

# JA SOLAR

## Investor Presentation August, 2015



# Forward-looking Statements

**This presentation contains forward-looking statements. These statements relate to future events or to future financial performance and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, levels of activity, performance, or achievements to be materially different from any future results, levels of activity, performance, or achievements expressed or implied by these forward-looking statements. In some cases, you can identify forward-looking statements by the use of words such as “may,” “could,” “expect,” “intend,” “plan,” “seek,” “anticipate,” “believe,” “estimate,” “predict,” “potential,” or “continue” or the negative of these terms or other comparable terminology. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors that are, in some cases, beyond our control and that could materially affect actual results, levels of activity, performance, or achievements.**

**Any forward-looking statement you see or hear during this presentation reflects our current views with respect to future events and is subject to the risks, uncertainties, and assumptions relating to our operations, results of operations, growth strategy, and liquidity. We assume no obligation to publicly update or revise these forward-looking statements for any reason, whether as a result of new information, future events, or otherwise.**

# Company Overview



A leading Chinese solar cell and module manufacturer



## Headquarters

- Shanghai, China

## Date est. / IPO

- May 2005 / February 2007 (NASDAQ: JASO)

## Business Highlights

- First-tier c-Si module brand
- Successful transformation into a major solar module producer
- World class quality with industry leading conversion efficiency
- Bankable brand with 12 GW of products shipped

## Annual Capacity

- 3.5 GW solar module (4.0 GW by the end of 2015)
- 3.5 GW solar cell (4.0 GW by the end of 2015)
- 1.0 GW silicon wafer

## Shipments

- 2014: 3.1 GW
- 2015 guidance: 3.6 – 4.0 GW
- 2015Q2: 791 MW
- 2015Q3 guidance: 900 – 950 MW

## Products

- High efficiency mono-crystalline and multi-crystalline cells and modules. Average conversion efficiency of CYPRESS2 cells in mass production:
  - Monocrystalline: **19.6%**
  - Multicrystalline: **18.2%**

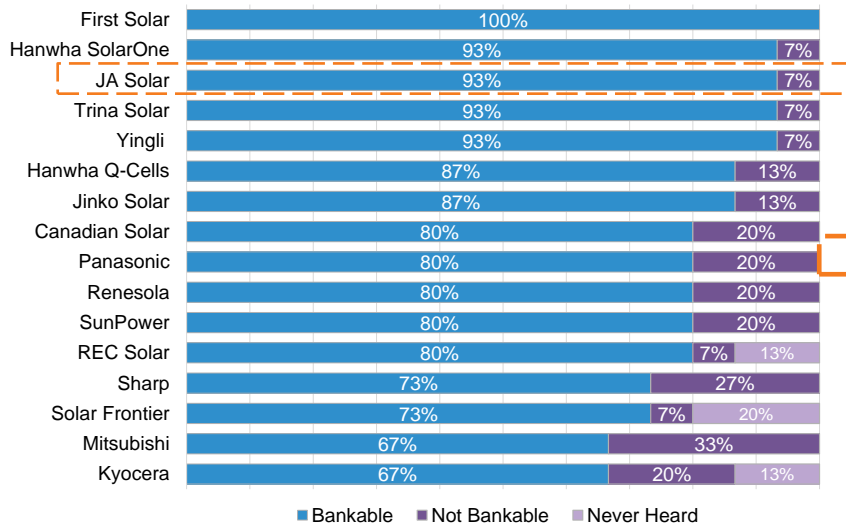
## Employees

- 12,362 as of end of 2014



# Leading Bankable Brand & Substantial Shipments

## BNEF's Bankability Survey Results



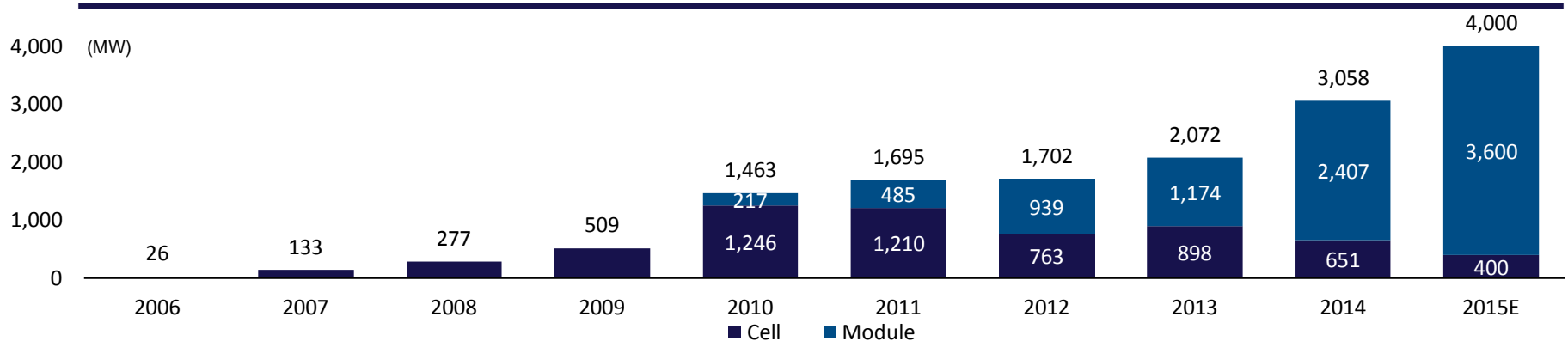
Source: 4/28/2014 PV Module Bankability 2014: who to trust  
Bloomberg New Energy Finance

## 2014 top PV Module Suppliers

2014 Rank	Module Manufacturer	Chang From 2013
1	Trina Solar	↑ 1
2	Yingli	↓ 1
3	Canadian Solar	0
4	Jinko Solar	↑ 1
5	JA Solar	↑ 4
6	Sharp Solar	↓ 2
7	ReneSola	↓ 1
8	First Solar	↓ 1
9	Hanwha SolarOne	↓ 1
10	SunPower	↑ 1
10	Kyocera	0

Source: IHS

## As of June30, 2015, JA Solar has shipped 12 GW in cumulative PV product shipments





# Selectively Optimized Vertically Integrated Model

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## Polysilicon



## Silicon Wafer



## Cell



## Module



## System



### Silicon Wafers

- Low-cost, high-quality production
- Leading the industry in high-efficiency wafer research

1.0 GW capacity

Wafer R&D center, first to develop quasi-mono wafers

### Solar Cells

- One of the world's largest manufacturers
- Recognized for top tech at low cost
- High-performance mono- and multi-crystalline solar cells

3.5 GW capacity

Cell R&D center, successfully developed Cypress, Percium, and Riecium high efficiency cells

### PV Modules

- High-quality products with high-quality BOM
- Working with leading brands on OEM modules

3.5 GW capacity  
Distributed Generation: pilot projects with partners, actively exploring new business models  
Reliability lab partnership with TÜV and Intertek

### Project Development

- Partnering with top-tier developers in China
- Cooperation with global leading IPPs on utility scale projects

Utility Scale: 1GW+ in pipeline

completed 100MW in 2014

# Experienced Management Team



## Baofang Jin

*Executive Chairman & CEO*

- Chairman of the board of directors and Chief Executive Officer of Jinglong Group
- 15 year semiconductor wafer manufacturing experience
- National People's Congress, vice-chairman of the Chinese People's Political Consultative Conference of Ningjin County



## Jian Xie

*President*

- Board Director
- Served in such capacities as the Company's director of corporate finance, director of investor relations, assistant to the chief executive officer, secretary of the board of directors and vice president of sales



## Herman Zhao

*CFO*

- Former CFO of JA Solar from 2006 to 2008
- Extensive experience in solar manufacturing and project development
- Former CFO of Legend Silicon and Sky Solar



## Wei Shan

*CTO*

- More than three decades of experience in both academic research and industrial development of a variety of important semiconductor materials and their application to optoelectronic and photovoltaic devices.
- Published over 150 peer-reviewed articles, conference papers and book chapters
- Granted 8 patents, four in the US and four in China

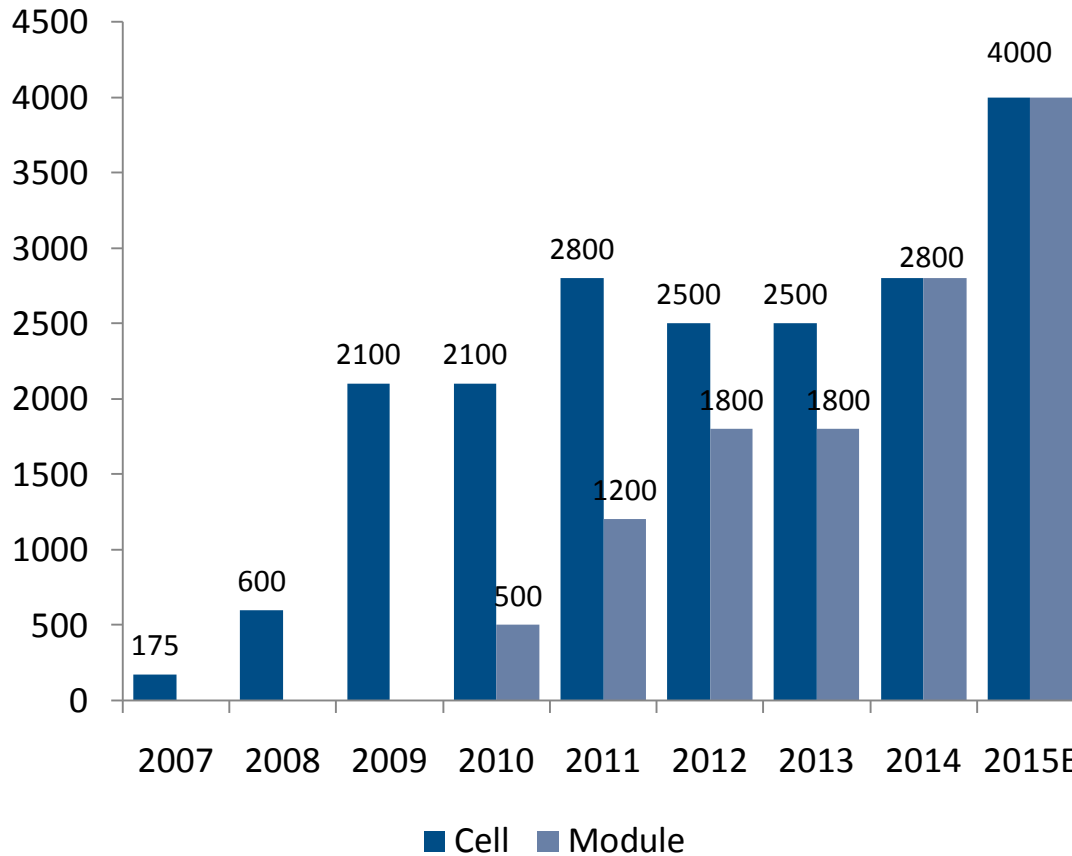
- 1** Scale leader across the value chain
- 2** Well positioned in major growth markets including China and Japan
- 3** Global marketing network and diversified customer base
- 4** Quality global project pipeline
- 5** Strong balance sheet for future growth
- 6** Technology, quality and cost leadership

# 1 JA Solar is a scale leader across the solar value chain...

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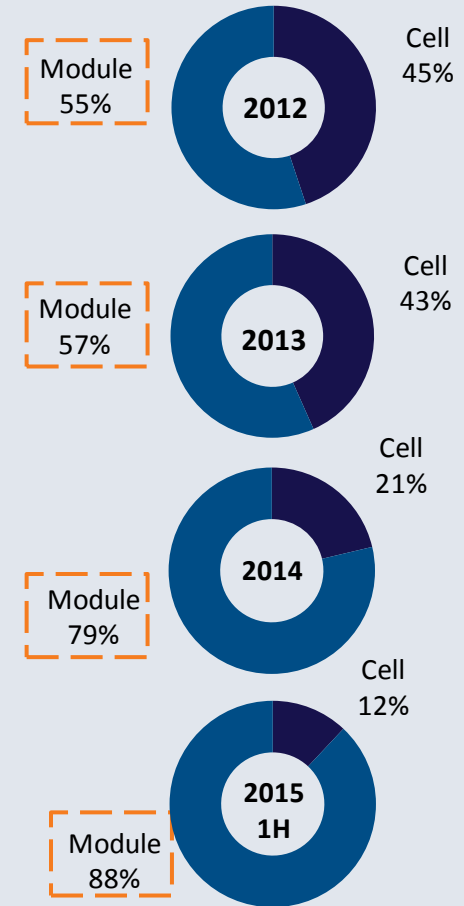
## JA Solar historical cell and module capacity

Capacities (MW)



## Successful transformation into a major module supplier

Shipments (% of total MW shipped)

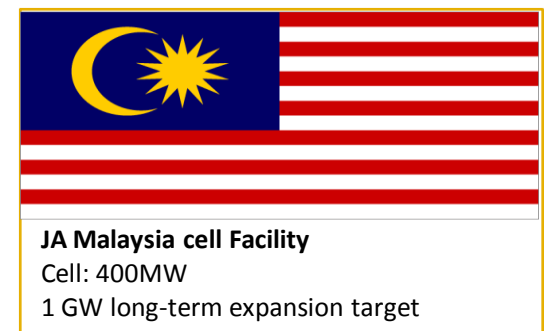
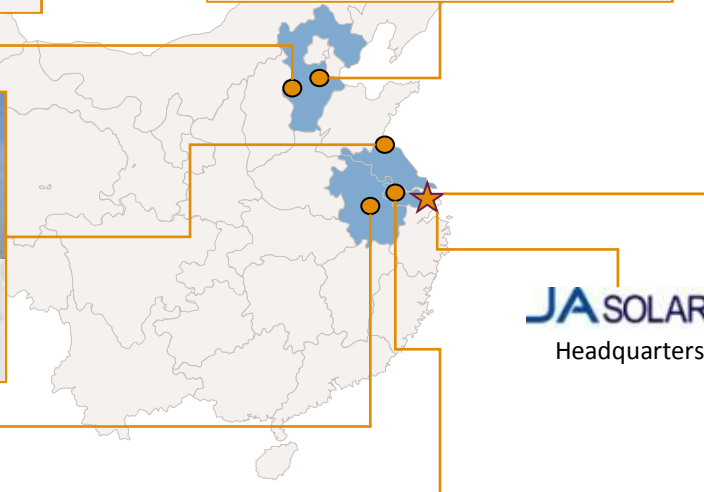


Scale leadership in both cell and module increases economies of scale and decreases costs



# 1 ...with state-of-the-art production facilities

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# 2 China, Japan, North America, and Emerging Markets continue to drive growth

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Region	2014 PV Demand (GW)	2015 PV Demand (GW)	% Change
Global	45.0	57.0	26.7%
Europe	8.7	9.6	10.3%
China	11.0	16.0	45.5%
Japan	9.0	9.0	0.0%
North America	7.5	10.0	33.3%
Emerging Markets	8.8	12.4	40.9%

## ■ China market

- NEA announced 17.8 GW target for PV projects in 2015
- Implement a quarterly monitoring system for better execution.

## ■ The U.S. market

- The 30% U.S. Investment Tax Credit, or ITC, will expire in 2017, which has become a major incentive for the development of solar in the U.S. in 2015 and 2016.

Source: Company Estimates

**JASO is well positioned to benefit from the demand growth in Asia-Pacific given its established presence and increased shipments to the 2 largest PV markets – Japan and China**

## ② One of the Top Module Suppliers in China

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### Established Module Business

- Partnership with leading Chinese independent power producers for utility scale PV projects
- Actively working with partners on ground mounted projects to secure module pipelines

### Project Execution Team

- Dedicated experienced EPC team with extensive rooftop and ground-mount project experience
- Seasoned project development team for both utility and DG projects.

### Selected Projects

Province	Gansu	Ningxia	Hebei	Gansu
Project Owner	Gansu Huineng (Subsidiary of Gansu Power Investment Corp)	Datang Angli Joint Venture	Lincheng	JA Solar
Size	20 MW	40 MW	50 MW	100 MW



### Leading Chinese Power Producer Customers



中国三峡新能源公司

China Three Gorges New Energy Corp.



中国国电集团公司

CHINA GUODIAN CORPORATION



中国华电集团公司

CHINA HUADIAN CORPORATION



中国电力投资集团公司

CHINA POWER INVESTMENT CORPORATION

# ② Ranked Top 3 Chinese Module Suppliers in Japan

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## Hybrid Business Model

- Providing both OEM and JA Solar-branded high efficiency modules
- Working with leading domestic Japanese EPC and distributors who have strong local presence and service capabilities
- Target Segments: residential, commercial, industrial rooftops and ground-mounted projects

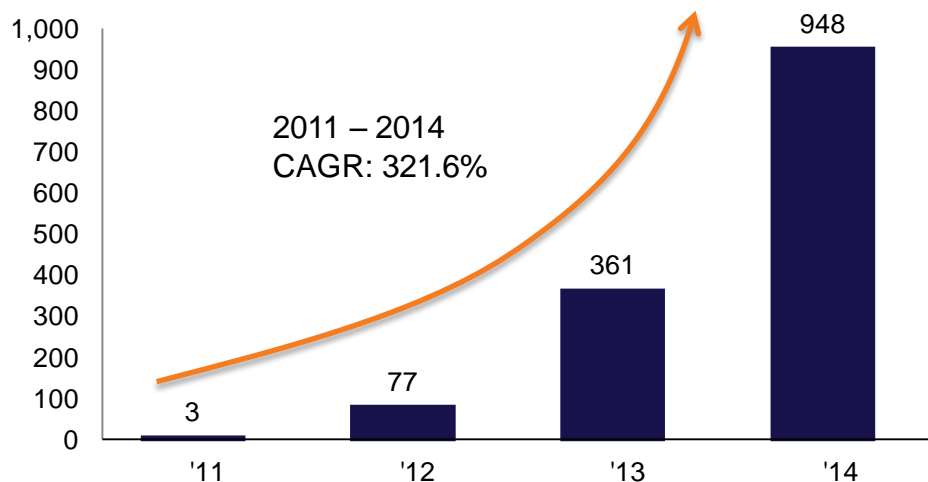
## Japanese Clients & Distribution Partners

快適以上を、世の中へ。  
**TOENEC** 株式会社 トーエネック

**丸紅株式会社**  
**Marubeni**

**TAK** 高島株式会社

## Historical Shipment to Japan (MW)





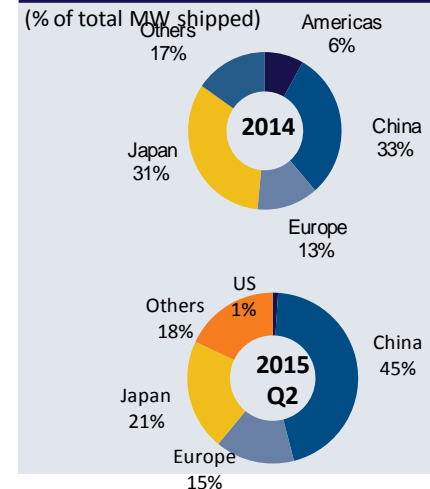
# 3 Global Market Coverage and Diversified Customer Base

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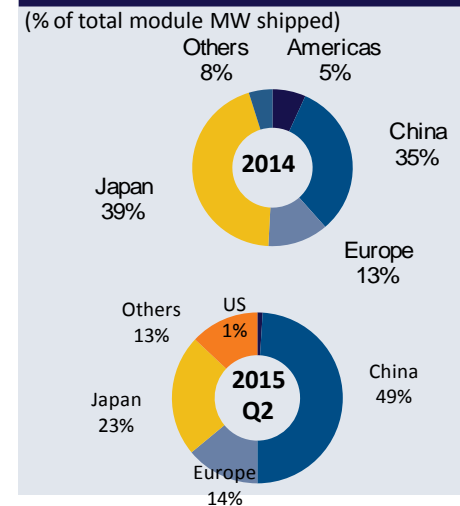
**Long standing relationships with leading project developers and global OEMs along with a global sales and marketing network**



## Total shipments by region



## Module shipments by region





# 3

## Selected Strategic Partners

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JA Solar has established long-term strategic partnerships with various leading corporations around the world.



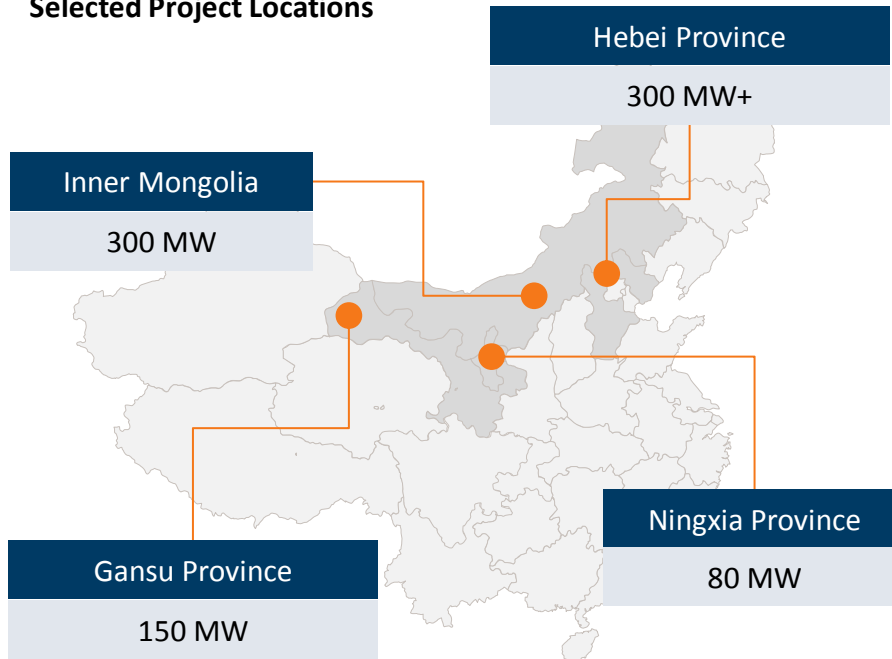
# 4 Extensive Global Project Pipeline

## Domestic



- Finished and connected 100MW in 2014
- 1GW+ of utility project pipeline under development

### Selected Project Locations

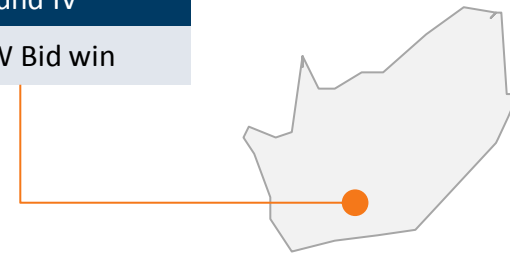


## Overseas



- Actively working with local partners to develop overseas downstream projects

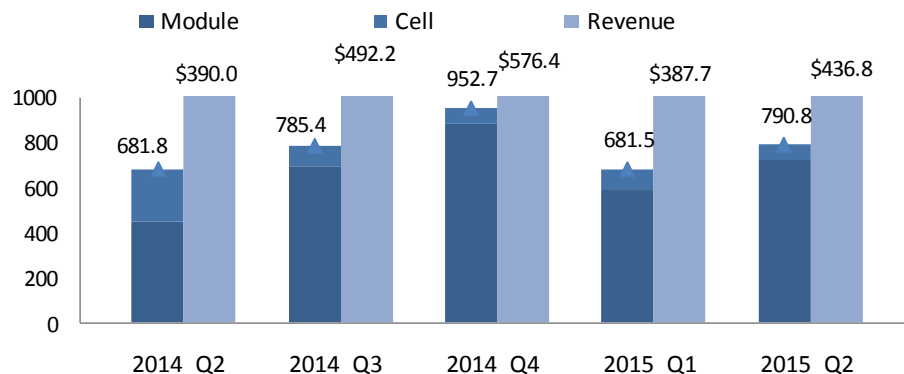
Round IV  
75MW Bid win



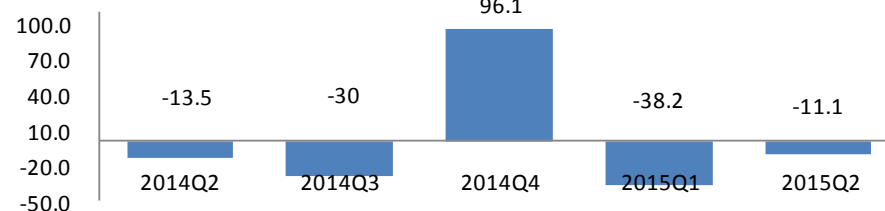
Puebla  
30 MW



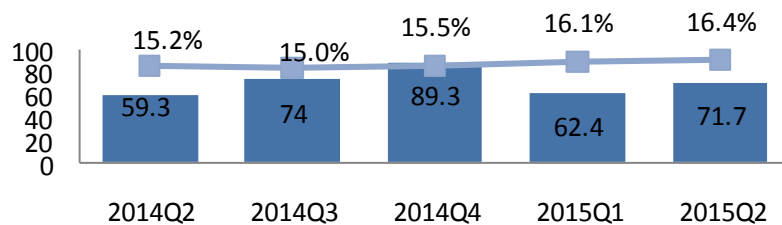
Shipment (MW) &amp; Revenue (Million USD)



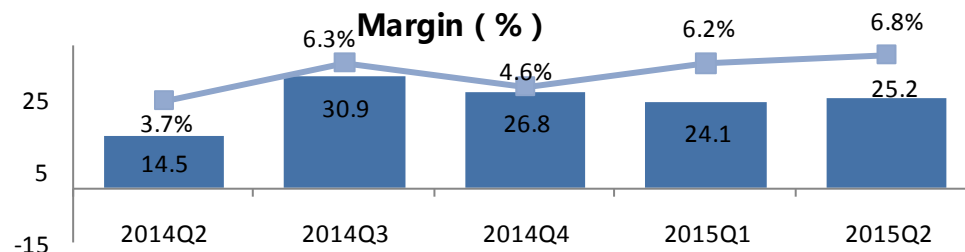
Cashflow (Million USD)



Gross Profit (Million USD) &amp; Gross Margin (%)



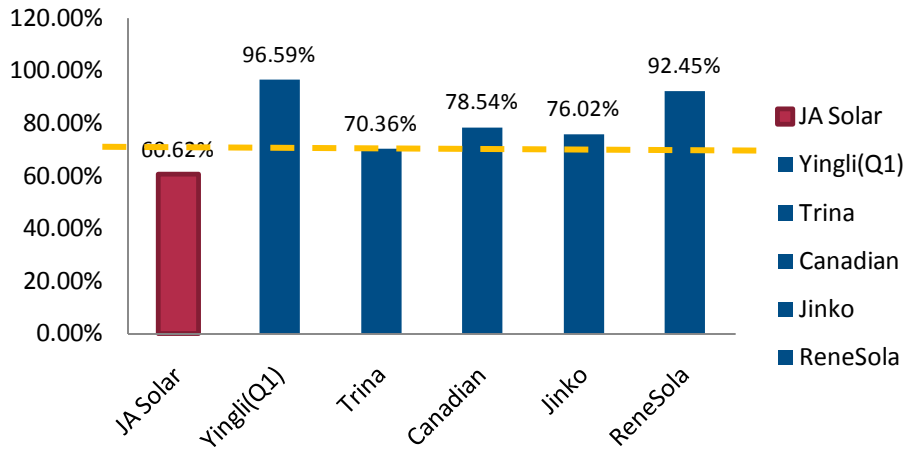
Operating Profit (Million USD) &amp; Operating



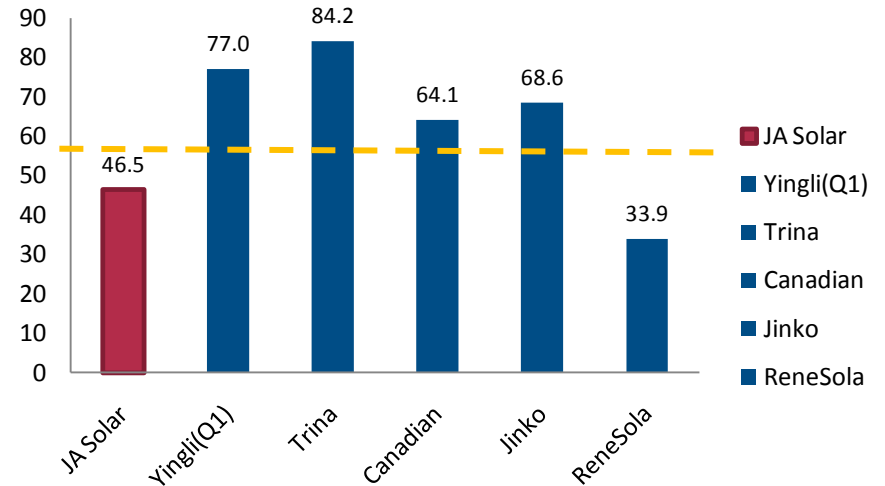
# 5

## Strong Credit Profile Relative to Peers

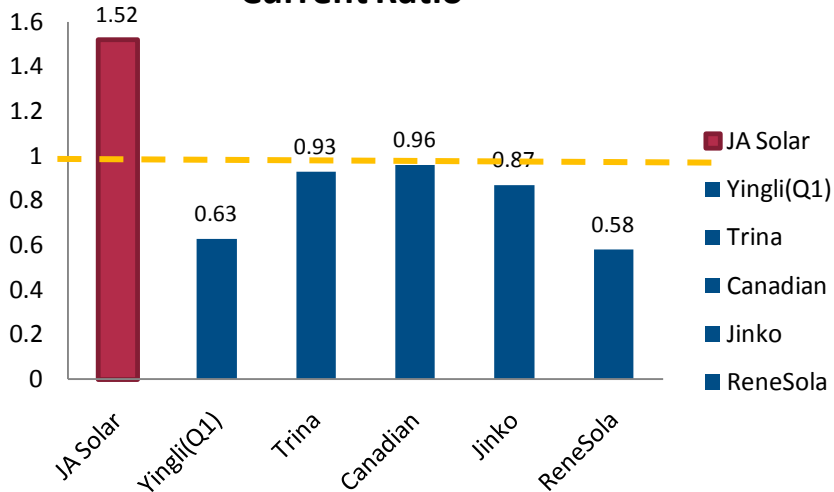
Liability/Asset Ratio



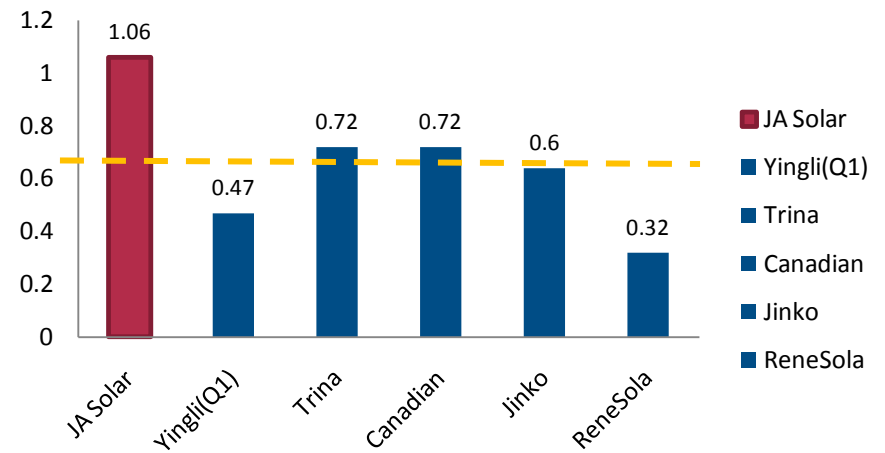
Operating Expense(\$ MM)



Current Ratio



Quick Ratio



■ JA Solar has the lowest Debt Ratio in the industry.

# 5 Strong balance sheet for future growth

## Balance Sheet Snapshot as of 06/30/2015

(US\$ in million)

	As of 06/30/2015
<b>Summary balance sheet</b>	
Current assets	1,405
Non-current assets	908
Total assets	2,313
Current liabilities	924
Non-current liabilities	478
Total liabilities	1,402
Net assets	911
<b>Selected line items</b>	
Cash, cash eq., and restricted cash	405
ST bank borrowings	308
LT borrowings due in one year	20
Total short-term debt	328
LT borrowings	379
Total debt	<b>707</b>

## Supported by Leading Banks



- Strong cash position and unused credit lines provides adequate liquidity to ensure long-term viability

- Long-term partnerships with the top domestic and international banks



### Industry Leading Cell Efficiency and Module Output in Mass Production

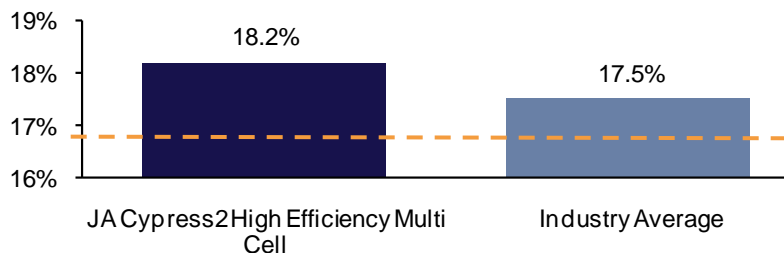
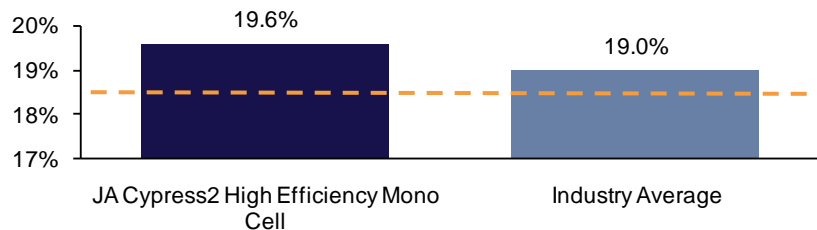
#### ■ Average cell efficiency in mass production:

- Cypress2 Mono-crystalline: **19.6%**
- Cypress2 Multi-crystalline: **18.2%**

#### ■ Module output

- JAM6 72: **325 watt**
- JAP6 72: **315 watt**

### Efficiency Comparison



#### ■ Excellent solderability

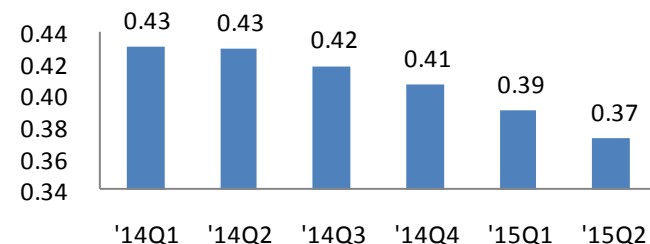
- Application of double printing technology in production to enhance solderability

#### ■ Lower encapsulation power loss

- Positive tolerance for cell power compensation;
- Reasonable electrical performance parameter (high voltage and low current);
- Elaborated current ratings

### Significant Cost Reduction Effort

(\$/watt)



### Blended Non-silicon Processing Cost

# 6 Global Leading R&D Capabilities

## High efficiency and low cost solar cell and module technology

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- Innovative solar cell technology
  - PERCIUM Mono-crystalline Cell: 20.9%
  - RIECIUM Multi-crystalline Cell: 18.9%
- Proprietary technology and innovative processing to continuously improve solar cell conversion efficiency
  - WRACIUM Back-contact Cell ~ 18.2% (Multi), ~19.7% (Mono)
  - BYCIUM Solar Cell (N-type): >20.3%
- Develop new module manufacturing and system integration technology based on existing high efficiency cell technology
- Long-term research for next generation PV cell and module technology

# JA Solar Milestones



**Thank You**