

# JinkoSolar Holding Co., Ltd.

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JinkoSolar Australia Holdings Co., Ltd.

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## Manufacturing Base

**JinkoSolar Shangrao Base, Jiangxi**

No.1 Jingke Avenue, Shangrao Economic Development Zone, Jiangxi Province

**JinkoSolar Yuhuan Base, Zhejiang**

Intersection of Shanghai Road and Taizhou Road, Yuhuan Phase III Project, Taizhou City, Zhejiang Province

**JinkoSolar Chuzhou Base, Anhui**

No.18 Liming Road, Lai'an Economic Development Zone, Chuzhou City, Anhui Province

**JinkoSolar Leshan Base, Sichuan**

Sichuan JinkoSolar Co., Ltd., Wutongqiao District, Leshan City, Sichuan Province

**JinkoSolar U.S. Base**

Jacksonville, Florida, USA

**JinkoSolar Haining Base, Zhejiang**

No.58 Yuanxi Road, Yuanhua Town Industrial Function Zone, Haining City, Zhejiang Province

**JinkoSolar Yiwu Base, Zhejiang**

No.1555 Chengxin Avenue, Niansanli Street, Yiwu City, Zhejiang Province

**JinkoSolar Hefei Base, Anhui**

No.1, Southwest Corner, Intersection of Longxing Avenue and Shichi Road, Hefei Circular Economy Demonstration Park, Feidong County, Hefei City, Anhui Province

**JinkoSolar Chuxiong Base, Yunnan**

2/F, Chuxiong SME Entrepreneurship Park, East of Chufengyuan Community, Yangguang Avenue, Lucheng Town, Chuxiong City, Yunnan Province

**JinkoSolar Malay Base**

No.538, Zone 4B, Belial Free Trade Industry, Perai, Penang, Malaysia

**JinkoSolar Vietnam Base**

Song Khoi Industrial Zone, Song Khoi Township, Quang Yen County, Quang Ninh Province, Vietnam

www.jinkosolar.com | sales@jinkosolar.com

The company reserves the final right for explanation on any of the information presented hereby.

*Solar*  
**Jinko**  

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*Building Your Trust in Solar*

## Vision and Mission

Optimize the energy mix  
and take responsibility for  
enabling a sustainable  
future.

# Milestones

- 2023 Launches liquid cooling ESS systems
- 2022 Establish first wafer factory in Vietnam  
Become first in the industry to reach 100GW accumulated delivery
- 2021 Leads industry in producing N-type TOPCon process technology
- 2019 #1 in global solar module shipment for fourth year in a row
- 2018 Establish US factory in Florida
- 2016 Becomes world's largest solar module producer
- 2015 Establish first overseas cell and module factory in Malaysia
- 2010 Successful IPO and listed on the NYSE
- 2009 Starts cell and module production, pioneering the vertical-integrated production model
- 2008 Launches wafer manufacturing
- 2007 Launches ingot manufacturing
- 2006 Jinko Solar Co., Ltd. was established

# Awards

- TOP 50 ! JinkoSolar was selected as one of the "2022 Hurun China Top 500".
- 2022 MIT-Global Top 50 Smart Companies
- Listed on the "China Top 500 Private Enterprises" by the China Federation of Industry and Commerce for 9 consecutive years, ranking 152nd in 2022
- Listed on the Fortune 500 China for 8 consecutive years, ranked 309th in 2022
- Ranked "Most Bankable" PV brand by Bloomberg New Energy for 8 consecutive years
- 2022 SSE - "Science and Innovation 50 Index" and "SSE Growth Index" sample companies
- 2022 Forbes China - Top 50 Innovative Companies
- 2022 Fortune China - Top 50 Best Design Companies in China
- 2021 Forbes China - Most Promising Clean Energy Technology Award
- 2021 Harvard Business Review - "Enterprise of the Year Award" for Digital Transformation
- China Institute of Energy economics research (CIER)- China Energy (Group) Top 500, ranked 55th
- World Brand Lab - China's 500 Most Valuable Brands, ranked 172nd (2021)
- 21st Century Business Herald - Board of Excellence (2021)



## About Jinkosolar

Established in 2006, Jinkosolar pioneered the vertical integrated production model and today has become the world's leading solar module producer with 14 factories in China, Malaysia, US, Vietnam, 35 subsidiaries and sales office and 46,000 employees worldwide. The Company will reach 75GW wafer, 75GW cell and 90GW in 2023.

Since 2019, it has ranked No.1 in global module sales volume for four consecutive years. In 2022, the Company became the world's first solar company exceeding 100GW accumulated delivery, and led the industry in producing N-type TOPCon process technology to address strong global market demand for higher energy density and higher power generation technologies. In Q1 of 2023, it broke the world record of solar cell and module efficiency for the 22nd time. The Company launched liquid cooling energy storage system SunTera and SunGiga, first commercial application scenario of ultra safety liquid cooling ESS solution for utility and C&I energy storage power station projects

Jinkosolar-made solar products serve a global customer base of more than 3,000 in over 160 countries, which is large and diverse with a wide range of applications. These products are used in a variety of end markets including utility scale, commercial and industrial, residential, BIPV. Such strong diversification helps to smooth fluctuations in demand, which in turn allows Jinkosolar to maintain higher levels of capacity utilization.

# Global Layout



- 20+ Overseas Subsidiaries
- 📍 14 Manufacturing Factories

14	46000 +
Production Facilities	Employees
35	120 +
Sales Offices	Global Marketing Branches
160+	3000 +
Covered Countries	Customers

# Key Facts

**150GW**

Accumulated Delivered  
by 2023 Q1

85 GW 2021	130 GW 2022	↗
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**46.58GW**

2022 Sales Volume

21.1 GW 2020	25.2 GW 2021	↗
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**90GW**

Module Capacity  
by 2023 Q4

45 GW 2021	70 GW 2022	↗
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**106.2** billion RMB

Total Asset  
by 2022 Q4

**80.3** billion RMB

2022 Revenue

**104.77%**

YoY Growth  
2022

**2.947** billion RMB

2022 Net Profit (Billion)

**158.21%**

Increasing Rate of Net Profit  
2022

**Top50**

2022 Hurun China Top 50,  
ranked in the top 50

Thanks to the worldwide strong demand of higher efficiency and generation performance N-type solar products, the Company reached 46.58GW sales volume and 83 billion RMB in revenue in 2022, representing a robust growth of 104.77% over 2021.



# Core Competitiveness

JinkoSolar is one of the global leading PV manufacturers in the development of advanced technology, process technology, and smart manufacturing. JinkoSolar's leadership position is based on three differentiated competitive advantages and a long-standing business strategy. JinkoSolar has distinguished itself from the competition through its leading technology, manufacturing excellence, global layout, and industrial ecosystem.





#### R&D Organization and Investment

Jinkosolar continued to invest in research and development, with total R&D expenditures of 9.962 billion RMB in three years of 2020, 2021, 2022, that it exceeds the R&D investment of any other leading solar companies in China. It holds 1,461 patents, and has a R&D team of 2,000 scientists, experts and engineers. For 22 times, Jinkosolar has broken the world record of cell and module efficiency. It tops the industry in patent numbers, patent allowance rate, R&D investment,

Faced with the continuous challenge to significantly scale up panel power and generation performance (kWh/kW), the Company has focused its R&D efforts on contributing to customers' project success by offering leading-edge technologies and engineering solutions.

In 2022, the Company started mass production of N-type TOPCon technology, the leading-edge technology in the solar PV industry today. Furthermore, the Company's research efforts pushed forward with record high cell efficiency beyond 26.4%.

In addition to conventional panels, Jinkosolar conducts R&D on and commercialize BIPV building-integrated PV technologies including BIPV rooftop and facade that provide the functionality required by C&I customers.

#### 2020-2022 R&D Investments

**9.962** billion(RMB)

#### World Records

**22** times

#### Authorized Patents

**1461**

#### R&D Team

**2000**

**Technology  
Leadership**





## Manufacturing Excellence

Maintaining reliable and consistent production quality and yield rate is Jinkosolar's key manufacturing strength. The combined capacity of its fourteen facilities reach 75GW of wafer, 75GW of cells and 90GW of modules including 55GW N-type TOPCon capacity by end of 2023. Haining factory also supports 300MW N-type BIPV production. Liquid cooling energy storage system risk production is currently on track at Haining, with plans to start volume production in Q2 of 2023. Besides, an additional portion of capacity is built at Jianshan for R&D work on leading-edge manufacturing technologies, which currently supports the technology development of 26% efficiency N-type cells and beyond.

As advanced technology continues to evolve and energy density keeps enhancing, the need for tighter process and quality control becomes extremely challenging for manufacturing. Jinkosolar's unique manufacturing infrastructure is tailored to handle a diversified-location and product portfolio, which uses strict process control to attain tightened specs and meet higher product quality, performance and reliability requirements.

Wafer Capacity

75<sub>GW</sub>

Cell Capacity

75<sub>GW</sub>

Module Capacity

90<sub>GW</sub>

N-type Module Capacity

55<sub>GW</sub>

by Q4 2023

### High Level of Automation

Utilization of digital and automated production process eliminates need for manual labor and processes.

### Optimized Processes

Effective production processes with ongoing optimization.

### Intelligent Production

Intelligent systems can analyze data, identify previously undetected errors, and reveal areas for further improvement.

### State-of-the-Art Equipment

Integration of latest upstream technology and state-of-the-art manufacturing equipment.

### Qualified Staff

Well-trained and experienced production staff ensuring product quality at every stage.

» Automated Production





**01** **Comprehensive Quality Control**  
JinkoSolar's quality infrastructure spreads across the entire value chain. All sub-steps subjected to constant monitoring.

**02** **Intensive Quality Tests**  
All cells and modules must pass through a list of 48 different tests to ensure that the visual, optical, electrical, physical, and mechanical properties of the products meet JinkoSolar's high standards before reaching customers.

**04** **Intelligent Quality Monitoring**  
Computer-based quality control closely monitor all equipment and processes for deviational from programmed parameters.

**03** **Certified Quality Processes**  
Certified quality processes combining cutting edge quality control equipment, quality control certification process, diagnostic standards, and professional staff.

**05** **Digitalization of Quality Control**  
All quality control related data are collected, connected, and stored in JinkoSolar intranet to enable analysis and traceability.

» **Testing**

# Smart Factory

The Company's sophisticated, agile and intelligent operating systems continue to drive manufacturing excellence. TSMC has integrated intelligence of processes, machine tuning, manufacturing know-how, and AI technologies to create an intelligent manufacturing environment. Intelligent manufacturing technologies are widely applied in scheduling and dispatching, employee productivity, equipment productivity, process and equipment control, quality defense, and robotic control in order to optimize quality, productivity, efficiency, and flexibility, while achieving real-time information analysis, improving forecast capability, maximizing cost effectiveness, and accelerating overall innovation.

To achieve excellence in both quality and manufacturing, Through auto trolleys, grippers, robots, and automated material handling systems, combined with intelligent detection, smart diagnosis, and cognitive action, the Company has demonstrated remarkable results in yield enhancement, quality assurance, workflow improvement, fault detection, cost reduction and shortening of the R&D cycle.

In the meantime, with the advent of the 5G era, Jinkosolar's has further implemented artificial intelligence (AI) and machine learning technologies and integrated know-how to build up a knowledge-based engineering analysis platform and leverage digital transformation to continuously optimize engineering performance.



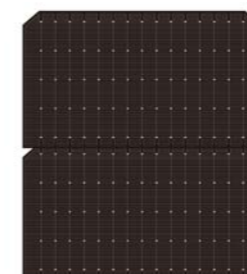


## Open Ecosystem

Competition continues to intensify in the face of increasing industry consolidation and the commoditization of technology at more mature, conventional levels, and thus Jinkosolar is finding ways to keep and promote innovation through active collaboration with external partners, known as eco-system. It is an “outside in” approach to complement traditional “inside out” methods. Jinkosolar has chosen this path to stimulate innovation via its N-type TOPCon initiative, which is a key part of the Jinkosolar’s Open Alliance.

The N-type TOPCon initiative is a comprehensive technology infrastructure that encompasses all critical supply chain areas to increased power, efficiency and generation performance of solar products. n-TOPCon promotes the speedy implementation of innovation amongst the polysilicon solar PV community and its ecosystem partners using Jinkosolar’s process technology in design implementation and backend services.

Crucial to N-type TOPCon are ecosystem interfaces and collaborative components initiated and supported by Jinkosolar to empower innovation throughout the supply chain, in turn, drive the creation and market share, Jinkosolar brings together the creative thinking of suppliers and partners under the common goal of shortening each of the following: implementing time, time-to-volume, time-to-market and, ultimately, time-to-revenue.



# Globalization

Jinkosolar is committed to providing the best possible products and services, which is critical to customer satisfaction, retention, relationship enhancement and attracting new customers. Jinkosolar has established 35 subsidiaries consisting of dedicated and localized service team that strives to provide world-class solution to support more than 3,000 customers' projects distributed in over 160 countries.

Today, Jinkosolar has 46,000 employees, 1/4 are local-hired overseas staff. Staring from global sales and transitioning towards global production and global sales is the long-term strategy of the Company, this it tops the industry in terms of number, investment and capacity of overseas facilities.

China

17.83 %

Brazil

25.62 %

Spain

15.09 %

Germany

23.68 %

Japan

18.97 %

Poland

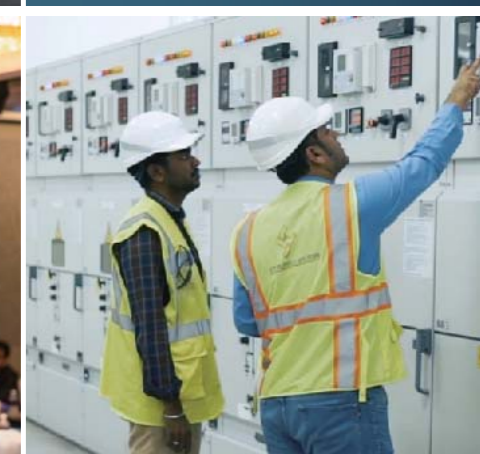
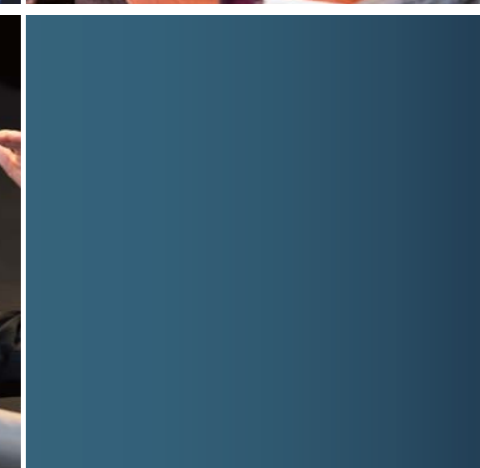
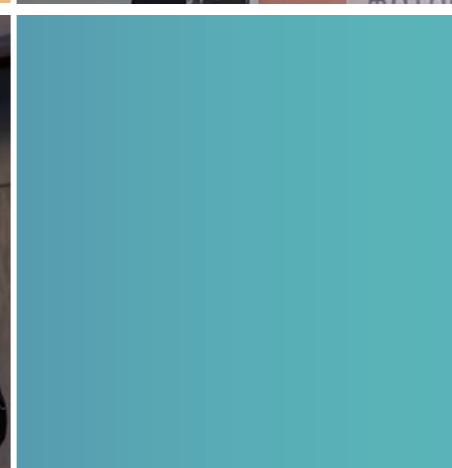
42.42 %

the Netherlands

30.30 %

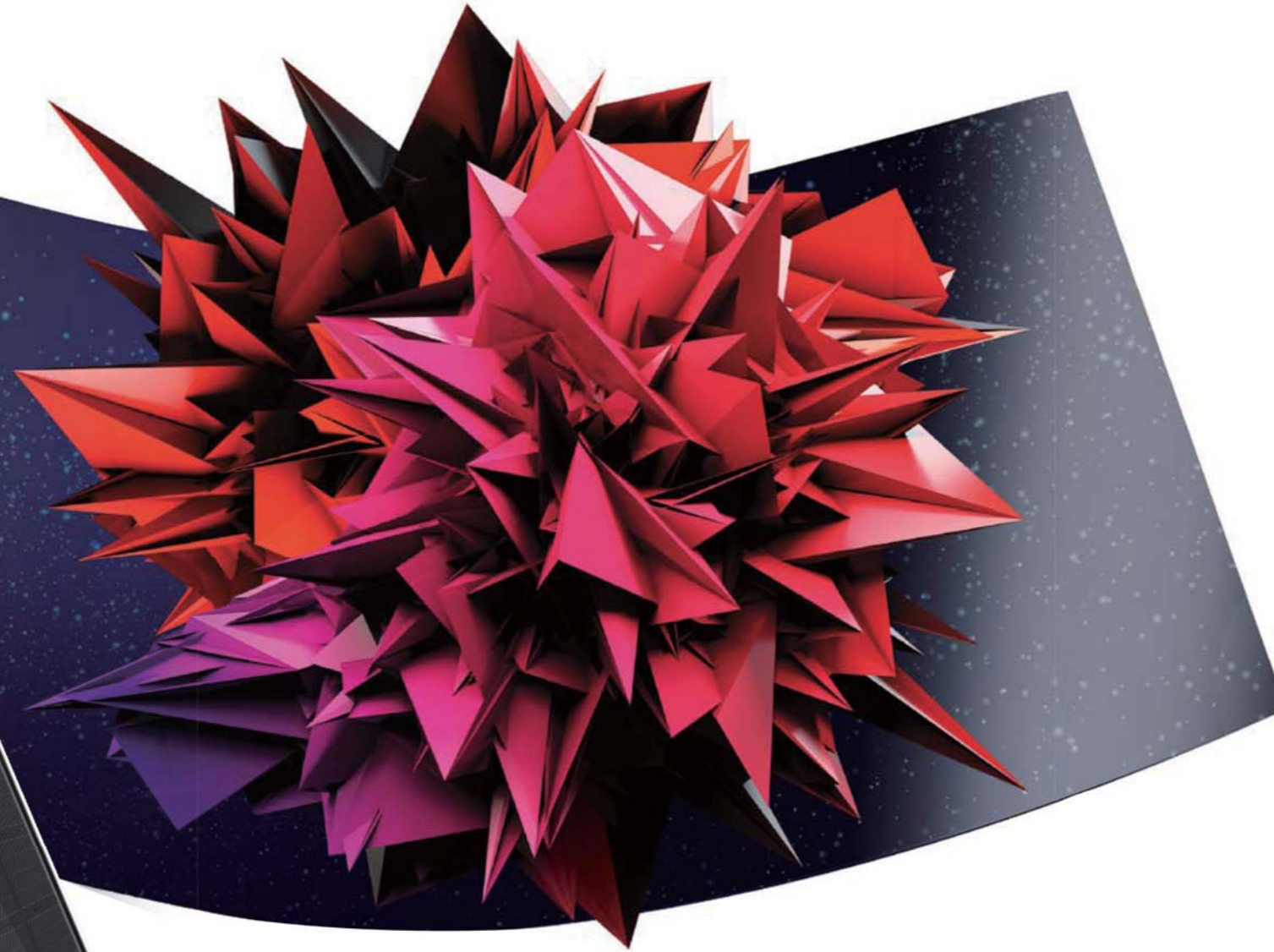
Australia

31.01 %



## High Efficiency Modules

# TIGER Neo



To respond to the unending demand for high efficiency and yield gain, customers rely not only on JinkoSolar's reliable N-type module capacity, but also on the company's predictable technology development progress.

In its second year of mass production, JinkoSolar's N-Type TOPCon technology has proven to be the most competitive and advanced technology in the industry, providing customers with the highest efficiency, best performance at the most mature yields, and best cost. The demand for N-Type Tiger Neo continues to be strong, driven by high energy density and high power generation per watt, and is driving the industry's overall transition to N-Type.

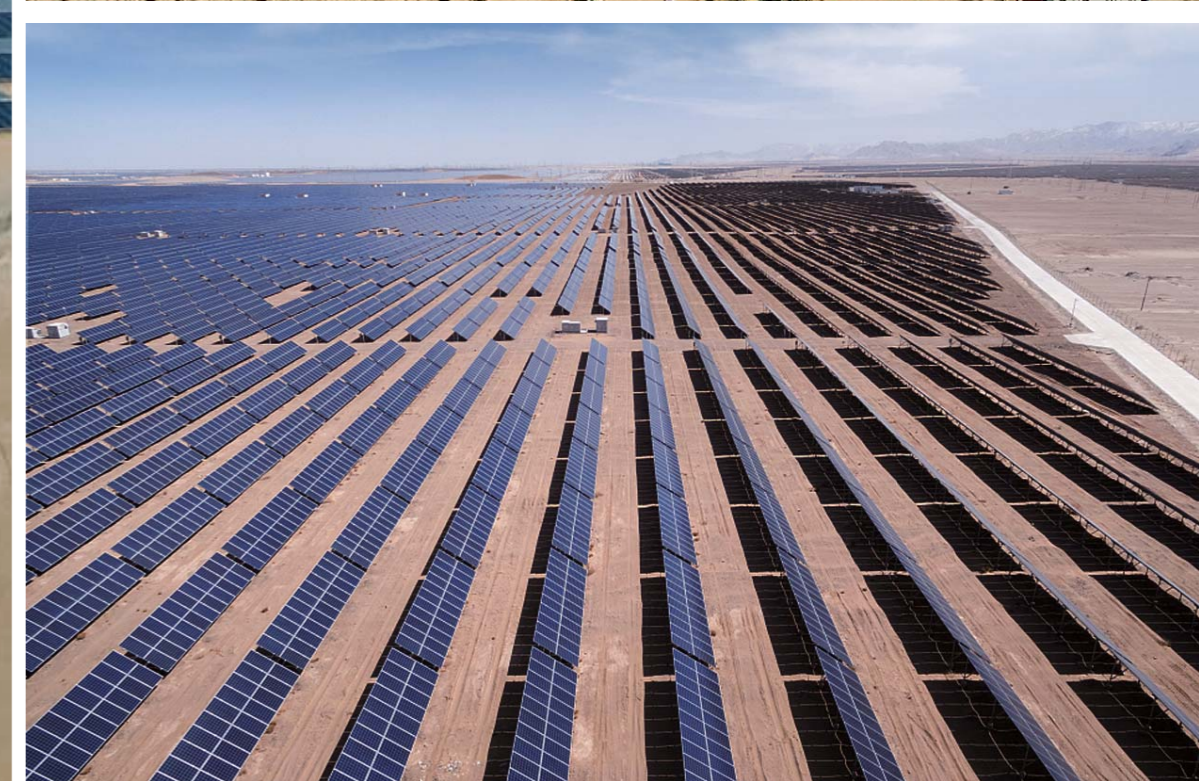
Based on the innovation of N-type TOPCon technology, the second-generation Tiger Neo series modules have been launched worldwide. The upgraded Tiger Neo modules can reach a maximum power of 635W, a maximum efficiency of 23.23%. The highest bifacial factor is up to 85%, which achieved an increase of about 15-20% compared to conventional bifacial modules. The optimized temperature coefficient is  $-0.29\%/C$ , which not only provides modules excellent power generation performance, but also better system performance for customers under the most severe conditions.





Accumulated Delivered

150GW



# Energy Storage System

Jinkosolar's energy storage system products are applied in the fields of power generation, power transmission and distribution, and power consumption, covering power generation integrating storage facilities for solar or wind power generation, energy storage for industrial enterprises, energy storage for commercial buildings and data centers, energy storage and charging stations, backup batteries for communication base stations, and house hold energy storage, which can effectively overcome the irregular output of wind or solar power generation, make up for loss of power lines, track and plan peak-load shifting, improve the energy efficiency of wind and photovoltaic power generation systems and achieve a balance between peak and valley in the electricity sector.

Driving by the energy storage market which was rapidly initiated, the Company continued to increase R&D investment. Based on liquid-cooled technology, the Company launched its outdoor system "SunGiga" for C&I market and "SunTera" for utility scale market, and had leading indicators such as safety and economy in the industry.

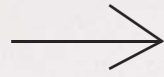


Completed Projects

100+



# Sustainable Development



In 2019, JinkoSolar joined the RE100 green initiative, committed to power its factories and global operations with 100% renewable energy sources by 2025. JinkoSolar also requires its key suppliers to adopt the same low-carbon production philosophy and take action to reduce their carbon footprint and create a green supply chain.

JinkoSolar is also the first member to join the PV Cycle organization in the industry, and is committed to recycling retired modules. Its self-developed recycling technology can achieve 92% recycling of module parts and packaging materials, reducing the carbon footprint of PV products throughout their life cycle and beyond.



# ESG Awards

Forbes Top 50 Sustainable Companies in China in 2023

2022 China Listed Companies Association "Excellent ESG Practice Cases of Listed Companies"

2022 Ernst & Young Sustainability Awards 2022 Outstanding Enterprise of the Year

2022 Harvard Business Review - "2022 China New Growth - ESG Innovation Practice List"

Sina Finance - Best Social Responsibility Award · China Corporate ESG "Golden Responsibility Award" (2022)

China Association for Public Companies - "Excellent ESG Practice Cases of Listed Companies" (2022)

Case report on World Economic Forum (WEF) Promoting Green Development in the Belt and Road Initiative: Leveraging Finance and Technology to Promote Low Carbon Infrastructure (2021)

China Energy Carbon Neutral Pioneer - Annual Carbon Neutral Model Company (2021)

US Green Builder - Annual Green Innovation Award (2021)

The 4th Social Responsibility Conference of SRC - Annual Sustainable Development Contributor (2021)