



HORAY

HORAY SOLAR

2024 INTRODUCTION

EXCELLENT PV MODULE MANUFACTURER

www.horaysolar.com

- **1.3MW Project in Italy**

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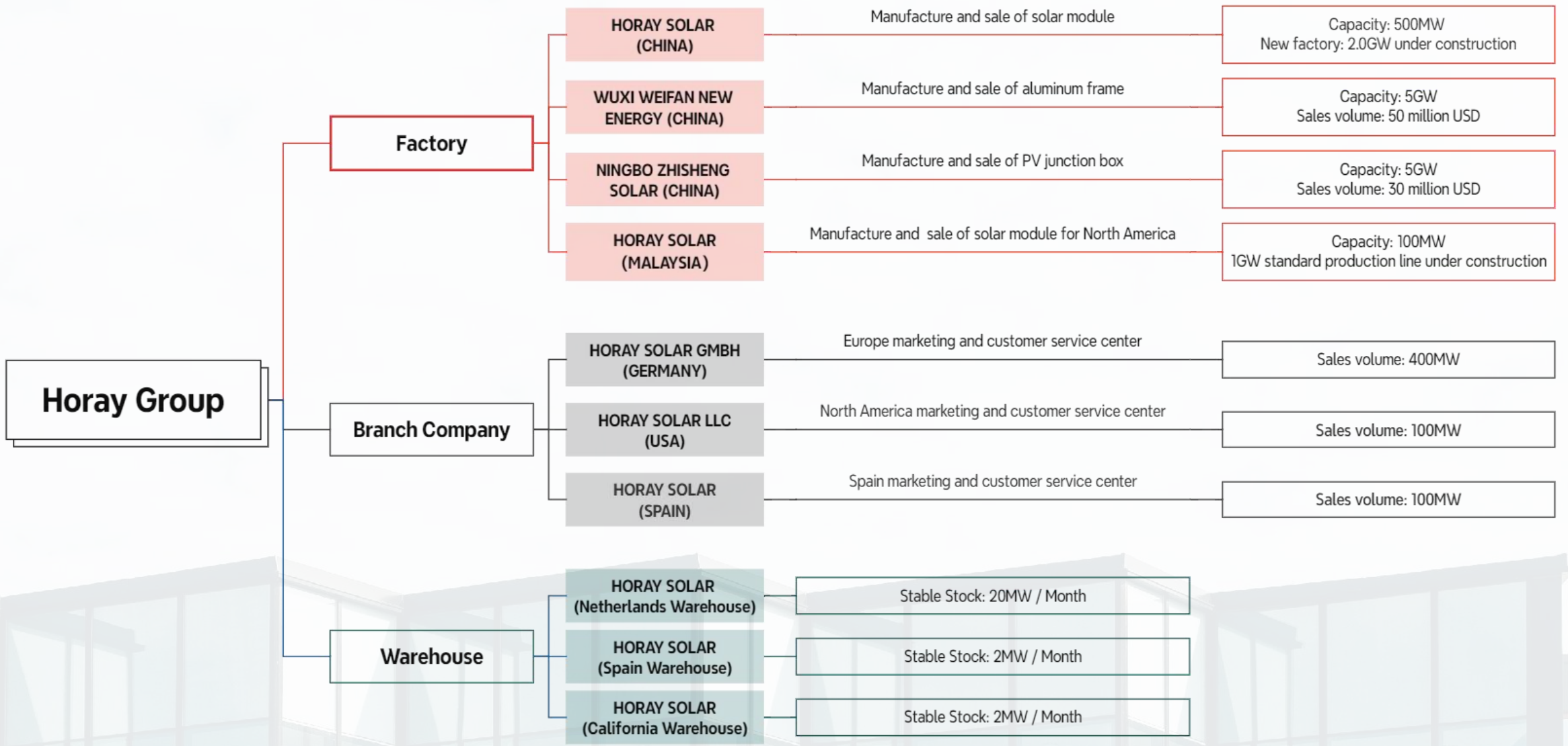


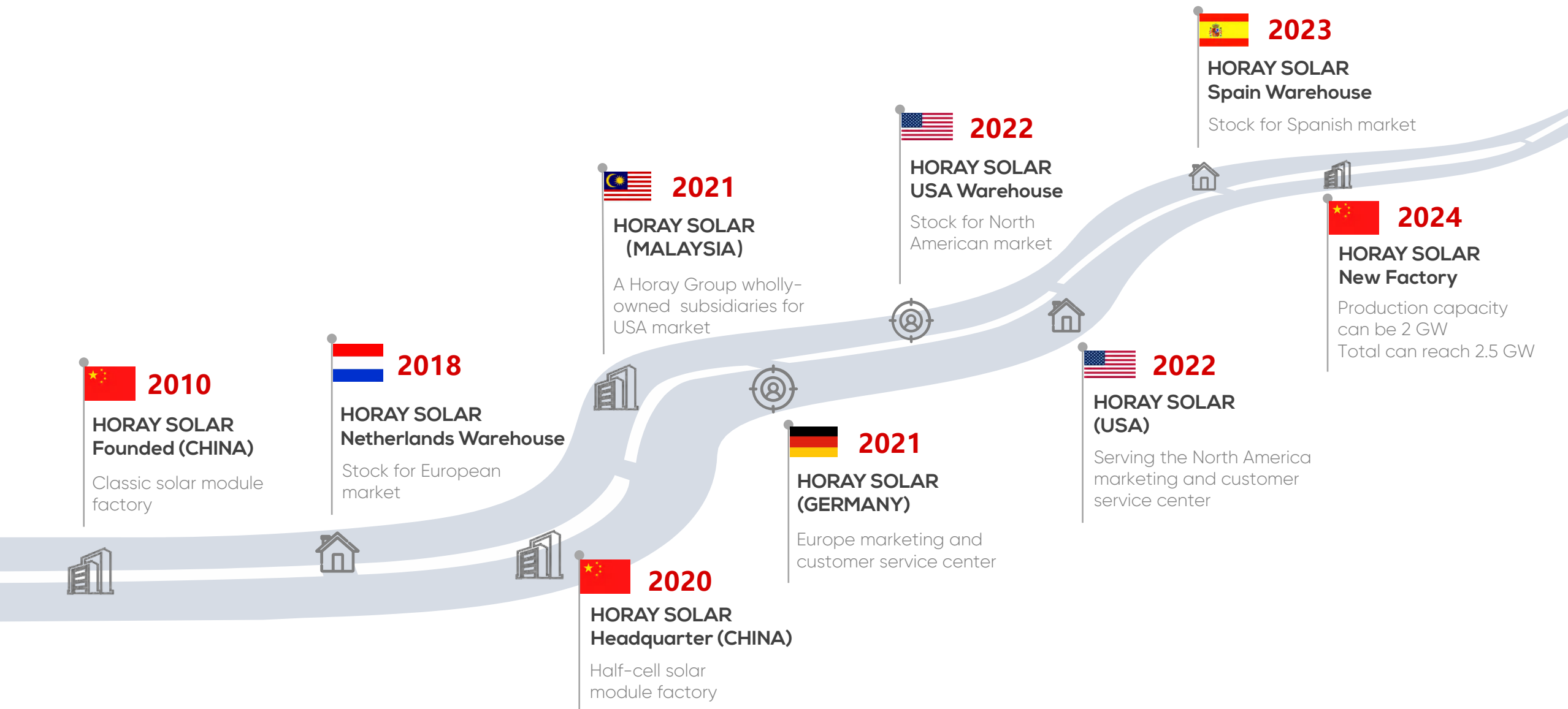
- 4.5MW Project in Czech Republic

01

About Horay

Group Structure | Milestone | Group Overview | Corporate Culture





Horay Solar is an integrated photovoltaic company focusing on the R&D, production and sales of solar modules and solar power system. Our products include standard solar module and customized solar module.

Horay Solar has always been committed to the development of globalization with an eye to the global industrial layout.

With strong technical support, scientific production management and strict quality control, all the products have reached the industry-leading level and have been approved by the international authorized certification.

Horay Group

15 Years

In Solar Industry

7 Bases

Throughout The World

3

PV Module
Production Lines

2.5 GW

Capacity

2

Raw Material Factories

50+

ODM Partners

Embrace the Sun Step into a Bright Future with Horay Solar





· HORAY SOLAR (New Factory) ·

The new plant under Horay is already under construction and will be completed officially put into production by the year of 2024.

Newer equipment, greater production capacity, more complete staffing, and better factory environment.



· HORAY SOLAR (CHINA) ·

Horay Solar is an integrated photovoltaic company focusing on the R&D, production and sales of solar modules and solar power system.

Horay Solar has always been committed to the development of globalization with an eye to the global industrial layout.



· HORAY SOLAR (MALAYSIA) ·

A Horay Group wholly-owned subsidiary, especially for North American market.

A global leader in sustainable innovation, specializing in reliable low to medium-wattage modules, customized solutions, and OEM services.



· HORAY SOLAR (GERMANY) ·

The Europe marketing and customer service center in Germany.

Manages local warehouse and spot logistics in Rotterdam, offering global services like pre-sales consulting, after-sales support, and EPC installation services.



· HORAY SOLAR LLC (USA) ·

The North America marketing and customer service center in the USA.

To provide services for our customers all over the world, including pre-sales product consulting and after-sales service, EPC installation service and consulting, etc.



· HORAY SOLAR (SPAIN) ·

The Spain marketing and customer service center in Spain.

Offers comprehensive services throughout the Spanish market, encompassing pre-sales product consultation, after-sales support, EPC installation, and consulting.



· NETHERLANDS WAREHOUSE ·

📍 Add: Vlakbodem 3 Dirksland, Rotterdam, Netherlands

· SPAIN WAREHOUSE ·

📍 Add: C/ Doctor Lluch No 26, 2A Planta, Puerta 5, Valencia, Spain

· USA WAREHOUSE ·

📍 Add: 12345 Mills Ave, Chino, CA, USA



Malaysia

HORAY SOLAR SDN. BHD (YADA NEW ENERGY SDN. BHD.)
 Add: 75 Jalan I-Park SAC 6, Taman Perindustrian I-Park SAC, Senai Johor, Malaysia
 Tel: +60 18 783 1738 E-mail: sales@horaysolar.com sales@yada.com.my



Germany

HORAY SOLAR GMBH
 Add: Robert-Bosch-Str. 29, Langen, Frankfurt am Main, Germany



USA

HORAY SOLAR LLC
 Add: 350 Pauma Place, Escondido CA, USA



Netherlands

HORAY SOLAR (Netherlands Warehouse)
 Add: Viakbodem 3 Dirksland, Rotterdam, Netherlands



Spain

HORAY SOLAR (Spain Warehouse)
 Add: C/ Doctor Lluch No 26, 2A Planta, Puerta 5, Valencia, Spain



USA

HORAY SOLAR (America Warehouse)
 Add: 12345 Mills Ave, Chino, CA, USA

-  Sales Center
-  Manufactory
-  Warehouse



Solar Module Factory

HORAY SOLAR CO.LTD
 Add: No.30-5 East Yanxin Road, Huishan District Wuxi, Jiangsu, China
 Tel:+86 510-8358 0688 E-mail: sales@horaysolar.com



Solar Module Factory

HORAY SOLAR (China)
 Add: Jinchang Road, Yanqiao Streets, Huishan District, Wuxi, Jiangsu, China
 E-mail: sales@horaysolar.com



Aluminum Alloy Frame Factory

Wuxi Weifan New Energy Technology Co., LTD
 Add: No.38 Liming Road, Changan Streets, Huishan District Wuxi, Jiangsu, China
 E-mail: sales@horaysolar.com



PV Junction Box Factory

Ningbo Zhisheng Solar Technology Co., LTD
 Add: No.698 Yu'an Road, Zhouxiang Town, Cixi City, Ningbo, Zhejiang, China
 E-mail: sales@horaysolar.com



Europe

- Spain
- Romania
- Italy
- Slovakia
- Netherlands
- Macedonia
- Bulgaria
- Austria
- Germany
- Czech Republic
- Poland
- Greece
- Belgium
- Hungary Croatia
- Sweden

Oceania

- Australia
- New Zealand

Asia

- China
- Burma
- Japan
- Laos
- Indonesia
- The United Arab Emirates
- Saudi Arabia
- Lebanon

Africa

- Mali
- Gabon
- Gambia

America

- USA
- Paraguay
- Canada
- Brazil
- Mexico
- Dominica
- Honduras
- Chile

H

**Hopeful**

Horay Solar has been devoted to the global expansion, has a promising future with strong technical support, scientific production management and strict quality control.

O

**Outstanding**

Our products have outstanding advantages, including higher output power and harsh environmental adaptability, etc.

R

**Responsible**

Undertaking great social responsibility, HoRay Solar determined to become a leading photovoltaic company in pursuit of good quality.

A

**Aspiring**

Our colleagues have the greater ambition to produce cleaner and much more efficient solar panel.

Y

**Youthful**

Everyone of our team is full of youth and vigour.



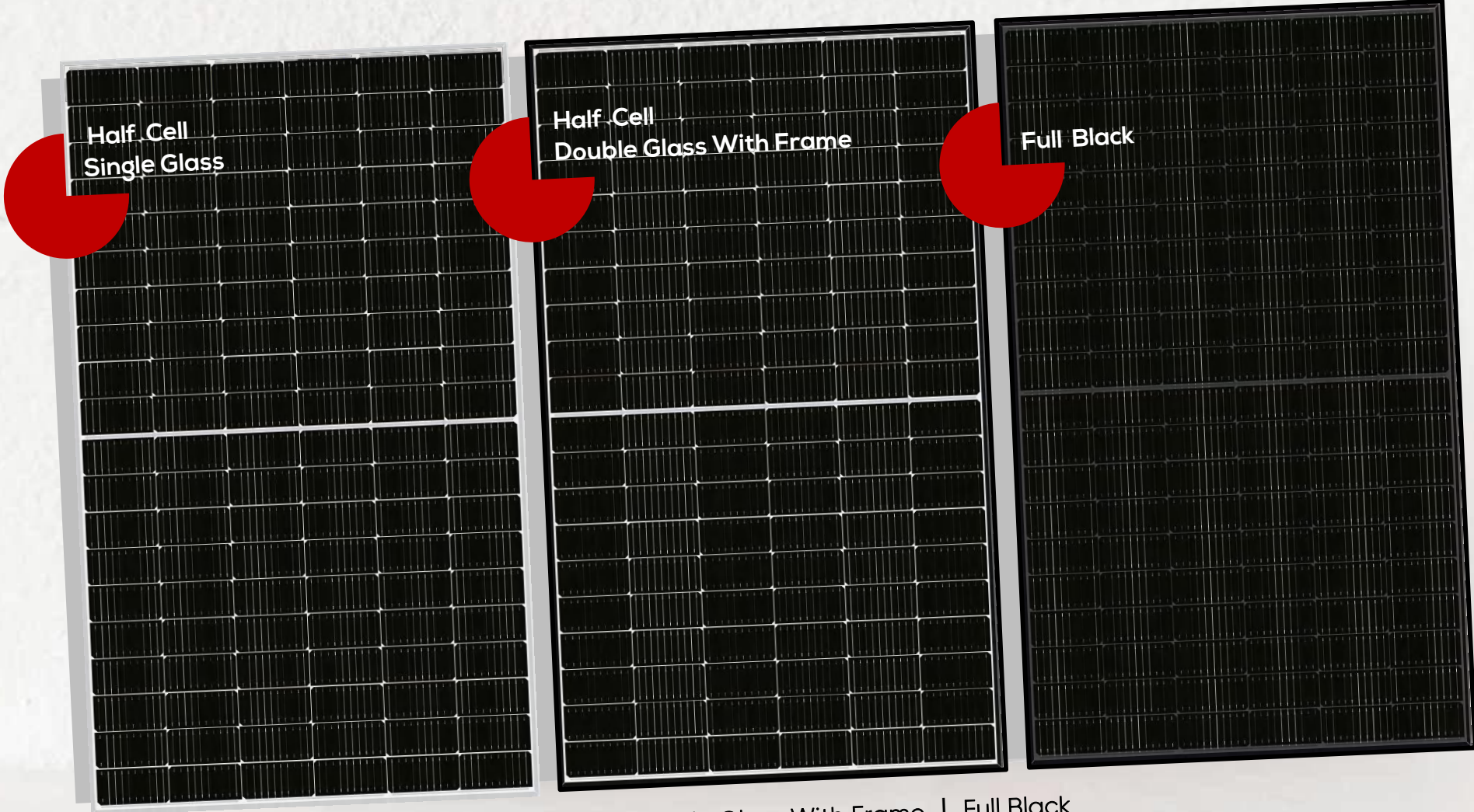
HORAY

● 120.24KW Project in Tematínska, Slovakia

02

Products Introduction

Solar Ocean series | Solar Ocean TOPCon | Solar Galaxy series | Solar Creek series

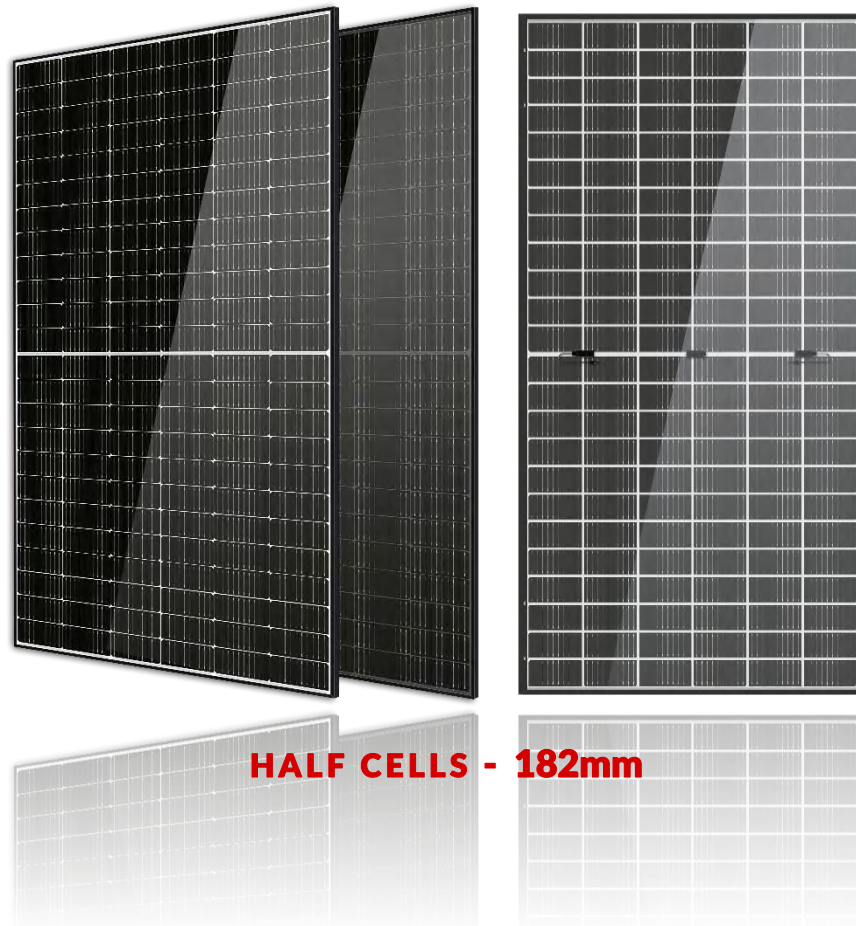


 MBB/SMBB

 HIGHER
OUTPUT POWR

 HIGHER
EFFICIENCY

Single Glass | Double Glass With Frame | Full Black

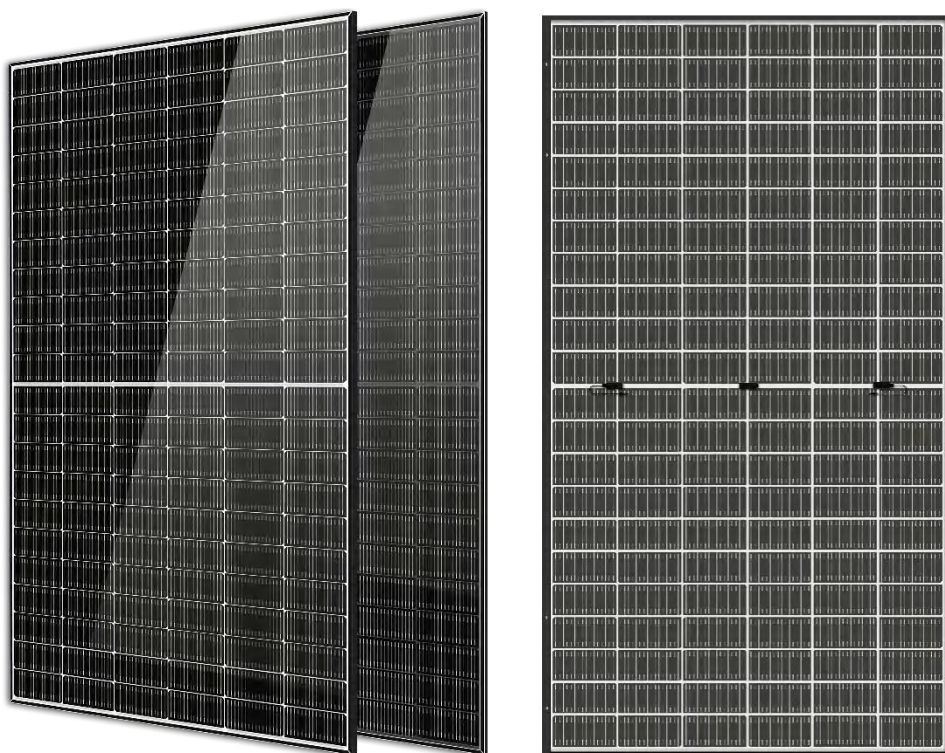


HALF CELLS - 182mm

SOLAR OCEAN PERC **MBB** SOLAR MODULES

MONO FACIAL MODULES | **MONO BIFACIAL MODULES**

- ✓ POWER: 410W-420W
Cell Amount: 108 half-cells
- ✓ POWER: 460W-470W
Cell Amount: 120 half-cells
- ✓ POWER: 505W-515W
Cell Amount: 132 half-cells
- ✓ POWER: 550W-560W
Cell Amount: 144 half-cells



HALF CELLS - 182mm

SOLAR OCEAN N-Type TOPCon SMBB SOLAR MODULES

MONO-FACIAL MODULES | BIFACIAL MODULES

- ✓ POWER: 425W-435W
Cell Amount: 108 half-cells
- ✓ POWER: 480W-490W
Cell Amount: 120 half-cells
- ✓ POWER: 525W-535W
Cell Amount: 132 half-cells
- ✓ POWER: 575W-585W
Cell Amount: 144 half-cells

- SMBB Cell
- ✓ MBB Cell
- ✓ LID Free
- Optimized Temperature Coefficient
- Outstanding Low Light Performance
- Higher Bifacial Gain
- Higher Efficiency & Output Power
- Ultra-high Power Generation
- ✓ Lower Attenuation Rate
- ✓ Harsh Environmental Adaptability
- ✓ Excellent Load Capacity
- Longer Warranty
- ✓ PID Protection

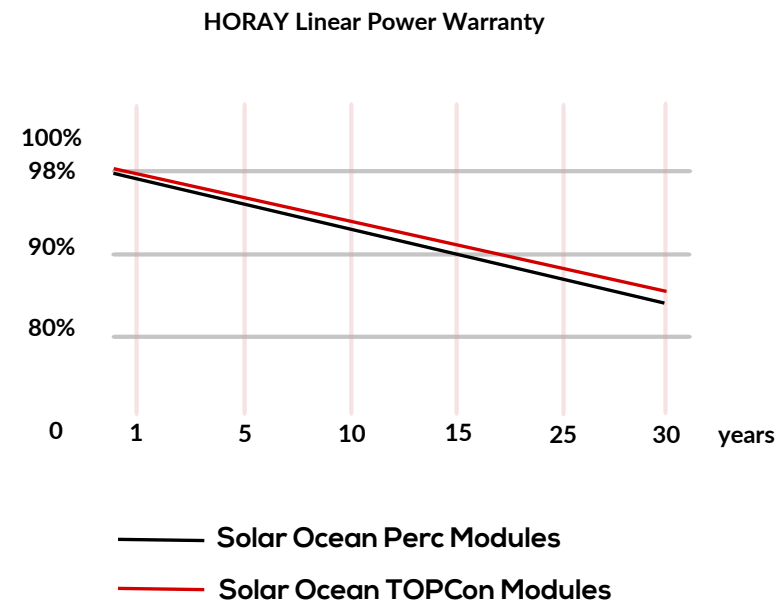
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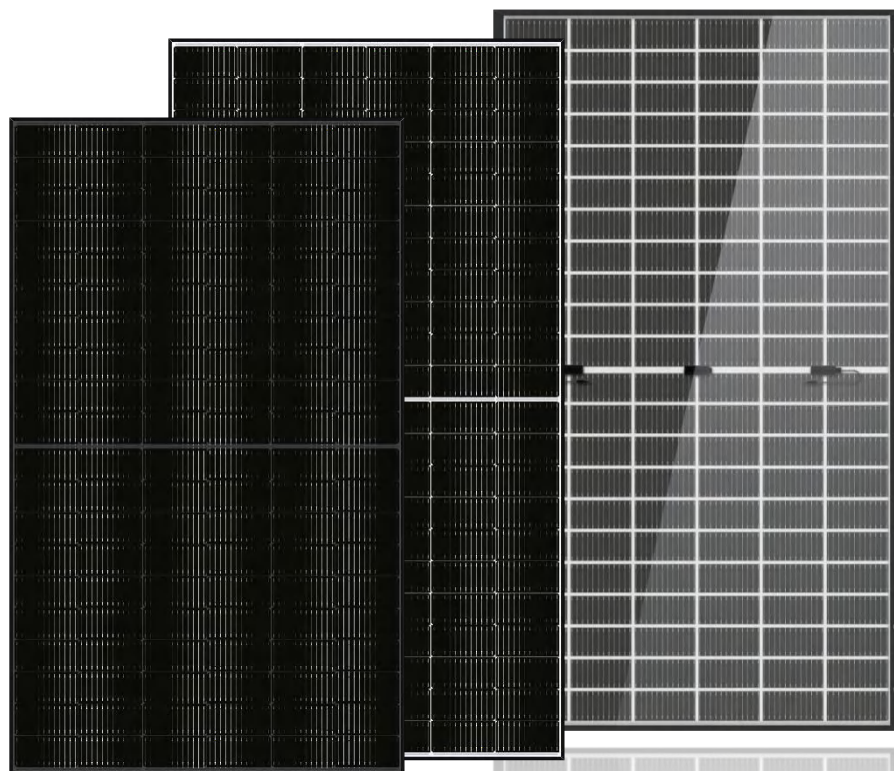
- ✓ SMBB Cell
- MBB Cell
- ✓ LID Free
- ✓ Optimized Temperature Coefficient
- ✓ Outstanding Low Light Performance
- ✓ Higher Bifacial Gain
- ✓ Higher Efficiency & Output Power
- ✓ Ultra-high Power Generation
- ✓ Lower Attenuation Rate
- ✓ Harsh Environmental Adaptability
- ✓ Excellent Load Capacity
- ✓ Longer Warranty
- ✓ PID Protection

N-Type TOPCon

- Compatible with existing packaging, container space, and logistics methods
- Ensures system safety and reliability while aligning with mainstream solar system designs.
- Higher performance under low light environment.
- Strict salt spray and ammonia corrosion test by the third party.
- Modules designed with arm span, easy installation, and reduced risk of damage.
- Offers high power per unit area, lower BOS cost, and compatibility with mainstream mounting systems (1p and 2p).
- Ensure the attenuation probability caused by PID phenomenon is minimized.
- Mechanical load tests including wind load 2400Pa and snow load 5400Pa done by TUV.

Solar Ocean Series Modules

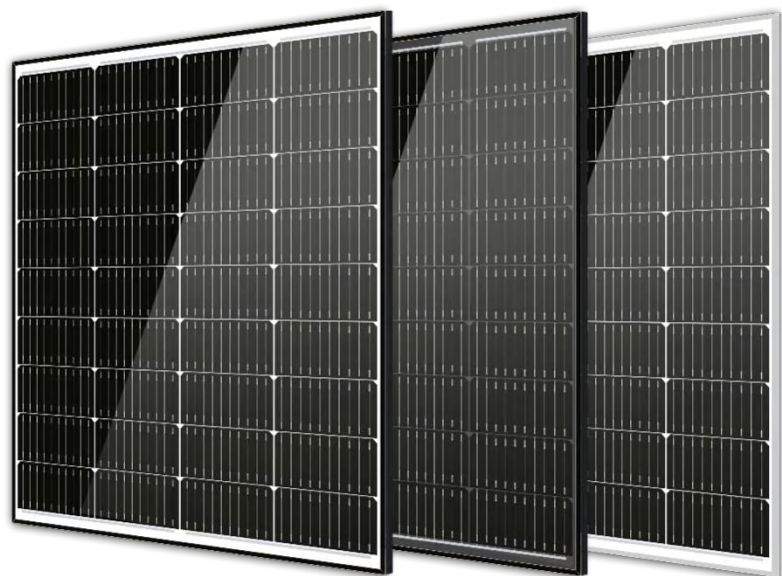


**HALF CELLS - 210mm**

SOLAR GALAXY PERC **MBB** SOLAR MODULES

MONO FACIAL MODULES | MONO BIFACIAL MODULES

- ✓ POWER: 490W-500W
Cell Amount: 100 half-cells
- ✓ POWER: 540W-550W
Cell Amount: 110 half-cells
- ✓ POWER: 590W-600W
Cell Amount: 120 half-cells
- ✓ POWER: 650W-660W
Cell Amount: 132 half-cells



Solar Creek Customized Solar Modules

- ✓ POWER:10W-380W
- ✓ CUSTOMIZED SIZE



· Outdoor Solar ·

Portable, lightweight, high efficiency.

- Max. STC Power **180W**
- System Voltage **1500V**
- Size **1020mm*875mm*35mm**



· Solar Street Light ·

Tailored for diverse street light systems.

- Max. STC Power **110W**
- System Voltage **1500V**
- Size **820mm*700mm*30mm**



· Photovoltaic RV Car ·

Lightweight solar panel perfect for RVs.

- Max STC Power **130WP**
- Max System Voltage **1500V**
- Size **890mm*765mm*30mm**

03

Technology

Specification | Certificate | PERC | TOPCon



Maximum Rating

Power selection **0~+5W**

Measuring uncertainty of Pm **0~±3%**

Operating Temperature **-40° C~+85° C**



Low Light

High Performance in Low-light environment



Warranty

25/30 Years Power Output Warranty

10 Years 90%, 25 Years 80%

15 Years Product Warranty on Materials



Qualified Materials

MBB/SMBB Cell

Higher Output Power

Harsh Environmental Adaptability

PID Protection



Enhanced External Load

Wind Load **2400Pa**

Snow Load **5400Pa**



Certification

IEC61215: 2021 IEC61730: 2016

TUV Rheinland Standard, IEC, CE,

ETL, UL, MCS, CB, JP-AC, INMETRO

ISO9001, ISO14001, CQC, CSI, etc

Certificates

For Products

Tested by the Third-party, Horay Solar's modules obtained international certifications. Incl. TUV , IEC, CE, MCS, ETL,CSI, INMETRO, CB, UL, BSCI, JP-AC, CQC etc.

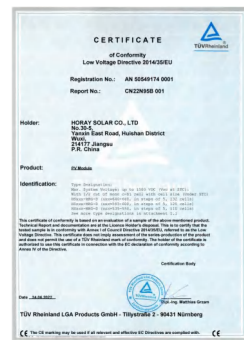
For full details, please contact us.



TUV



IEC



CE



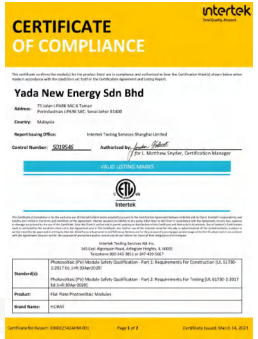
INMETRO



CQC



MCS



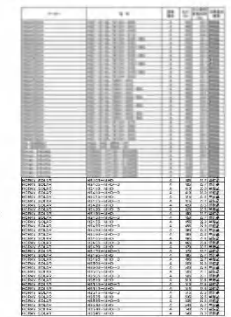
ETL



CB



UL



JPAC



Certificates

For Factory

Tested by the Third-party, Horay Solar factory obtained international certifications. Incl. BSCI, ISO9001, ISO14001, ISO45001 etc.

For full details, please contact us.



BSCI



ISO 9001



ISO 14001



ISO 45001

Certificates

Additional Services

Horay offers solar performance insurance e lasting up to 30 years, along with module recovery and recycling services.

For full details, please contact us.



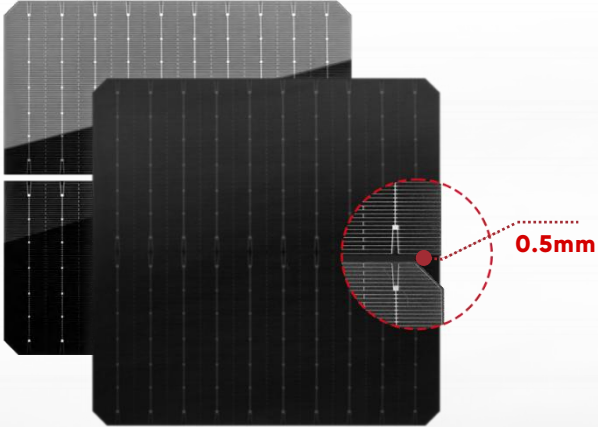
PERC Technology 182mm & 210mm High Efficiency Cell

High Efficiency

- ✓ Enlarged cell area

MULTI-BUSBAR

- ✓ Reduced micro-cracking risk
- ✓ Increased active working area



HALF-CUT TECHNOLOGY

- ✓ High-precision laser cutting
- ✓ Lower internal power loss

MINIMIZED CELL GAP

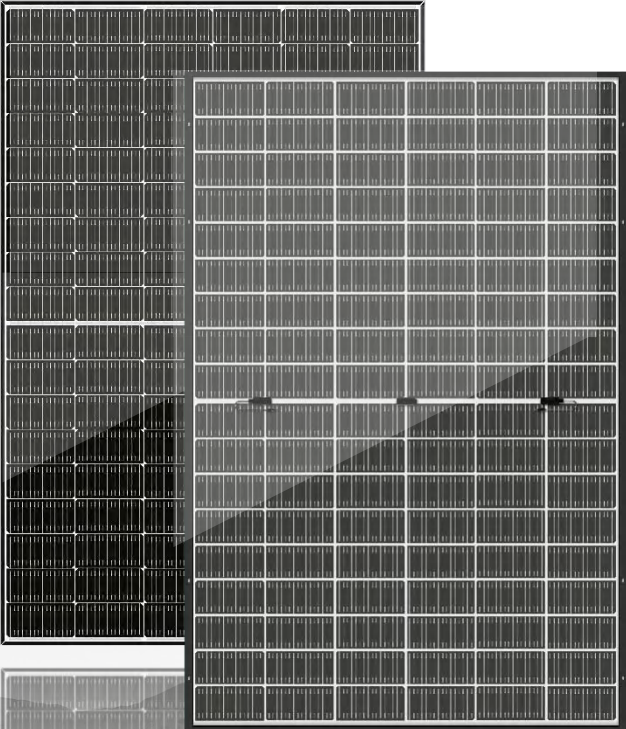
- ✓ High-density encapsulation

Innovative TOPCon Technology

Innovative Cell Technology

- ✓ Selective passivation contact
- ✓ Slim multi-busbar

- ✓ Larger active working area
- ✓ Higher power output
- ✓ Lower attenuation rate

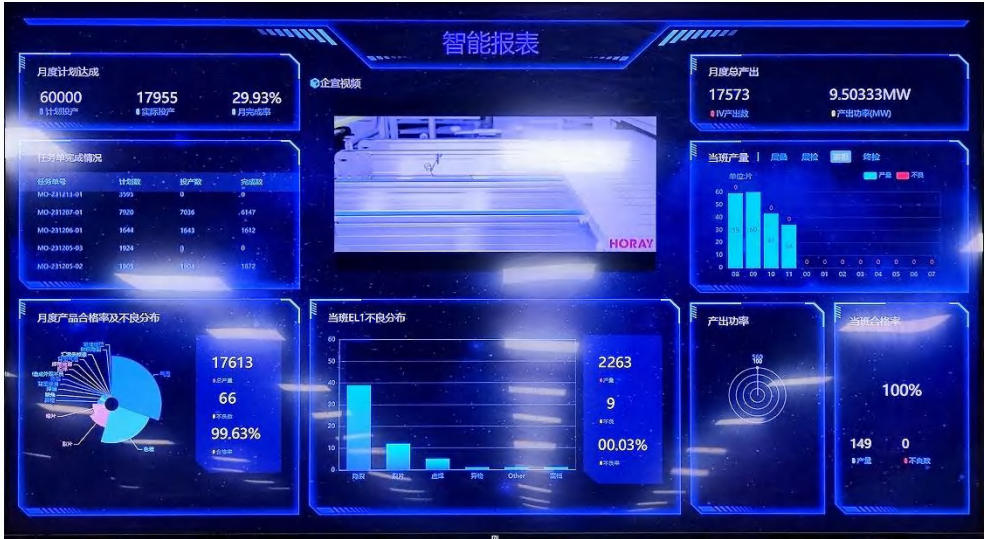


Extra Power Gain From Bifacial Applications

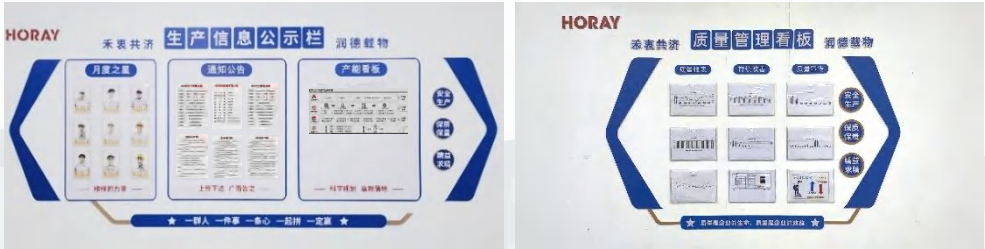
Applications

- ✓ A significant power increase from the backside

- ✓ High intensity encapsulation
- ✓ Superior load capacity



- Manufacturing Statistics
- Product Line Management
- Quality Control
- Fault Management
- Material Management
- Planning and Scheduling
- BOM Management



Automatic Production Equipment



CELL SOLDERING



TYPE SETTING



MARERIAL FEEDING



AUTO BUSSING



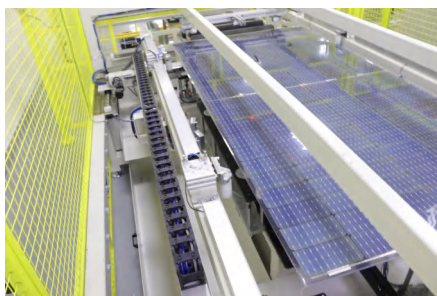
TAPING



EL TEST



LAMINATION



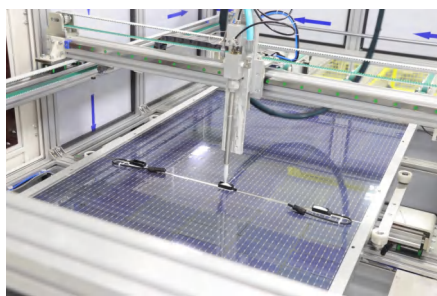
PARING OFF



VISUAL INSPECTION



FRAME UP



POTTING



SOLIDIFICATION



IV TEST



EL TEST



FINAL INSPECTION

● 6.6MW Project in Czech Republic

04 | Global PV Station

PV Power Plants | Commercial & Industrial | Residential

An aerial photograph of a vast solar farm in the Czech Republic. The solar panels are arranged in neat, parallel rows across a green field. In the background, there is a dense forest and a few houses. A dirt road runs along the right side of the field. The sky is blue with some light clouds.

Czech Republic | 6.6MW



Czech Republic



Horay brand Solar Ocean 550W
Mono Facial Modules



HORAY

Czech Republic | 5.5MW



Bruntal, Czech Republic



Horay brand Solar Ocean 460W
Mono Facial Modules

HORAY

Czech Republic | 4.5MW



Most, Czech Republic



Horay brand TOPCon 570W
Bifacial Modules

HORAY

Germany | 3MW



Warlin, Germany



Horay brand Solar Ocean
415W Mono Facial Modules



HORAY

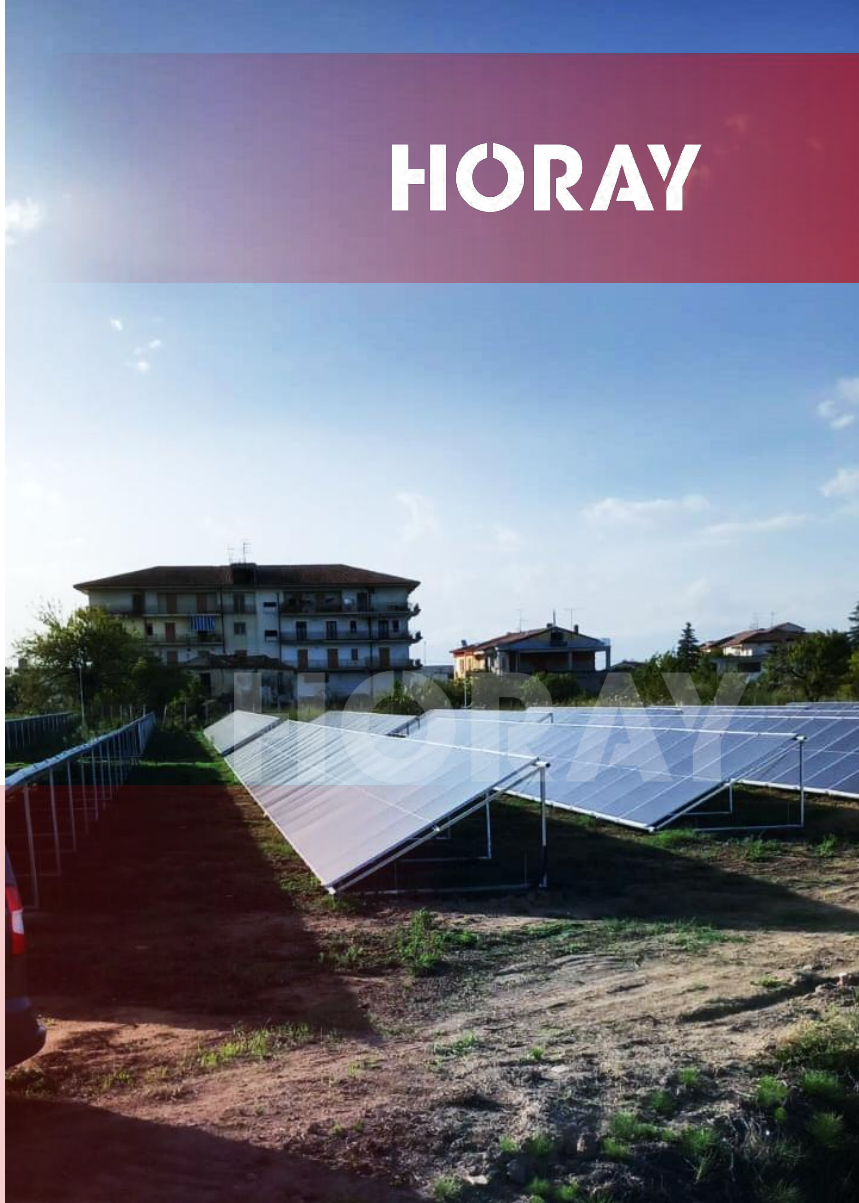
Italy | 2MW



Italy



Horay brand Solar Galaxy 660W Mono Bifacial Modules



HORAY

HORAY



Malaysia | 1.3MW

 Senai City, Johor State Capital

 Horay brand Solar Ocean 540W Mono Facial modules



HORAY

Germany | 1MW



Gross Gievitz, Germany



Horay brand Solar Ocean 415W Mono Facial Modules

HORAY

Follow us @ Horay Solar   

Excellent PV Module Manufacturer

禾衷共济 润德载物

Embrace the Sun Step into a Bright Future with Horay Solar

Horay Solar Co.,Ltd

HORAY

THANKS

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