Vivint, Inc.

- Largest home automation services provider in North America
- Founded in 1999
- More than 7,000 employees
- Currently services 800,000 home security customers
- In-house sales, installation, monitoring and customer service teams
- Listed #46 on Forbes’ 2013 America’s Most Promising Companies
- Founded in 2011
- More than 1600 full-time employees
- Within 2 years, grew to become second largest residential solar provider in the United States
- Installs in 7 states
- More than 24,000 customers
- Direct, in-person sales strategy that provides consultative customer contact and high closing ratio
• Acquired by Vivint Solar in 2014
• Founded in 2005
• About 20 employees
• $3M revenue
Expert tools that measure and maximize Return On Irradiance

• World leader in shade measurements
• Most sophisticated residential PV design software for integrating on-site shade measurements
• Leading I-V curve tracer in US
• Experts in PV performance measurements and analytics
• 8 patents
• Worldwide sales channel
Measuring Shade
The Solmetric SunEye – How it measures shade

- Calibrated fisheye camera captures image of the sky and horizon
- GPS, compass, and tilt sensors capture location and orientation
- Superimposes sunpaths on top of image
- Detects open sky and calculates solar access

\[ \text{Solar Access} = \frac{\text{Available insolation with shading}}{\text{Available insolation with no shading}} \]
Measuring PV performance with the Solmetric PV Analyzer

- Measure I-V curve of every string at commission time
- Simultaneously measure irradiance and temperature
- Most reliable assessment of PV performance
Failure modes detected in I-V curve

1. Notches--partial shading, cracked cells, shorted bypass diode
2. Low current--aging or soiling
3. Low voltage--shorted bypass diode
4. Soft knee--aging
5. Decreased slope of vertical leg--excess series resistance
6. Increased slope of horizontal leg--excess shunt resistance
Access to capital (solar financing, securitization, and ratings)

Solar Asset and Fleet Performance

ROI

Shade
Design
Workmanship & equipment
Weather
Soiling
Aging
Analytics and O&M
• Compete for pie slices, collaborate and assist to grow the pie
• Solmetric's products are important for overall industry growth
• Solmetric will continue to supply industry with existing products, enhancements, and new products

From “1/2 Way Point to a 100% Solar Energy Future” by Stefan Broadley, SolarFinancing.com