**[**Forthcoming Forum **]** 6<sup>th</sup> Perovskite, Heterojunction & Tandem Technology Forum will be held on April 16-18

• 6<sup>th</sup> Perovskite, Heterojunction & Tandem Technology Forum 2024 will be held virtually through Zoom on line.

• Simultaneous interpretation from Chinese to English will be available.

• More than 600 industry professionals from the upstream and downstream industry chains of Tandem Solar Cell Paste will gather to discuss industry plans!

第六届钙钛矿、异质结与叠层电池论坛 2024.4.16-18 6<sup>th</sup> Perovskite, Heterojunction & Tandem Technology Forum 常州 Changzhou

#### Latest Agenda

#### Agenda (4.16)

Large scale production of bifacial microcrystalline HJT cells ——Anhui Huasun Energy Co., Ltd.

Exploration of HJT Cost Reduction Route and Perovskite tandem Technology ——Risen Energy Co., Ltd.

The whole line of perovskite thin film and tandem cell ——*S.C New Energy Technology Corporation* 

Challenges and solutions for industrial coating technology of perovskite ----Shenzhen Manst Technology Co., Ltd.

Research on Key Technologies of High Efficiency Perovskite Solar Cells and Modules

----Guangdong Mellow Energy Technology Co., Ltd.

Balluff IO–LINK automation solution helps HJT cell intelligent manufacturing ——Balluff Automation (Shanghai) Co., Ltd.

Research and development progress of SC–Solar perovskite equipment ——Suzhou SC–Solar Equipment Co., Ltd.

Title TBD

——Hubei Wonder Solar LLC./ Huazhong University of Science and Technology

Next Generation Thin Film Scribing

----COWIN-4JET Intelligent Equipment Technology (Suzhou) Co., Ltd.

High-efficiency Copper-Heterojunction Cell

----State Power Investment Corporation Limited

Application and prospect of advanced laser technology in the perovskite industry ——Wuxi LeadLaser Co., Ltd.

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Research Progress in Steady State I–V Testing Technology for Perovskite Solar Cells Industrialization

——Gsolar Power Co., Ltd.

Research progress in efficient perovskite/TOPCon tandem cells

——Zhejiang Jinko Solar Co., Ltd.

Application Technology of Low Temperature Metallization Micro/Nano Powder for Efficient PV Cells

——Grinm Nexus Advanced Materials (Beijing) Co., Ltd.

Complete environmental protection solutions

——Envi (Hangzhou) Environmental Tech. Co., Ltd.

Shanghai Electric Hengxi PV c-Si tandem Cells and Product Technology Advantages and Mass Production Progress

----Shanghai Electric Hengxi Photovoltaic Technology Co., Ltd.

#### Agenda (4.17)

Progress in perovskite PV technology and industrialization

——Nanjing University/ Renshine Solar (Suzhou) Co., Ltd.

Analysis of the Classic and Simple Optical Path Driving and Control Concept of LPKF Laser Equipment

——LPKF (Shanghai) Co., Ltd.

Progress in the industrialization of perovskite

——Hangzhou Microquanta Co., Ltd.

Application and challenges of slit-coating in the tandem perovskite industry ——Suzhou Honest Intelligent Science and Technology Co., Ltd.

Discussion on Key Technical Challenges and Industrialization Paths of Dry Process for Perovskite Cells

——Suzhou Fangsheng Optoelectronic Co., Ltd.

Large area GW-level vapor deposition technology and application

——Hefei Sineva Intelligent Machine Co., Ltd. (confirmed)

Development of perovskite-silicon tandem solar cell technology for industrialization

——Tongwei Solar (Chengdu) Co., Ltd. (confirmed)

Integrated machine for slot coating and crystallization of perovskite cells ----S.C New Energy Technology Corporation

Material design and device optimization of a novel perovskite solar cell HTL - Poly-4PACz

——The Hong Kong University of Science and Technology

Module level tandem of perovskite c-Si

——Kunshan GCL Photoelectric Material Co., Ltd.

Application and prospects of ALD equipment and processes in the field of perovskite cells

----Shenzhen Yuansu Optoelectronics Technology Co., Ltd.

Toward Durable Perovskite–Silicon Tandems

---CubicPV

New Trends in the Perovskite Technology Market and Precision Plan

---Snangnal Precision System, Inc.

Apr. 18<sup>th</sup> On-site visiting (Risen HJT cell Production Line & S.C Changzhou Base)

## **Business Travel Arrangement**

1. The schedule of the business travel is as follows:

## April 18<sup>th</sup>

09:00	Departure	from	Lobby	on	the	first	floor	of	Zhong	wu

Hotel

/isit Risen (Changzhou) Energy Co., Ltd. (No.1 Shuinan Road, Zhixi Industrial

Park, Zhixi Town, Jintan District, Changzhou)

12:00-13:00 Lunch

Visit S·C Changzhou Base (No. 790-1 Huanghe West Road, Xinbei District,

Changzhou)

- 14:40 Arrive at Changzhou Benniu International Airport
- 15:10 Arrive at Changzhou North Railway Station
- 15:40 Arrive at Zhongwu Hotel

## 2. Matters needing attention:

1. The organizer will arrange the bus to organize the trip. Please arrange the trip reasonably according to the time of arrival at the hotel. In addition to the scheduled itinerary, the organizer will not be able to arrange.

2. Please assemble in the lobby of the Changzhou Zhongwu Hotel at 08:50 on April 18 and leave on time at 09:00. If you need to check out, please check out before this time and take your luggage to the bus.

If you need to leave the team in advance for any personal reasons, please inform the staff: Ms. Kong 13918486381

#### **Conference information**

Conference: 6<sup>th</sup> Perovskite, Heterojunction & Tandem Technology Forum 2024 Time: April 16-18, 2024 Organizer: ASIACHEM Conference scale: more than 600 attendees

### Background

Heterojunction(HJT) solar cell has the advantages of high conversion efficiency, simple manufacturing process, silicon wafer thinning application, low temperature coefficient, no LID and PID, and bifacial power generation. HJT cells and modules have achieved large-scale production and shipment. In 2023, Risen has started the mass production of 0BB cells, 90µm ultra-thin cells and low silver content paste (silver dosage ≤ 9mg/W), as well as the development and use of Risen's Hyper-link stress-free cell interconnection technology suitable for 0BB cells. At the end of 2023, Huasun put into operation a total HJT production capacity of nearly 20GW, and technological progress helped the average efficiency of mass production cells reached 25.8%.

In 2024, advanced technologies such as wafers thinning, silver coated copper, copper electroplating, busbar-free metalization, and microcrystalline silicon will help HJT technology improve efficiency and reduce costs as well as low indium processes will continue to be promoted. According to the "China HJT Cell Project Database" by Asiachem Consulting, as of January 2024, the newly constructed and planned HJT cell production capacity in China has exceeded 500GW, bringing huge market opportunities for related technology and equipment suppliers.

Perovskite solar cell is a promising next-generation photovoltaic technology and the efficiency is rapidly improving. In September 2023, Renshine achieved an efficiency of 19.42% on 30cm×40cm perovskite modules. In November, GCL achieved an efficiency of 18.04% on a 2m2 single junction perovskite module. The world's first commercial MW-level perovskite ground-mounted photovoltaic project, co-operated by Microquanta and CTG, was successfully connected to the grid. In December, the efficiency of UtmoLight 810.1cm2 large-sized perovskite module reached 19.5%. The challenges faced by perovskite technology mainly include further improving the

enciency of commercial sized cells, long-term stability and large-scale manufacturing, as well as improving relevant testing standards and techniques.

Full-perovskite tandem cells and Perovskite/HJT or Perovskite/TOPCon tandem solar cells are expected to promote the cheapest photovoltaic power generation. In June 2023, Longi announced that it achieved a conversion efficiency of 33.5% for silicon-perovskite tandem cell on commercial texture CZ wafers. In October, Tongwei announced that the R&D efficiency of perovskite tandem cells have reached 31.65%. In December, Huasun announced that the 100MW pilot line for HJT/Perovskite tandem cells is planned to be put into operation in 2025.

**6<sup>th</sup> Perovskite, Heterojunction & Tandem Technology Forum 2024** will be held on April 16-18 in Changzhou, Jiangsu, China. The conference will discuss photovoltaic industry outlook and market analysis of HJT, perovskite and tandem cell, silicon wafers thinning, double-sided microcrystals, advanced silver paste, silver coated copper, copper electroplating, and busbar-free to promote the efficiency and the costs reduction of HJT. large-area industrial perovskite and tandem cell material system, manufacturing process and core equipment, perovskite cell conversion efficiency improvement and long-term stability research, HJT, perovskite and tandem module encapsulating technology and materials, etc. *This conference will provide ZOOM Global Online Participation and simultaneous interpretation in Chinese and English.* 

# ASIACHEM launches "*China Photovoltaic Monthly Report*", which contains monthly updated Chinese photovoltaic industry project database and price trend chart:

Table 1: China Polysilicon Projects List (monthly update)Table 2: China Silicon Rod/ Ingot Projects List (monthly update)Table 3: China Silicon Wafer Projects List (monthly update)Table 4: China PERC Cell Project List (monthly update)Table 5: China TOPCon Cell Project List (monthly update)Table 6: China HJT Solar Cell Project List (monthly update)Table 7: China Advanced PV Module Project List (monthly update)

Price Chart of PV Industry Chain (Polysilicon, Silicon Wafer, Cell and Module)

# If you are interested in giving speeches, sponsoring or participating in the conference, please contact us as soon as possible:

Best Regards

Shanghai ASIACHEM Consulting Co., Ltd. Emma Kong

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