

SolarEdge

Distributed Solar
Power Harvesting
Systems

Company Introduction
2013

solaredge

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 1,800,000 power optimizers shipped to over 40 countries

More than 68,000 inverters shipped

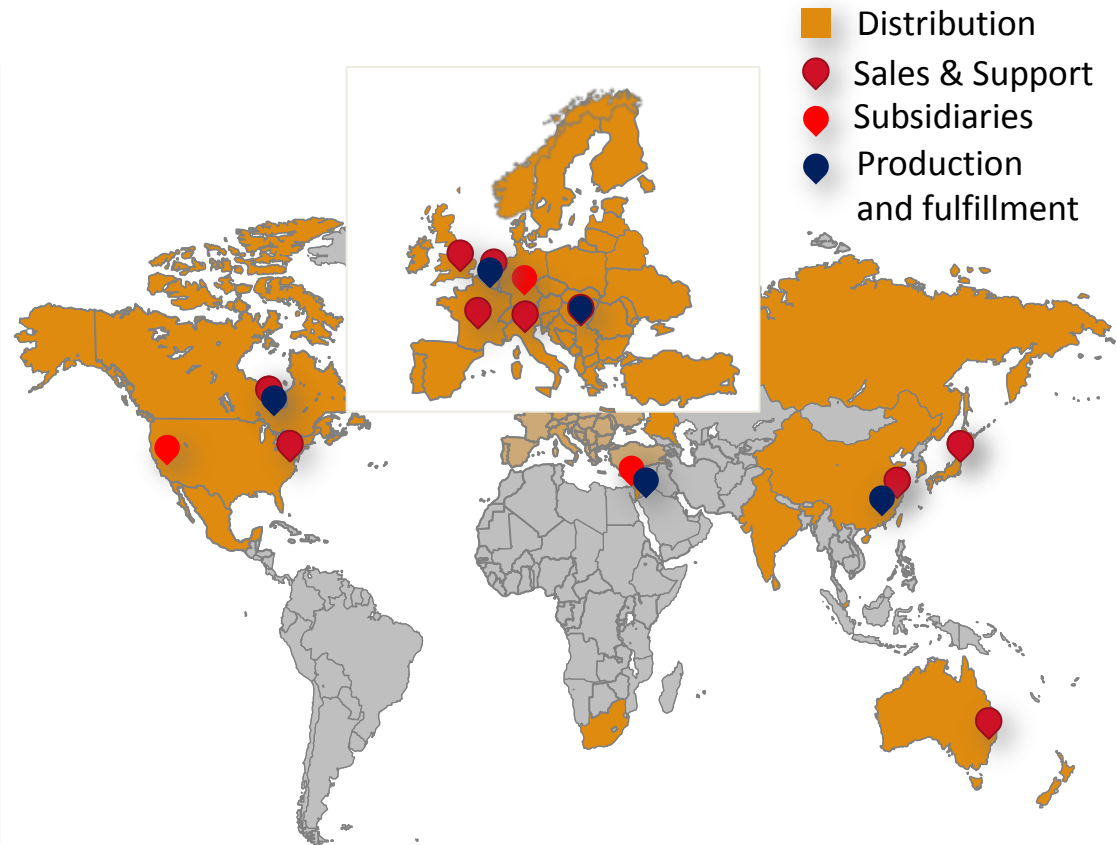
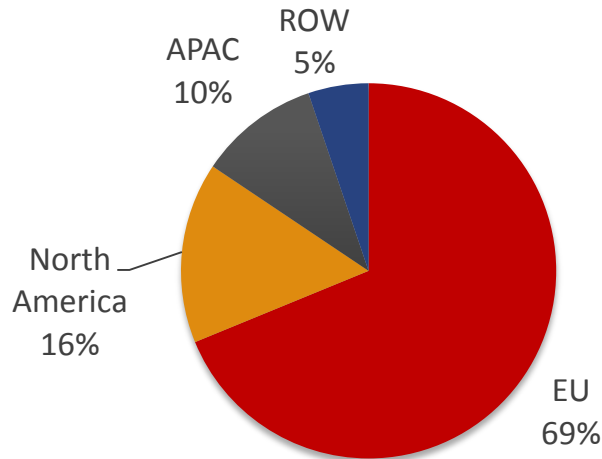
Quarterly run rate above 100MW

Utility, commercial and residential solutions

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

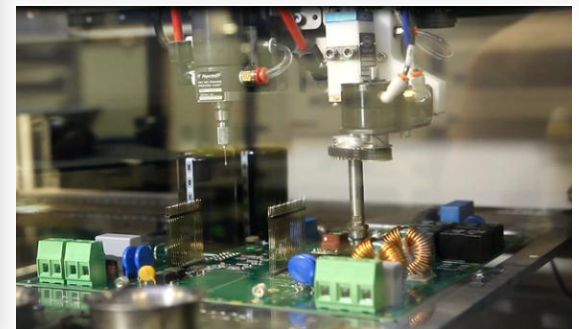
- Sales through leading integrators and distributors in over 40 countries
- Local SolarEdge presence in 11 countries

2012 worldwide distribution of sales



High Quality Production

- To date over 1.8 million units shipped
- Automated production lines
 - Close partnerships with leading manufacturers Jabil & Flextronics
 - Scalability to support 3 times year over year production volume increase





The Problem

Energy Loss

- Module mismatch (3-5% loss)
 - Partial shading (2-25% loss)
 - Undervoltage/overvoltage (0-15%)
 - Dynamic MPPT loss (3-10% loss)
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- **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

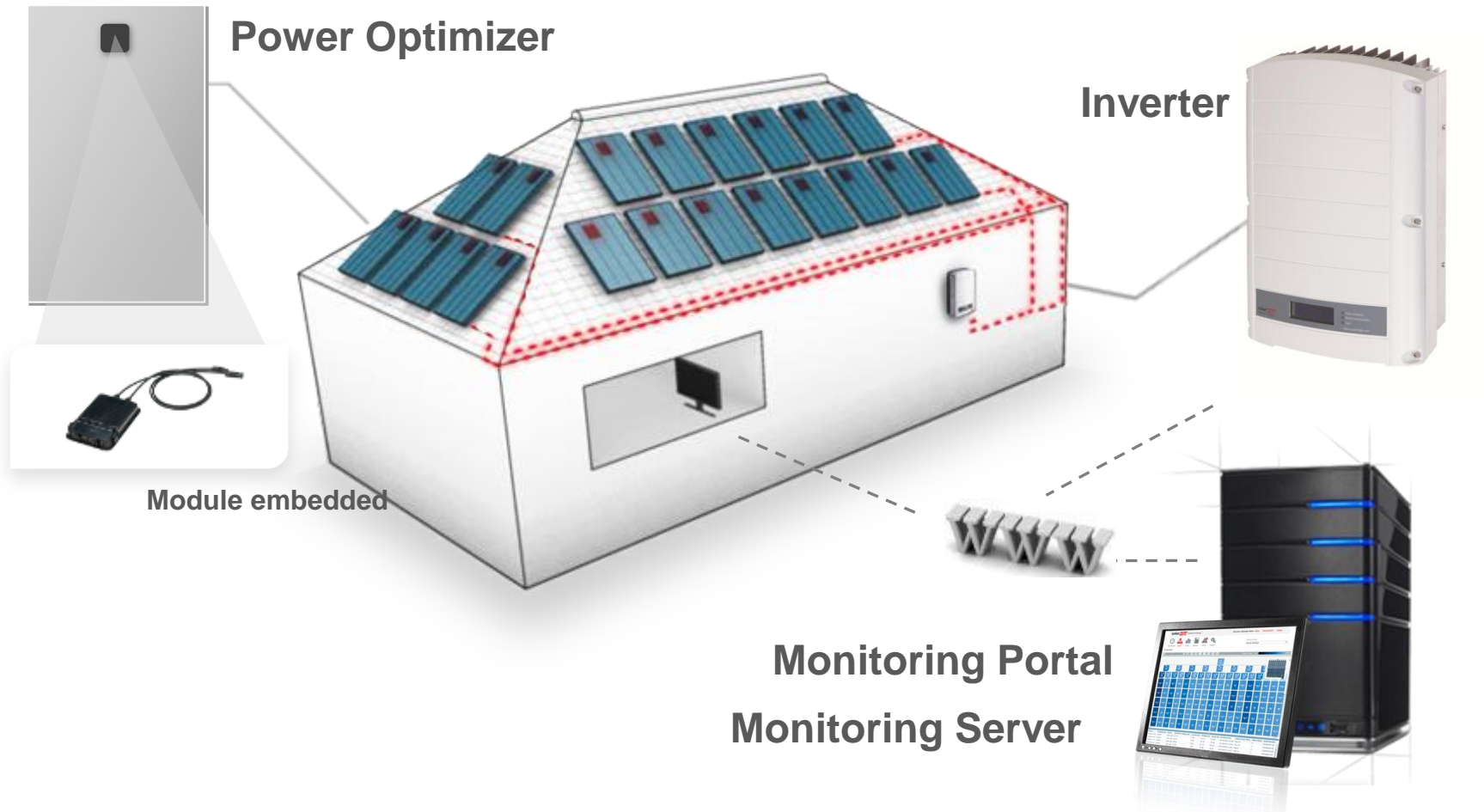
- No module level monitoring
- Limited roof utilization
- Safety hazards



Solution Overview & Benefits

SolarEdge System Overview

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



- Per-module Maximum Power Point Tracking (MPPT)
- **99.5%** maximum efficiency, 98.8% weighted 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



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

- Constraint free 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



Unique Safety Solution

- Electrocutation prevention & fire safety
 - SafeDC™: automatic module DC shutdown when inverter is not operating
 - Module and inverter thermal shutdown
 - Electric arcs are prevented
- 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



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



Single phase inverters
2.2kW – 6kW



Three phase inverters
5kW – 17kW



Commercial inverters
35kW – 50kW



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



SolarEdge Product Overview

	<p>Power Optimizers</p>	<p>250W-400W Module Add-On</p> <p>250W/350W Module Embedded</p>																														
	<p>Single & Three Phase Inverters</p>	<table border="0"> <tr> <td>1-phase</td> <td>2.2kW</td> <td>3-phase</td> <td>5kW</td> <td>15kW</td> </tr> <tr> <td></td> <td>3kW</td> <td></td> <td>7kW</td> <td>16kW</td> </tr> <tr> <td></td> <td>3.5kW</td> <td></td> <td>8kW</td> <td>17kW</td> </tr> <tr> <td></td> <td>4kW</td> <td></td> <td>9kW</td> <td></td> </tr> <tr> <td></td> <td>5kW</td> <td></td> <td>10kW</td> <td></td> </tr> <tr> <td></td> <td>6kW</td> <td></td> <td>12.5kW</td> <td></td> </tr> </table>	1-phase	2.2kW	3-phase	5kW	15kW		3kW		7kW	16kW		3.5kW		8kW	17kW		4kW		9kW			5kW		10kW			6kW		12.5kW	
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	4kW		9kW																													
	5kW		10kW																													
	6kW		12.5kW																													
	<p>Commercial & Utility-Scale Inverters</p>	<p>Commercial</p> <p>35kW 40W 45kW 50W * Certification pending</p>																														
	<p>Monitoring</p>	<p>Monitoring Portal</p> <p>Monitoring App</p> <p>Safety & Monitoring Interface</p>																														
	<p>Communication & Safety Accessories</p>	<p>Control & Communication Gateway</p> <p>ZigBee wireless connectivity</p> <p>GSM modem</p> <p>Firefighter Safety Gateway</p>																														
	<p>Installer Tools</p>	<p>Site Designer</p> <p>Site Mapper</p>																														

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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