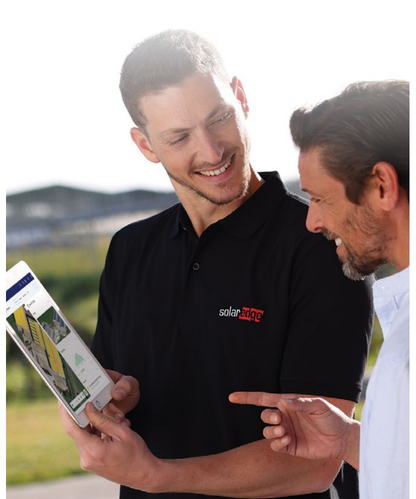
Proactive, Module-Level O&M

- Supports 24/7 site monitoring, to improve compliance with Agri-PV regulatory requirements
- Includes remote troubleshooting to minimize site visits and disruptions to farming
- Eases O&M for sites with challenging access i.e. elevated PV modules

Safe and Cybersecure

- Meets global PV safety and cybersecurity standards
- Enables quick response to system issues with pinpointed detection and live alerts
- Addresses various safety requirements, from installation and throughout the system lifetime
- Includes multilayered cyber protection from inverter to cloud, safeguarding customers' networks





System Stakeholders Overview

EPCs and O&M Teams

SolarEdge ONE for Optimized Utility includes a comprehensive set of capabilities designed to benefit EPCs and O&M teams seeking reduced PV site maintenance costs and greater operational efficiency for their dual use Agri-PV sites.

Common Challenges

- To ensure optimal system performance, EPCs and O&M teams require advanced monitoring tools that can significantly save maintenance costs by reducing unnecessary truck rolls, time onsite and ease access in often challenging Agri-PV site conditions. Maintenance teams can gain additional time and resources with the ability to rapidly identify and address system issues using remote troubleshooting tools and alerts
- Agri-PV regulatory mandates include regular collecting and reporting of energy production levels and field data, to ensure transparency and operational efficiency. This can also include monitoring of microclimate conditions, such as temperature and humidity, to ensure minimal crop disruption
- Further operational complexities can arise from maintaining a PV ecosystem consisting of assets provided by multiple Including farmers as opposed to dealing with just one vendor for all hardware, software and service requirements

SolarEdge ONE Benefits

Designed to lower maintenance costs and increase efficiency, throughout the entire Agri-PV lifetime, via:

- Streamlined site operation, minimized downtime and reduced site visits with remote device operation and configuration
- Real-time inspection of fleet and site performance, down to the PV module level, with easy identification of underperforming system components
- Proactive maintenance and quick response to critical issues with a live alerts system and remote troubleshooting
- A single vendor for all software, warranty, servicing and training needs

"SolarEdge ONE has heralded a far deeper level of granularity in respect to performance statistics, monitoring metrics, fault finding, and reporting. This enables us to; cut down time spent identifying existing or potential faults, accelerate response times to events and provide more accurate and detailed levels of reporting.

This all ensures we can continue to meet the high standards we set ourselves in respect to ensuring the best possible customer experience, highest uptimes, greatest yields and the safest systems."

Westwood Energy Ltd

Westwood Energy Ltd.
UK

System Stakeholders Overview

Energy and Agriculture Stakeholders

Includes multiple personas each with a specific set of responsibilities and goals that require the extensive management tools and optimization processes provided by SolarEdge ONE:

- **Farmers** - responsible for continued agricultural productivity in balance with the PV system
- **Energy operator** - manages PV system operation
- **Regulatory team** - handles site compliance with Agri-PV industry regulations
- **Asset owners/Investors/Finance managers** - responsible for improving site/PV fleet financial performance, managing PPAs while maintaining agricultural compatibility

Common Challenges

- Monitoring site energy production is critical when trying to identify drops in PV system performance (e.g. caused by shading, malfunctions, dual-use requirements). Without it, potential energy loss will adversely affect the site's ROI
- PV systems also generate a vast amount of data related to energy production, consumption, system performance and site conditions. Analyzing this data to optimize system operation and identify trends can be complex, especially for large-scale installations, and especially if using several software platforms from multiple vendors
- Ensuring all Agri-PV project stakeholders have the tools to balance energy production with agricultural output and environmental sustainability

SolarEdge ONE Benefits

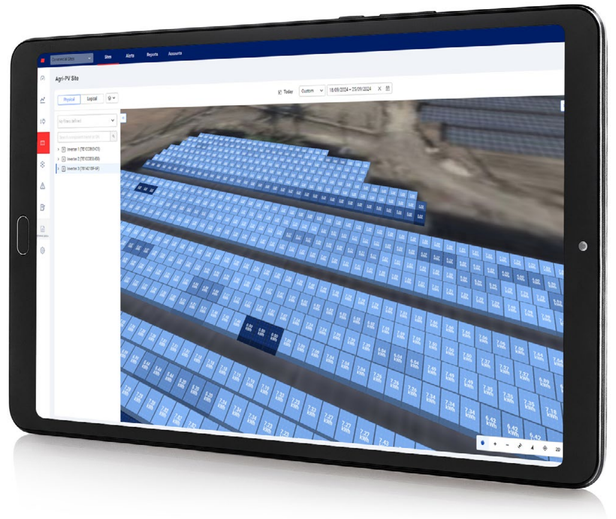
Designed to allow full visibility, data collection and analysis, and optimization based on field data, to maximize the site ROI and dual use benefits

- **Energy optimization**
  Optimize the performance of energy assets to save costs, Optimize production, and meet research goals while maintaining compatibility with the site's agricultural output
- **Load management**
  Manage energy demand to avoid peak demand charges and improve overall energy efficiency

37kW. Israel, installed by SolarEdge

Software Scope

The SolarEdge ONE for Optimized Utility core functionalities are accessible by all SolarEdge system users. Highlighted in this chapter, these features cater to PV professionals requiring comprehensive O&M and PV monitoring capabilities for Agri-PV projects.



PV Fleet Management

- Includes advanced dashboards providing real-time, comprehensive views and management capabilities for all sites across the account's portfolio
- Displays a live view of key site performance indicators such as Yield, Performance Ratio, and Site Availability/ Uptime and additional aggregated data through visualization of comparative heatmaps, graphs, charts, and an alert system
- Conveniently groups sites according to different parameters such as geographic location or installation size
- Uses interactive charts to quickly determine best/worst performing sites on daily/weekly/monthly/annual basis

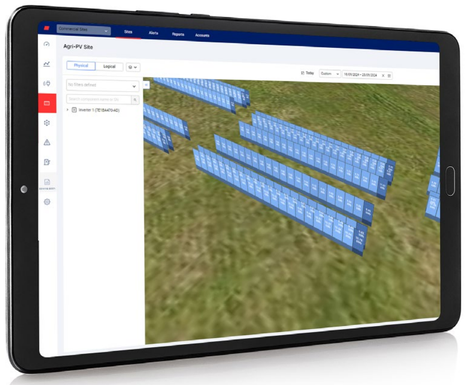
Site Management

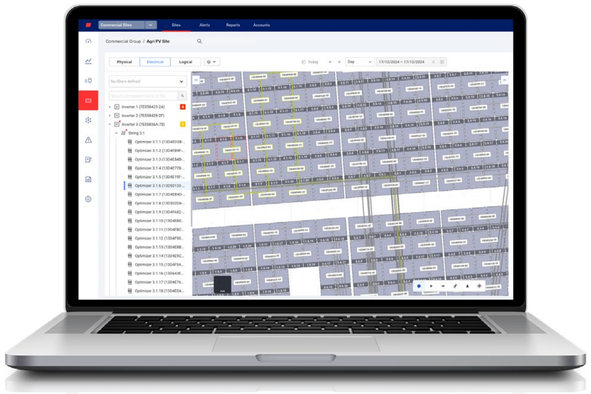
- The Site dashboard offers a comprehensive view of site performance making it easy to monitor, analyze, and optimize the system for maximum efficiency and profitability
- Features a live view of several KPIs (e.g. current power, production, Performance Ratio) as well as energy production per site/inverter. These KPIs let you assess and track the efficiency, reliability, and productivity of the site operations helping to ensure energy yield is reaching its potential. Based on this information, informed decisions can be made and areas for improvement may be identified
- Uses interactive charts to display production, consumption and energy import/export data on daily/ weekly/monthly/annual basis
- Updated equipment list showing all devices installed on site and supported by SolarEdge ONE

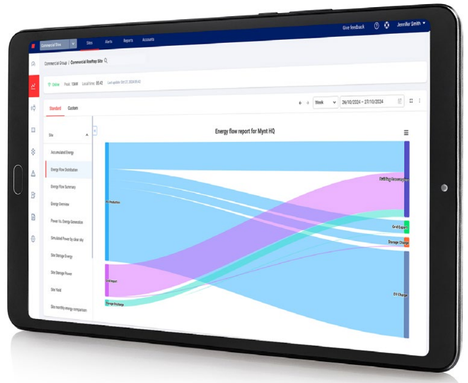
Device Configuration and Operation

- Reduce time on site by viewing and configuring devices remotely
- From the comfort of your office, easily update device parameters such as inverter power control or grid settings or set import/export limits.
- Includes an audit trail to track each device configuration that was made

Software Scope







Digital Twin

Physical layout

- A powerful new site layout tool that merges the site's virtual representation (e.g. from SolarEdge Designer) with real-time site data
- Allows users to quickly perform site inspection, analysis, and remote configuration of all devices onsite
- Displays the data using one of two data layers:
  - Energy Layer - data is presented according to the energy produced by each module e.g. for quick identification of underperforming modules over a defined time period
  - Thermal Layer – each Power Optimizer's current temperature is displayed to help spot anomalies in module energy production, highlight potential fire risks or satisfy insurance requirements

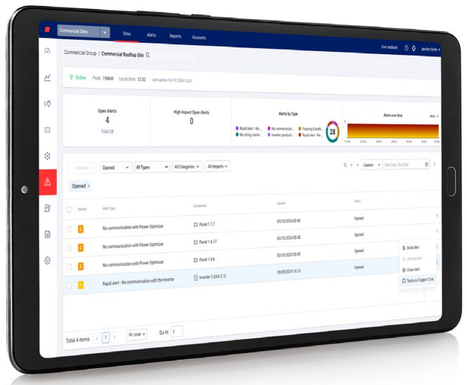
Electrical layout

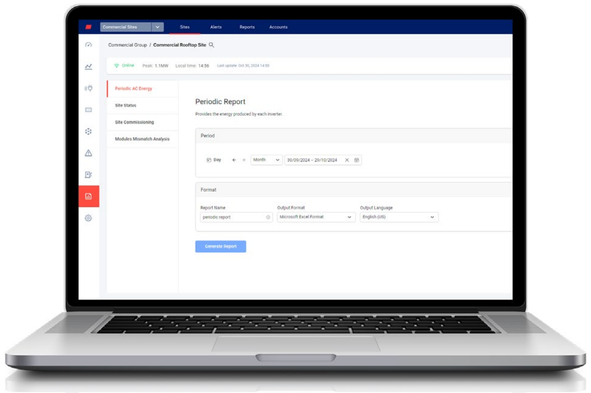
- Detailed site view showing all electrical AC/DC cable connections per system inverter and string as well as other component connections
- Provides a visual representation of the site hierarchy
- Supports remote commands such as pairing and restart
- Integrates with the Layout Editor, ensuring the most updated site configurations are reflected

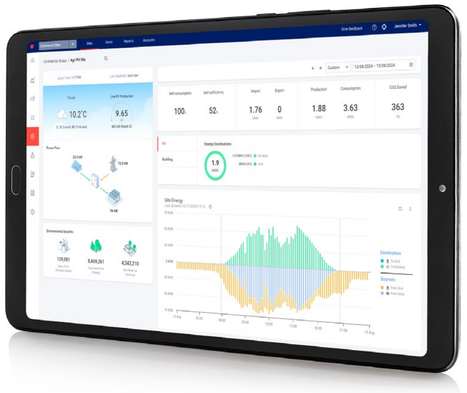
Site Analysis Tools

- Comprises an extensive set of pre-configured charts that enables a deep dive into site and device-level data for quick and easy performance analysis e.g. investigate the correlation between site production and irradiance to understand if the site is performing as expected
- Charts showing expected energy production can also be generated, using simulations to predict the amount of electricity that an Agri-PV system is expected to produce over a given time
- Take advantage of advanced customization tools to easily generate additional charts specific to your O&M requirements

Software Scope







Alerts Tool

- Provides a pinpointed overview of any potential issues that may require attention, across all sites in your SolarEdge portfolio
- Alerts are automatically prioritized based on their impact e.g. on energy production or site safety, and are color-coded to make it easy to identify critical issues

Reports

- Generate detailed reports to stay compliant with Agri-PV industry regulations. Analyze and compare site performance according to the individual Site level or Account level
- Multiple report types are available e.g. to help detect under-performing modules, verify site communications and commissioning, or review system production over time
- Report generation runs in the background, so you can continue to work in SolarEdge ONE uninterrupted
- Supports export to PDF, Excel, and HTML

Energy Board

- Provides comprehensive insights into each site's energy management with real-time power flow visualization and aggregated energy consumption data
- Illustrates the breakdown of energy usage and energy distribution throughout the site from energy source to destination
- Displays key site data such as production, consumption and system savings according to daily/weekly/monthly/annual time periods

SolarEdge ONE Controller

The SolarEdge ONE Controller* is a local communication gateway that seamlessly integrates the site's energy infrastructure including PV inverters, meters and more.

- Combines with SolarEdge ONE to optimize the use of locally generated energy for lower electricity costs
- Complies with grid regulations to enable safe, reliable electricity generation (PPC)
- A cyber gateway for external communications, designed to protect against unauthorized access

The ONE Controller supports integration with third-party digital sensors and energy meters.

- **Digital sensors**: Used to measure site conditions such as temperature and irradiance i.e. to enable Performance Ratio calculations, maintain optimal agricultural conditions
- **Energy meters:**

  For site production, consumption, and import/export measurements, also enabling the connection of additional devices

The need for digital sensors and energy meters

Many C&I sites today only measure energy production. They don’t include the necessary devices, such as environmental sensors and meters, that would enable them to collect the data needed to perform Performance Ratio calculation, determine optimal agricultural conditions, or gain deeper insight into site consumption patterns, for example. By bundling these products together with the SolarEdge ONE software, SolarEdge customers can only benefit from having more site data that will greatly improve their fleet analysis capabilities, not to mention the possibility of expanding their system functionality.

* Purchased separately

Service & Support Tools

We're here to ensure your O&M goes smoothly

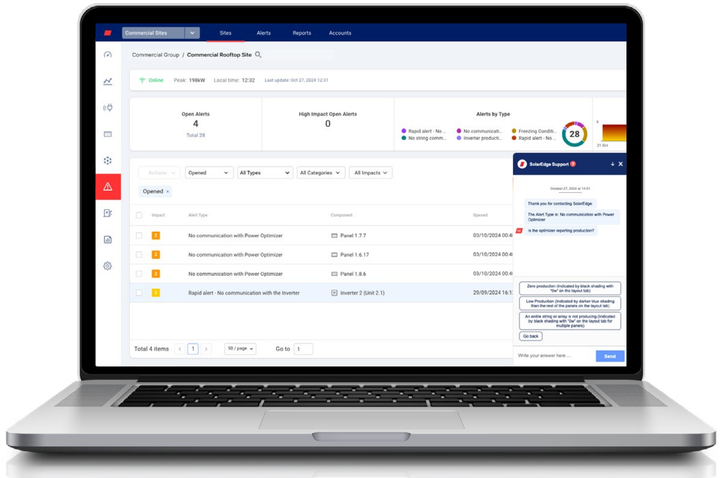
Automated Self-Service Tools

Support Chat

- Contact your local support engineer in your time zone and native language
- Receive recommendations for troubleshooting specific system or device alerts
- Easily issue RMAs based on the device alert and information (part/device SN)

Resource Center

- Easily access all relevant application notes
- 'How to' guides and tutorials



Direct Communication Support

Call Us

- Place a service call (toll-free number)
- Call our dedicated, trained experts

Contact Us

- Send new feature requests
- Share your feedback
- Email us on any other topic

About SolarEdge

SolarEdge Technologies is a global leader in renewable energy technology that applies world-class engineering and innovation to provide solar PV solutions for the residential, commercial and utility segments. SolarEdge brings an optimized approach to generating, storing, managing and consuming energy. The company develops and produces PV inverters and Power Optimizers, energy management and optimization solutions, energy storage and grid services. SolarEdge's DC-optimized technology is installed in millions of homes in over 140 countries, and more than 50% of Fortune 100 companies have SolarEdge technology on their rooftops. SolarEdge is accelerating the transition towards distributed, sustainable energy networks which will optimize energy everywhere.

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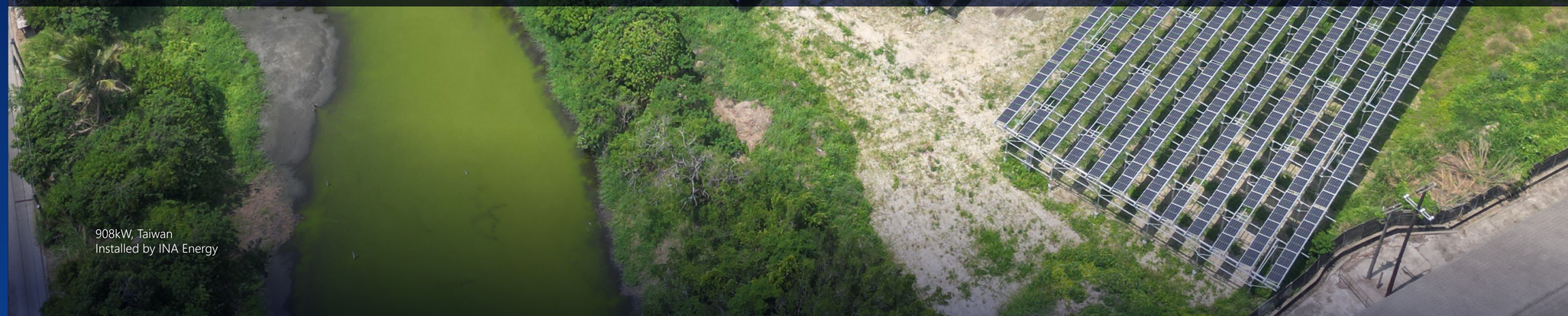

908kW, Taiwan
Installed by INA Energy