

# JA SOLAR

## Investor Presentation May, 2014



# 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

- Ranked #2 in the world for c-Si cell production in 2013
- Successful transformation into a major solar module producer
- World class quality with industry leading conversion efficiency
- Bankable brand with over 8 GW of products shipped

## Annual Capacity

- 2.8 GW solar module
- 2.8 GW solar cell
- 1.0 GW silicon wafer

## Shipments

- 2013: 2.1 GW
- 2014 guidance: 2.7 – 2.9 GW
- 2014Q1: 638.1MW
- 2014Q2 guidance: 670 – 700 MW

## Products

- High efficiency mono-crystalline and multi-crystalline cells and modules. Average conversion efficiency of CYPRESS2 cells in mass production:
  - Monocrystalline: **19.4%**
  - Multicrystalline: **17.9%**

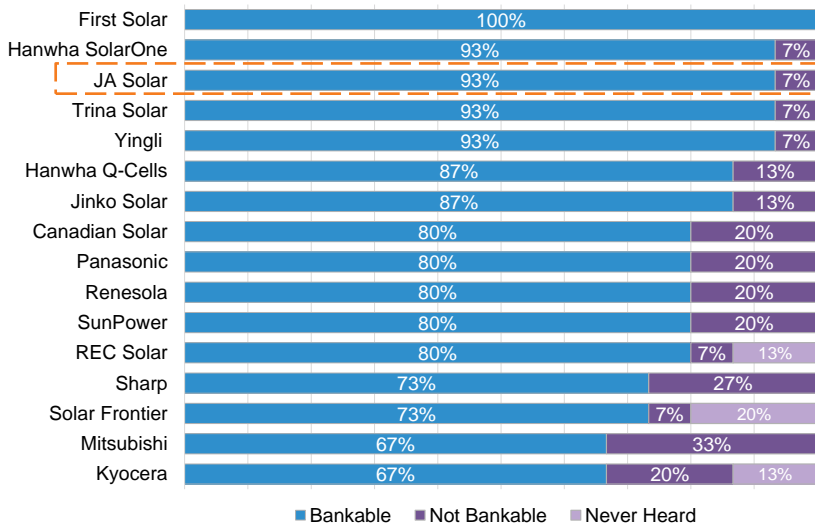
## Employees

- 10,535 as of end of 2013



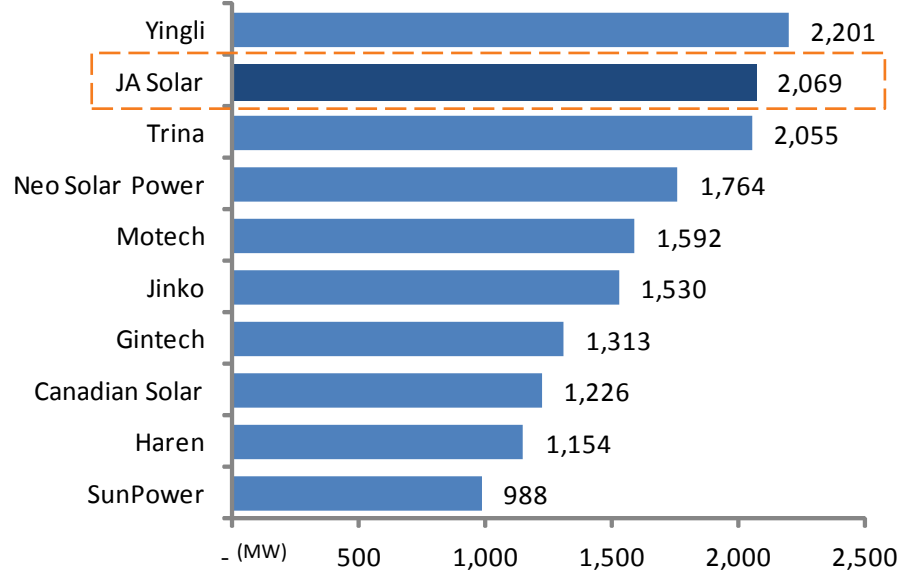
# Leading Bankable Brand & Substantial Shipments

## BNEF's Bankability Survey Results



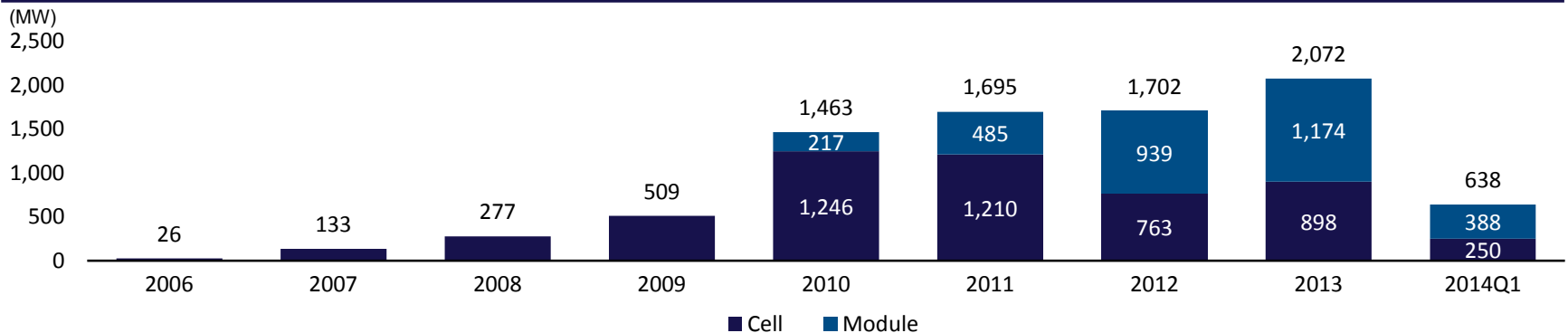
Source: 4/28/2014 PV Module Bankability 2014: who to trust  
Bloomberg New Energy Finance

## No. 2 c-Si cell manufacturer in the world by production



Source: NPD Solarbuzz Marketbuzz 2014

## As of March 31, 2014, JA Solar had shipped over 8 GW in cumulative PV product shipments



# Selectively Optimized Vertically Integrated Model

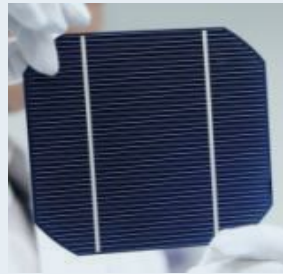
## Polysilicon



## 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

**2.8 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

**2.8 GW capacity**

Reliability lab partnership with TÜV and Intertek

### EPC & Project Development

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

Utility Scale: 400MW+ in pipeline, expect to complete 200MW in 2014

Distributed Generation: pilot projects with partners, actively exploring new business models



## 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



## Yong Liu

*COO*

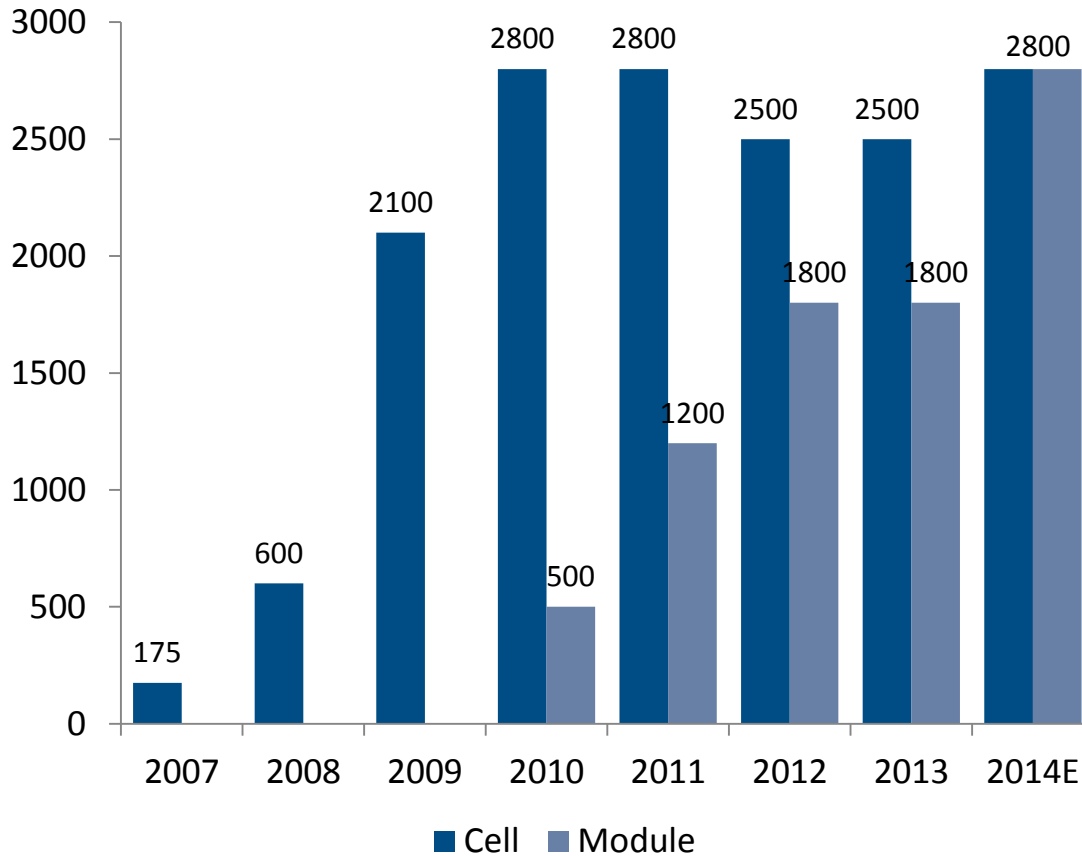
- Board Director
- More than 15 years of operation management experience at semiconductor wafer and solar cell manufacturing facilities.
- Former director of SMIC, responsible for running three 12-inch wafer foundry fabs, which were the most advanced wafer fabs in China

- 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...

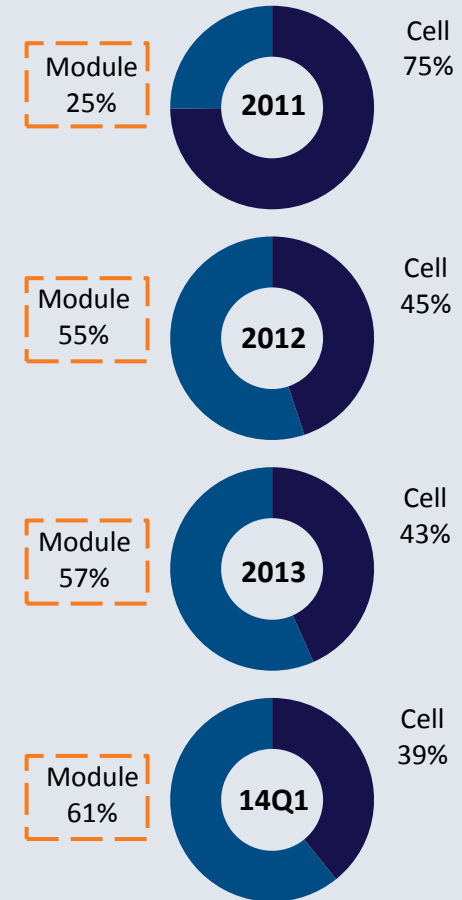
## JA Solar historical cell and module capacity

Capacities (MW)



## Successful transformation into a major module supplier

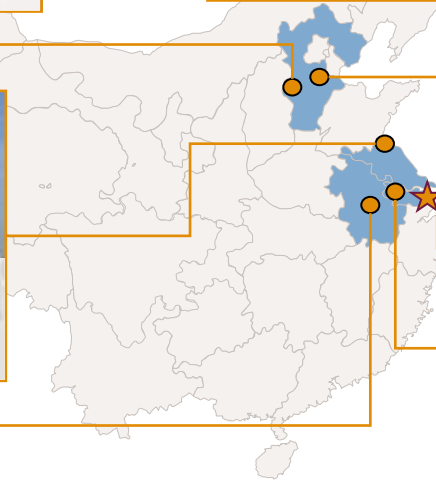
Shipments (% of total MW shipped)



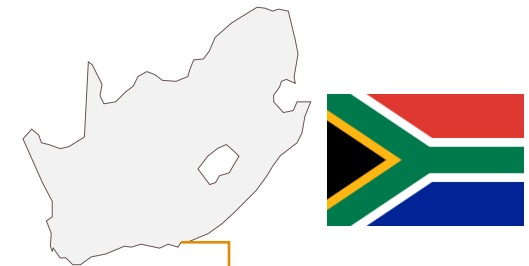
Scale leadership in both cell and module increases economies of scale and decreases costs



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



JA SOLAR  
Headquarters



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

Region	2013E PV Demand (GW)	2014E PV Demand (GW)	% Change
Global	37.0	46.0	24.3%
Europe	11.0	10.0	-9.1%
China	11.0	12.5	13.6%
Japan	6.0	8.0	33.3%
North America	5.5	7.0	27.3%
Emerging Markets	3.5	8.5	142.9%

■ **China market**

- Demand to grow to 13~14 GW in 2014, with rapid growth in demand from distributed-generation projects

■ **Japan market**

- Driven by utility-scale projects, demand growth is expected to continue in 2014

**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

## 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

## Strong EPC Team

- Dedicated experienced EPC team with extensive rooftop and ground-mount project experience
- Provide EPC services to external customers as well as to self-developed projects

## Selected EPC Projects

Province	Gansu	Ningxia	Qinghai	Gansu
Project Owner	Gansu Huineng (Subsidiary of Gansu Power Investment Corp)	Datang Angli Joint Venture	Qinghai Beixiang	JA Solar
Size	20 MW	40 MW	5 MW	100 MW (under construction)



## 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

JA SOLAR

## 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
- >300% shipment growth from 2012 to 2013

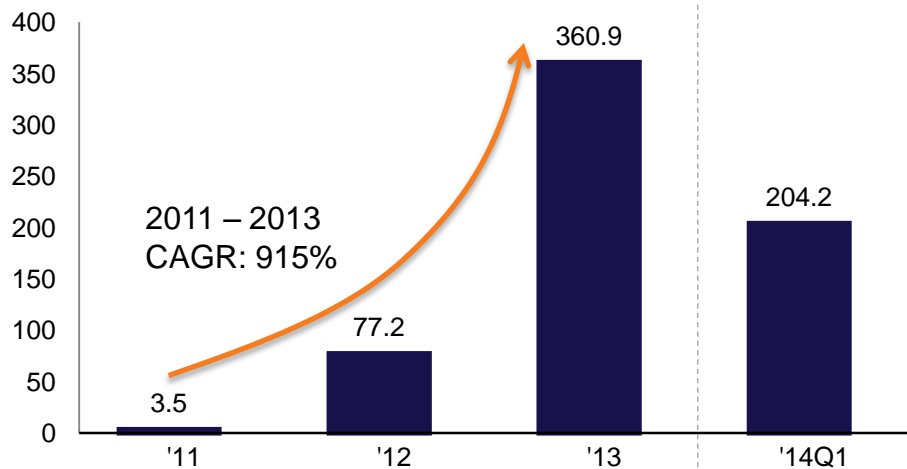
## Japanese Clients & Distribution Partners

快通以上を、世の中へ。  
TOENEC 株式会社 トーエネック

丸紅株式会社  
Marubeni

高島株式会社

## Historical Shipment to Japan (MW)

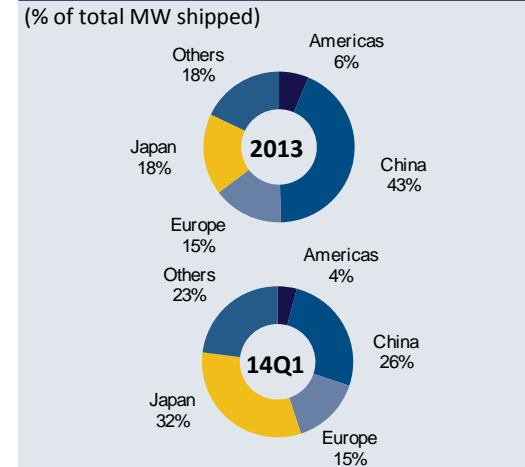


# 3 Global Market Coverage and Diversified Customer Base

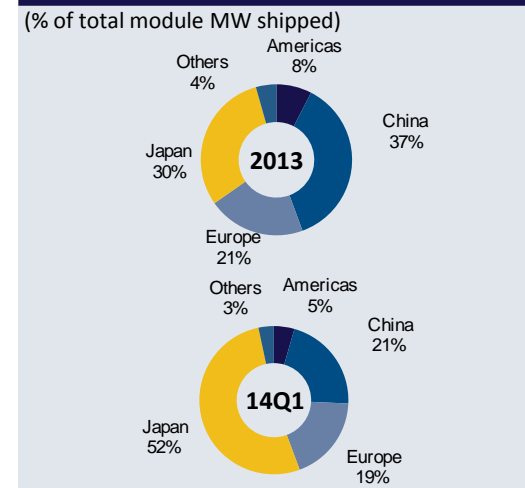
**Long standing relationships with leading project developers and global OEMs along with a global sales and marketing network**



## Total shipments by region



## Module shipments by region



# 3 Selected Strategic Partners

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



# 3

## Selected Projects in Fast Growing Markets

### NFL Philadelphia Eagles Stadium Lincoln Financial Field

Philadelphia, Pennsylvania, USA

2 MW



### Commercial Rooftop (Macy's Department Store)

Raritan, New Jersey USA

1.1 MW



### Utility Ground Mount Project in Arizona

Tucson, Arizona, USA

5.7 MW



### Largest Solar Installation in Tennessee

Chattanooga, Tennessee, USA

9.5 MW



### Largest Solar Installation in North Africa

Kenitra, Morocco

2 MW



### Largest Solar Installation in Israel

Arava Desert and Negev Desert, Israel

35 MW

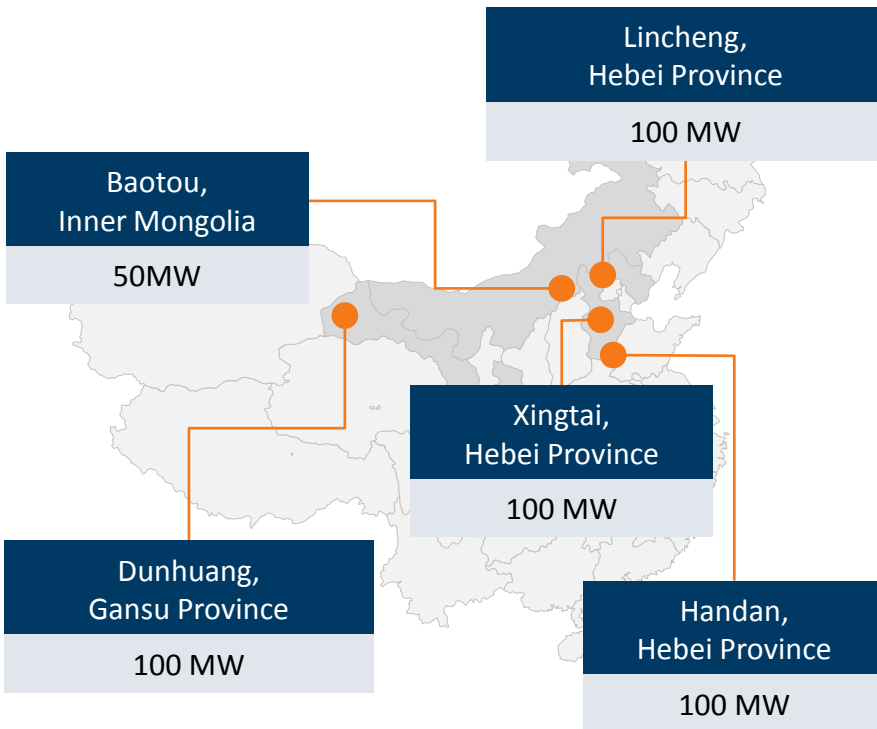


# 4 Extensive Global Project Pipeline

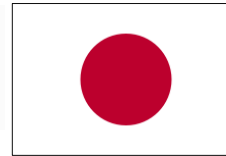
## Domestic



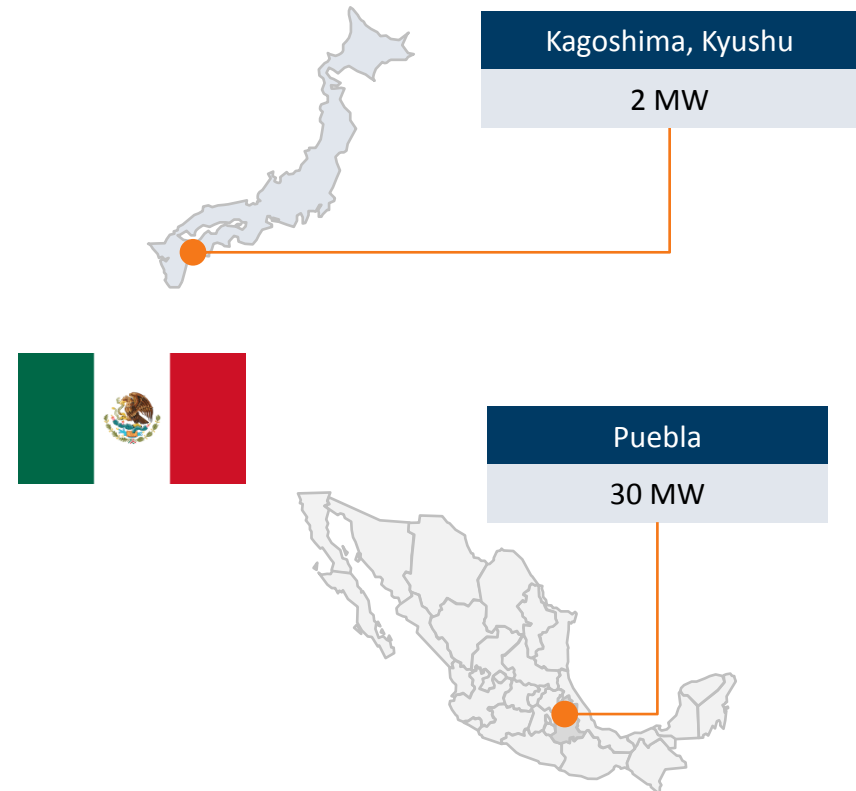
- 400+MW of utility project pipeline
- Expect to finish and connect 200MW in 2014
- Intend to sell projects upon connection to free capital to reinvest in project development; 100MW in advanced negotiation stages with project off-takers



## Overseas



- Actively working with local partners to develop overseas downstream projects

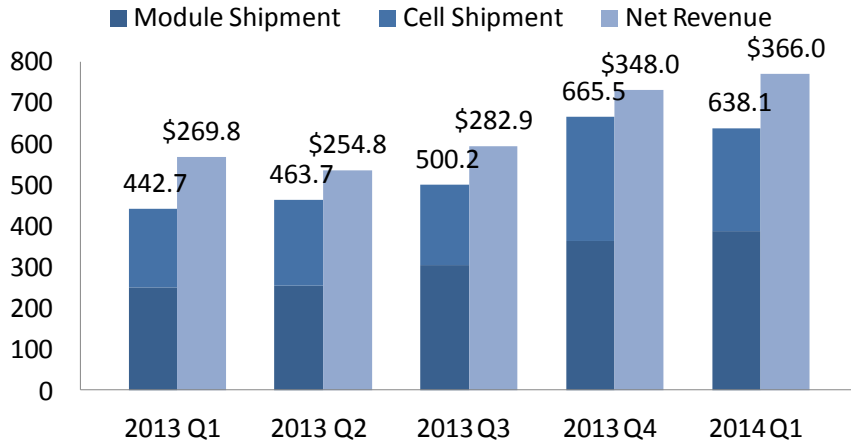




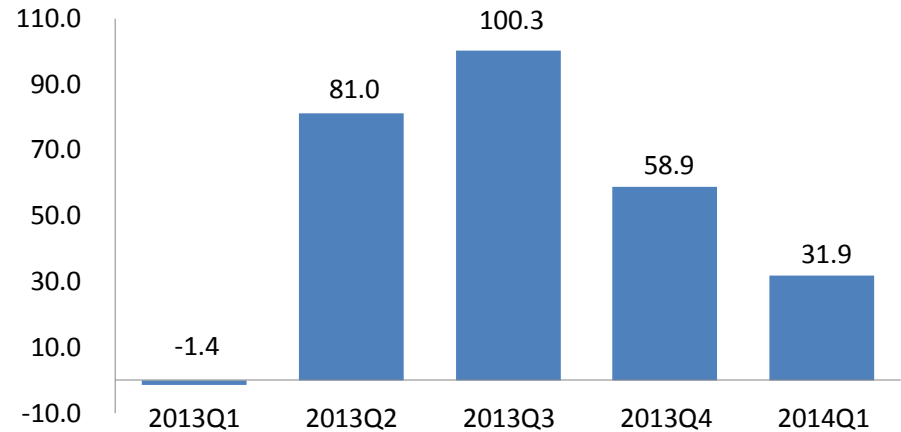
# 5

## Improving Quarterly Performance

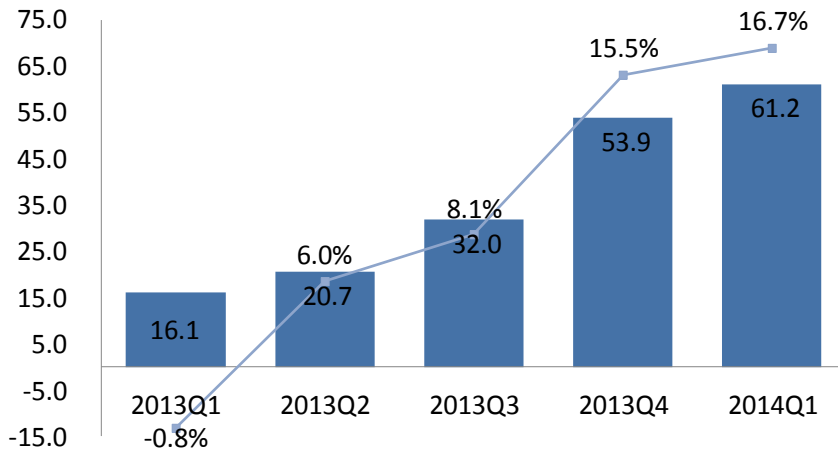
**Shipment (MW) & Net Revenue (US\$ mm)**



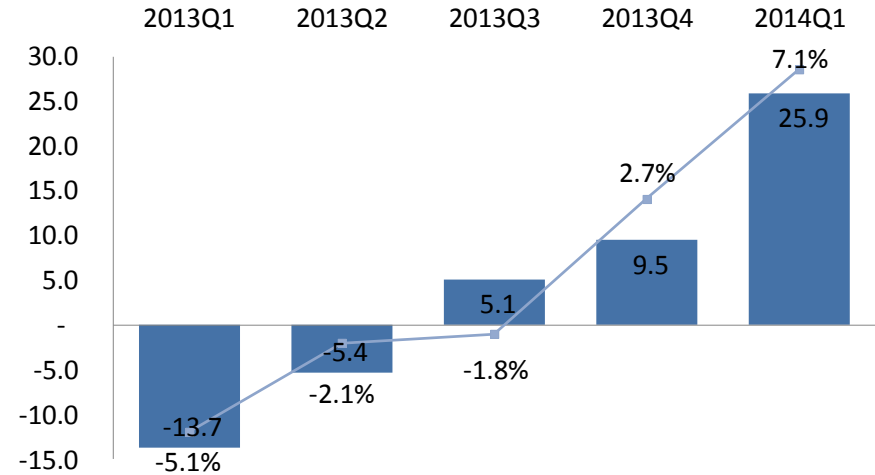
**Operating Cash Flow (US\$ mm)**



**Gross Profit (US\$ mm) & Gross Margin (%)**



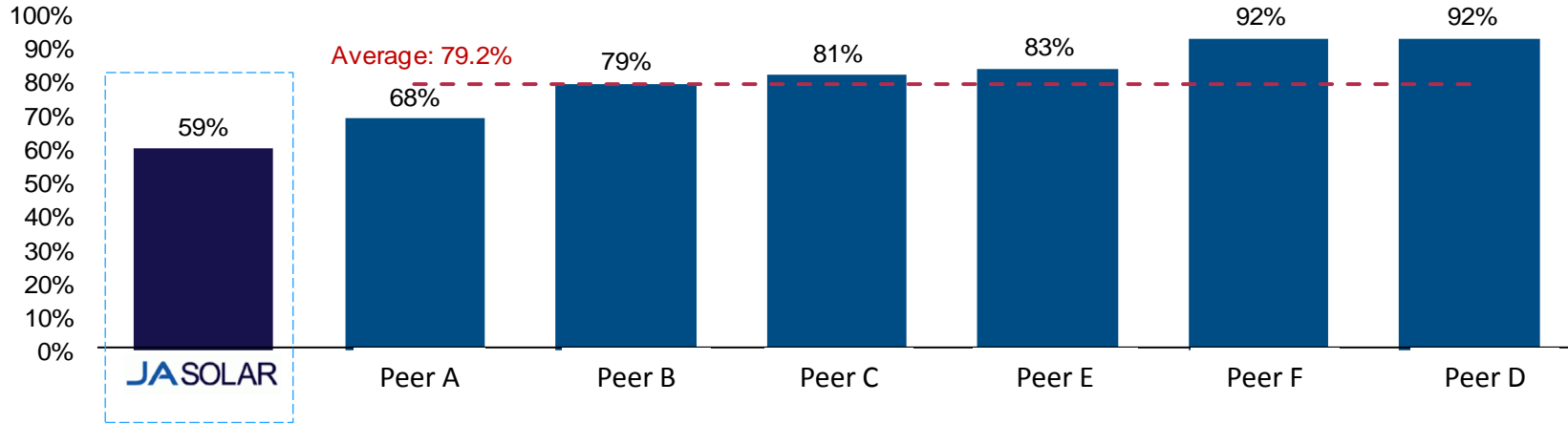
**Operating Income (US\$ mm) & Operating Margin (%)**



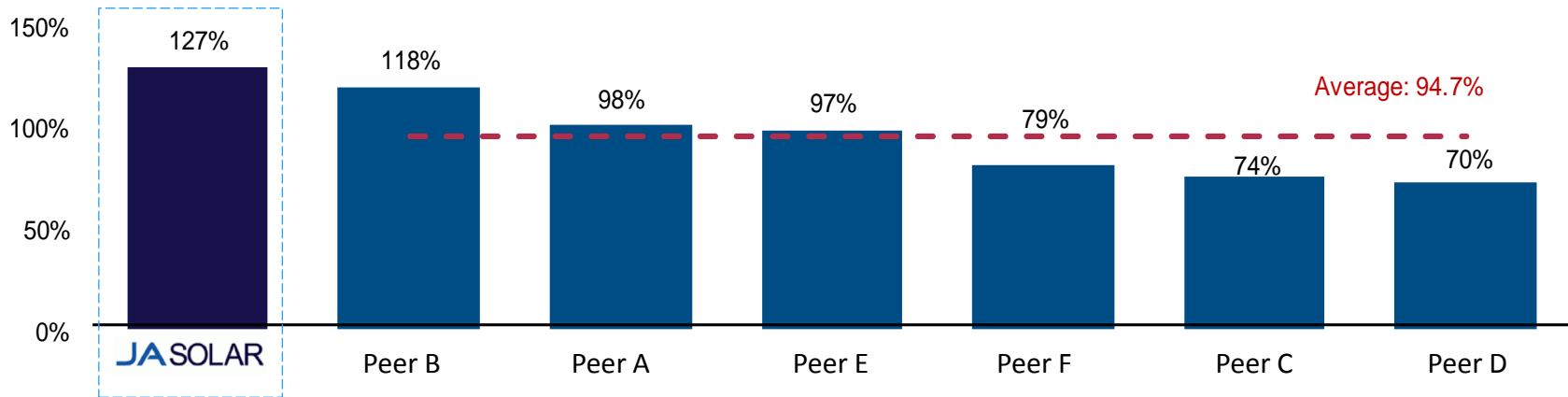
# 5

## Strong Credit Profile Relative to Peers

### Debt Ratio



### Current Ratio



Source: Company filings.

Note: JA balance sheet figures are as of 3/31/2014, peer figures are as of 12/31/2013

# 5 Strong balance sheet for future growth

## Balance Sheet Snapshot as of 3/31/2014

(US\$ in million)

Current assets	1,055.0
Non-current assets	887.9
Total assets	1,942.8
Current liabilities	829.4
Non-current liabilities	319.9
Total liabilities	1,149.2
Net assets	793.6

### Selected line items

Cash, cash eq., and restricted cash	422.7
ST bank borrowings	182.4
LT borrowings due in one year	118.5
Total short-term debt	301.0
LT borrowings	248.2
Total debt	549.2

## Supported by Leading Banks



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

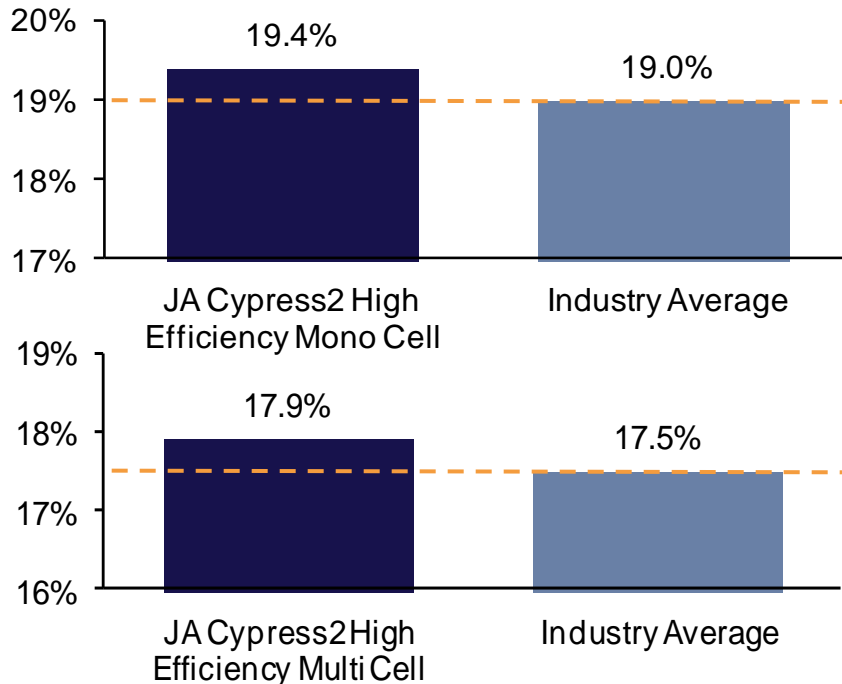
- Long-term partnerships with the top domestic and international banks

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

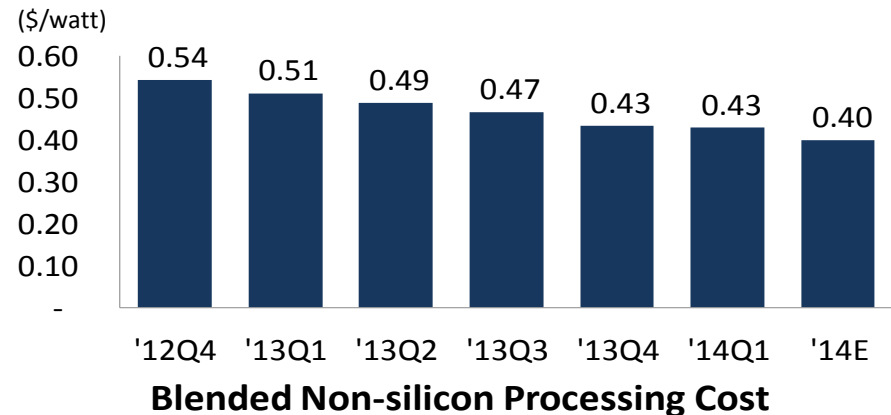
- Average cell efficiency in mass production:
  - Cypress2 Mono-crystalline: **19.4%**
  - Cypress2 Multi-crystalline: **17.9%**
- Module output
  - JAM6 72: **300 to 320 watt**
  - JAP6 72: **295 to 315 watt**

- 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

### Efficiency Comparison



### Significant Cost Reduction Effort



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

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- Innovative solar cell technology expected to be integrated into production lines in 2014H2
  - PERCIUM                      Mono-crystalline Cell:        20.4%
  - Multi-crystalline Cell:        19.2%
  - RIECIUM                      Multi-crystalline Cell:        18.4%
- 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

**May 2005**  
Ningjin Jinglong  
Zhong'ao  
Established

**Apr 2006**  
1st Commercial  
Production  
Ningjin 25MW of  
Solar Cells

**May 2008**  
Convertible  
Notes Offering  
in May, 2008

**October 2008**  
Established  
module business  
in Shanghai and  
wafer business in  
Lianyungang

**Q1 2011**  
Establishing  
Hefei Facility  
with 3GW  
Planned  
Capacity

**Q3 2013**  
Completed  
Registered Direct  
Offering of up to  
\$96mm

2005

2006

2007

2008

2009

2010

2011

2012

2013

**Nov 2005**  
Renamed Jing Ao  
Solar Co. Limited.  
The name JA  
SOLAR is born

**Feb 2007**  
NASDAQ IPO  
Followed by a  
Follow-on  
Offering in Oct.  
2007

**Sept 2008**  
New Yangzhou  
Fab Mass  
Production  
Achieved

**Q4 2010**  
Achieved Capacity  
of Over 2GW

**Q2 2012**  
Revenue  
from Module  
Business  
Exceeded 60%

**Q3 2012**  
Established JA  
Solar Japan  
Limited to serve  
Japan market

**Thank You**