



**24 YEARS OF LEADERSHIP IN THE PHOTOVOLTAIC INDUSTRY**  
**6 YEARS OF EXPERIENCE IN AUTOMOBILE SOLAR SYSTEMS**





Founded in 1997, Trina Solar is the world leading PV and smart energy total solution provider. The company engages in PV products R&D, manufacture and sales; PV projects development, EPC, O&M; smart micro-grid and multi-energy complementary systems development and sales, as well as energy cloud-platform operation. In 2018, Trina Solar launched Energy IoT brand, established the Trina Energy IoT Industrial Development Alliance together with leading enterprises and research institutes in China and around the world, and founded the New Energy IoT Industrial Innovation Center. With these actions, Trina Solar is committed to working with its partners to build the energy IoT ecosystem and develop an innovation platform to explore New Energy IoT, as it strives to be a leader in global intelligent energy. In June 2020, Trina Solar listed on the STAR Market of Shanghai Stock Exchange.

Builds 40 Off-grid Solar Power Stations in Tibet Autonomous Region

**2002**

State Key Laboratory of PV Science & Technology is established

**2012**

Thailand factory starts operation

**2016**

Launches Trina Energy IoT brand

**2018**

50GW+ company-wide production capacity

**2021**

**1997**

Trina Solar is founded

**2006**

Lists on the NYSE

**2014**

Global Module Shipments No.1

**2017**

Launches Trina's Million-Roof Plan

**2020**

Issued first A-Shares on Shanghai Sci-Tech Innovation Board



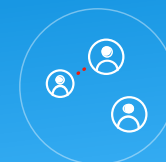
66GW+  
Shipments



5GW+  
Grid-connected

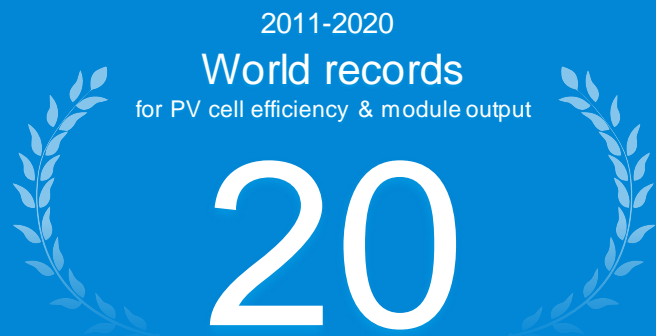


100+  
Regions



14000+  
Employees





## Formulation of Standards

Industry standards led on or participated in  
**105**

Standards issued  
**92**

First to propose and publish  
**IEC international standards**



## Laboratory Accreditations

World's first  
**TÜV Rheinland IEC certified witness test laboratory**

World's first U.S.-accredited  
**UL 61730 witness test laboratory**



## R&D Results

Number of patent applications  
**2000+**

Proportion of invention patents  
**50%+**

Cumulative R&D investment  
**USD 1.6 bn+**  
(2011-2020)



**State Key Laboratory  
of PV Science & Technology**



**National Enterprise  
Technology Centre**



**National Model Enterprise  
for Technological Innovation**



### 210 Vertex UHP modules

- ▶ 210mm silicon wafer
- ▶ Multi-busbar (MBB)
- ▶ Innovative arrangement and nondestructive cutting mode
- ▶ High-density packing

### N-type i-TOPCon large-scale mass production

N-type i-TOPCon cell mass production  
average efficiency up to 24%

Applied in China's first batch of  
Technology Leader Bases

New world record for  
Frontside efficiency 24.58%



### Advanced HJT technology reserves

Actual efficiency of HJT cells in mass production  
24.5% or above

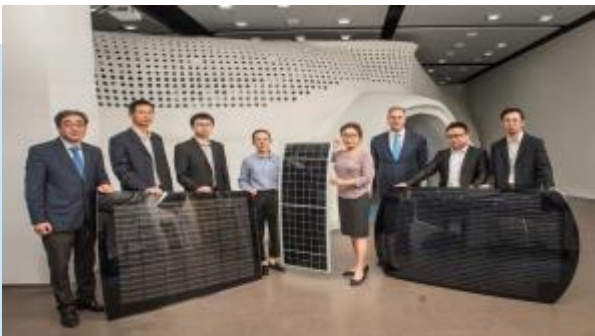
Working on  
863 national projects

Patents applied for  
20+

TüV certification of HJT products  
awarded in first half of 2021







**2015**

## **Automobile PV technology team was established**

Relying on the outstanding research and innovation capability of the State Key Laboratory, Trina Solar has broken world records for 20 times from 2011 to 2020. In 2015, the mobile PV technology project team was formally established.

**2018**

## **From flat to 3D surface, from modules to systems, technology continues to break through**

We made flat or 3D curved modules for different vehicles, which are both functional and beautiful. Our products are also gradually used in yachts, airplanes, racing cars and other vehicles.

**2019**

## **Won Solar Car Race 5 times in 2015~2019**

From 2015 to 2019, the solar racing car OSU-Model-S, jointly developed by Trina Solar and Osaka Sangyo University in Japan, has won the championship for five consecutive years.

**2020**

## **Our mobile PV technology made its debut on yachts**

Japanese Marine technology innovation company Marinex unveiled its new concept yacht "X40" on October 8, 2020, which is equipped with photovoltaic modules supplied by Trina Solar.

**2021**

## **Business of passenger & commercial vehicles has been continuously expanded**

We have put forward a full set of targeted vehicle PV system solutions, our products have appeared in Asia, Africa & Europe.

## Cost

**Access to Large-Volume Manufacturing** Trina Solar is a World leading PV manufacturer and smart-energy system integrator with a global production **capacity of more than 40 GW** by the end of 2021

**Excellent Control of Supply Chain** Access to low-cost solar cells from our own manufacturing lines and to low-cost components from our secured suppliers provides guarantee of delivery on time and on budget

**Low-Cost CAPEX and Labor Environment** **Lowest-cost manufacturing** for customized products

## Performance

**High-Efficiency Solar Cells from the Most Advanced R&D Lab in the PV Industry** From the lab that has broken **more than 20 world records** in efficiency and power performance

**High-Efficiency Module Technology** Customized **planar or 3D, glass-backsheet, glass-glass or flexible 210mm Technology** Square G12 cells, which can be cut (1/4 or 1/6), provide **the best power output per m<sup>2</sup>**

**Large Variety of Product Designs** to meet the specifications of custom product for every customer

**Better Aesthetics** Better control of the color of solar cells. Black is standard. Choice of colored modules

**Complete Solutions** We provide **a complete set of solutions for the whole solar system: modules, batteries and controllers**

## Quality

**Top Tier 1 Manufacturer of PV Components with Proven Quality Excellence** As the most bankable Tier-1 PV manufacturer, Trina Solar maintains a very high level of quality standards

**Commitment to Best Customer Service** Committed to exceed customer expectation

**Multiple Quality Tests Beyond IEC Standards** Trina quality system beyond **IEC standards, as well as ISO9000, IATF16949**



Light weight type

**glass-backsheet**

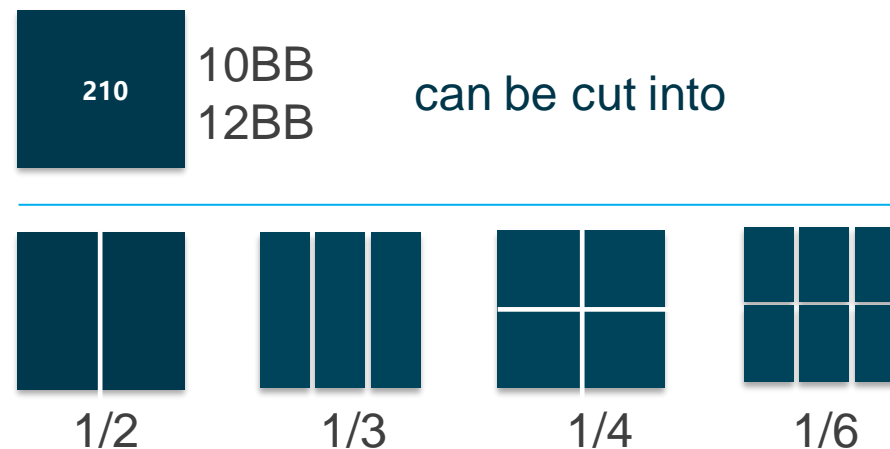
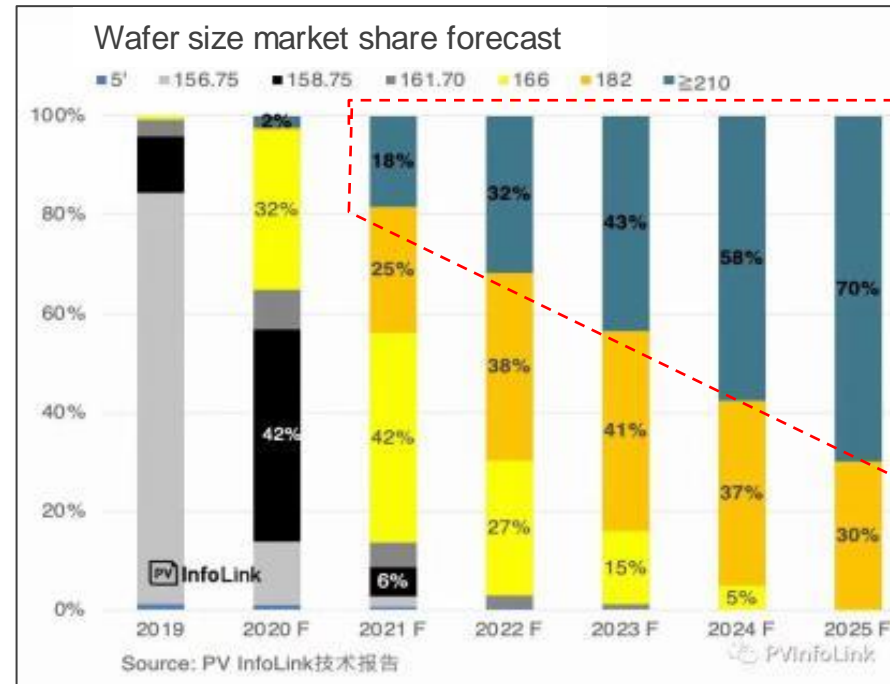
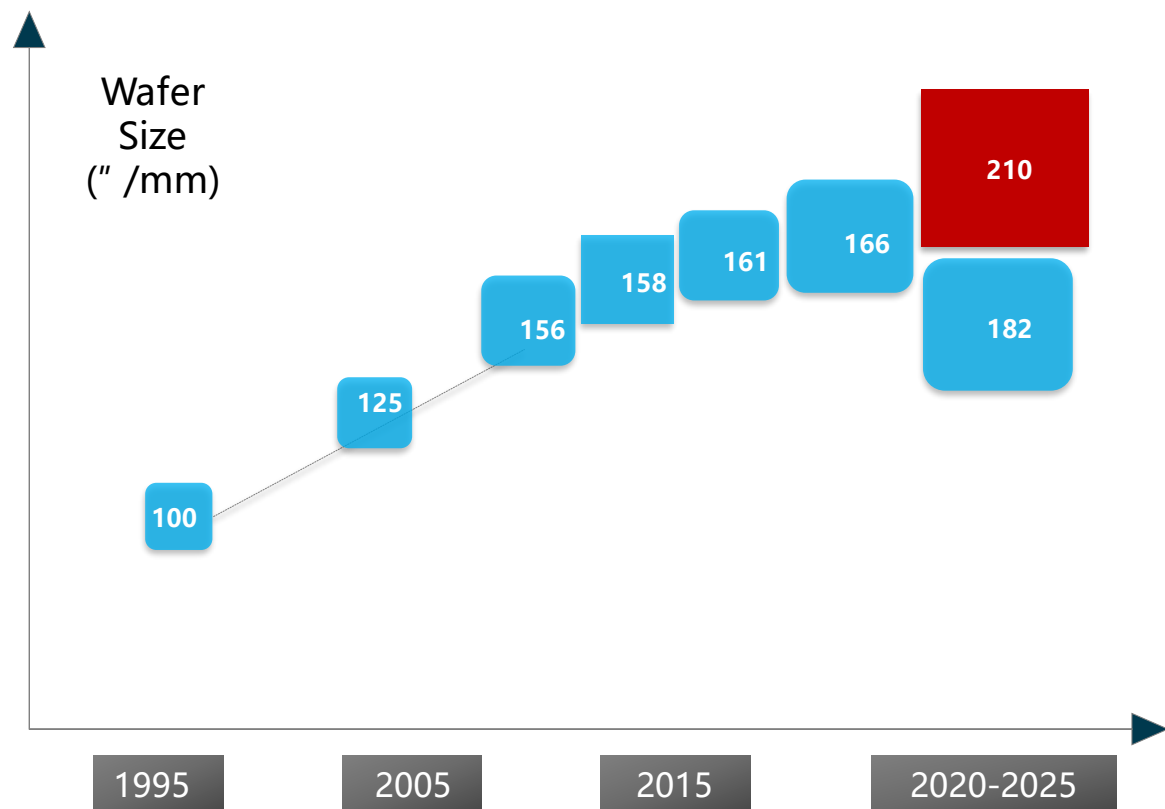
Dual glass type

**glass- glass**

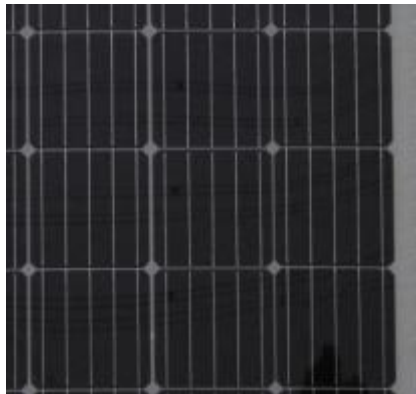
Trina **210mm**  
High Power  
Curved  
Module



- **solar cell type used now: 210mm**
- Non-destructive cutting(NDC) technology



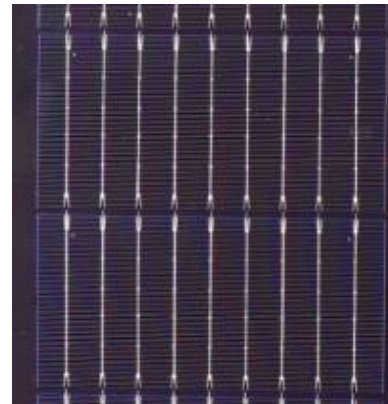
type: Mono 5BB PERC  
efficiency: > 21%  
size: 156.75\*156.75mm  
color: dark black  
Number of busbars: 5



type: Mono N type  
efficiency: 22.5~23%  
size: 158.75\*158.75mm  
color: dark black  
Number of busbars : 9



type: mono PERC P type  
efficiency: 22.61%  
size: 158.75\*158.75mm  
color: dark blue  
Number of busbars : 9



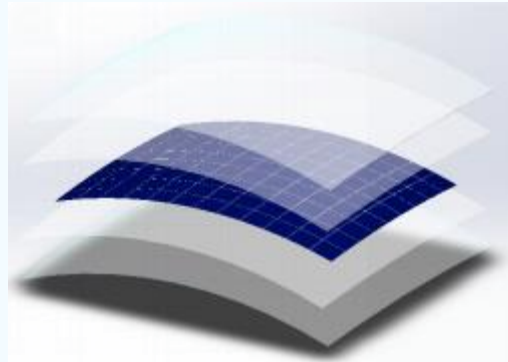
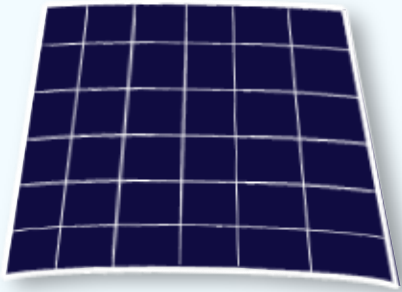
type: IBC  
efficiency: 25.04%  
size: 156x156mm  
color: dark black/blue  
Number of busbars : 0





Our portfolio of PV roof modules can be divided into many forms according to the different production processes, such as backsheet, dual glass, laminated glass, carbon fiber, honeycomb structure carbon fiber, semi-flexible plastic lamination, etc.

example: backsheet module



glass



EVA



solar cells



EVA



backsheet



Efficient customer service and support mechanism, enhanced supplier quality management system



The world's leading laboratory for testing PV products



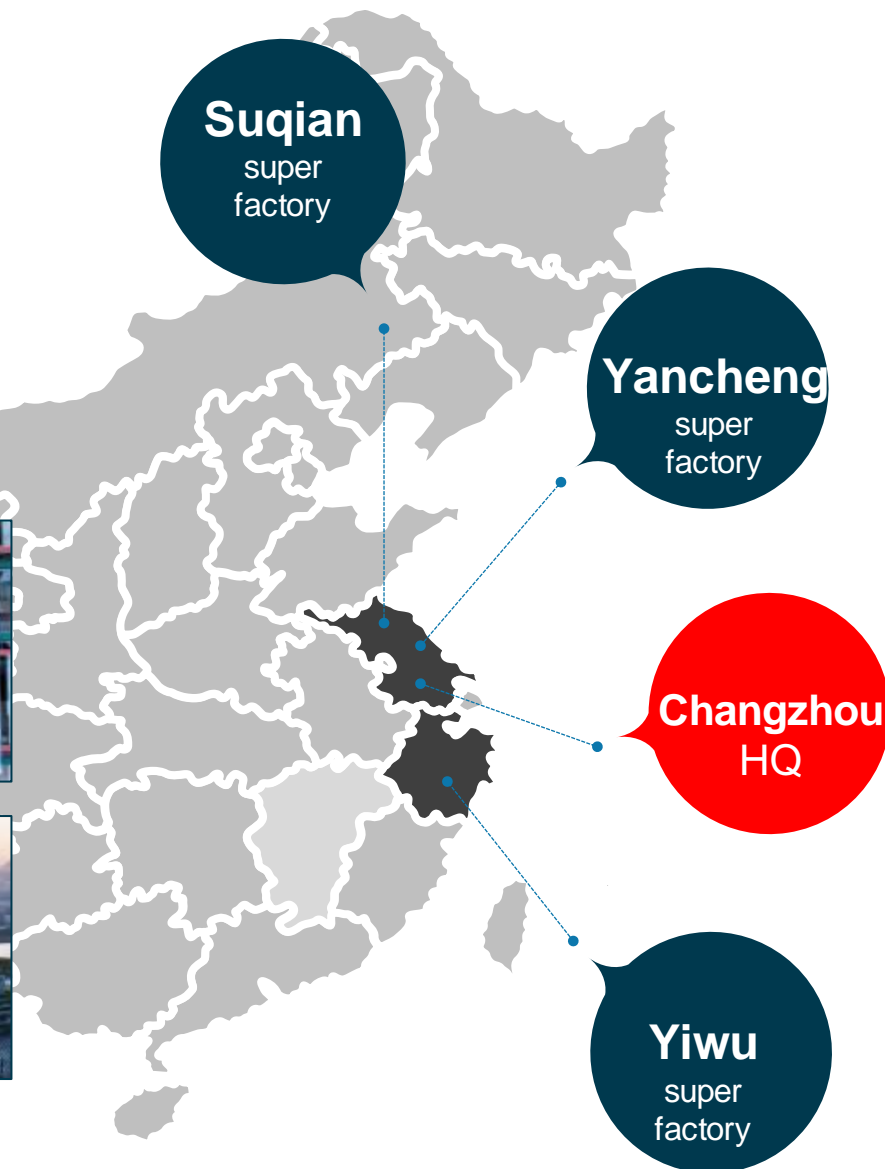
Excellent hardware configuration, excellent design scheme, perfect after-sales tracking service



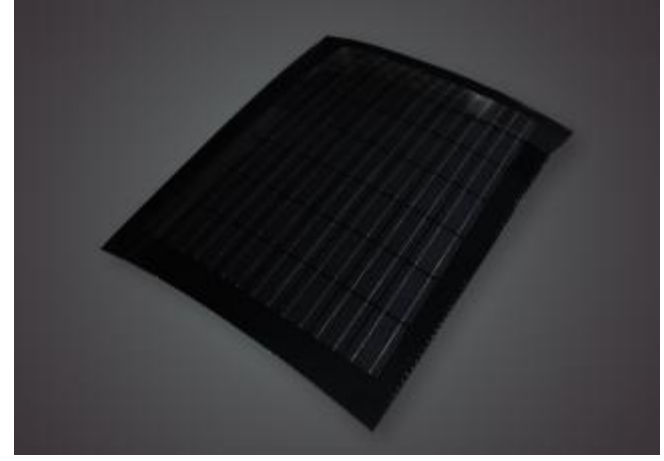
ISO9000+Quality Management System  
IATF16949Automobile quality management system



From batteries to modules to mobile photovoltaics, we have a full set of production line capacity. In Suqian, Yancheng, Yiwu, we have built 3 gigaplants, Trina 210 module capacity has reached 22GW in 2020, and the global production capacity will reach 50GW in 2021. **We fully guarantee the VIPV capacity.**







## Championship of Solar Car Race

**5 Times** 2015~2019

From 2015 to 2019, the solar racing car OSU-Model-S, jointly developed by Trina Solar and Osaka University of Technology in Japan, has won the championship for five consecutive years. The power of the racing car is completely derived from the solar cells developed by the State Key Laboratory of Photovoltaic Science and Technology of Trina Solar.







BUS

Module: glass-backsheet type  
Total: 2850W



RV

Module: light-weight type  
Total : 480~1400W



TRUCK

Module: light-weight type  
Total: 3168W



TOUR CAR

Module: curved type  
Total: 230W





## Concept Yacht "X40" Project in Japan

Total: 1070W

The whole PV+ system is composed of four modules: photovoltaic power generation module, communication monitoring module, transformer/inverter module and battery module, which perfectly matches the internal electrical system of the yacht with the photovoltaic system. The user can also monitor the operation of the four modules through smart phones, including voltage, current, power, temperature, real-time data, load switch, etc., so that the yacht can generate electricity when it is in use and store electricity when it is idle.

**We hope to work with you to make  
the best possible custom-designed  
solar PV panel that will exceed all  
your expectations!**