



**ASTRONERGY**

**TO BE THE MOST COMPETITIVE  
PHOTOVOLTAIC MODULE  
SUPPLIER WORLDWIDE**



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\*This brochure is valid until May 2026, the information may be changed and updated, please refer to the latest version.

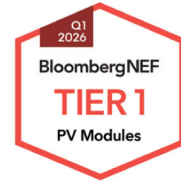
Solar Together,

For A Greener World





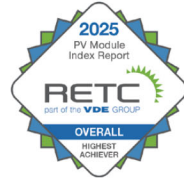
A member of the Solar Stewardship Initiative



Tier 1 PV Module Maker listed by BloombergNEF



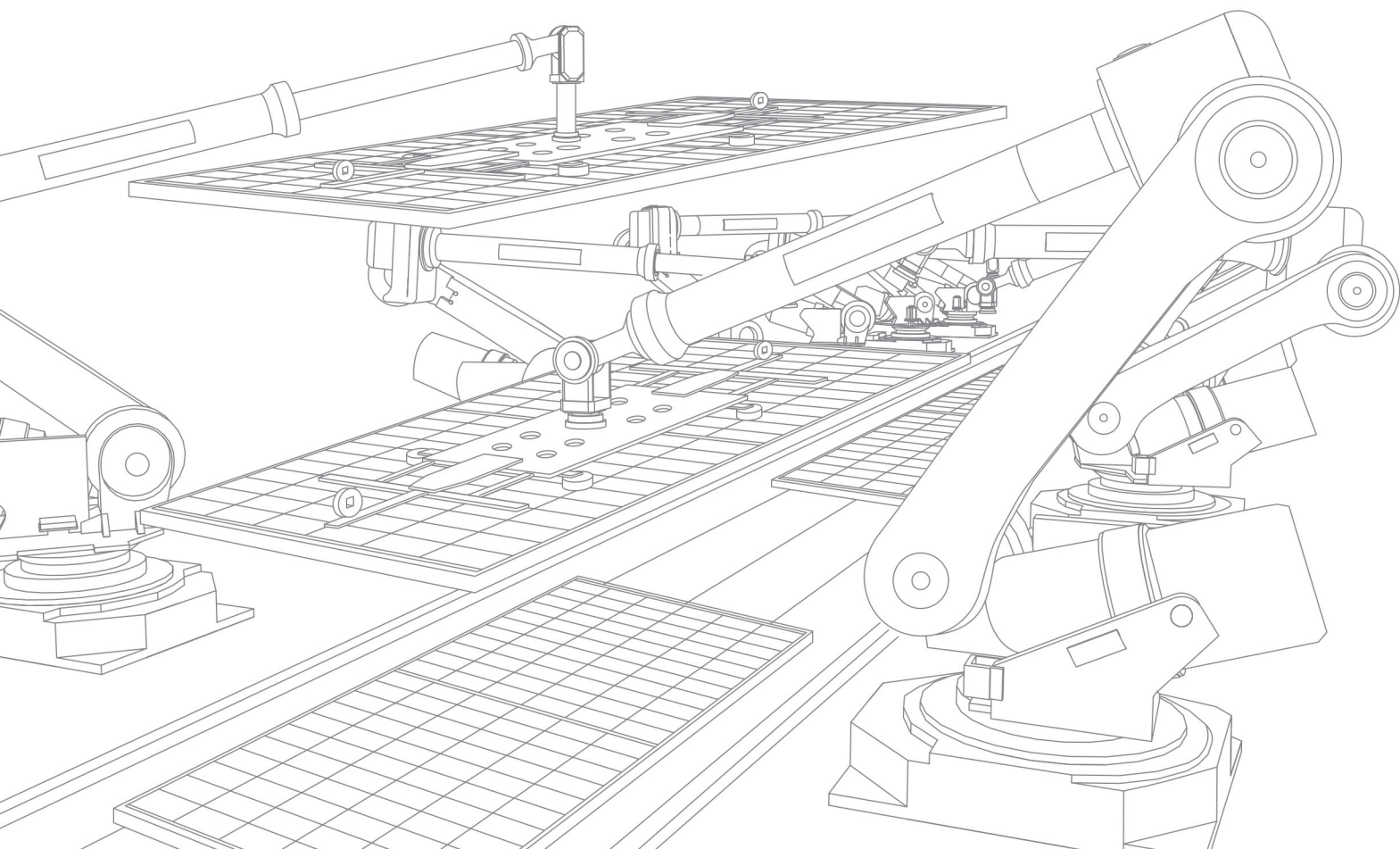
TOP Performer honored by Kiwa PVEL 10 times



Overall Highest Achiever by RETC



Group-level Platinum Rating by EcoVadis



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# Company Profile      About CHINT Group



**25.91 Billion USD**  
2025 CHINT Group Revenue



**140+**  
Countries and Regions Where Businesses Cover



**40000+**  
Employees Worldwide



**4.14 Billion USD**  
PV Modules Revenue in 2024



**70%+**  
Localization Rate of CHINT International Employees



**66+ Million Tons**  
Annual Carbon Emissions Avoided

Founded in 1984, CHINT Group Co., Ltd. (hereinafter referred to as "CHINT") is a global leading smart energy solutions provider. Over the past 40 years since its establishment, CHINT has always focused on industry and brand building, deeply implemented the strategy of "Industrialization, Technologization, Internationalization, Digitalization and Platformization", and formed three major segments of "Green Energy, Intelligent Electric and Smart Low-carbon" and two major platforms of "CHINT International Platform and Sci-tech Innovation Incubation Platform", and endeavored to build up "211X" Management Capabilities, including Intelligent Electric and New Energy Industry Cluster Capabilities, Regional Localization Capability, Middle and Backstage Integration Capability, and Innovation Incubation Capability. Its business covers more than 140 countries and regions, with 4 global R&D centers, 6 international marketing regions, over 25 domestic and international manufacturing bases, and a global workforce of over 40,000 employees. In 2025, CHINT's operating revenue reached USD 25.91 billion, and CHINT has been listed among the Top 500 Chinese Enterprises for more than 20 consecutive years. CHINT Electrics (stock code: 601877) is the first A-share listed company in China with LV electrical appliances as its main business. CHINT continuously strengthens its "One Cloud & Two Nets" strategy, with "CHINT Cloud" as the carrier of intelligent technology and data applications and takes the lead in building the Energy Internet of Things (EIoT) and Industrial Internet of Things (IIoT) platforms, striving to be the explorer, advocator, and practitioner in the world of low-carbon development. With the "Green Energy, Smart Network, Load Reduction, and New Storage" service systems, CHINT sets up a platform-based enterprise, and builds a regional smart energy industry ecosystem. It provides a total energy solutions package for public institutions, industrial, commercial, and end users to achieve energy conservation, carbon reduction, and accelerate the energy transition.





Under the CHINT Group, Astronergy is an intelligent manufacturing enterprise focusing on photovoltaic cells and modules. Founded in 2006, it is one of the earliest private enterprises in China to set foot in the photovoltaic field. It has the capacity to design and manufacture various cutting edge technology solar products for the markets.

Committed to being the most competitive photovoltaic module supplier worldwide, Astronergy sets its mission to create a sustainable and net-zero carbon world with solar power. Focusing on R&D, production and sales of high-efficiency crystalline silicon PV cells and PV modules, Astronergy has continuously launched the ASTRO series high-efficiency, high-quality, high-performance modules.

Both its bifacial and monofacial ASTRO series modules using

large-size wafers could be perfectly applied in various scenarios of utility-scale power stations, commercial & industrial (C&I) PV systems and residential PV systems.

With business footprints in over 140 countries and regions, Astronergy has established intelligent manufacturing bases at Haining in Zhejiang, Yancheng in Jiangsu, Jiuquan in Gansu, Songyuan in Jilin, Fengyang in Anhui, Yiwu in Zhejiang, Yanchi in Ningxia, Yueqing in Zhejiang, Fuyang in Zhejiang, Yibin in Sichuan, in Thailand and in Turkey. It has also set up branch companies and sales centers in countries like Germany, Spain, the Netherlands, Poland, the United States, Canada, Brazil, Australia, Singapore, Japan, and Thailand, achieving great sales performance of Astronergy PV products in international mainstream markets of Europe, North America, Latin America, and Asia Pacific.



**170 GW+**  
Total Global Shipments\*

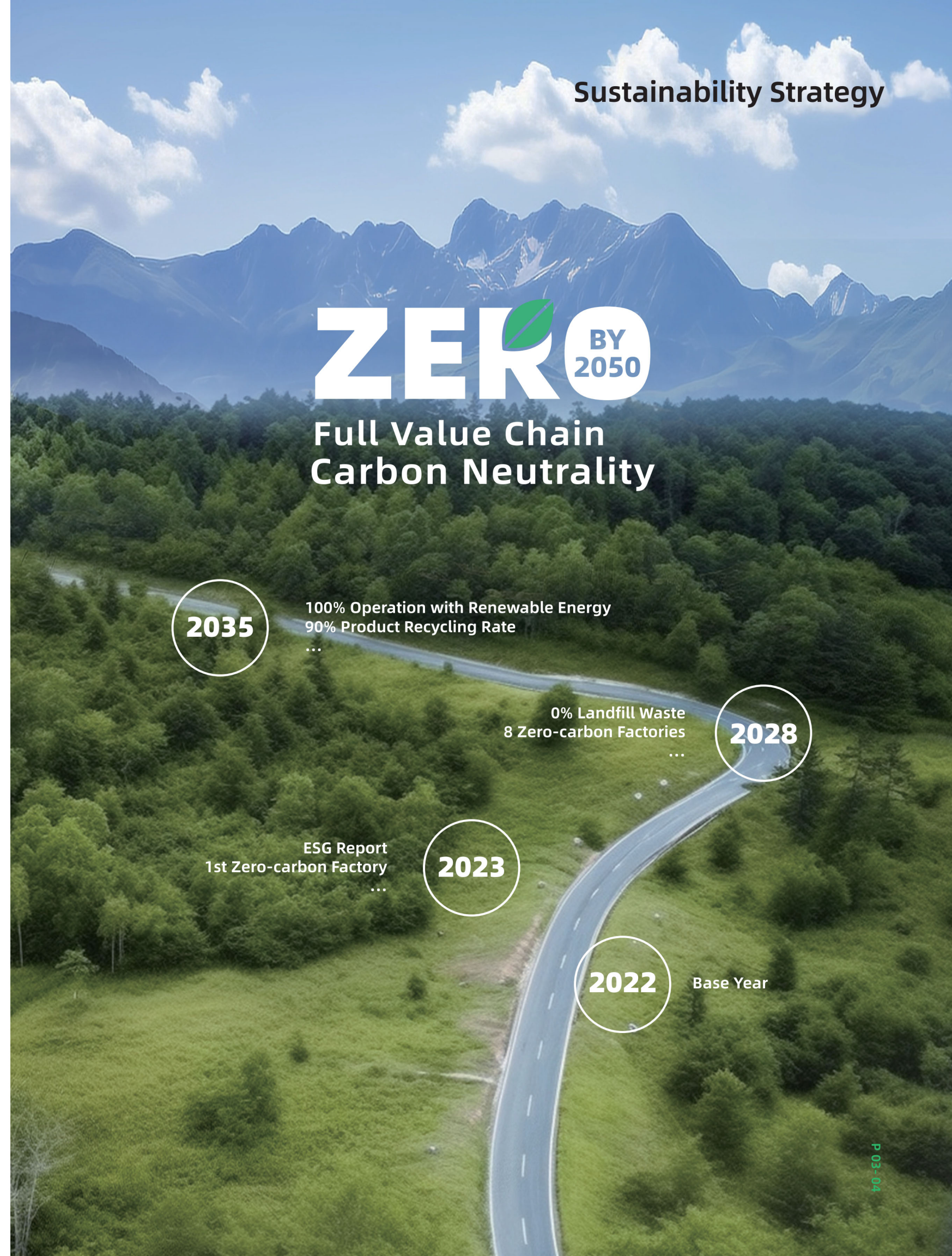


**TOP 4**  
n-type TOPCon Product Shipment Worldwide



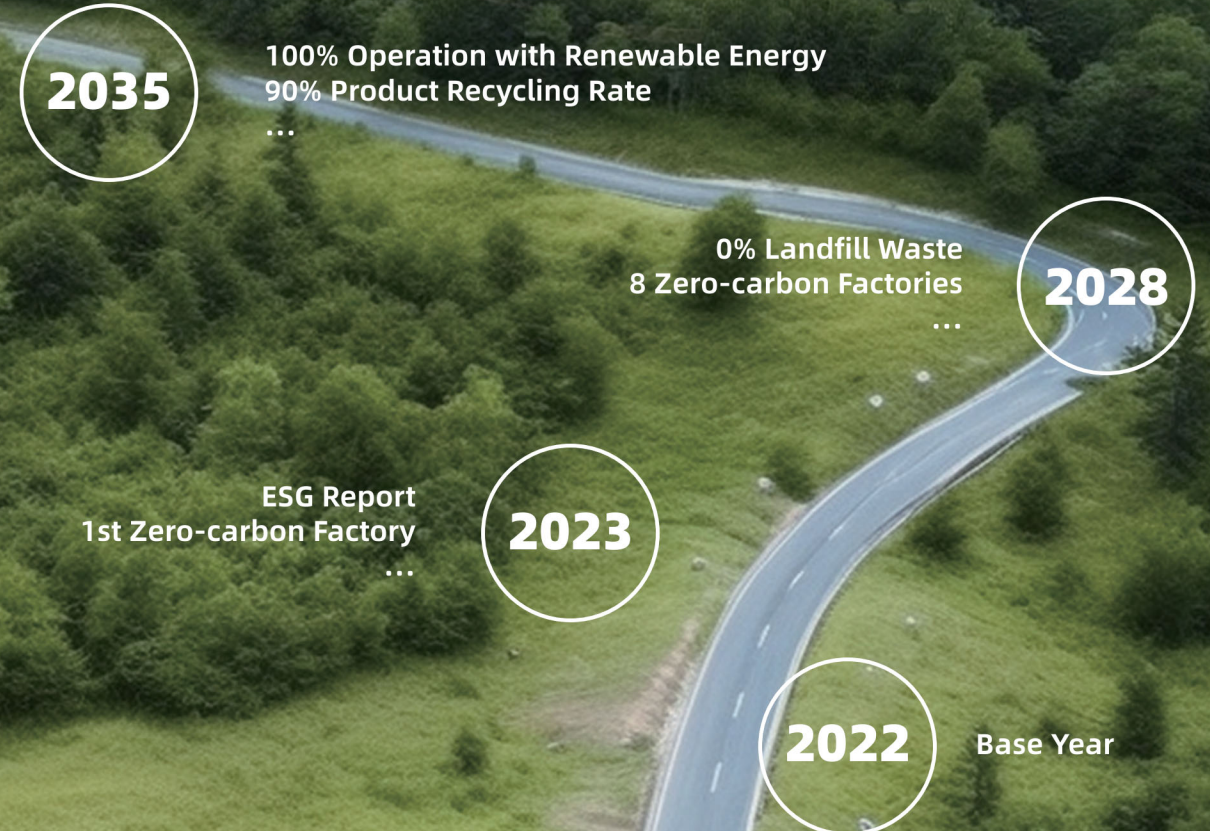
**140+**  
Business Covered Countries

\*Data Updated December, 2025



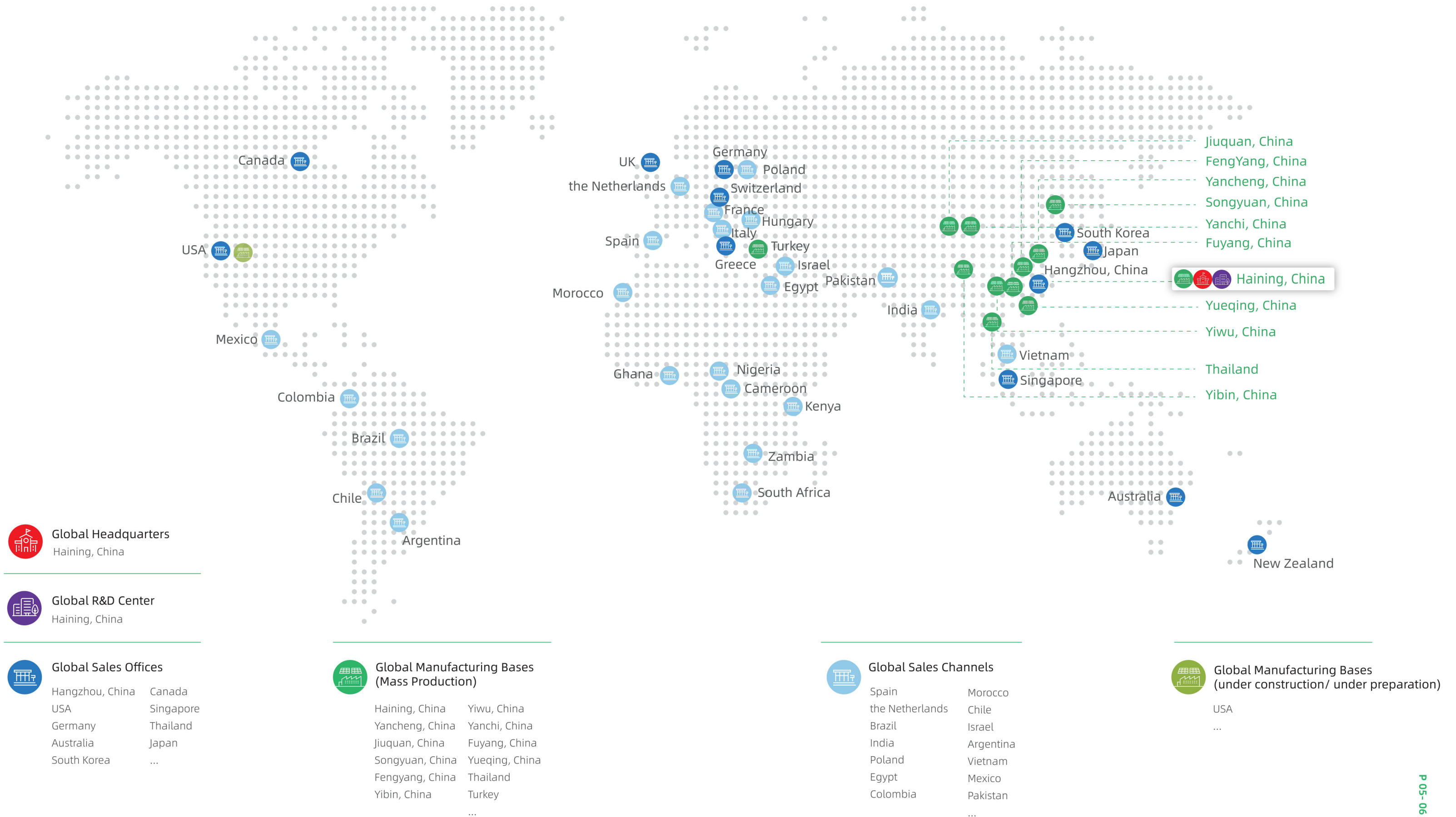
# ZERO <sup>BY 2050</sup>

## Full Value Chain Carbon Neutrality

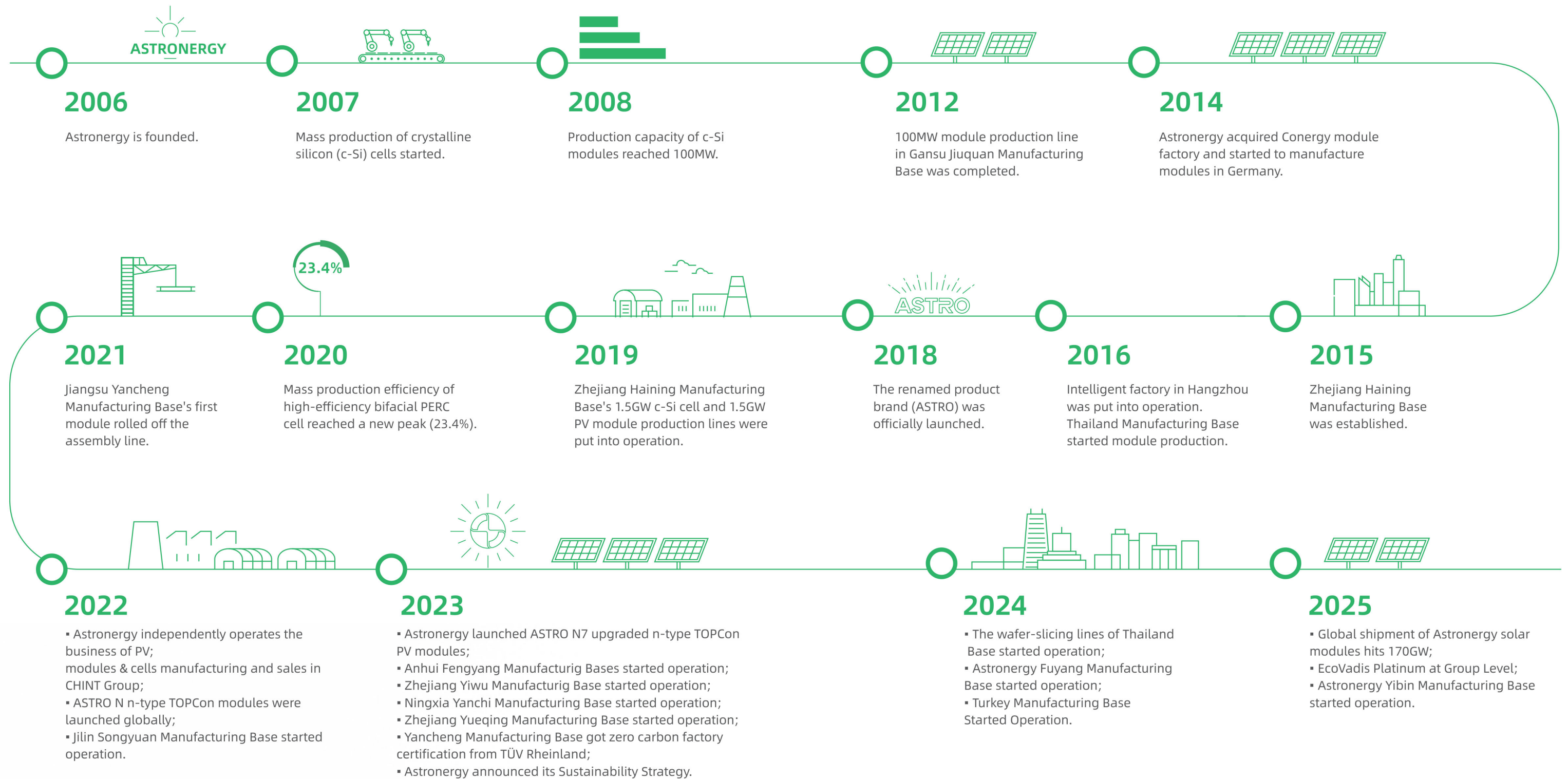


# Globalization










Astronergy product sales footprint covers more than 140 countries around the world. And it has set up branches in the United States, Germany, Australia, Canada, Singapore, Thailand, Japan and other countries to help the process of globalization and win the full trust of customers and good reputation in the industry with credibility.



# Milestones



## Brand Value

 <p>For 10 years, Astronergy has been honored by Kiwa PVEL as "TOP Performer" among module manufacturer</p>	 <p>Astronergy has won 9 awards of "All Quality Matters" from TÜV Rheinland</p>	 <p>For a long time, Astronergy has been listed as the world's Tier 1 PV Module Maker by BloombergNEF</p>
 <p>TOP 10 PV Modules Suppliers released by S&amp;P Global</p>	 <p>No. 1 in "China's Top 100 Private Enterprises with Social Responsibility" in 2022</p>	 <p>No. 40 in "2025 China's Top 500 Private Enterprises"</p>
 <p>No. 235 in "2021 Top 500 Chinese Enterprises"</p>	 <p>China Industry Award</p>	 <p>China Charity Award</p>

## Bankability


Astronergy has secured Top 5 among all module manufacturers in the 2025 BloombergNEF PV Module and Inverter Bankability report, which is a reflection of the trust our customers place in our bankability, reliability, performance and commitment to the energy transition. And Astronergy has been rated "A" for multiple consecutive quarters in the PV ModuleTech bankability ratings report.




## Intelligent Manufacturing

 **Pioneer and Explorer of Smart Manufacturing in PV Industry**  
Astronergy builds the first PV "Intelligent Manufacturing" transparent factory

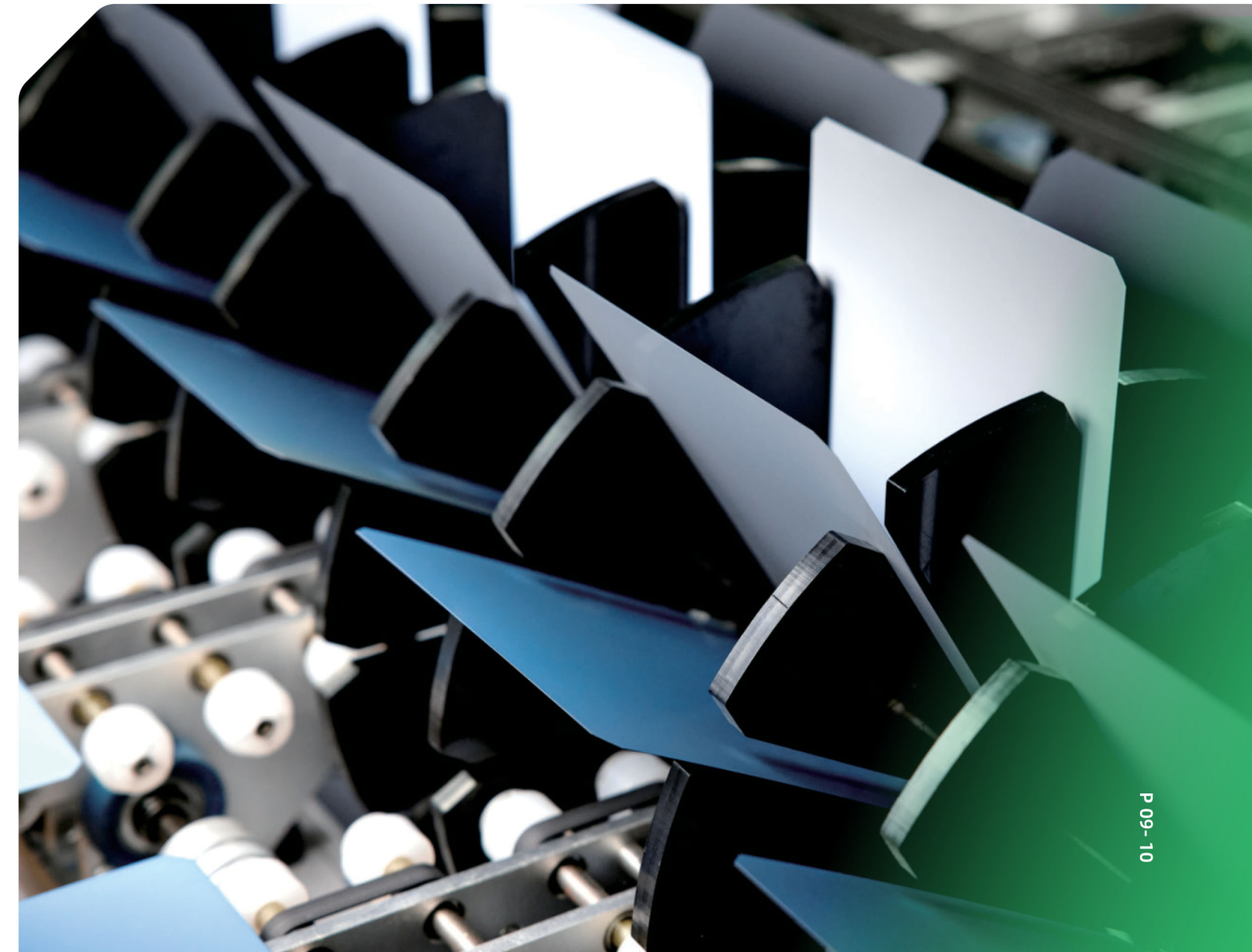
With the automatic production line and highly information-integrated production mode, Astronergy enables the monitoring and traceability in the production process from raw materials to finished products and maintains its leading position in smart manufacturing.

 **1st to Achieve AI Automatic Detection of EL Defects**

- \* Supported by Big Data
- \* Localization of Production Equipment
- \* Fully Automated Production
- \* AI Quality Detection
- \* Automatic Monitoring of the Entire Process
- \* Automatic Batching by Unmanned Vehicles

 **Outstanding in Intelligent Manufacturing**

- \* Sino-German Intelligent Manufacturing Demonstration Base
- \* Intelligent Photovoltaic Pilot Demonstration Enterprise





## R&D Strength

### Global R&D Cooperation

Explore the "industry university research" integration mode with Shanghai Jiao Tong University, Zhejiang University, Zhejiang University of Technology, Hangzhou University of Electronic Science and Technology, New South Wales, Chinese Academy of Sciences Ningbo Institute of Materials and other universities and research institutions, integrate global innovation resources, and promote enterprise R&D innovation and talent training. Deeply cooperate with domestic and foreign frontline equipment and material manufacturers, carry out collaborative innovation in the industrial chain, and promote industry material innovation and industrialization.



**Zhejiang University**  
Key Technologies of Low-cost and High-efficiency Solar Cells



**Shanghai Jiao Tong University**  
New Tunnel Passivated High-efficiency Solar Cell & Module Technology



**Zhejiang University of Technology**  
N-type Passivated Contact High-efficiency Bifacial Crystalline Silicon Solar Cells



**Hangzhou Dianzi University**  
High-efficiency Monocrystalline PERC Cell Technology



**UNSW SYDNEY**  
Hydrogen Passivation Project

### Accreditation Laboratory Qualifications

With strong testing capabilities, Astronergy has obtained the qualifications of CNAS Laboratory, CSA Witness Laboratory, TÜV Rheinland Witness Laboratory, Intertek "Satellite Program" Laboratory and other qualifications, and conducts more than 30 rigorous tests internally for PV modules.


### Scientific Research Achievements


**527** Utility Model Patents

**127** Invention Patents

**17** Appearance Design Patents

### Scientific Projects

 **20%+** The number of R&D personnel with intermediate titles and above at the national level accounts for more than 20%

 Launched 2 Provincial-Level Frontier Innovation Projects (From 2023 to 2024)

### Talent Declaration

 Zhejiang Core Energy's Key Cooperative R&D Projects

 Jiaxing Leading Team on Innovation

 Haining Demonstration Project on Collaborative Innovation

# Our Products — n-type TOPCon Ultra-High Power PV Modules

ASTRO N series products adopt n-type TOPCon solar cell technology, featured advanced technologies such as SMBB/ZBB, non-destructive cutting, high-density encapsulation, etc., to achieve advantages such as high power, high efficiency, high reliability, high power generation per watt, low BOS cost and LCOE. Products of the series are suitable for multiple application scenarios, such as utility-scale power plants, commercial and industrial distributed power plants, and residential rooftops and balconies.

**15/25** Years  
Product Warranty

**30** Years  
Linear Power Output Warranty

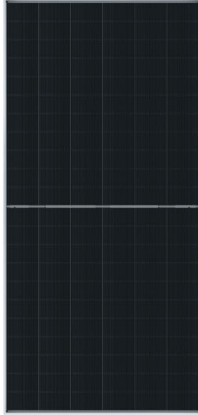
**≤1.0%**  
First-year Power Degradation

**≤0.35% / ≤0.4%**  
Annual Power Degradation



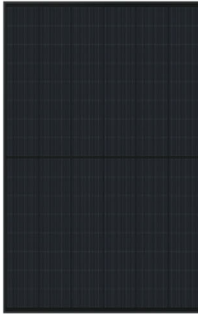
**ASTRO N7 Pro**  
670W  
TOPCon 5.0+ / Quarter-cut Design  
ZBB Tech / Rectangular Wafer

**Application Scenarios:**  
Utility-scale Power Stations and Distributed Power Stations



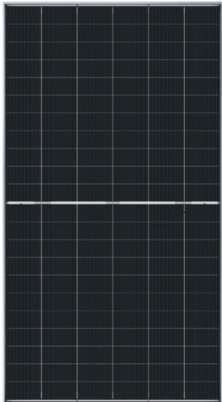
**ASTRO N7 3.0 / ASTRO N7**  
655W / 640W  
TOPCon 5.0 / TOPCon 4.0+ / Rectangular Wafer  
ZBB / SMBB Tech / Light Redirecting Film

**Application Scenarios:**  
Utility-scale Power Stations and Distributed Power Stations



**ASTRO N7s 3.0**  
475W / TOPCon 5.0 / Rectangular Wafer  
ZBB Tech

**Application Scenarios:**  
Residential Rooftop Solar Power Systems



**ASTRO N8**  
745W / TOPCon 5.0 / 210 Wafer  
SMBB Tech

**Application Scenarios:**  
Utility-scale Power Stations



# Applied Cases — Utility-Scale PV Power Stations



150MW

Douro Solar Park  
Portugal



50MW

Barreiras Project  
Brazil



15MW

Utility-scale Solar Plant  
Netherlands



1000MW

Hydro-Solar Complementary  
Power Plant  
China



1050MW

Panjiang Utility-scale Solar Plant  
China



132MW

Claresholm Solar Farm  
Canada



67MW

Boychinovtsi Solar Park  
Bulgaria



89MW

Goonumbla Project  
Australia



310MW

China's First Sand-Solar Hybrid Power Station  
China



550MW

The Largest Fishing-Solar Hybrid Project in Asia  
China



165MW

Benban Solar Park Project  
Egypt



48.5MW

Insua Power Station  
Portugal

# Applied Cases — Utility-Scale PV Power Stations



154.4MW Döllén Solar Farm  
 Germany



150MW Covatillas 1, 5 & 6 Solar Park  
 Spain



70MW Italy Rovigo Solar Park  
 Italy



21MW Mangaturoto Solar Farm  
 New Zealand



310MW Kubuqi Sand-Solar Hybrid Project  
 China



18MW Japan Nagano Solar Park  
 Japan



3MW Depot Park-Sacramento, CA  
 USA



70MW Utility-scale Project  
 China



1000MW Tacheng Multi-Energy Complementary Project  
 China



81MW SOL DO FUTURO Solar Park  
 Brazil



79MW Dominica Soco Solar Park  
 Dominican Republic

# Applied Cases — Distributed Rooftop PV Power Stations



**366kW** Cocoon Island Rooftop Solar Project  
Maldives



**2.8MW** Yurbaqua Floating Solar Park  
Colombia



**519.58kW** Youi Insurance Centre Solar Project  
Australia



**0.76MW** F1 C&I Distributed Power Station  
Singapore



**1.2MW** Hangzhou Civic Center Podium Roof Photovoltaic Power Station  
China



**6.96kW** Transport Terminal Solar Project  
Colombia



**15MW** D&Y Textile Distributed Rooftop Solar Generation Plant  
Malaysia



**43kW** Qilian Mountain National Park V2G PV Self-Consumption System  
China



**220kW** Keech Hospice Rooftop Solar Project  
United Kingdom



**6.96kW** Tak Chai School Solar Project  
Vietnam

