



Photovoltaic Mounting Systems for High Efficiency

Presentation for
**MORE RENWABLES FOR
ROMANIA**

Presented By
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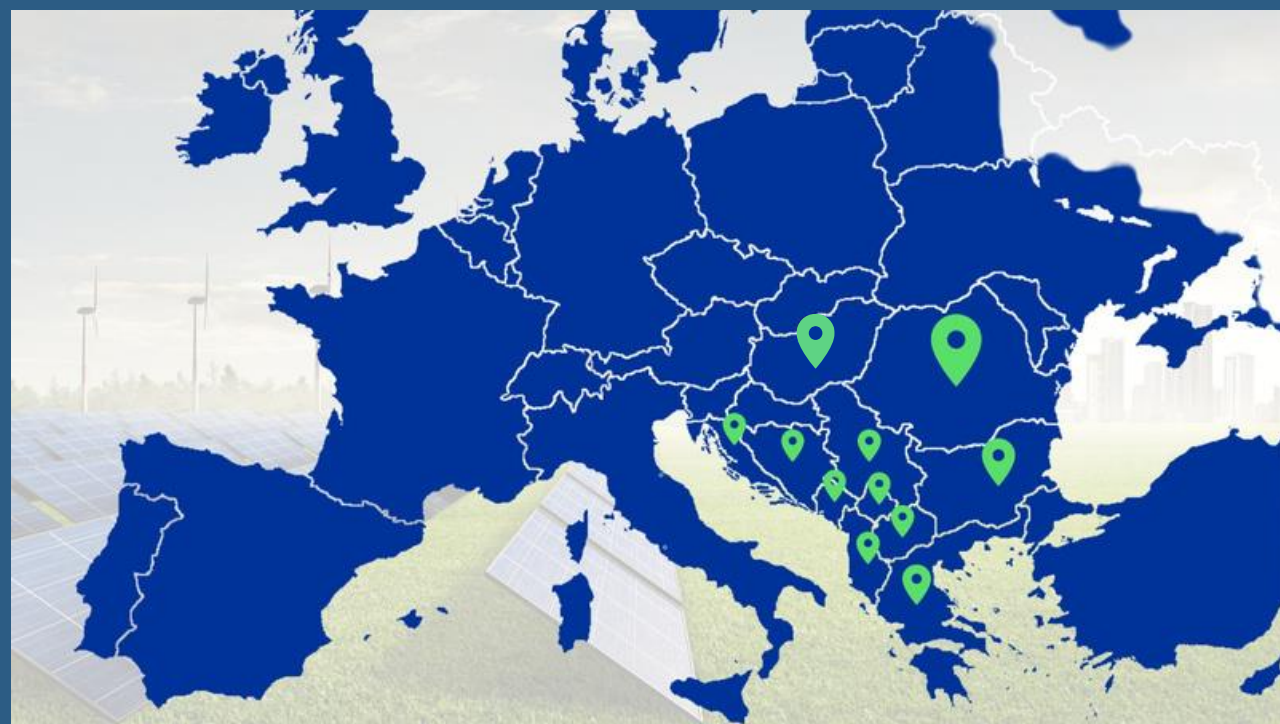
Date of the Presentation
09/03/2023

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About Us



GEMINOX is a leading provider of photovoltaic equipment for EPCs and distribution companies. GEMINOX is committed to providing its customers with high quality renewable energy equipment, such as mounting systems, photovoltaic panels, solar cables, inverters and batteries for energy storage.

GEMINOX is present in over 10 countries in the Balkan Peninsula and Eastern Europe and has 3 logistic centers.

BRANDS



Mounting Systems

Clenergy was founded in 2007 in Melbourne, Victoria. It is a manufacturer and solution provider to the renewables & building industry, specializing in the development, manufacturing, and engineering of solar mounting & cable management gear. With a production capacity of over 15GW/year, Clenergy is one of the TOP mounting system manufactures globally.

Inverters&Batteries

Huawei offers leading Smart PV solutions harnessing more than 30 years of expertise in digital information technology.

By integrating AI and Cloud, Huawei further incorporates many latest ICT technologies with PV for optimal power generation, thus making the solar power plant to be Highly Efficient, Safe & Reliable with Smart O&M and Grid Supporting capabilities and builds the foundation for solar to become the main energy source

PV Modules

As a distributor of PV modules, we allow the installer to focus on the installation, free from concern about product quality, on-time delivery and other time-consuming activities. We offer a wide choice of PV modules such as: Jinko Solar, Risen Energy and Suntech.

Solar Cables

Established in 1993, Hebei Huatong Wires and Cables Group Co., Ltd covers an area of more than 220,000 square meters, owning more than 420 sets of manufacturing equipment and more than 250 sets of testing equipment or apparatus. Products: XLPE insulating power cables with voltage up to 35kV, PVC insulated power cables, mining cable, general rubber sheathed flexible cable, Submersible oil pump cable, locomotive-vehicle cables, shipboard offshore cables and Navy cables, nuclear station cables, pre-fabricated branch cables, aerial cables, control cables, special cables.

2022 REALISATIONS



SALES **REVENUE**
Q3+Q4



BECOME A SUPPLIER
OF **COMPLETE** PV
SYSTEM SOLUTION

INCREASE PRODUCT PORTFOLIO WITH:

- 01 SOLAR CABLES
- 02 STORAGE SYSTEMS
- 03 TRANSFORMATION
SATIONS

DEVELOPMENT
OF NEW
MARKETS



GREECE

BULGARIA

HUNGARY

2023 PLANS



Importance of the Mounting Systems

Photovoltaic mounting systems technology is a crucial part of the solar industry. It provides the infrastructure and support necessary to ensure that solar panels are installed safely, securely, and efficiently.

Even though it only typically accounts for about 20% of the total cost, installation of the solar panel mounting structures is one of the most important steps of the total solution because should the mountings fail then the entire system fails.



Photovoltaic Mounting Systems for High Efficiency

1

**REDUCE
INSTALLATION
TIME AND COST**

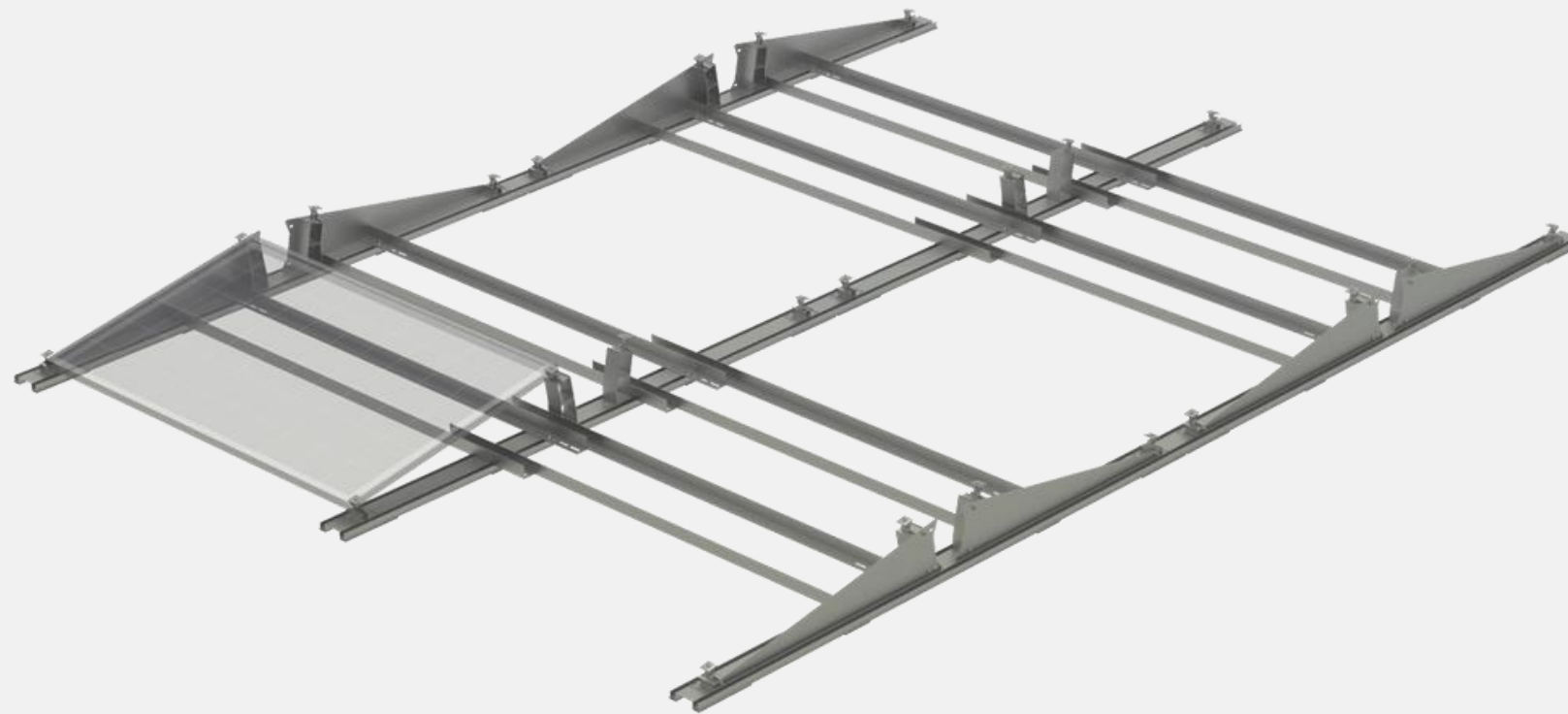
2

**OPTIMIZE
THE USE
OF SPACE**

3

**MAXIMIZE
ENERGY
PRODUCTION**

Photovoltaic Mounting Systems for High Efficiency



Ascent

Low Ballast Tilt Mounting System for PV Installation on Flat Roofs

Ascent

Low ballast and rail-less system which provides optimal surface utilization and yield for structurally challenging roof with limited ballast options.

- maximized energy production with multiple geometry options.
- With the special design and a tilt angle of 10° and 15°.
- Suitable for PV module up to 2180x1100mm, height from 30mm to 46mm.

BALLAST OPTIMIZED

Ballast reduction through aerodynamic optimized construction. Also tested in boundary layer wind tunnel by the independent wind tunnel test agency, to achieve optimum ventilation for maximum energy output.

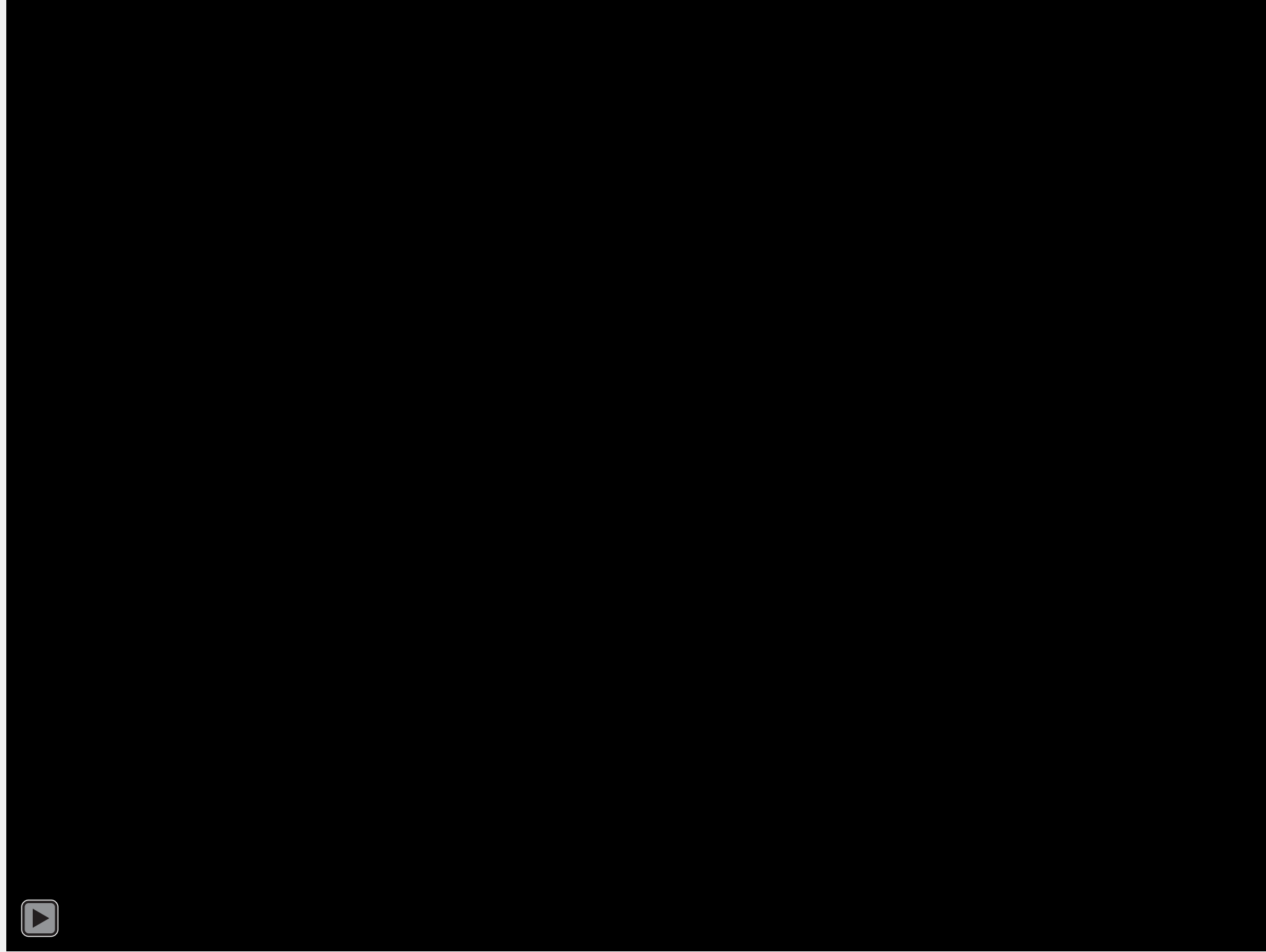
EFFICIENCY

With the click connections between Legs and Bases, no tools are used during the Legs and Bases assembly. The storage space is greatly reduced due to the innovative Rear Leg Extension, thereby saving the cost of warehouse management.

COMPATIBILITY

Available with a module length up to 2180mm, widths up to 1100mm, PV-ezRack Ascent offers flexible solutions and suitable for all framed PV panels with height from 30 to 46mm. Power optimizer ,micro inverter can be easily accommodated.

Reduced installation time with Click Connections



Photovoltaic Mounting Systems for High Efficiency



ComT 2.0

Tilt Mounting System for PV Installation on Commercial Tin or Flat Roof

ComT 2.0

The Clenergy PV-ezRack ComT is a universal and fast mounting system for PV installation on all common commercial tin roofs or on flat roofs. With its flexible and scalable design, it enables perfect utilization of roof surface available.

Available Tilt Angles

- 5°
- 10°
- 15°

1 EASY AND QUICK INSTALLATION

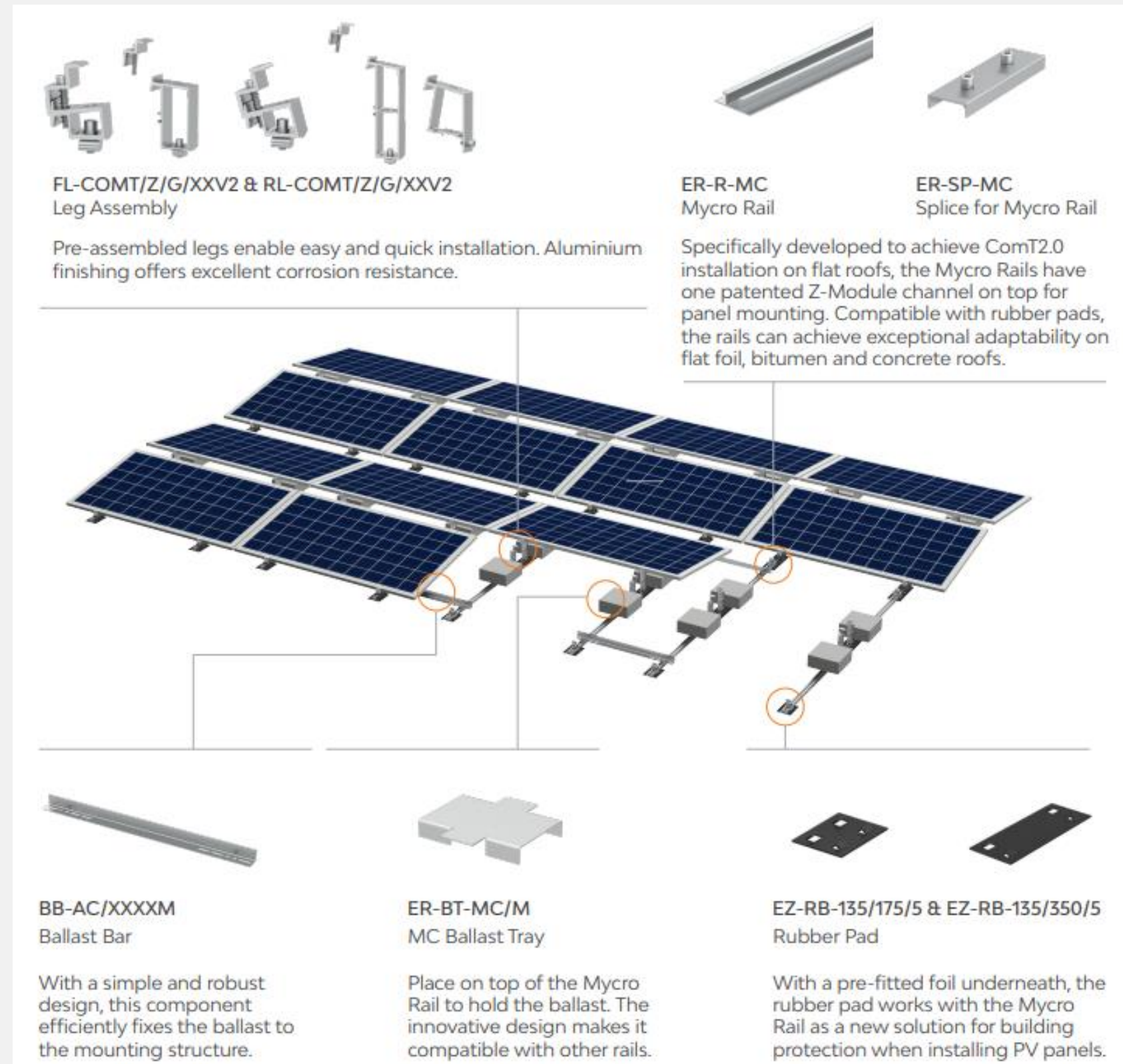
Pre-assembled legs enable easy and fast installation | Patented Z-Module, the legs can easily click into the slot of rails at any given point.

2 OPTIMISED ENERGY OUTPUT

Legs can mount PV panels with width up to 1046mm, such as 72-cell or new half-cut cell panels | 3 x Tilt angles

3 TWO OPTIONAL SOLUTIONS

The solution using MT Rail in conjunction with T-Rails and Legs is specially developed for tin roofs with a large purlin span of up to 2m. And the other one using our popular L-feet, ECO Rails and new Legs offers flexible height adjustable range.



Photovoltaic Mounting Systems for High Efficiency



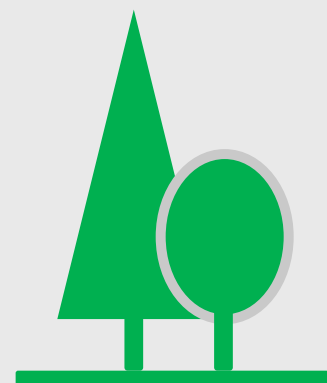
EzTacker

Digital intelligent solar tracker solution

Digital Intelligent Solar Tracker helps build **Friendly Solar Plant**

Using high strength MACsteel

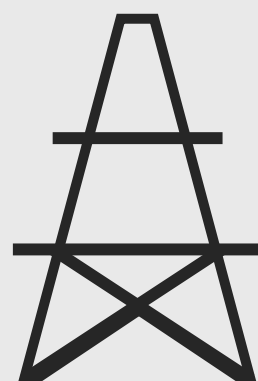
Reducing 30%
steel consumption



**Environment
Friendly**

Stable

power generation
Improve power quality



**Grid
Friendly**

Intelligent SCADA
maintenance platform

Guard solar plant
safety



**System
Friendly**

Investmen
t return

up to 11%

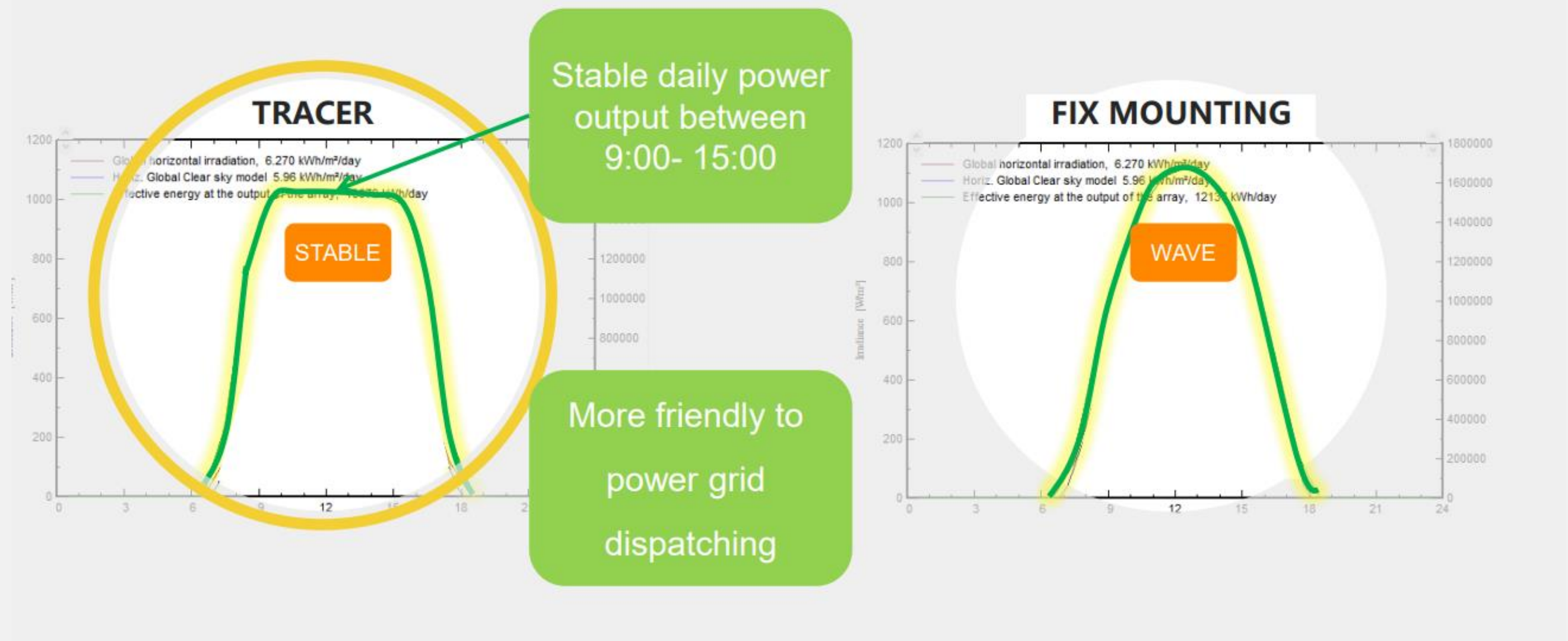


**Revenue
Friendly**

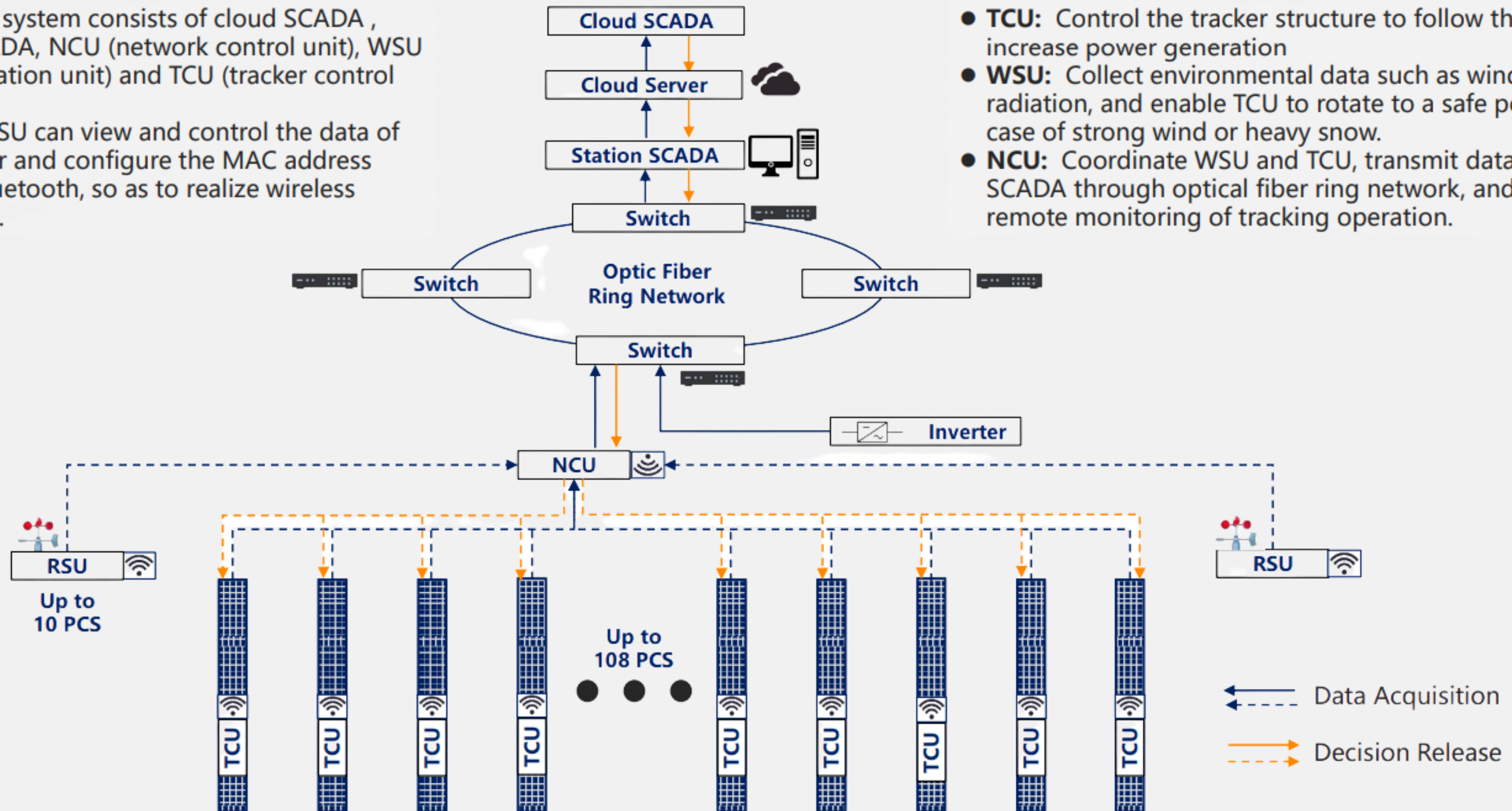
Economic Analysis

	Fix Mounting (665Wp Bifical Panel)	Tracker System (665Wp Bifical Panel)	Comparasion
Configuration	✓ PV mounting system	✓ PV mounting system ✓ Rotation drive system ✓ Intelligent tracking control system ✓ Microclimate monitoring and protection system ✓ Intelligent SCADA platform	
PV Panel Tilt	East to west arrangement 40° Facing south	North South horizontal rotation axis Rotating ±45 ° from east to west every day	
Protection Mode	N/A	Real time monitoring the microclimate of the power station, and automatically enters protection mode. <div>✓ Wind protection ✓ Flood protection ✓ Heavy snow protection ✓ Heavy rain cleaning ✓ Hail protection</div>	
SCADA	N/A	Intelligent SCADA platform Real time monitoring of the operation status of all trackers. <div>✓ Automatic fault alarm ✓ Operation and maintenance reminder ✓ Remote monitoring</div>	
Design Life	25 years	25 years	
Annual Maximum Power Generation Hours	1579 h/year	1839 h/year	↑ 16%
Initial Total Investment	4.01 yuan/Wp	4.43 yuan/Wp	
Operating Costs	0.045 yuan/Wp	0.050 yuan/Wp	
KWh Cost	0.1390 yuan/Wp	0.1320 yuan/Wp	↓ -5%
Feed in Tariff (Xinjiang.China)	0.268 yuan/kWh	0.268 yuan/kWh	
Cost Recovery Period	12.96 years	12.31 years	

Stable Daily Power Generation Curve



TCU and WSU can view and control the data of each tracker and configure the MAC address through Bluetooth, so as to realize wireless networking.



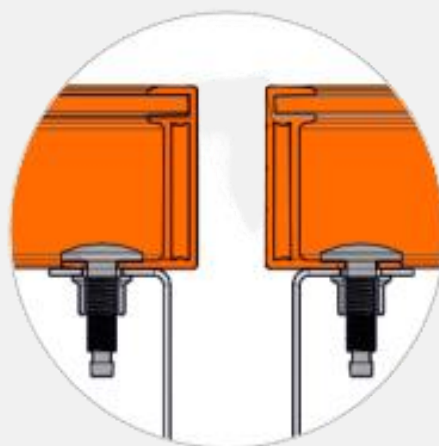
Rapid Solar Plant Building



Drive installation
efficiency increased
by 50%



Wireless electrical
deployment



PV Panel Fastener
Anti loosening
Anti-theft
Self-grounding



Integrated PV panel
anchor purlin



Only 123
Foundations
per MW



Conclusion

Photovoltaic mounting systems provide a great way to maximize energy production, optimize the use of space, and reduce installation time and cost.

With so many mounting systems available to suit different needs and budgets, it is possible to find the best solution for any given situation.

By investing in a quality photovoltaic mounting system, a person can ensure their solar energy system will be installed quickly, efficiently, and cost-effectively for long-term success.



REDUCE INSTALLATION TIME AND COST



OPTIMIZE THE USE OF SPACE




MAXIMIZE ENERGY PRODUCTION



TOGETHER FOR A GREENER FUTURE

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