

2025

# Trina Solar Traceability introduction of Supply Chain

Prepared by Chris GCS

天赋能源 合而为一  
Power beyond solar

# CONTENTS

1. Global vertical integration layout
2. Transparency in the supply chain
3. System administration & DB support
4. Overview of traceability performance
5. Customers base cooperating
6. Traceability achievements



[kaifeng.zhou@trinasolar.com](mailto:kaifeng.zhou@trinasolar.com)

# Vertical Integration (QingHai)

First n-type i-TOPCon cells roll off Trina Solar's production line in Qinghai

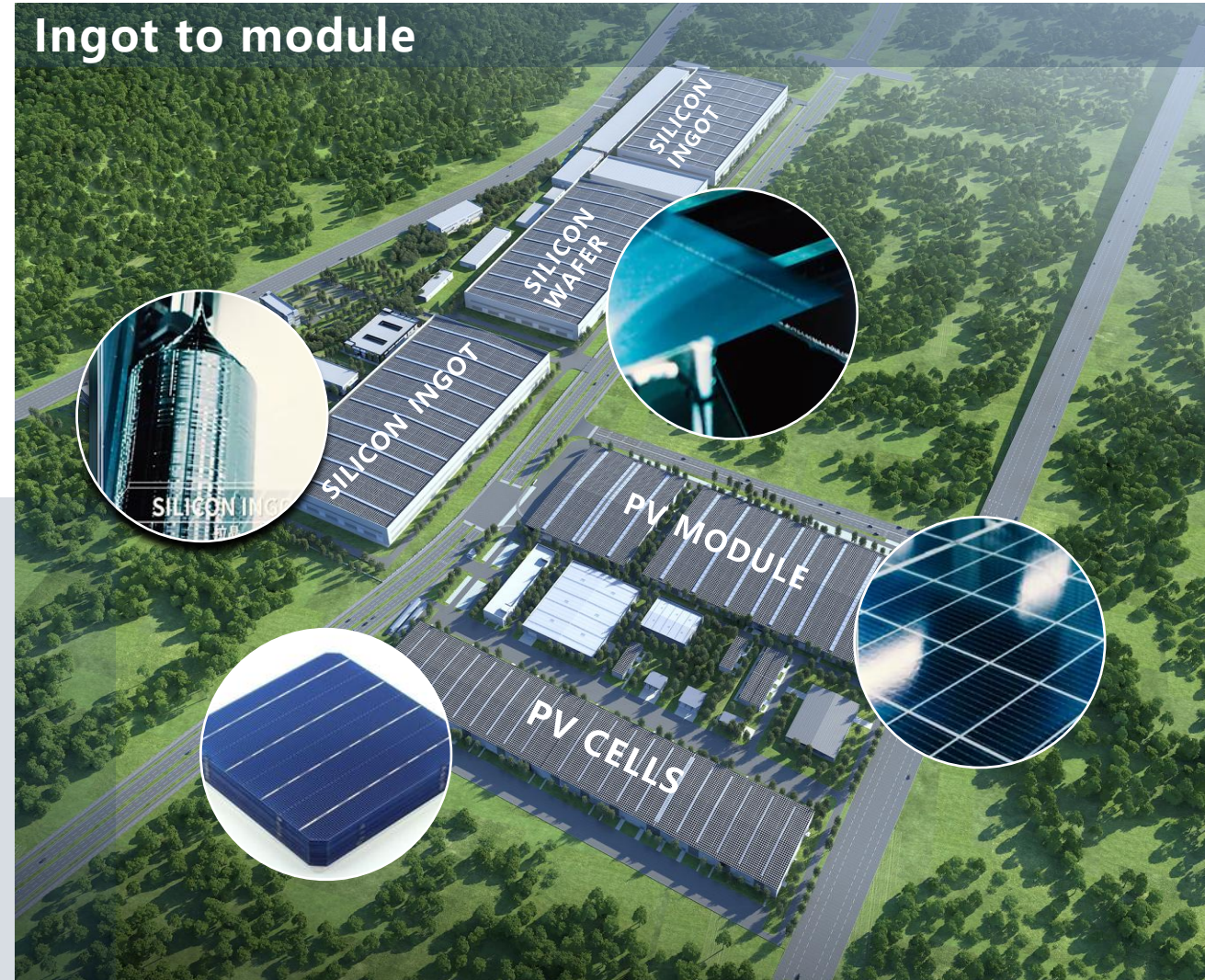
2023.08.10

The first 210mm n-type i-TOPCon cells have been produced in Trina Solar's net-zero park in Qinghai province on Aug 1, marking the mass production of the 5GW n-type i-TOPCon cell capacity. It is a milestone in Trina Solar's integrated layout of n-type technology, which takes in the entire industry supply chain of **ingot, wafer, cell and module.**

MGs factory construction completed

Total 100,000tons capacity (40GW)

Ingot to module



# Transparency in the supply chain



PV Quartz



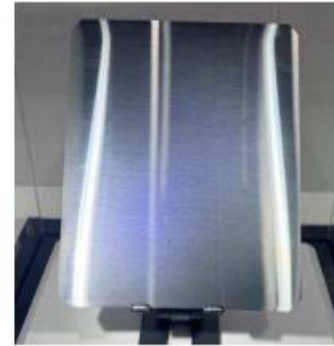
PV MGS



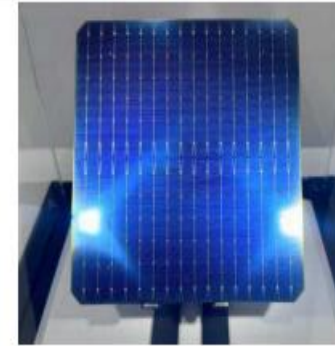
PV Polysilicon



PV Polysilicon



PV Wafer



PV Cell

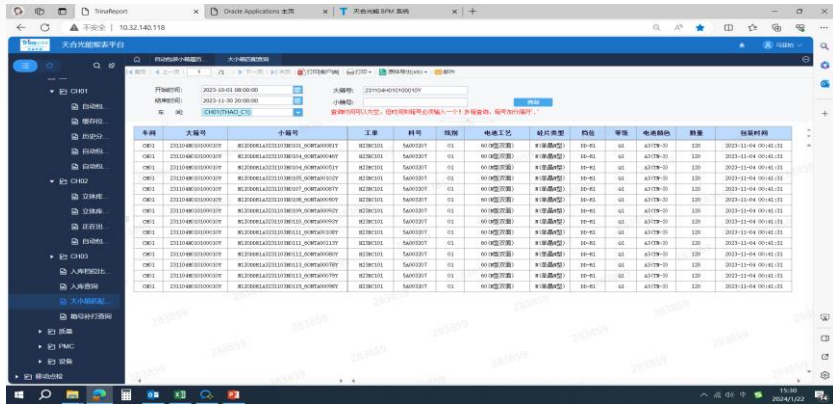


PV Module



- ✓ Trina has full chain traceability **from Module to QUARZT**.
- ✓ The full chain traceability capability has been verified by **third parties**, and we have also completed third-party audits of specific orders.
- ✓ The traceability of supply chain **can be customized by the customer**, and **we can meet it at any level**.

# System administration



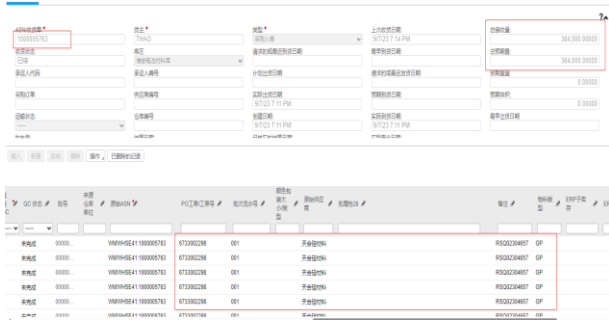
MES

- Use unique identifiers to record all information in the production process

BL NO.	Batch NO.	Container Num	PP Item Num	PP Item Dis	PP Category	PC Quantity	Material Item Name	Material Des	Material Category	Material Item Code	Production Address	WP Quantity
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000099	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					4.800
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000099	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					37.42
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000099	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					45.86353
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000099	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					20.52637
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000103	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					6.004
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000103	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					18.24861
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					7.72952
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					45.86353
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					20.52637
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					6.004
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG					18.24861
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900265	TC32Q9-A20			7.31742
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900441	TC3 (Q9) -A1			66.60544
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900143	TC32Q9-A10			15.500
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900146	TC3 (Q9) -A			21.136
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900127	TC32Q9-A20			20.800
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000110	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900124	TC32Q9-A10			33.94182
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000147	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900192	TC32Q9-A11			40.24857
DPH001	8A012952		边腹膜_Q1_LUK_TSM-NEG19RC.2	720 1A000147	Raw Silicon Raw	Raw Silicon Raw	Raw IIG	669900159	TC32Q9-			24.000

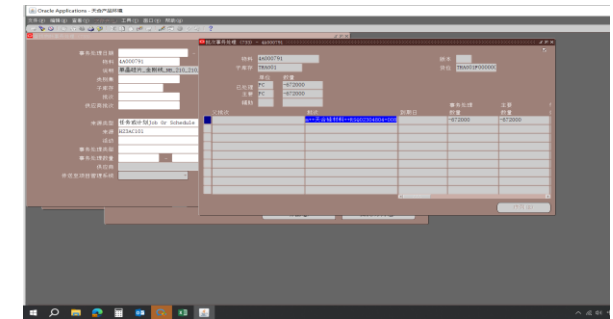
Big Data System

- Big Data System has been officially approved by CBP
- Customers can refer to the traceability report derived from the system directly



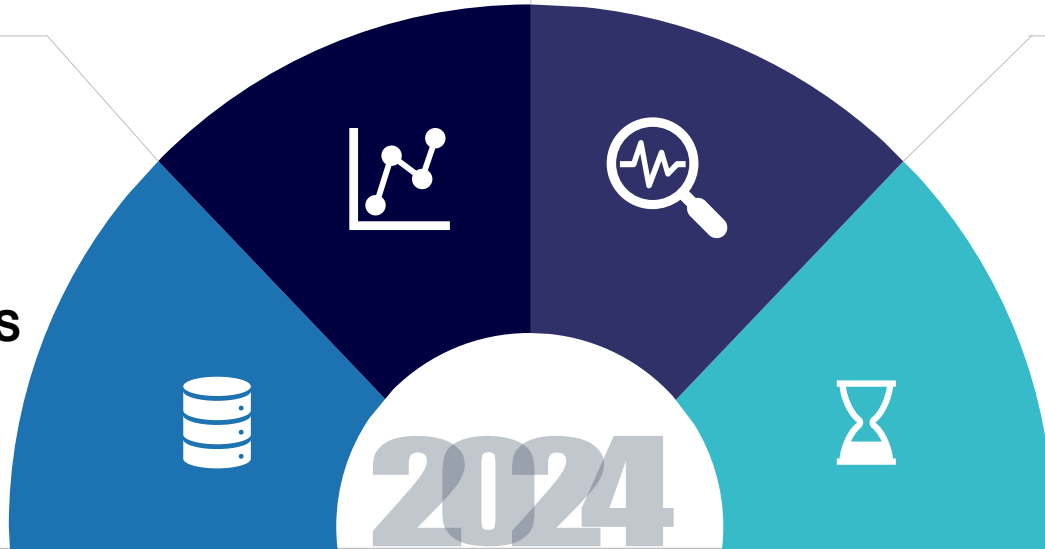
WMS

- Warehouse management system, control all materials input/output records



ERP

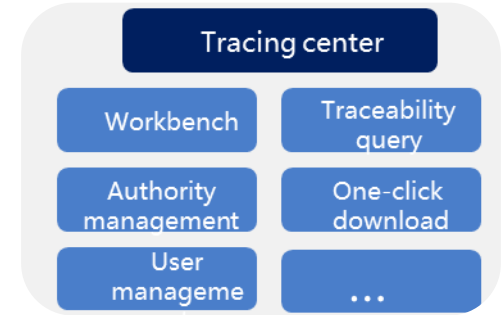
- Unified management of the materials used, and management of all accounting information in the production





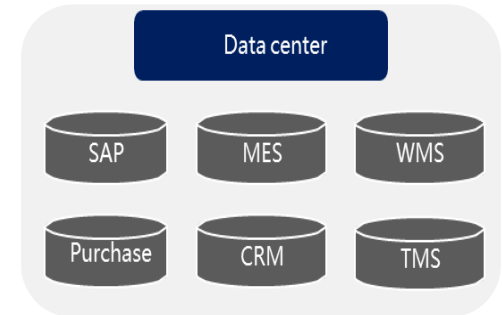
## Tracing center

- Supporting traceability query
- One-click download



## Data center

- Supporting MES/MWS
- Supplier/purchaser system



## File center

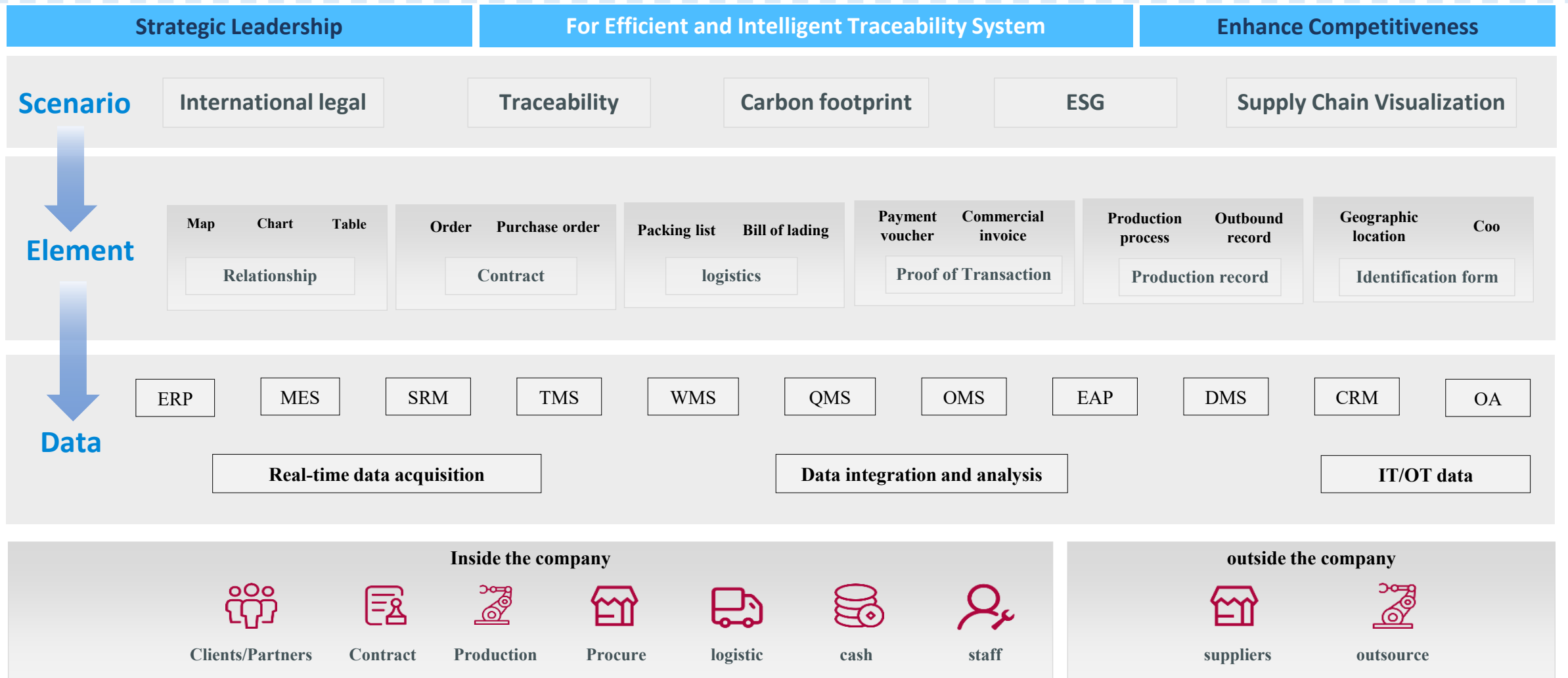
- Commercial/transport/production docu.
- Paper or electronic files



The full traceability function supports specific managers to download all materials with one click, which is time-saving and high efficient. Besides, it helps meet the needs of customer and provide the document that required.

# Intelligent Traceability System Architecture

## Product Traceability Intelligence system



# Traceability Management – Supplier Chain Map

Seconds traceability: Customers only need to scan the QR Code to check the supply chain of their orders

**Origin visualization**

**QR Code**

The mobile app interface displays the following information:

- Basic Information:** Barcode A12250300100549, Model NEG19RC.20, Maximum Power (Pmax) 625 Wp.
- Carbon Footprint:** Performance bar showing 415kg CO2e, with a range from 300kg to 500kg.
- Traceability Map:** Map showing the production location in Suqian City, Jiangsu.
- Additional Info:** Cells: Xining City, Qinghai Province, China; Module: Yiwu City, Zhejiang Province, China.
- Navigation:** Certification, User Manual, DataSheet, Warranty.

件SN#

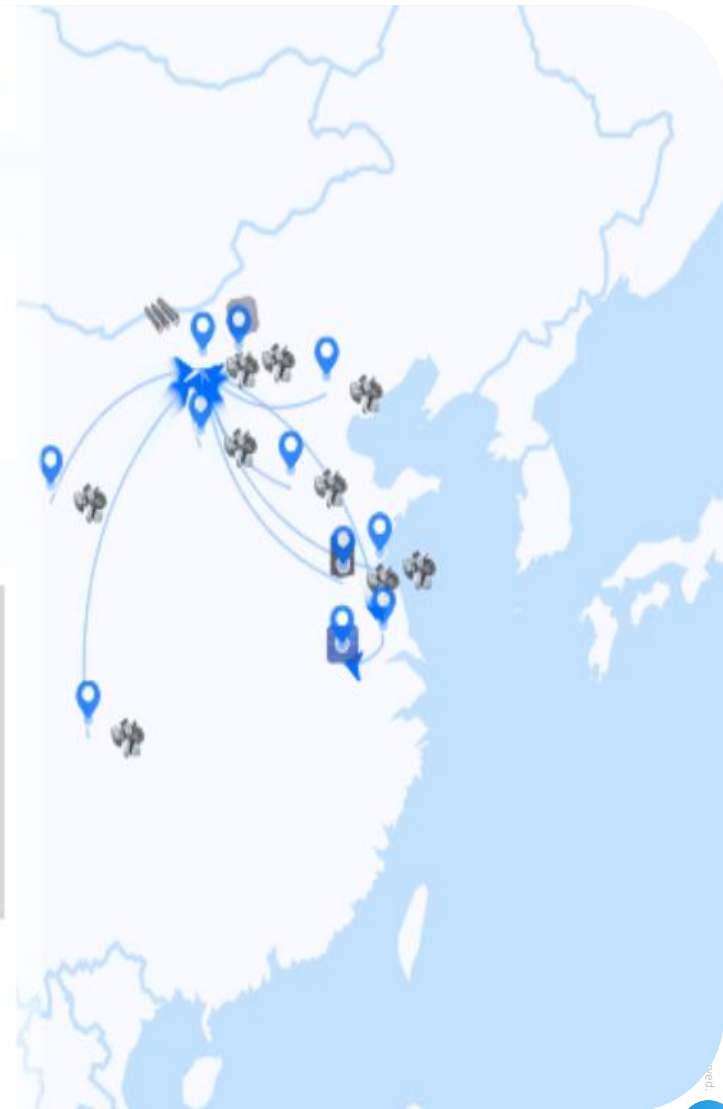
**件基本信息**

件SN号 R01250402830408      PI号 TST(DT)-A11043-\*\*\*\*\*-10-24

品族 TSM-\*\*\*NEG19RC.20      客户 \*\*\*\*\*

**产品生产基地**

- 组件生产基地 天合光能(淮安)科技, 江苏省淮安市
- 电池生产基地 天合光能(宿迁)光电, 江苏省宿迁市
- 硅片生产基地 天合光能(淮安)光伏材料, 江苏省淮安市
- 方棒生产基地 天合光能(德阳)晶硅, 四川省德阳市
- 硅料生产基地 四川永祥多晶硅, 四川省乐山市  
甘肃宝丰硅材料, 甘肃省酒泉市



# Database support



- Available to provide complete documentation support for traceability audit / BANK;
- Involving sensitive information, allowing third parties to view on-site, and providing on-site system display;

COMMERCIAL RECORDS	TRANSPORT RECORDS	PRODUCTION RECORDS
Contract	Packing List	Incoming Material Receipt
Purchase Order	Bill of Lading	Warehousing Record
Invoice	Customs Documentation	Certificate of Analysis (COA)
Payment record	Certificate of origin	MES records

# Third-party & international organizations

## Traceability

### Third-party for Audit



### SSI



### IFC



Mainly for customer orders  
**Trina has received Top 1 rating (TUV)**



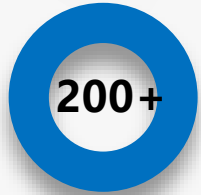
GCS is actively responding and maintaining communication with EU sales, customers, and legal departments



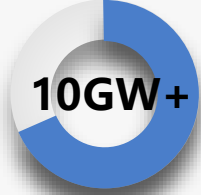
**Trinasolar got the Certificate form IFC**

# Overview of ESG & Traceability

## Traceability



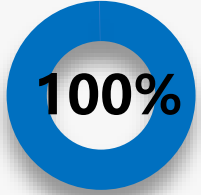
200+ Orders



Total 10GW+



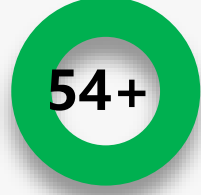
Third-party Customer



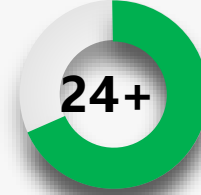
All passed

Third-party  
PI, CEA, STS, TUV  
Customer:  
IB, Nextenergy, Low Carbon

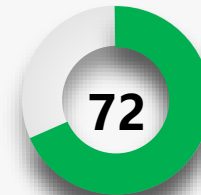
## ESG



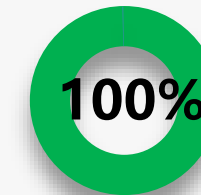
Reception 54 times



ESG audit 24 times



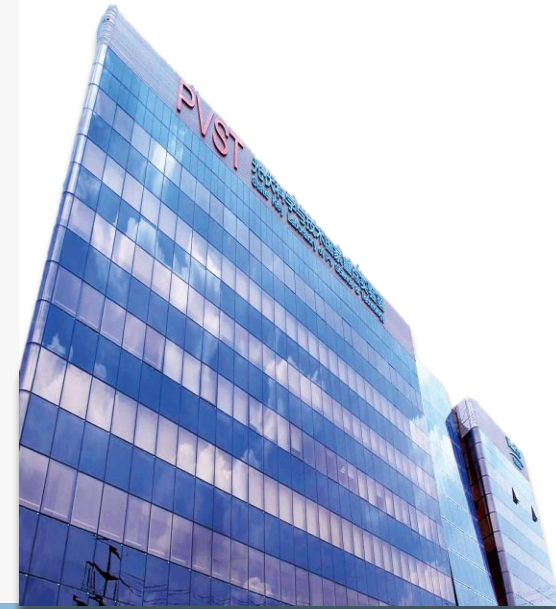
72 questionnaires



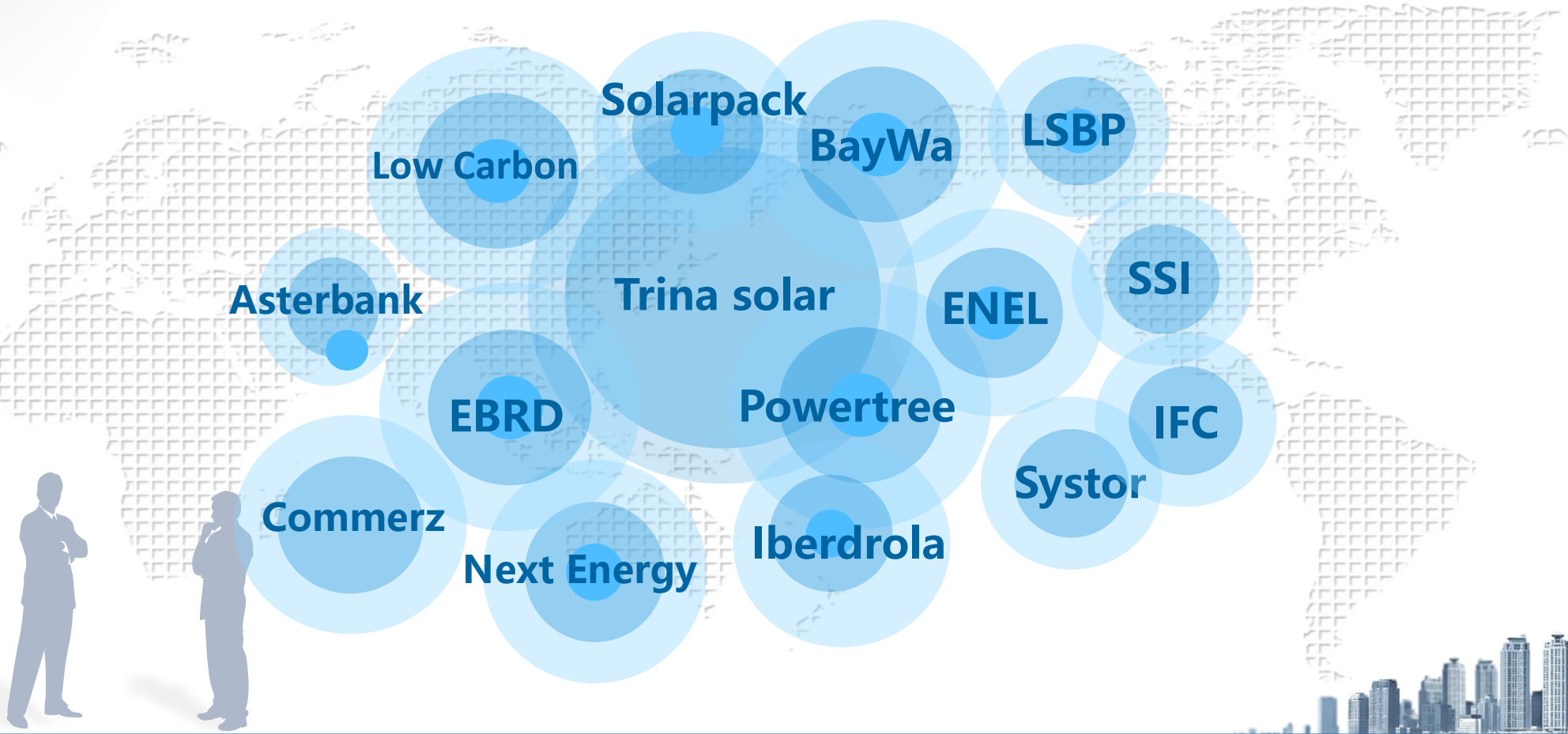
All passed



For traceability, we have completed a lot of traceability verification for specific orders with different third-parties, including TUV's traceability audit for Next energy's order to Quartz, all successfully passed.



# Customers base cooperating



Through the control of supply chain and production link, Trina gets cooperation with top brands worldwide.

# Traceability Achievements



Section		Possible score	Actual score	Percent
General	Company general information	22	22	100%
	RCM management/Process contribution	22	18	82%
Traceability system	Supply Chain (Supplier chain map, Rating)	12	12	100%
	Audit	12	9	75%
	Traceability document (storage system)	12	6	50%
Operation	Structure & Responsibilities	15	15	100%
	Traceability information sharing (Internal and External format)	15	15	100%
Sample tracking	Module level (and tracked cell source)	40	40	100%
	Cell level (and tracked wafer source)	40	36	90%
	Wafer level (and tracked ingot source)	25	25	100%
	Ingot level (and tracked Poly-silicon source)	15	15	100%
	Polysilicon level (and tracked Mts source)*	14	14	100%
	AGU level (and tracked quartz source)*	14	7	50%
	<b>Overall</b>			<b>85%</b>



The final rate of traceability of the whole industry chain  
**Module~Quartz**



The first audit to XX Project was successfully - **All good**  
**Module~Polysilicon**



Verified unique identifiers establish product traceability - **A level**  
**Module~Polysilicon**

Supply Chain	Factory Name	Factory Address / Company Address	Region of Origin	Traceability capability
Supplier Level N-1 (PV Module Manufacturer)	Trina Solar (Huar'an) Technology Co., Ltd	No. 189, Shenzhen East Road, Huar'an Economic and Technological Development Zone, Jiangsu Province, P. R. China	Jiangsu Province, China	AA
Supplier Level N-2 (PV Cell Manufacturer)	Trina Solar (Yangzhou) Optoelectronics Co., Ltd	No. 188, Xingxi Road, Puxi Town, Yangzhou Economic and Technological Development Zone, Yangzhou City, Jiangsu Province, P. R. China	Jiangsu Province, China	AA
Supplier Level N-3 (PV Wafer Manufacturer)	Trina Solar (Suqian) Silicon Materials Co., Ltd	No. 516, Hong Kong Road, Suqian Economic and Technological Development Zone, Suqian City, Jiangsu Province, China	Jiangsu Province, China	AA
Supplier Level N-4 (PV Ingot Manufacturer)	Trina Solar (Qinghai) Crystalline Silicon Co., Ltd	No. 232, Jinchuan Avenue, Huangzhong District, Xining City, Qinghai Province, China	Qinghai Province, China	AA
Supplier Level N-5 (Polysilicon Manufacturer)	Sichuan Yongxiang Poly-Silicon Co., Ltd	No. 100 Yongxiang Road, Zhugen Town, Wutongjiao District, Leshan City, Sichuan Province, China	Sichuan Province, China	AA



TUV traceability audit reached **AA level**;  
**Module~Polysilicon**



Honored by TUV for full supply chain traceability  
From module to polysilicon with **AA level (TOP 1)**

- Trina's industry integration layout is in the leading position in the industry, with its own MGS factory;
- Trina is the first company in the PV industry to reach the full AA of Module ~ Polysilicon traceability certification;
- We have passed a number of authoritative third-party traceability audit, supporting customized supply chain & manufacturers (Module ~ Quartz)



Supply Chain	Factory Name	Factory Address / Company Address	Region of Origin	Traceability capability
Supplier Level N-1 (PV Module Manufacturer)	Trina Solar (Hualian) Technology Co., Ltd	No. 189, Shenzhen East Road, Hualian Economic and Technological Development Zone, Jiangsu Province, P. R. China	Jiangsu Province, China	AA
Supplier Level N-2 (PV Cell Manufacturer)	Trina Solar (Yangzhou) Optoelectronics Co., Ltd	No. 188, Xingxi Road, Puxi Town, Yangzhou Economic and Technological Development Zone, Yangzhou City, Jiangsu Province, P. R. China	Jiangsu Province, China	AA
Supplier Level N-3 (PV Wafer Manufacturer)	Trina Solar (Suqian) Silicon Materials Co., Ltd	No. 516, Hong Kong Road, Suqian Economic and Technological Development Zone, Suqian City, Jiangsu Province, China	Jiangsu Province, China	AA
Supplier Level N-4 (PV Ingot Manufacturer)	Trina Solar (Qinghai) Crystalline Silicon Co., Ltd	No. 232, Jinchuan Avenue, Huangzhong District, Xining City, Qinghai Province, China	Qinghai Province, China	AA
Supplier Level N-5 (Polysilicon Manufacturer)	Sichuan Yongxiang Poly-Silicon Co., Ltd	No.100 Yongxiang Road, Zhugen Town, Wutongqiao District, Leshan City, Sichuan Province, China	Sichuan Province, China	AA

**Remarks:**  
**AA** – Outstanding level, ≥80 score;  
**A** – Common level, ≥65score  
**B** – Need Improvement, ≥55 score  
**C** – Only meet basic requirements, < 55 score  
**F** – Material information untraceable, 0 score, critical item fails.

THANK YOU

Trinasolar

