

# SolarEdge

Distributed Solar  
Power Harvesting  
Systems

**Company Introduction**  
2012

**solar**edge  
*architects of energy™*

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# SolarEdge Vision

- To be the leading provider of module-level electronics for the PV industry
- To accelerate the pace toward grid parity and make clean energy affordable and widespread



# SolarEdge at a Glance

**Established the DC power optimizer segment and leads it with a market share of over 70%**

**Over 1,000,000 optimizers shipped to over 30 countries**

**More than 45,000 inverters shipped**

**Quarterly run rate of 100MW**

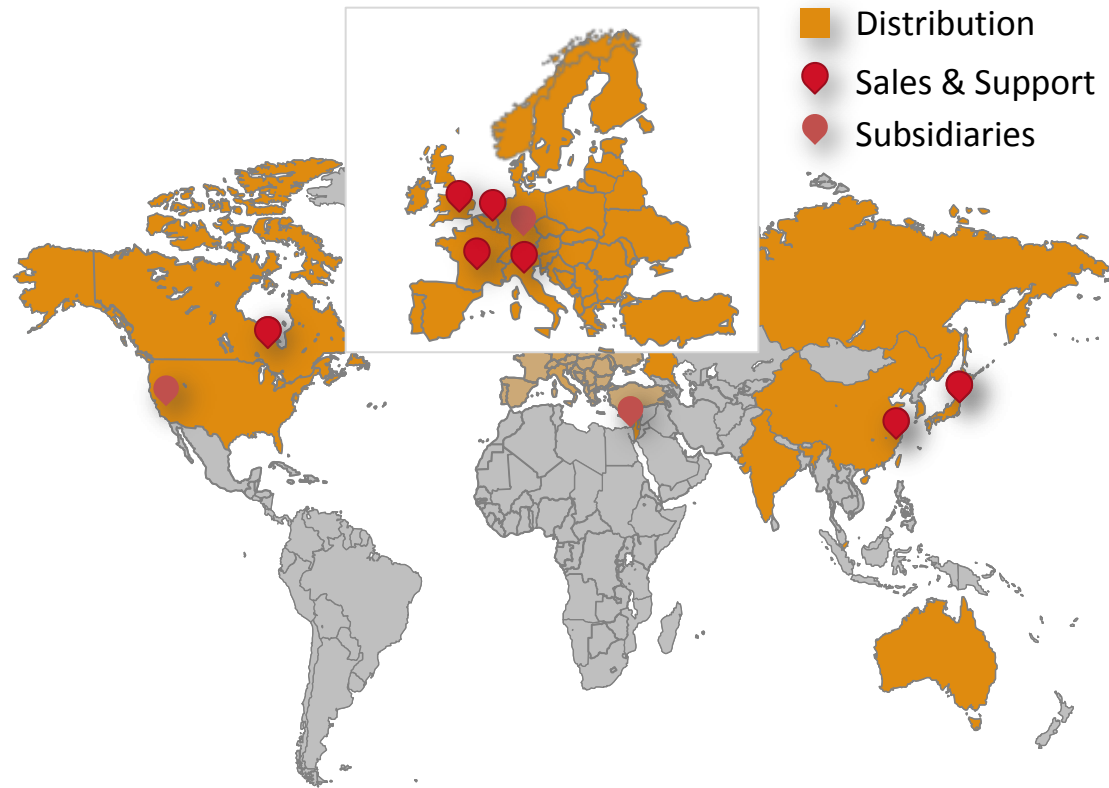
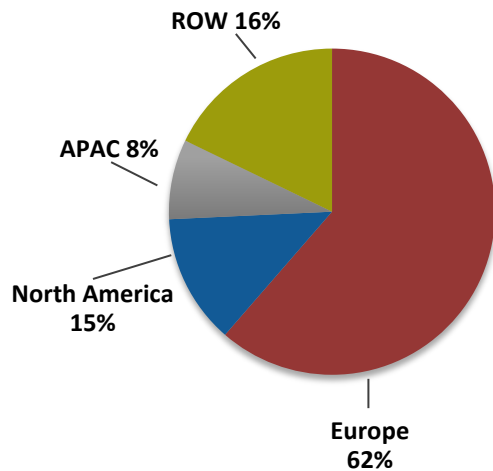
**Utility, commercial and residential solutions**

**Strategic partnerships across the PV value-chain from module manufacturers to integrators**

# Global Sales & Distribution

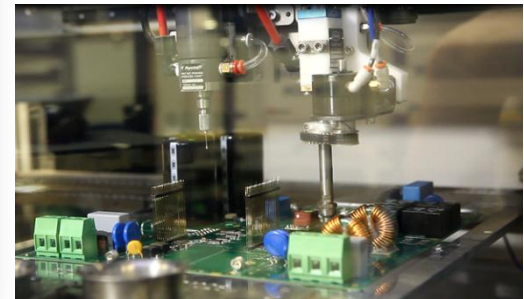
## Sales through leading integrators and distributors in over 30 countries

2011 worldwide distribution of sales



# High Quality Production

- To date over 1 million units shipped
- Automated production lines
  - Close partnership with leading manufacturers Jabil & Flextronics
  - Scalability to support 3 times year over year production volume increase





# The Problem

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# Inherent Problems in Traditional Systems

## Energy Loss

- Module mismatch (3-5% loss)
- Partial shading (2-25% loss)
- Undervoltage/overvoltage (0-15%)
- Dynamic MPPT loss (3-10% loss)
- **SolarEdge solution overcomes all energy losses providing up to 25% more energy**
- **SolarEdge solves other system drawbacks at a price comparable to traditional inverters**

## System Drawbacks

- No module level monitoring
- Limited roof utilization
- Safety hazards





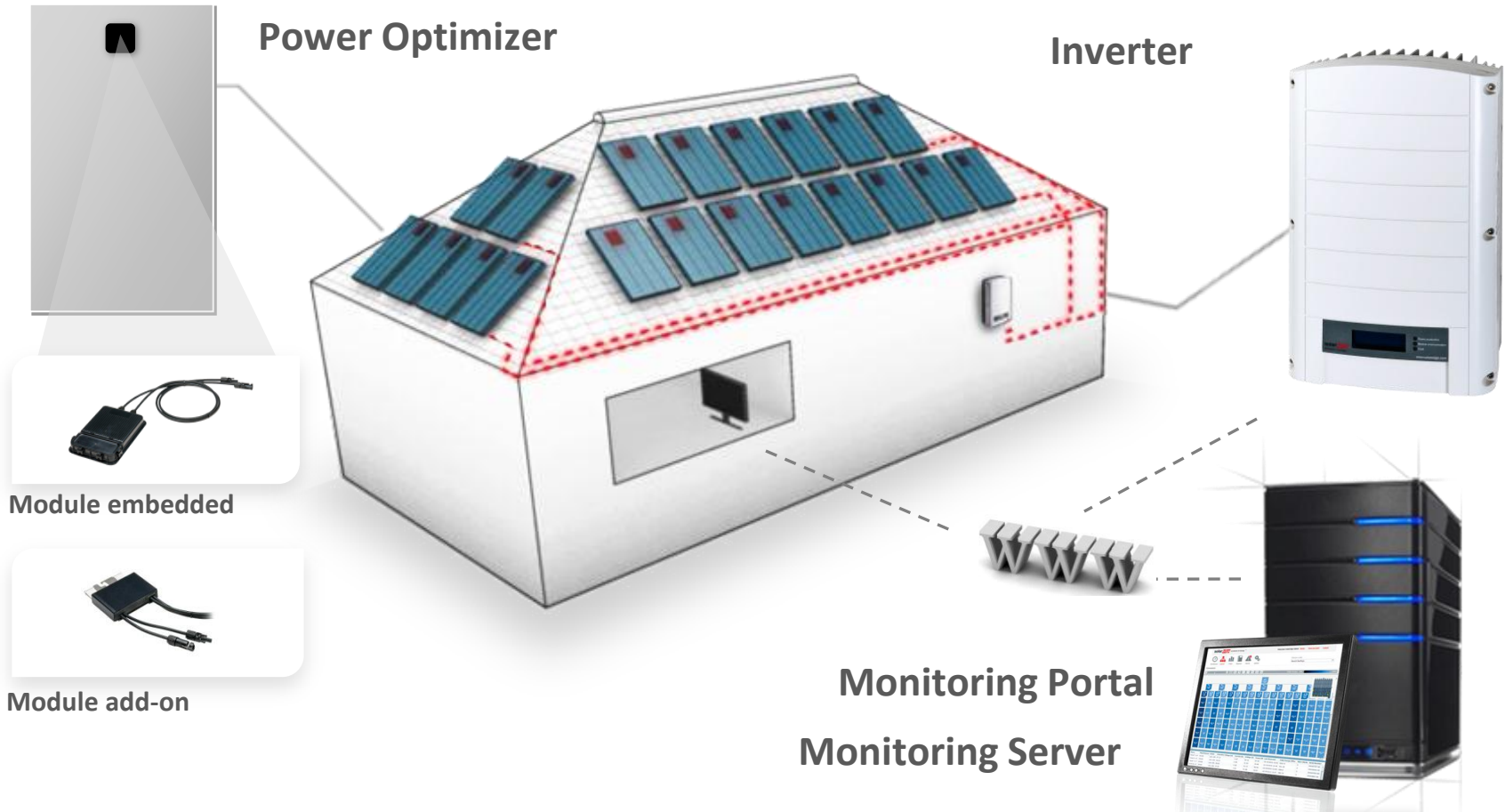
# The Solution

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# SolarEdge System Overview

- Module level optimization
- Fixed voltage – flexible design
- Module level monitoring
- Enhanced safety solution



# SolarEdge Power Optimizers

- Per-module Maximum Power Point Tracking (MPPT)
- **99.5%** maximum efficiency
- Advanced, real-time performance measurement
- Automatic module shut-down for installer and firefighter safety
- Independent optimization technology (IndOP™) - allows operation with any inverter and requires no additional interface hardware
- Embedded by module manufacturers, or connected by installers to c-Si and thin-film modules



250W-400W  
Module add-on



250/350W  
Module embedded

# Fixed String Voltage

**String voltage is always fixed, regardless of temperature and of string length**

- Easy to design
- Longer strings : reduces wiring & BoS components
- Flexible design for maximum roof utilization:
  - Parallel strings of unequal lengths
  - Modules on multiple roof facets
  - Modules with different power ratings




**String voltage is always optimal for DC/AC conversion**

- Prevention of under/over voltage situations
- High inversion efficiency at all times
- Inverter components cost reduction

# Unique Safety Solution

- **Electrocution prevention & fire safety**
  - SafeDC™: automatic module DC shutdown when inverter is not operating
  - Module and inverter thermal shutdown
  - **Electric arcs** are automatically detected and prevented by module shutdown
- **SolarEdge Safety and Monitoring Interface (SMI) enables module level automatic shut down for third party inverters**
- **The result:**
  - Higher security for installers, maintenance teams & firefighters
  - Improved asset protection - roof, solar system
  - Better suited to future insurance requirements



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# SolarEdge Inverters

- Inverters specifically designed for power optimizers
- 98% maximum efficiency
- Simpler design → Highest reliability at minimal cost
- Built-in communication hardware



Single phase inverters  
2.2kW – 6kW



Three phase inverters  
7kW – 17kW

# Module-Level Monitoring

- **Automatic, accurate fault detection**

- Faults located on site map
- No additional wiring
- Web portal and iPhone applications



- **SolarEdge Safety and Monitoring Interface (SMI) enables module level monitoring for third party inverters**

- **The result:**

- Remote diagnostics
- Operations and maintenance cost reduction
- Increased system availability and production
- Proactive customer service

**Click to  
watch on:** 

# SolarEdge Product Overview

	<p><b>Power Optimizers</b></p>	<p>250W-400W Module Add-On      250W/350W Module Embedded</p>																														
	<p><b>Single &amp; Three Phase Inverters</b></p>	<table border="0"> <tr> <td><b>1-phase</b></td> <td>2.2kW</td> <td><b>3-phase</b></td> <td>7kW</td> <td>15kW</td> </tr> <tr> <td></td> <td>3kW</td> <td></td> <td>8kW</td> <td>16kW *</td> </tr> <tr> <td></td> <td>3.5kW</td> <td></td> <td>9kW</td> <td>17kW *</td> </tr> <tr> <td></td> <td>4kW</td> <td></td> <td>10kW</td> <td>* Certification pending</td> </tr> <tr> <td></td> <td>5kW</td> <td></td> <td>12.5kW</td> <td></td> </tr> <tr> <td></td> <td>6kW</td> <td></td> <td></td> <td></td> </tr> </table>	<b>1-phase</b>	2.2kW	<b>3-phase</b>	7kW	15kW		3kW		8kW	16kW *		3.5kW		9kW	17kW *		4kW		10kW	* Certification pending		5kW		12.5kW			6kW			
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# Value Proposition Summary

**The only commercially available solution to deliver all following benefits, while reducing the cost of energy**



Maximum energy gain

Ground mounted system: 2-5%, commercial 2-10%, residential 2-25%



Constraint-free site design

Optimal site space utilization at reduced cost



Real-time module-level web monitoring

Increased uptime and remote maintenance



Automatic module shut-down

Unique electrocution prevention and fire safety





# Thank you

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