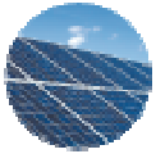
Upsolar America, Inc

Asset-Light Business Model

& New Technologies/Material

SIEMENS

May 2012



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Presentation Overview

I. Upsolar's Unique Business Model

II. Upsolar's Asset-Light Business Model Overview

III. Upsolar Product Offering – US Market

II. New Technology Partners

IV. Upsolar's Proven Quality

V. Global Presence & References

Successful Asset-Light Business Models

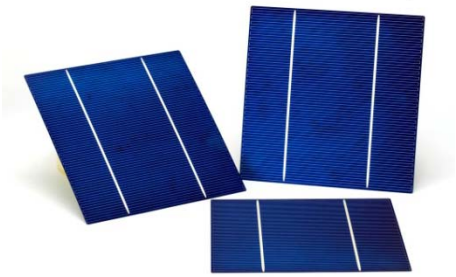
Upsolar's Unique Asset Light Business Model

Upsolar Group is a privately held Hong Kong Corp, founded in 2006. Since the company's inception, Upsolar has produced high-quality PV modules at competitive prices by:

- Controlling R&D, design, testing and supplier qualification
- Outsourcing manufacturing to qualified production partners
- Controlling procurement of and utilizing only top-quality components
- Implementing thorough QC Protocol; Component Selection → Assembly
- Demonstrating commitment to quality by 3rd party QC oversight/verification
- Providing a Securitized warranty backed by A-rated insurance providers

II. Upsolar's Asset-Light-Manufacturing Overview

- Advantages: *Excellence at each step* Manufacturing Process
- Mfg / Supplier Partner Qualification Protocol
- Thorough Offline QC Protocol
- Robust Online QC Protocol
- Utilizing Top-Quality Components



Advantages: Multiple Production Platforms

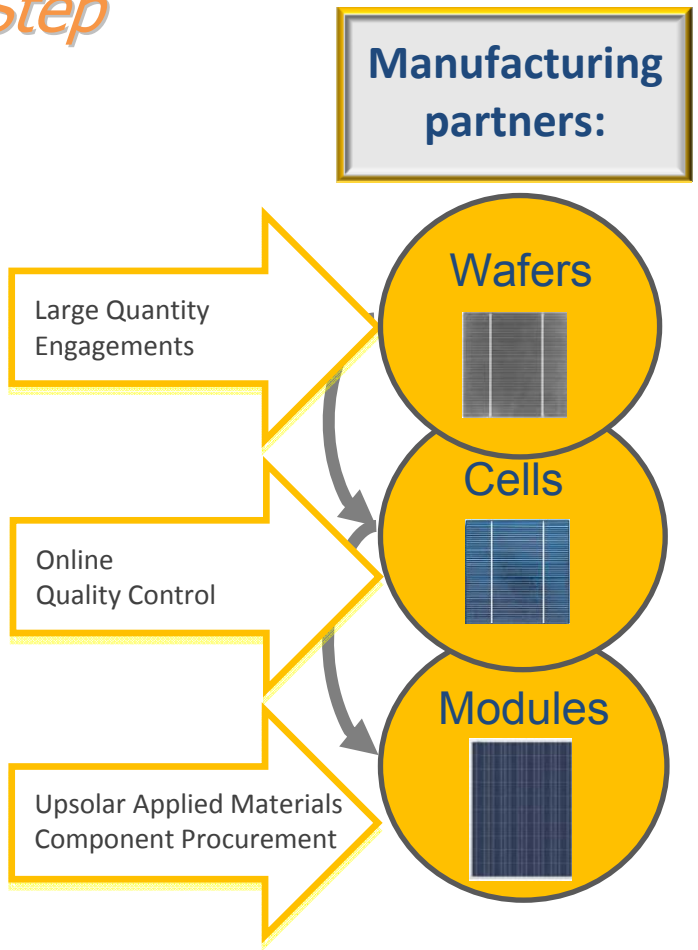
Excellence at Each Step

Using Several Production platforms:

- Thoroughly selected on high standard criteria
- Leverages expertise at each discipline

Provides Upsolar:

- Cost optimization by combining excellence at each step
- A flexible supply chain to meet market demand
- The flexibility to rapidly adopt innovative technology
- The ability to produce a Top-Quality PV module and be profitable in 2011



Thorough Manufacturing Partner Qualification

Manufacturing Platform Qualification:

- Full Factory QA and QC Audit
- ISO 9001:2008 - Quality Management Processes Certification
- The use of top-tier manufacturing equipment: GT Solar, HCT, Baccini, NCP, REIS, Spire
- Commitment to deploy Upsolar's *Excellence at Each Step* QA / QC Protocol
- Third-party inspection of equipment with institutes such as NIM and SMIT

Supplier Qualification:

- Qualification Testing of all Components at Upsolar's R&D Center – Shanghai
- Annual QA and Factory Audit performed at all Component Suppliers' Factories

Meticulous Offline QC Protocol

Experience from IEC 61215

Quality Control Testing at ***ANY*** Change of Specifications, Components, Manufacturing Equipment or Assembly Processes

Tests on components and assembly

Tests on final product

- Thermal cycling (TC50 or TC200)
- Humidity freeze (HF10)
- Damp heat (DH1000)
- UV preconditioning test
- Impulse voltage test
- Dielectric withstand
- Wet leakage current

Upsolar laboratory, Shanghai, China

- Hot-spots
- Bypass diode thermal test
- Reverse current overload test
- Mechanical load test
- Infrared imaging test
- Cross linking extent
- Peel strength test

To ensure the best continuous production quality flow

Robust Online QC Protocol

3 Steps are Implemented at all Manufacturing Platforms by Upsolar QC Teams:

- **Components inspection at reception**: Follow-up & keep a record of the inspection of each batch of component
- **On-line inspection**: Continuous inspection by UPSOLAR QC team at each step of the manufacturing process
- **Ex-work inspections** : By 3rd party provider, post-production to guarantee that the modules manufactured comply with Upsolar's standards

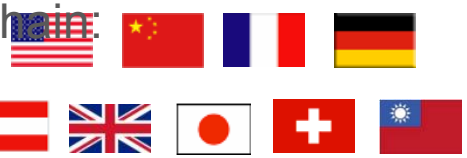
ISO 9001 certified QC process

Permanent Conformity Audits Conducted by Bureau Veritas

Utilizing The Following Top-Quality Components

Excellence at Each Step

Global Supply Chain:



Glass:

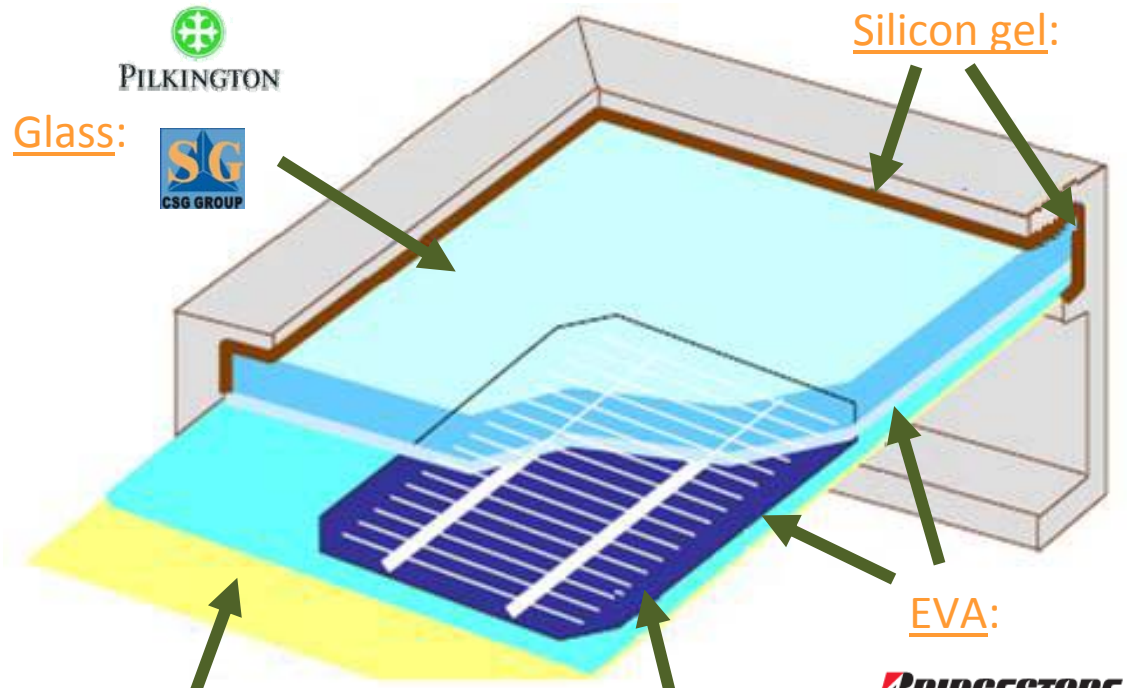
PILKINGTON

SG CSG GROUP

Silicon gel:

TONSAN

DOW CORNING



J-Box / Cables:

HUBER+SUHNER

Tyco Electronics

Tigo energy

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MC

Connectors:

Tyco Electronics

HUBER+SUHNER

TPT:

KREMPEL GROUP

kelva

Cell:

JA SOLAR

CSUN energy for the future

NSP NEO SOLAR POWER

EVA:

BRIDGESTONE

STR Specialized Technology Resources, Inc.

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III. Product Offering – US Market

- Upsolar's Standard 2012 Product offering
- Product development: Innovation through Technical Partnerships
- Upsolar's Turn-Key Solar Parking Structure Solution
- Upsolar's Turnkey Utility Scale PV Power Plant Solution
- Securitized Warranty Protection

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Upsolar Standard Product Offering

- Upsolar's Global 2012 Production Line Capacity: 400 MW
- Upsolar America's 2012 Module Allocation: 100 MW
- Available in a Wide Product Range to Satisfy Market-Specific Demands

NEW

Monocrystalline 60-cells
250 Wp

Module Efficiency: 15.4%

- Medium Format
- Highest Efficiency
- Very High Power Output

Available in any combination:

- *Black frame*
- *Black backsheet*
- ***Zep Frame***
- ***Integrated Tigo Smart J box***

NEW

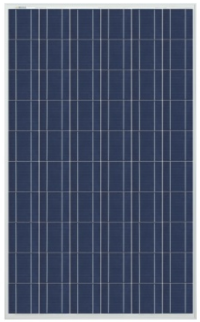
Monocrystalline 72-cells
300 Wp

Module Efficiency: 15.4%

- Large Format
- Highest Efficiency
- Very High Power Output

Available in any combination:

- *Black frame*
- *Black backsheet*
- ***Zep Frame***
- ***Integrated Tigo Smart J box***



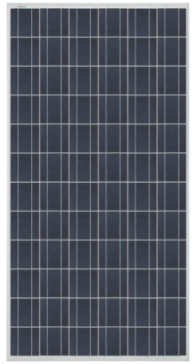
Polycrystalline 60 cells
240 Wp

Module Efficiency : 14.8%

- Medium Format (approx18 ft²)
- High Efficiency Module
- High Power Output

Available in any combination:

- *Black frame*
- *Black backsheet*
- ***Zep Frame***
- ***Integrated Tigo Smart J box***



Polycrystalline 72 cells
280 Wp

Module Efficiency : 14.7%

-Large Format (approx 21 ft²)
- High Efficiency Module
- High Power Output

Available in any combination:

- *Black frame*
- ***Zep Frame***
- ***Integrated Tigo J box***

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Product Development With Innovative Partners

Tigo Integrated Smart Module (Q3, 2012)

- Balances String Voltage; Maximizing energy output
- Robust module-based performance monitoring
- NEC 690.1 Compliant; eliminating arc-fault
- Provides electronic theft protection

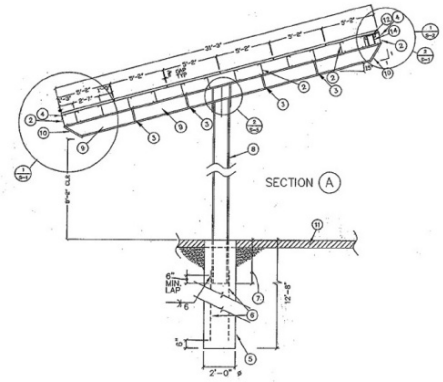
Zep Solar Self-Grounding Frames (Available)

- Eliminates the need for aluminum rail
- Eliminates the need for grounding wire
- Provides mechanical theft protection
- Reduces installation time by 40%

Turnkey Solar Parking Structure Solution

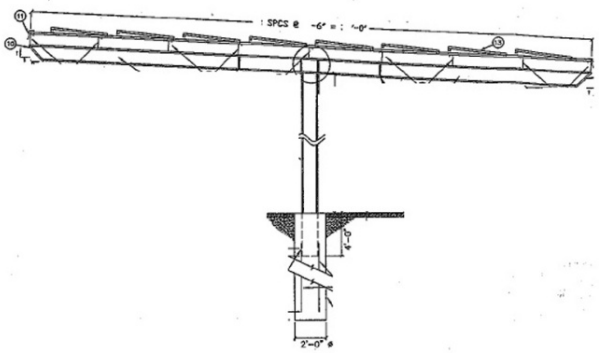
Upsolar Parking Structure Design Options:

- Double Cantilever; Flush ◆ Double Cantilever; Modules Tilted ◆ Full Cantilever; Flush
- Seismic Compliant Structures Available
- ıres Available

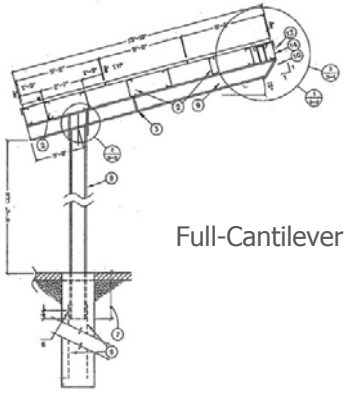


Modules Flush-Mounted - 11° Pitch

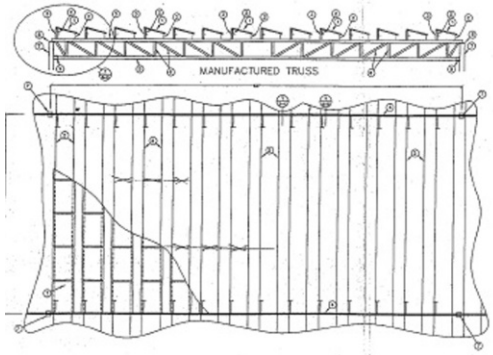
Double-Cantilever Designs;
Modules Mounted Flush or Tilted
0° - 11° Pitch Available



10 ° Pitch @ Structure;
Module Array Tilted up to 20 °



Full-Cantilever Design



shoals technologies group

Skyline SOLAR
A Division of Skyline Steel, Inc.

SMA

Tigo energy

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Turnkey Solar Parking Structure Solution

Fabricated Cantilevered Steel Parking Structures, Including:

- Structural design, engineering, fabrication and installation of structures at project site
- Upsolar 72 Cell Smart Modules *Maximized By Tigo* mounted on the structures
- Shoals' Customized BOS with SMA Sunny Central Inverters delivered to project site

Pricing as low as:

Standard Design - $2.10/Watt
Seismic Design - $2.30/Watt
DSA Design - $2.50/Watt

shoals technologies group

Skyline SOLAR
A Division of Skyline Steel, Inc.

SMA

Tigo energy

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Turnkey Ground-Mount Utility Scale PV Solution

Turnkey solution Price: $1.75/Watt

Features:

- Upsolar UP-M280P PV modules
- SMA Sunny Central inverters
- Shoals Combiner & Monitoring Solution
- Shoals Custom Designed BOS Solution
- Shoals *Nice-Rack* Ground-Mount Solution

Benefits: Shoals BOS Solution

- Pre-manufactured: reducing potential points of failure
- Includes Shoals redesign for rapid deployment (PE Stamp)
- Combiners & Harnesses are labeled: reducing installation time
- Reduces operations & maintenance costs
- Line failures reduced over 90%
- Average of 20% reduction in labor costs
- Average of 50% reduction in BOS materials costs

SMA

shoals technologies group

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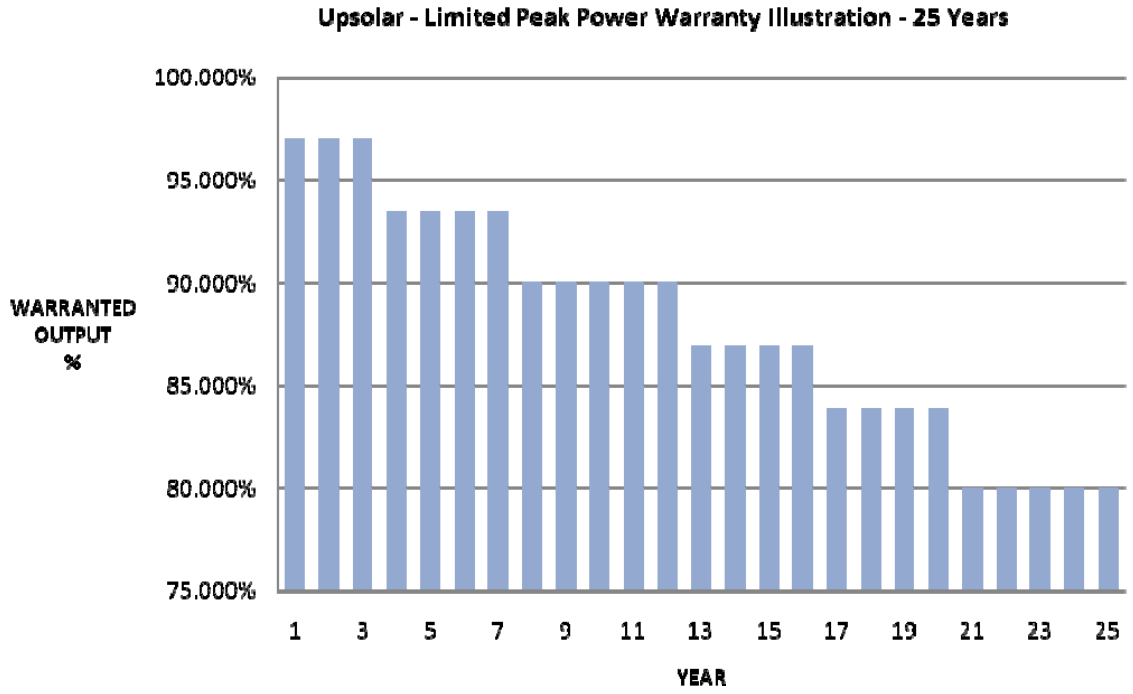
Guaranteed Warranty Protection

World Class PowerCLIP warranty wrap policy provided by PowerGuard

- Backs Upsolar's *Enhanced Module Warranty* for 25 years
- Policy is non-cancellable, irrevocable and coverage begins immediately
- Covers serial defects, delamination, power output loss and manufacturer bankruptcy
- Insured by providers with AM Best: *Rated "A" Excellent or Better* FSR

•20 years of experience providing renewable energy industry insurance solutions



PowerGuard™
SPECIALTY INSURANCE SERVICES

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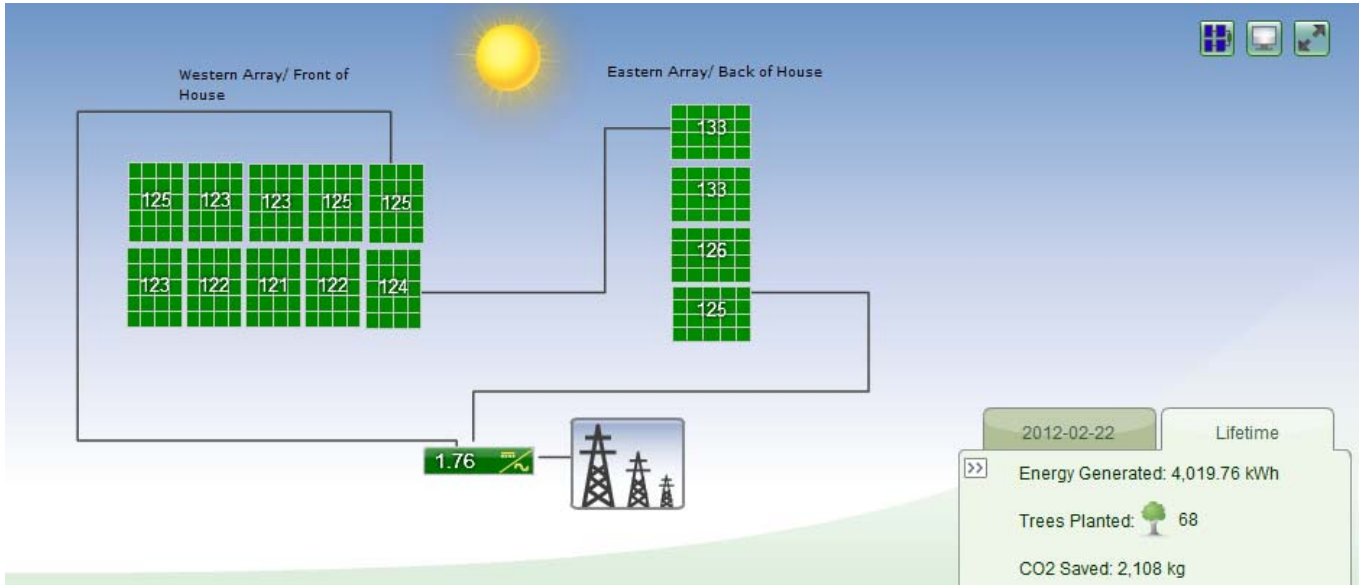
Delivering The Market's First True SMART Module

III. Upsolar will be delivering the industry's first smart module; which will incorporate arc prevention with theft prevention imbedded into the electronics Q3, 2012

- Increased Power Harvest
- Upsolar's SMART Module Addresses Theft prevention
- Arc-Fault Prevention; NEC Article 690.11
- Providing Module Level Performance Monitoring

Providing Module Level Performance Monitoring



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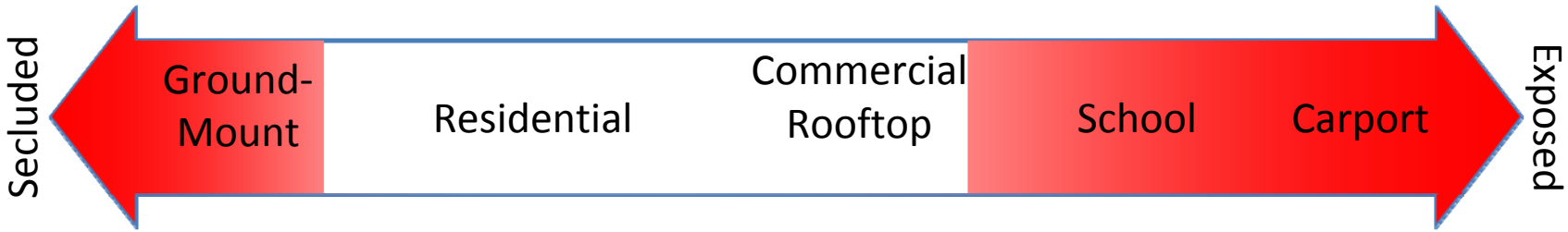
Integrated Theft Prevention



Solution: Module-level Security Systems

Through a strategic partnership with Tigo, Upsolar modules will be smarter, safer and

- OKO TEST Independent Module Assessment
- PHOTON International Test Array Results; January – June 2011
- PV SEC 2011 Award for Module Manufacturing Innovation

Photos courtesy Photon International

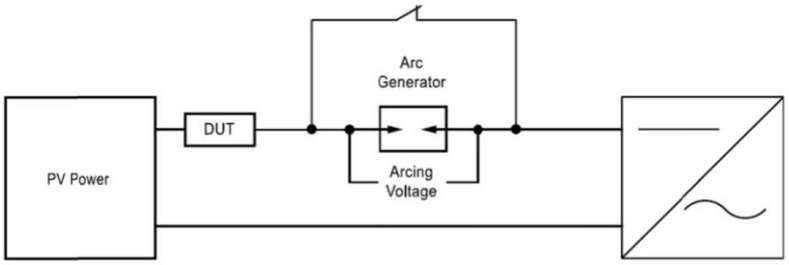
Addressing NEC Article 690.11

Tigo's Smart Junction Box also Addresses the issue of Arc Fault and is the only product on the market that proactively addresses NEC 690.1 @ the module level

Operation Inhibition, Subject 1699B, Clause 25

The sample was tested with a PV power source and an inverter as shown in figure 25.1.

Figure 25.1
Masking Test with Arcing and Inverter



Series Arc Detection Parameters:

Arc Current Amps	Arc Voltage	Average Arc Watts	Electrode Gap	Required Clearing Time
7	43	300	1/16 (1.6)	2 Sec

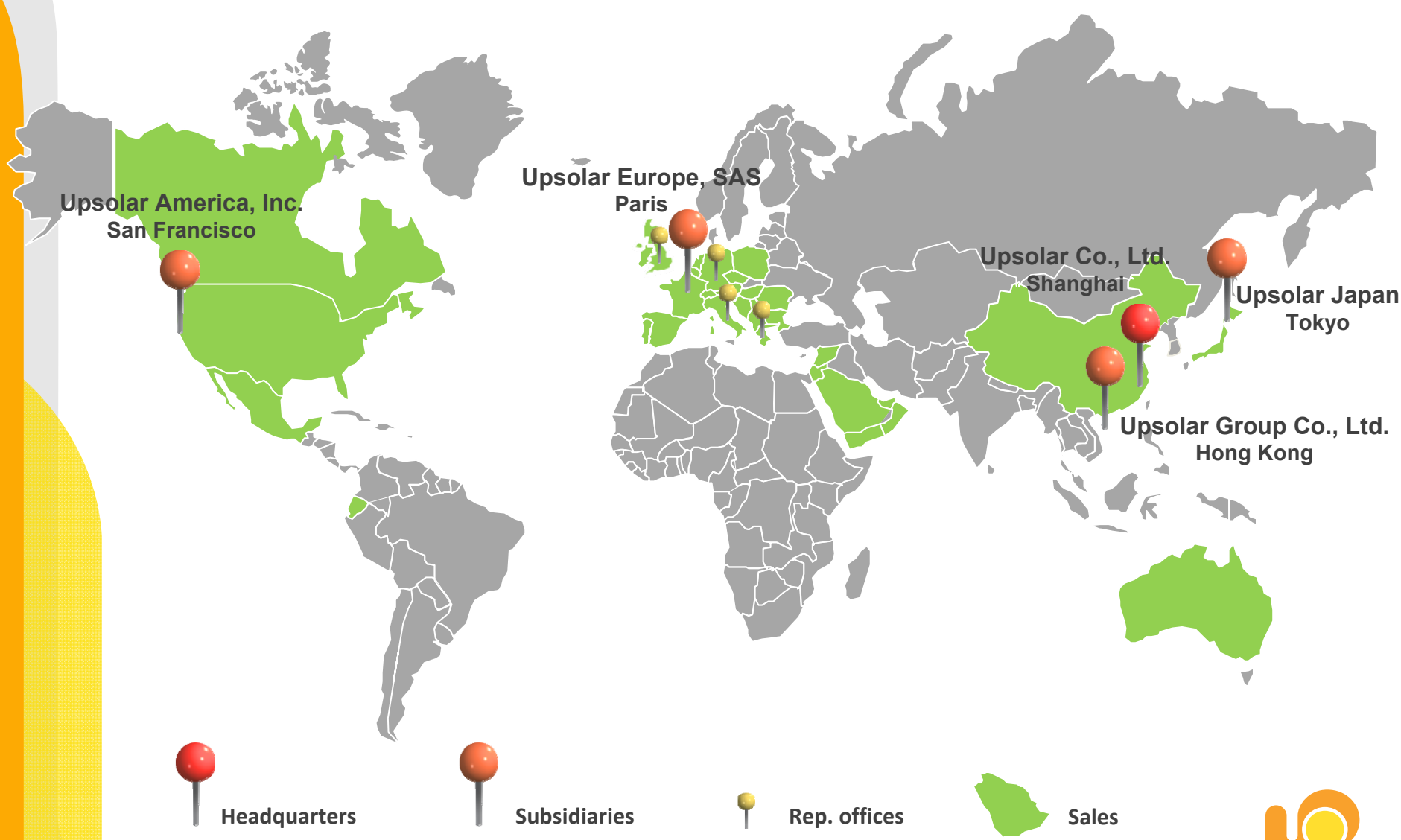
Results:

Arc Current Amps	Arc Voltage	Average Arc Watts	Electrode Gap	Clearing Time
5.7 Amps	51.0 Vdc	292 W	1/16	124 ms

V. Global Presence & References

- International Customer Validation
- Global Bankability

Upsolar's Global Footprint



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Top-Tier International Customers

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Financed by The Following Financial Institutions

Thank You! For more Information please contact:

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CEC listed UL 1703

61215 61730

AS/NZS 5033 Compliant PV Modules

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