

Webinar

02 November 2022

Join us for the **official launch**
of the new next generation
DG solution from **LONGi**



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Moderated by
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Section Editor
Solar Media / PV Tech



LONGi

Aesthetic · Efficient · Reliable · Intelligent

Hi-MO 6

Series Module Products



About LONGi

Y2021 Operating Income
\$12.694 B

Y2021 Net Profit
\$1.425 B

Y2021 R&D Investment
\$689 M

Y2021 Wafer Shipments
75+ GW

Y2021 Module Shipments
~39 GW

Y2022 Wafer Capacity
150 GW

Y2022 Module Capacity
85 GW

Founded in 2000, LONGi is committed to being the world's leading solar technology company, focusing on customer-driven value creation for full scenario energy transformation.

Under its mission of "Utilizing Solar Energy, Building a Green World" and brand philosophy of "Steadfast and Reliable, Technology Leadership", LONGi has dedicated itself to technology innovation and established five business sectors, covering mono silicon wafers, mono cell and modules, commercial & industrial distributed solar solutions, green energy solutions and hydrogen equipment. The company has honed its capabilities to provide green energy and has, more recently, also embraced green hydrogen products and solutions to support global zero carbon development.



2000
Foundation



60.000+
Global Employees



30+
Global Network



15+
Manufacturing Bases

SOURCE: 2021 Annual Reports

NOTE: The current exchange rate conversion method is not unified, this table is based on the exchange rate at the end of the reporting period.

Hi-MO 6 Aesthetic | Efficient | Reliable | Intelligent

Robust and reliable, leading technology

LONGi's technological breakthroughs will quickly be transformed into large-scale advanced production capacity and will be commercially offered to customers, leading to continuous reduction of photovoltaic costs.



Intelligent welding technology

Reduce the risk of cracking and maximize frontal exposure to sunlight



M6 silicon wafer standard

Leading the industry into the era of 450W+ ultra-high power



M10 silicon wafer standard

Leading the industry toward optimal standardized module design



Full-cycle quality standards for photovoltaic power stations

Ensure reliable operation throughout the product life cycle



Diamond wire slicing technology

Significantly accelerates the mono-crystalline mass production output



Monocrystalline silicon PERC cell technology

Establishing a benchmark of low-attenuation and high-efficiency components



Mono PERC technology

The market share of mono PERC increased to 90% by the change in industry trend

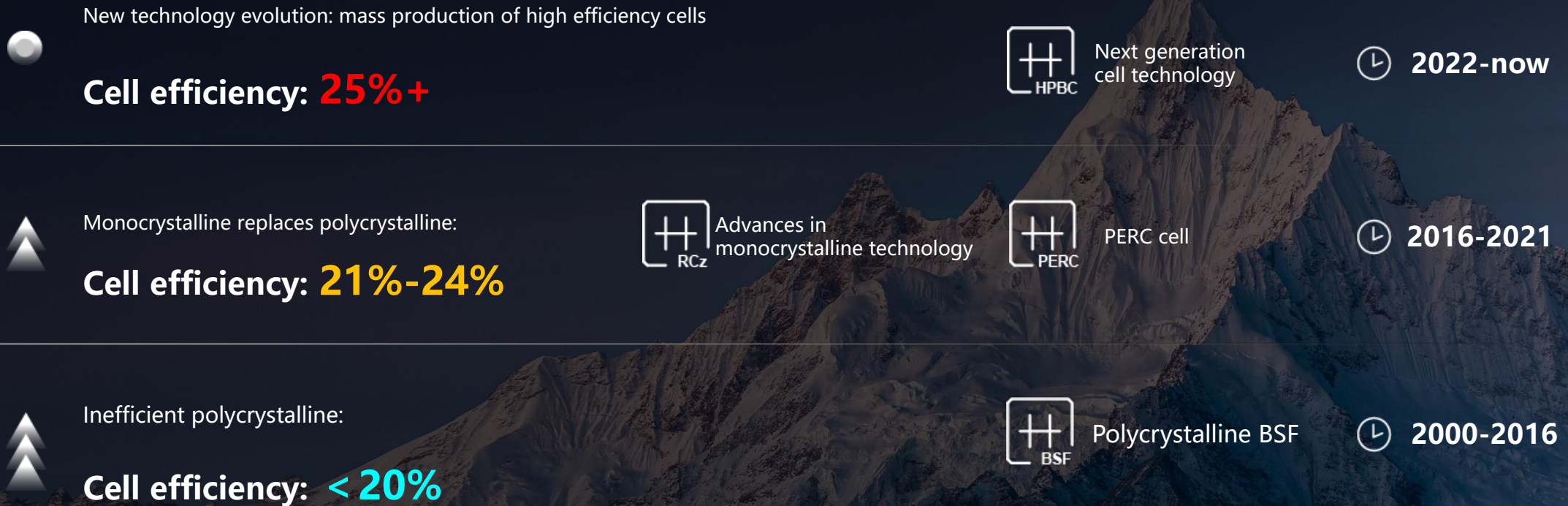


Bifacial power generation technology

The versatility of PERC bifacial technology has unlocked more applications

Conversion efficiency gains are key drivers for PV industry development

Continuous large-scale mass production of high-efficiency cell helps achieve global zero carbon development



High efficiency HPBC cells driving PV evolution

Efficiency of conventional HPBC cells exceeds 25%

Efficiency of PRO version HPBC cells reaches 25.3%



Light absorption

Multi-layer anti-reflection film and absence of front grid increase light absorption

Light absorption



Photoelectric conversion

Multi layer passivation reduces impurity recombination and improves photoelectric conversion efficiency

Photoelectric conversion



Conductivity

Innovative all-back welding technology stabilizes the current transmission

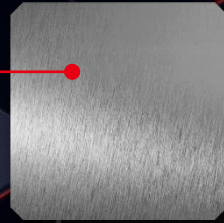
Conductivity

PRO
Hydrogen
Passivation

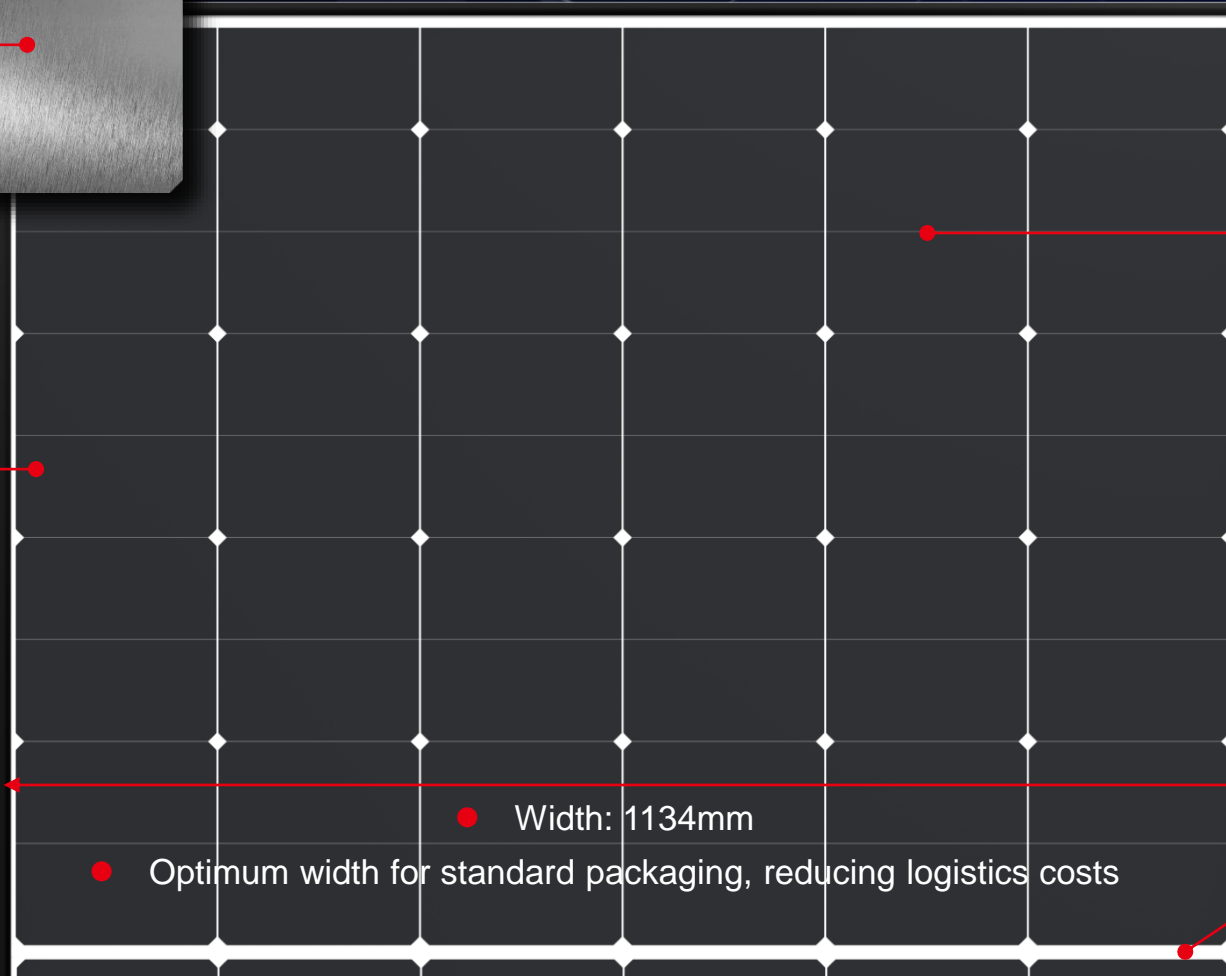
PRO Hydrogen passivation process repairs micro lattice defects and exceeds the efficiency limit

Based on M10 standard size

- M10 mono wafer
Mainstream choice
High yield & high quality



- HPBC Ultra high efficiency cell
Aesthetic appearance
Excellent performance



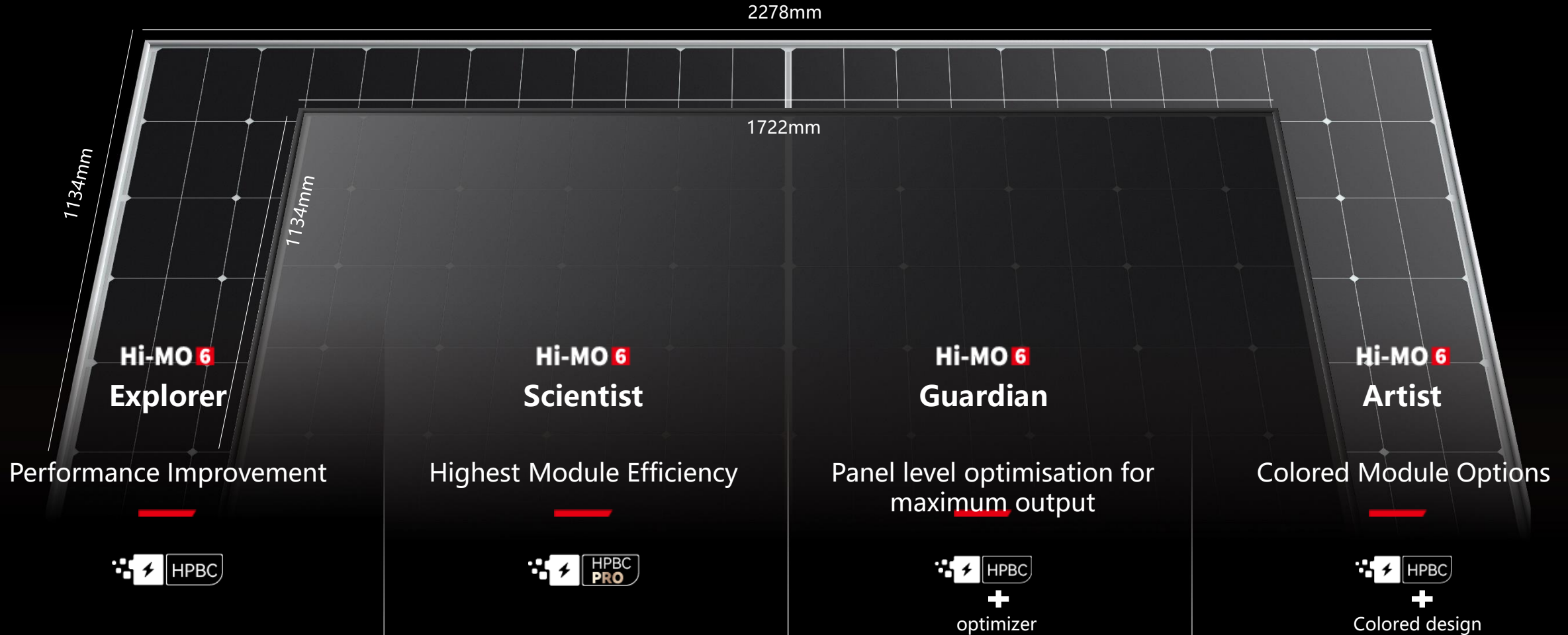
- Full back interconnect
High reliability and stability
- Reasonable size and weight
Suitable for single/double
handling and installation
- Working current <15A
Match for inverter, 4m² cable
Reasonable operating temperature
ensures power generation

● Width: 1134mm

- Optimum width for standard packaging, reducing logistics costs

Hi-MO 6 Product Family

Four product series, based on the 182mm standard



Product Series

2 formats, 4 products



54c all black HTB



54c monofacial HTH



72c monofacial HTH



72c bifacial HTD

For utility project market

For DG market

Formats for other market segments will follow

Typical parameters

25% cell efficiency → about 22% module efficiency

	54c all back LR5-54HTB	54c monofacial LR5-54HTH	72c monofacial LR5-72HTH	72c bifacial LR5-72HTD
Power	410~440W	415~450W	560~600W	550~580W
Efficiency	21.0/22.5%	21.3/23.0%	21.7/23.2%	21.3/22.5%
Main power	420/430W	425/430W	570/590W	565/575W
Size	1722×1134×30mm		2278×1134×35mm	
Weight	20.8kg		27.5kg	32.6kg
Packaging (pcs per 40'HC)	936		620	
Degradation Warranty	1st year degradation below 1.5% linear annual degradation after year 1 is 0.4%			
Temperature coefficient of Pmax	0.29%/°C			

One aesthetic, dual applications

Hi-MO 6
Explorer

LR5-54HTB

410~425M

- Suitable for distributed projects
- Excellent outdoor power generation performance
- Aesthetic appearance with all black module design

15 15-year Warranty for
Materials and Processing

25 25-year Warranty for Extra
Linear Power Output

Hi-MO 6
Scientists

LR5-54HTB

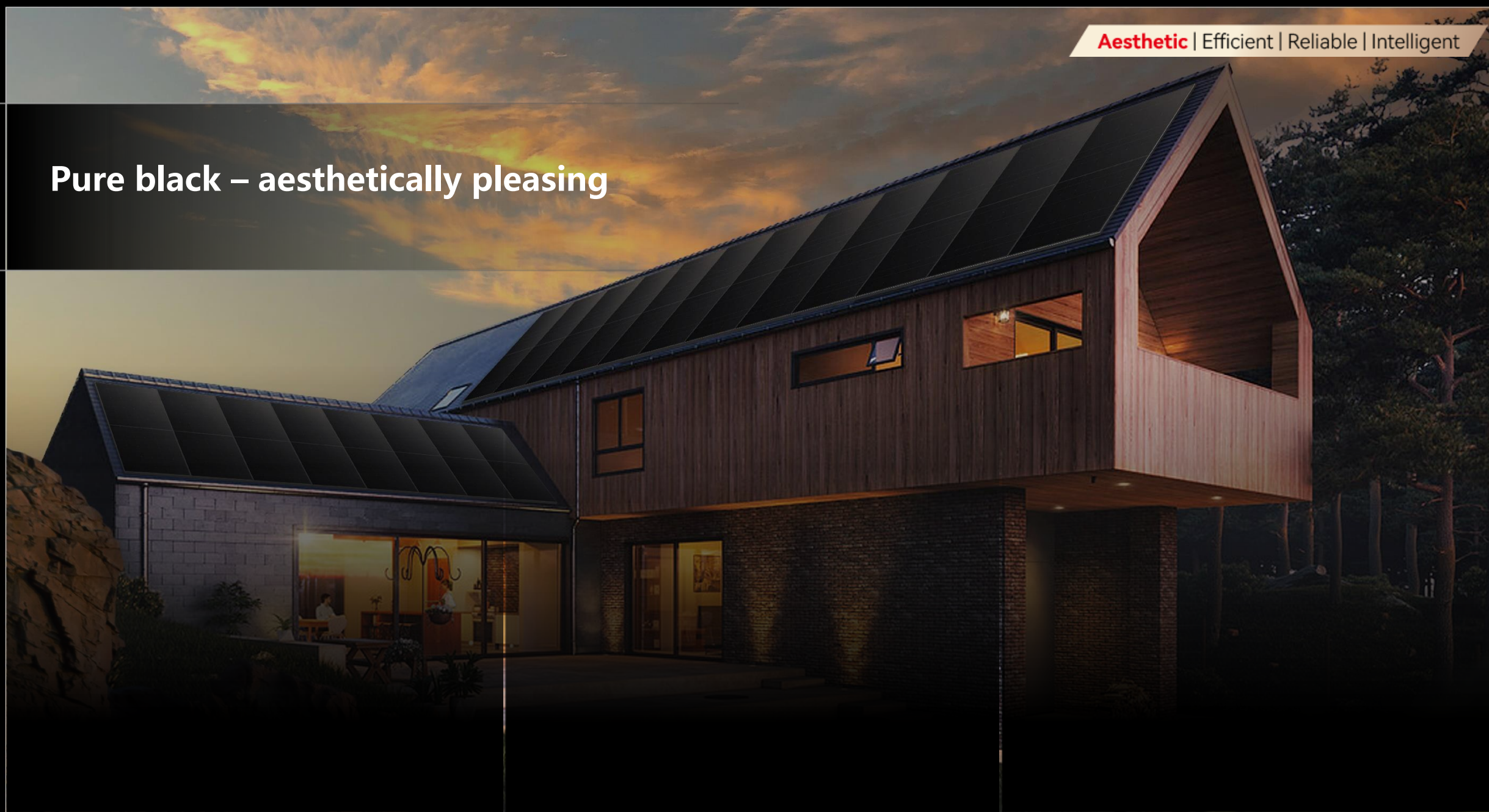
430~440M

- Suitable for distributed projects
- Excellent outdoor power generation performance
- Aesthetic appearance with all black module design

25 25-year Warranty for
Materials and Processing

25 25-year Warranty for Extra
Linear Power Output

Pure black – aesthetically pleasing

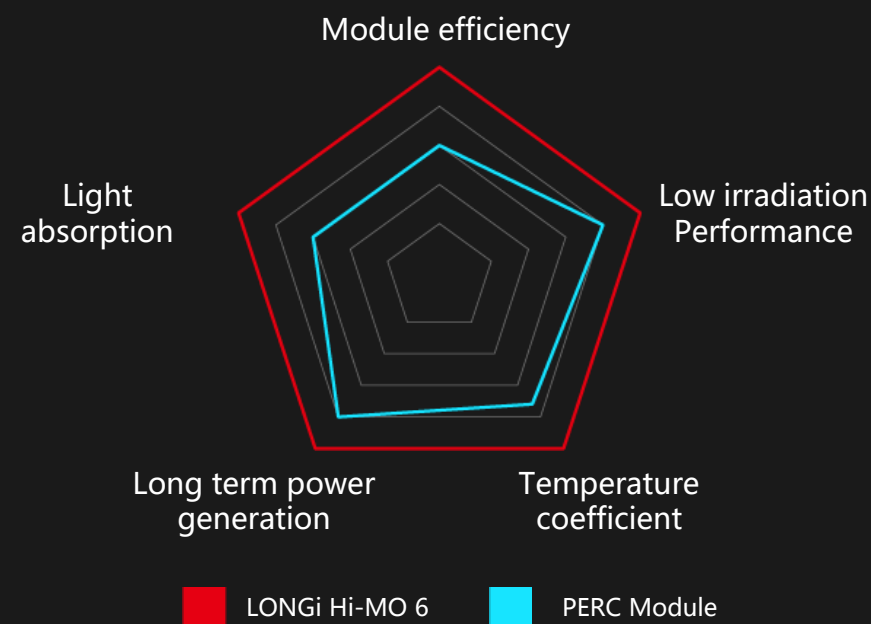


Enhanced performance over PERC

72 cells monofacial comparison

	PERC Module	HiMO6 LONGi	Remarks
Power	550W	575W	+4,5% Pmax in the same area
Temperature Coefficiente Pmax	-0.34%/°C	-0.29%/°C	Better performance in hot climates
1st Year Degr.	<2%	<1.5%	Improved stability
Yearly Degr.	<0.55%	<0.40%	
Power Output Warranty (25Y)	84.8%	88.9%	

Comprehensive improvement of energy generation



Greater power generation under low irradiation conditions – more power at the start and end of the day

Longer power generation time

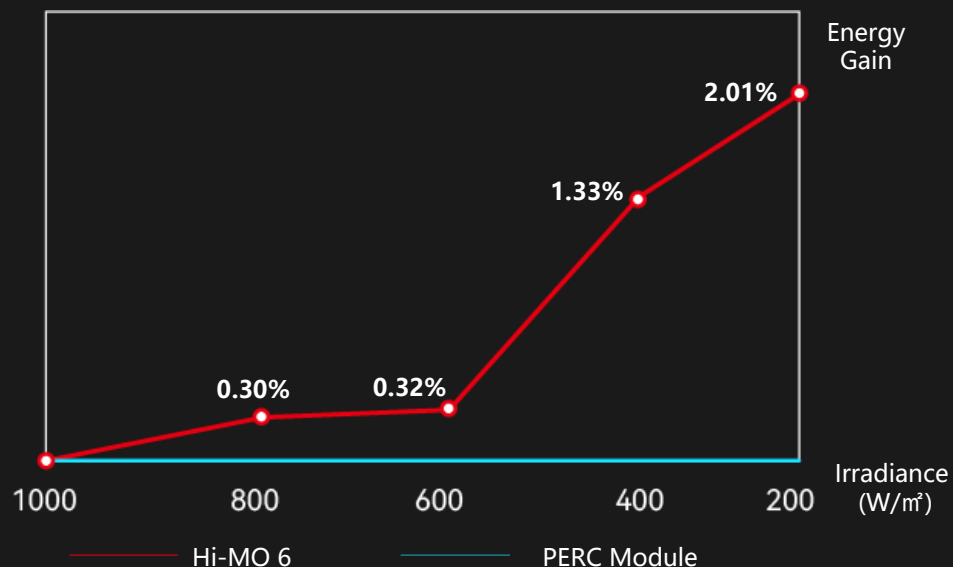
Better low irradiation performance



Sunny Noon



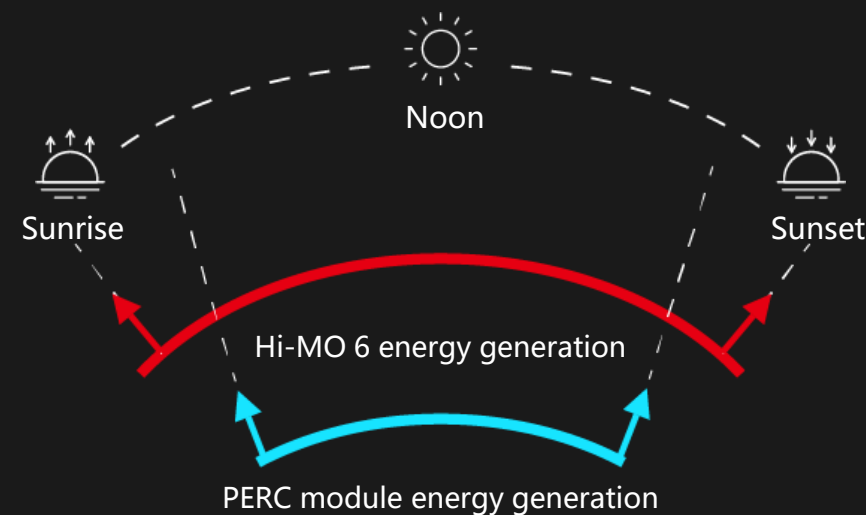
Cloudy morning or night



HPBC capabilities to produce energy under low irradiation are up to +2.01% better compared to standard product

*Gain=HPBC normalization PR/PERC normalization PR-1 *Data from TUV SUD

Longer power generation time



Higher module voltage ensures that the working voltage of the inverter can be reached faster in the morning and at night, effectively extending the power generation time

Percentage performance increase over PERC

Energy generation simulation considering 16 modules M10 cell size

	Capacity Installed in the same area (kWp)	Annual Performance (kWh/kWp/Year)	1st year simulated energy generation (MWh/year)	Cumulative Degradation (25 years)	25th year simulated energy generation (MWh/25Y)
STOCKHOLM, SWEDEN					
PERC 550W	8,8	1092	9,6	9,41%	219,6
HiMO6 575W	9,2	1113	10,2	6,72%	240,0
Gain	+4,5%	+2%	+6,6%	2,7%	+9,3%
MADRID, SPAIN					
PERC 550W	8,8	1651	14,5	9,41%	332,0
HiMO6 575W	9,2	1691	15,6	6,72%	364,5
Gain	+4,5%	+2,4%	+7,1%	2,7%	+9,8%
Tech Improvements	Efficiency	IAM + Low Irradiation + Temp Coef	Extra Energy 1st year	1st year deg + yearly degradation	Extra Energy 25Y

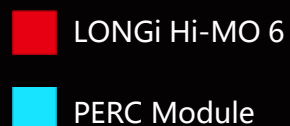
Lower degradation – extended warranty over PERC

Lower power degradation ensure stable power generation over 30 years

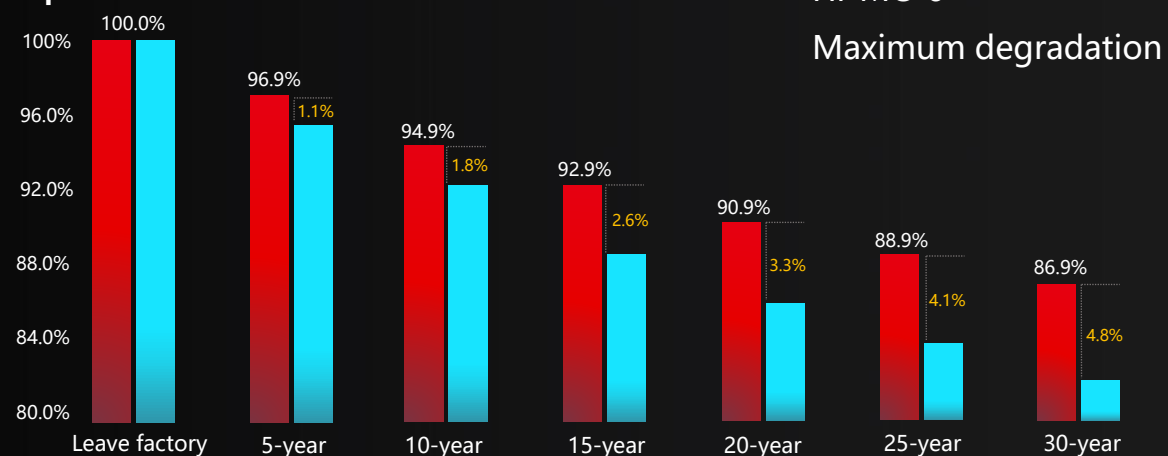
Lower degradation

Max. first year degradation **1.5%**

Max. annual degradation **0.4%**



Power output %



Hi-MO 6

Maximum degradation

**Protecting your investment
with longer warranties**



Single glass module

25-years warranty

25th-year 88.9%

power output warranty



Dual glass module

30-years warranty

30th-year 86.9%

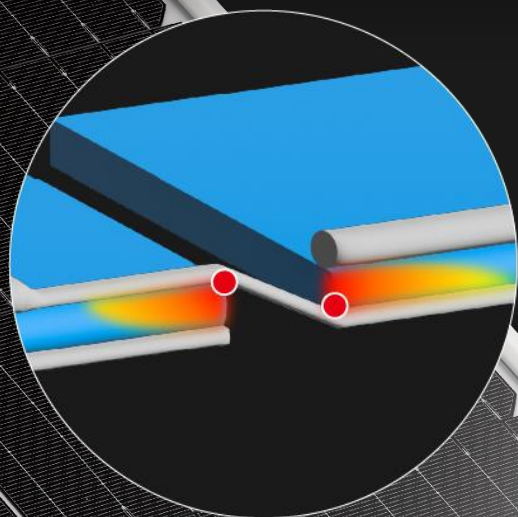
power output warranty

*Hi-MO 6 series have extended warranty service

Innovative welding technology protects HPBC cells

Back contact welding structure

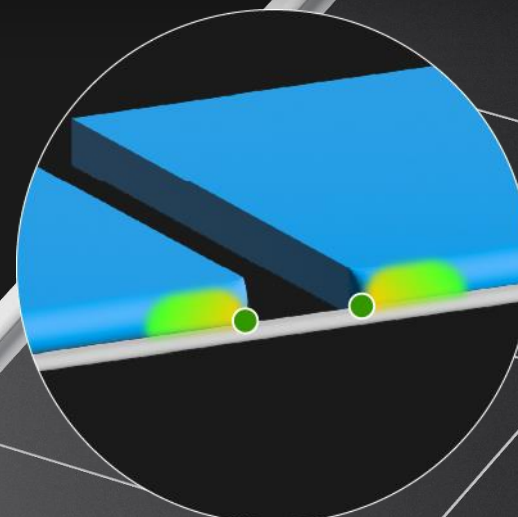
Lower cell stress



Cell edge stress **50Mpa**

Traditional Z-shaped welding structure

Cell
Ribbon
Stress



Cell edge stress **26Mpa**

Hi-MO 6 uses back contact one-line welding structure

Reliability Testing

Excellent performance and ultra-low degradation under severe test conditions

Hail impact simulation

Hail weather simulation
Diameter: 25, 35, 45mm
Falling at 84-134km/h

Thermal cycle test

High and low temperature
environment simulation
85°C to - 45°C
200 runs

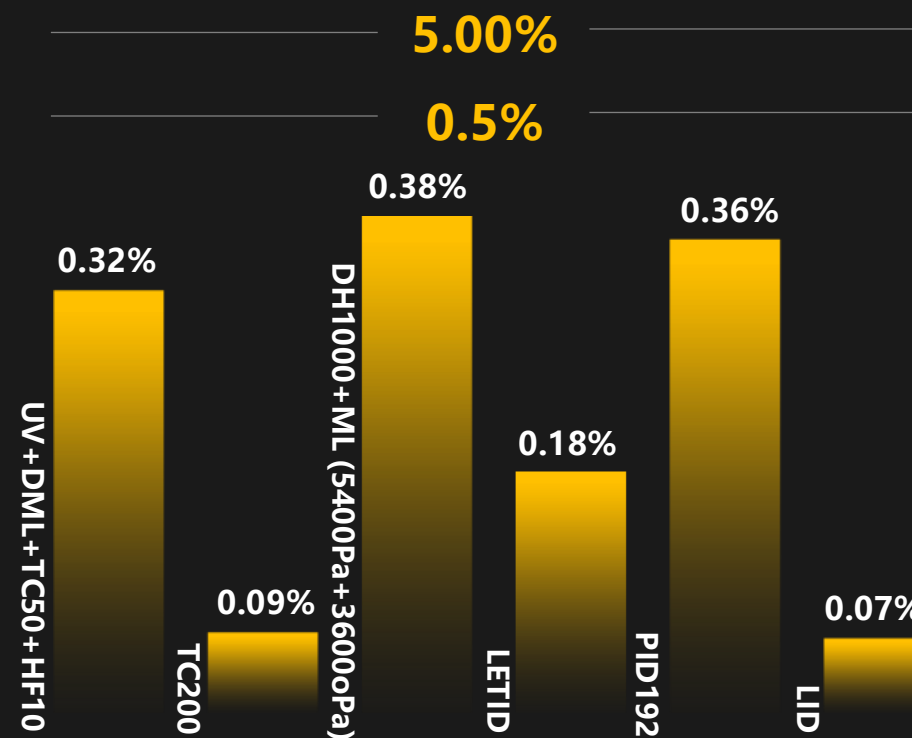
Salt spray test

Coastal environment simulation
5% saturation
1000 hours of operation at 35°C

Dynamic simulation

Storm simulation
1000 cycles
The maximum pressure is $\pm 1000\text{pa}$

IEC standard: Degradation less than 5%
under extreme test conditions



Intelligent power generation | Safe electricity

Module level optimizer enables module intelligence



Intelligent
monitoring

Module monitoring and real-time
data analysis



Rapid
shutdown

Decreases output voltage to below 1V



Real-time
optimization

Increases power generation by 5%-30%



Capability
increase

One string for all modules in the system

LONGi

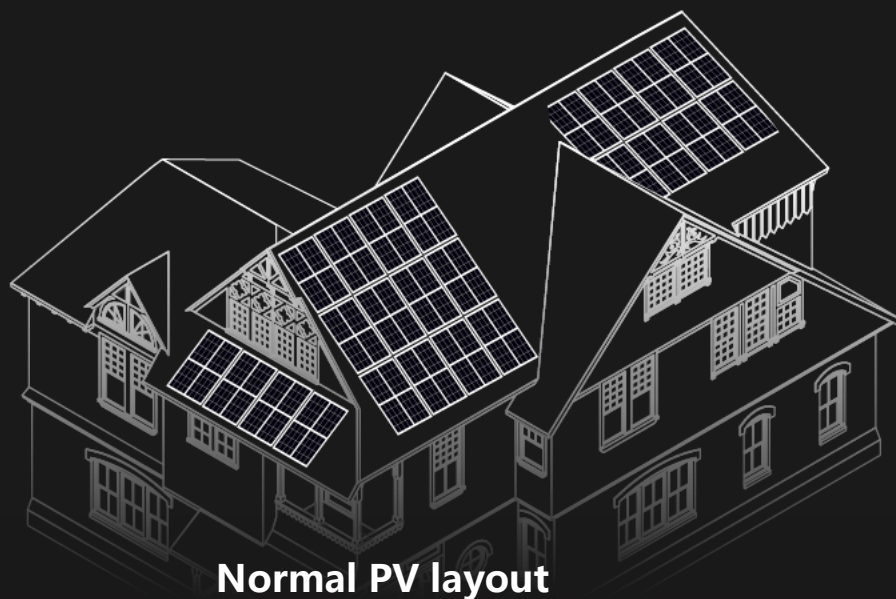
Increased capacity - flexible design

Greater versatility in module orientation for all strings

Maximizes roof utilization

Increased flexibility

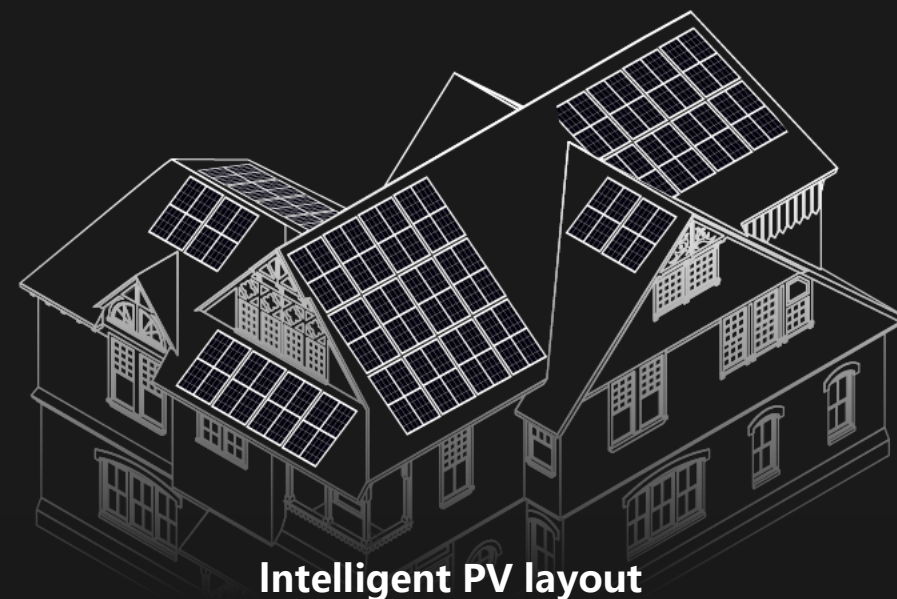
Reduces design limitations



Normal PV layout

Inverter with 2 MPPTs

Each MPPT can only support one module orientation



Intelligent PV layout

Each module generates electricity independently

Each string can support modules of different orientation

Launch and Ramp-up

Mass production of high-efficiency photovoltaic modules

2022 Mass production achieved

Q4

- Stable supply
- Efficient delivery
- Material guarantee
- Accelerated import

2023 Capacity Forecast

25GW+

- Extended quality certifications
- Seamless production scheduling
- Production process optimization
- Production efficiency improvement

Product life-cycle management - ultimate service experience

Worldwide technical support coverage, logistics and warehousing

121
Service Commitment

Solid service commitment

Response within **1 day** | Solution within **2 days** | Return/Exchange within **1 week**

10
Items

Lifetime service support

Pre-sales service (New product introduction | Technical consulting | Sample support)

In-sales service (Order execution guarantee | installation training | Special management | Grid-connected acceptance)

After-sales service (After-sales processing | Operation & Maintenance support | Power station inspection)



Value-added services including system technical training and O&M consultancy

Module performance test > **PV plant design, installation & maintenance** > **Power generation analysis**

LONGI



Thank you