solaredge

Commercial Solution Overview

SolarEdge Fact Sheet

About us

In 2006, SolarEdge revolutionized the solar industry by inventing a better way to collect and manage energy in PV systems. Today, we are a global leader in smart energy technology. By deploying world-class engineering capabilities and with a relentless focus on innovation, we create smart energy products and solutions that power our lives and drive future progress.

Vision

We believe that continuous improvement in the ways we produce and manage the energy we consume will lead to a better future for us all.

Award-winning technology

Product reliability

- 25-year Power Optimizer warranty, 12-year inverter warranty, extendable to 20 years
- SolarEdge products and components undergo rigorous testing, and have been evaluated in accelerated life chambers
- Reliability strategy includes proprietary application-specific integrated circuits (ASIC)

Global outreach

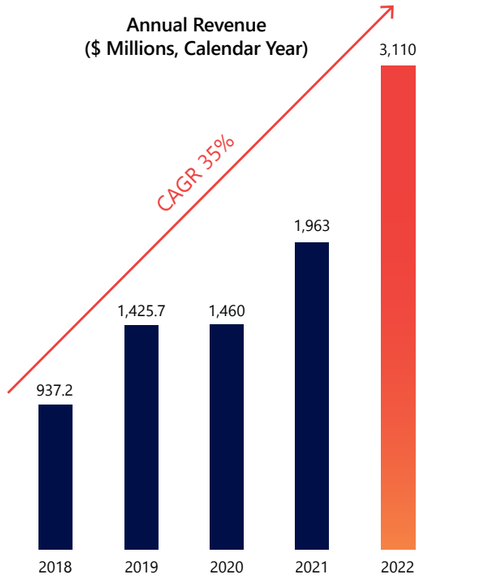
- Systems installed in over 140 countries across five continents
- Sales via leading integrators and distributors
- Follow the sun call centers
- Local teams of sales, service, marketing, and training experts
- Global manufacturing capabilities with tier 1 electronic manufacturing service companies

Bankability

- Approved by major banks and financial institutions worldwide
- SolarEdge (SEDG) is traded on NASDAQ
- A global leading PV inverter manufacturer, due to strong and stable finances combined with cutting-edge technology

Shipping since 2010

- Over 5.2 million inverters, 47.9 GW, and more than 119.6 million Power Optimizers delivered worldwide
- SolarEdge's Monitoring Platform continuously tracks over 3.5 million installations across the globe



Corporate social responsibility

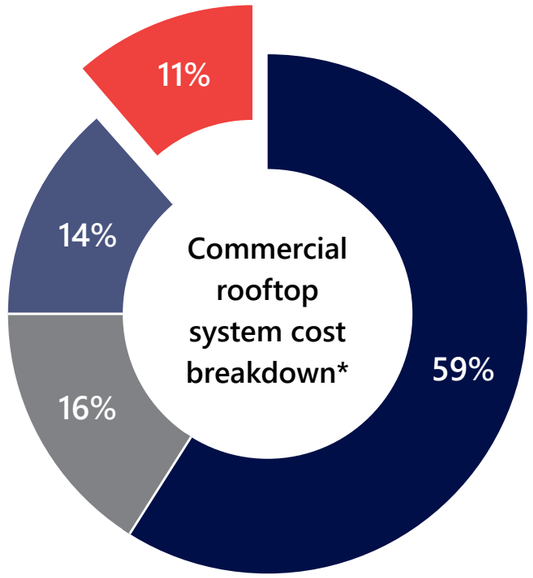
As a global leader in smart energy technologies, SolarEdge is committed to a sustainable world and is in full compliance with international standards on quality and control, ethical conduct, and environmental protection.

The Importance of Inverter Selection

Inverters account for only 11% of the system cost but:

- Influence up to 27% of system cost (also eBoS)
- Are the "brains" of the system and manage 100% of system production
- Control O&M expenses through PV asset management solutions

Inverter selection is therefore critical for the long-term financial performance of a PV system as it can maximize energy production and reduce lifetime costs.



Source: Based on US Solar Market Insight by SEIA and Wood Mackenzie, September 2021

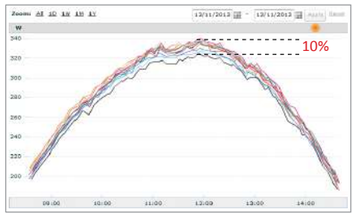
Maximum Energy Yield

Harvest more power from each module

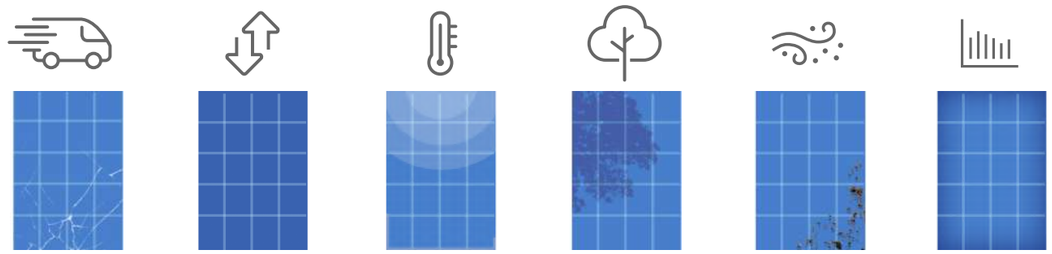
SolarEdge mitigates power losses due to mismatch between modules for maximum power generation from each module. With SolarEdge, weaker modules do not affect the strong ones.

Energy losses due to module mismatch

Screenshot from the SolarEdge Monitoring Platform, showing power curves of 10 adjacent modules in a string with 10% mismatch between highest and lowest performing modules.



Common reasons for module performance mismatch



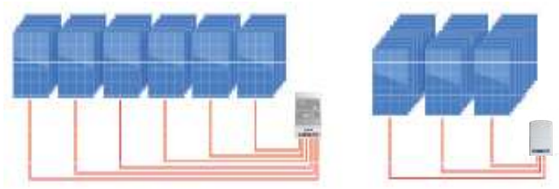
Transportation damage | Different tilt & orientation | Thermal mismatch | Partial shading | Soiling | Manufacturing tolerance

Cost saving by design

Save 50% on electrical BoS with longer strings

27-60 modules, up to 15kW per string

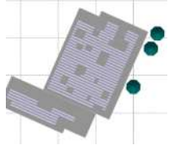
Traditional inverter | SolarEdge DC optimized inverter



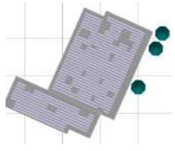
More energy by design

Increase your system capacity with more modules on the roof

Flexible site design > More modules on the roof > More power



Traditional inverter | 149.5kW DC



SolarEdge | 200kW DC

34% more power

Improved O&M, Advanced Safety

Cost-saving maintenance

- Free real-time remote monitoring at the module, string, and system levels, for 25 years
- Comprehensive analytics tracking and reports of energy yield, system uptime, performance ratio, and financial performance
- Pinpointed and automatic alerts for immediate fault detection, accurate maintenance, and rapid response
- Accurate, remote troubleshooting for fast and efficient resolution with shortened on site visits
- The consumption monitoring feature shows data about electricity consumption, PV production, and self-consumption

Future compatibility and warranty

- Low cost inverter replacement out of warranty
- Future module compatibility (replacement and extension) - install new modules in the same string as old ones

SafeDC™

The SolarEdge system provides a superior safety solution for both electrocution and fire risks.

SafeDC™ is a built-in module-level safety feature which minimizes electrocution risk. To maintain string voltage below risk levels, Power Optimizers are designed to automatically switch into safety mode, in which the output voltage of each module will be reduced to 1V in either of these cases:

- During installation, when string is disconnected from the inverter, or the inverter is turned off
- During maintenance or emergency, when the inverter or AC connection is shut down

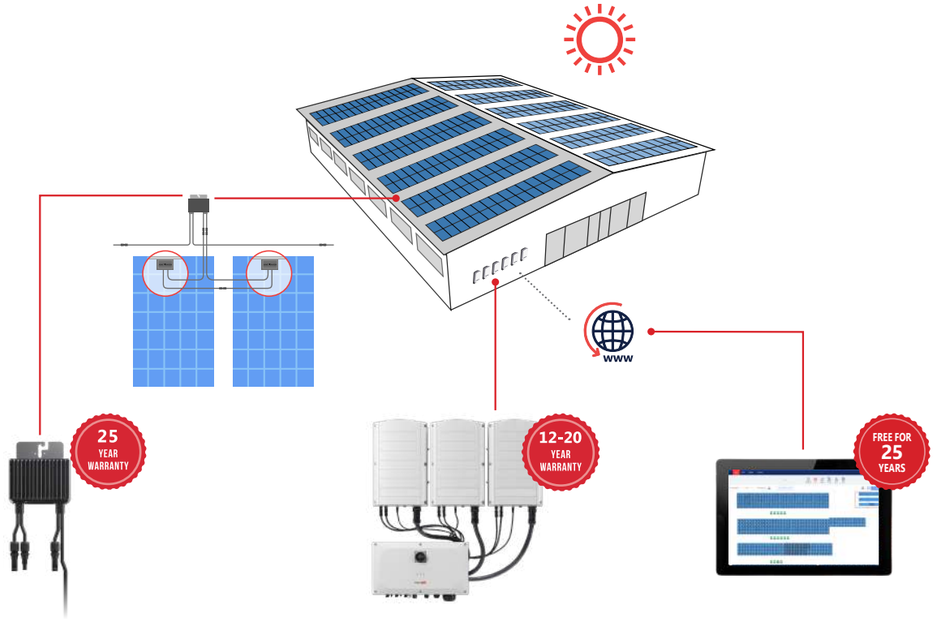
SolarEdge Sense Connect

Patented SolarEdge technology that prevents arcs by monitoring S-Series Power Optimizers' connectors, identifying improper connections and possible malfunctions from connector wear and tear.

Arc fault detection and interruption

SolarEdge inverters have a built-in protection designed to detect and interrupt arcs that may pose a risk of fire, in compliance with the UL1699B arc detection standard.

Commercial System Diagram



1:1 or 2:1 Power Optimizers

- Module-level MPPT - no mismatch power losses
- Strings of uneven length, modules on multiple azimuths and tilts
- SafeDC™ - designed for automatic module-level safety shutdown
- SolarEdge Sense Connect - avoids thermal issues via early detection of improper connections or malfunctions (S-Series models only)

15kW-120kW Three Phase Inverters

- Specifically designed to work with Power Optimizers
- Superior efficiency
- Easy installation, including 2-person install for large capacity models
- Built-in communication gateway
- Simple, step-by-step inverter activation and commissioning with the Inverter SetApp mobile application

Monitoring Platform

- Full visibility of system performance
- Remote, module-level troubleshooting

Perfomance monitoring

Calculate site performance ratio and measure environmental conditions, using environmental sensors

Comprehensive Service Suite

SolarEdge supports you throughout your PV project life cycle. We provide the tools and services to help you grow your business with us.

Project design & pre-sale

Project execution

Operation & maintenance

1.96MWp Rooftop System Comparison

Comparison of a 1.96MWp SolarEdge system to an identical system with a traditional string inverter

The system comprises 4,080 × 480Wp modules. One system was designed with 14 x SE100K SolarEdge Synergy technology inverters and 2,040 x P1100 Power Optimizers in a 2:1 configuration.
The second system was designed with 28 × 75kW traditional string inverters.

Energy comparison

PVsyst was used to simulate the yield of both systems in year 1 and year 20. The SolarEdge advantage grows over time due to its ability to mitigate the module mismatch caused by uneven PV module aging. Otherwise, there is the risk that eventually, the module voltage levels will decrease and exit the required voltage range needed for the inverter to perform MPP tracking.

	Traditional String Inverter	SolarEdge System	SolarEdge Advantage
PVsyst year 1 yield (MWh)	3,237	3,318	2.5%
PVsyst year 20 yield (MWh)	2,789	3,018	8.2%

BoS comparison

	Traditional String Inverter	SolarEdge DC Optimized Inverter
DC Power (MWp)	1.96	1.96
AC Power (MVA)	1.5	1.5
Modules (480Wp)	4,080	4,080
Inverters	28	14
No. of Strings	194	126
Modules per String	21	32/33
DC Cable CU 1 × 6mm² (m)	11,782	24,030
DC AL Cable 1 x 95mm²	6,768	-
DC Combiner Box	28	-
AC Cable N2XY 4 x 70mm²	140	-
AC Cable N2XY 4 x 90mm²	-	70
AC Combiner Box	1	1
MC4 Connectors (1 pair)	388	252
Datalogger	1	-
BoS Cost	100%	42%
BoS Cost Saving*		2.6 c/w

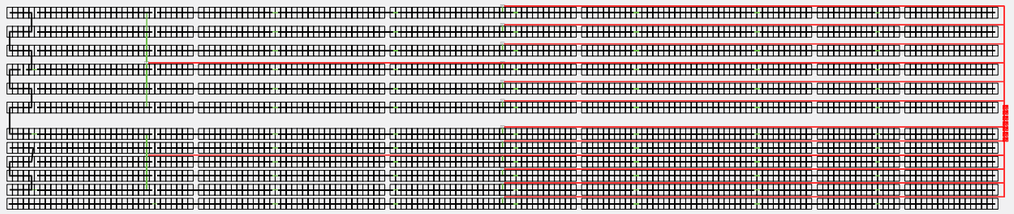
* Estimated saving on BoS components based on typical market prices in €

Cabling comparison

SolarEdge cabling diagram | Total of 126 strings

String wiring — Main homerun DC cabling

Traditional inverter cabling diagram | Total of 194 strings



String wiring — Homerun DC cabling — Main homerun DC cabling

47.9GW of Systems Shipped Worldwide

Ground mounts









Industrial rooftops









Farms and agriculture






Public buildings






Carports, floating systems and safety






SolarEdge is a global leader in smart energy, delivering innovative commercial and residential solutions that power our lives and drive future progress. Leveraging world-class engineering and worldwide experience, SolarEdge developed a ground-breaking intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems.

As a result of this and other innovations, today SolarEdge is the world's #1 solar inverter company in revenue with millions of systems installed in over 140 countries, amounting to 47GW capacity. Over 50% of Fortune-100 companies have SolarEdge Technologies on their rooftops and the company (SEDG) is traded on Nasdaq and listed on the S&P 500.

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