



Sigenergy Innovative Utility PV Solution for Optimal LCOE

February 2026



Gregory Lukens



Sales Director EU Key Accounts

A Year of Growing & Succeeding

88

Countries

120+

Distribution partners

€1.07 billion

2025 Revenue

Growth vs. 2024

625%

As of the end of 2025

17,600+

Installers

Growth vs. 2024

400%



SIGENERGY

Global Headquarter

50%

R&D personnel

Excluding manufacturing and assembly staff

1,500+

Number Of Employees

690+

Number Of Patents



Shanghai Global Marketing Center

Shanghai Global Center



Smart Manufacturing

>99%

Product Manufacturing Yield

202,000+ m²

Total Manufacturing Area In 2026

26GWh

Total production capacity in 2026



Shanghai R&D Manufacturing Center



Jiangsu Production Base

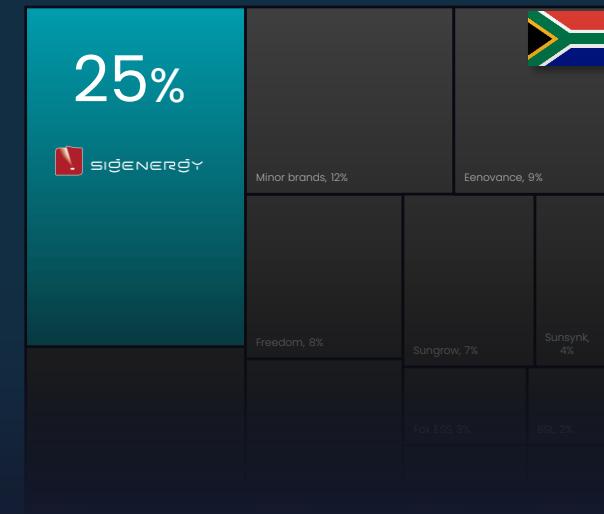
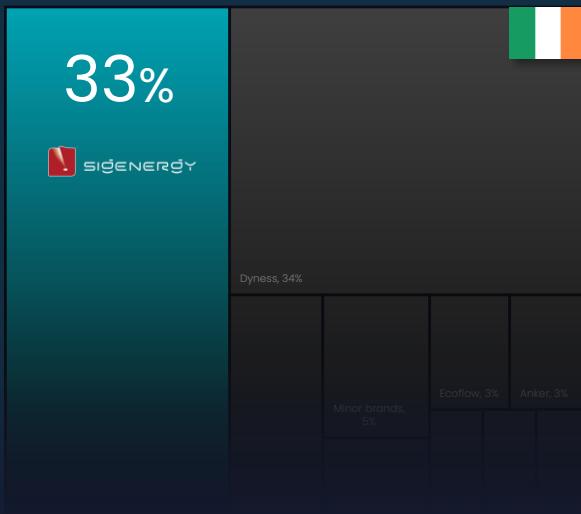


Shanghai Prototyping Manufacturing Center



Proven Leadership Across Regions

Regional leader with 2025 market share by capacity.



Source: SunWiz, as of Jan. 2026



Pioneering AI Innovation, Defining the Future of Energy

 Data Higher quality

-  **20,000+** global systems under AI mode
-  **400+** Polish systems under AI mode
-  **16%** AI mode activation rate in Poland
-  **80** Electricity tariff operator



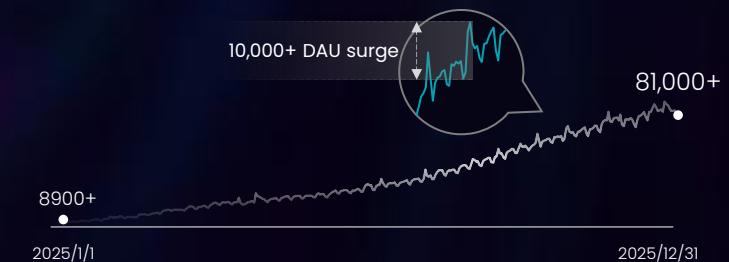
Algorithms

- 15 years of expertise combining AI and energy
- >90% load & solar forecast accuracy
- 4 iterations of AI mode



Compute More scalable & stable

- Cloud icon: Continuous training of the Sigenergy energy model, powered by elastic public cloud resources
- Cloud icon: Elastic Compute
Scale on demand to handle any DAU surge
*DAU: Daily Active Users





Pioneering AI Innovation, Defining the Future of Energy



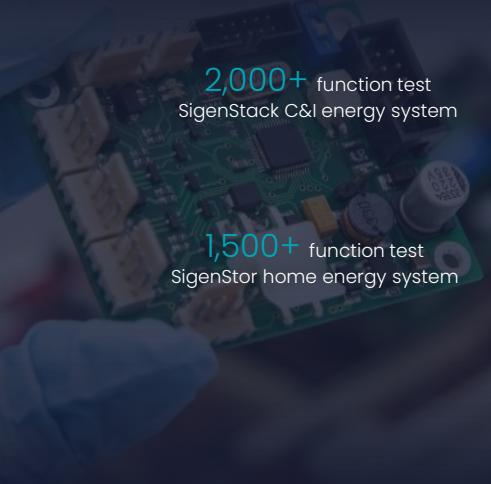
Lifecycle Quality Control, Long-term Reliability Guarantee

⌚ Inverter shipment **285,000+ pcs**

⌚ Battery shipment **524,000+ pcs**

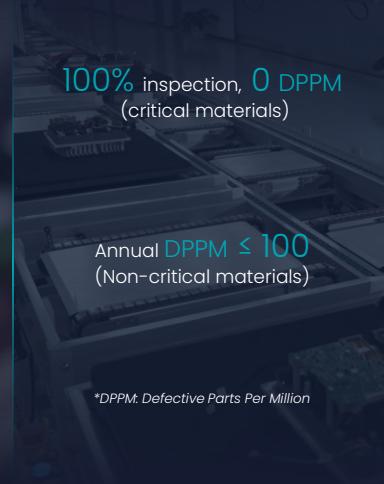
1

Product design



2

Incoming control



3

Production



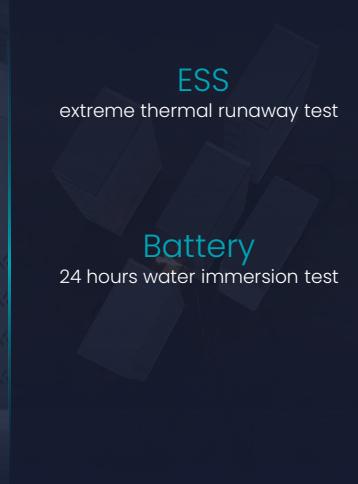
4

Factory test



5

Extreme test



6

All-round insurance



Residential Energy Solution

Stackable All-in-one BESS

Global No.1

- Innovative AI-powered
- 0 ms load-side disruption
- Pioneering V2X application

C&I Energy Solution

Modular C&I ESS

Industry 1st

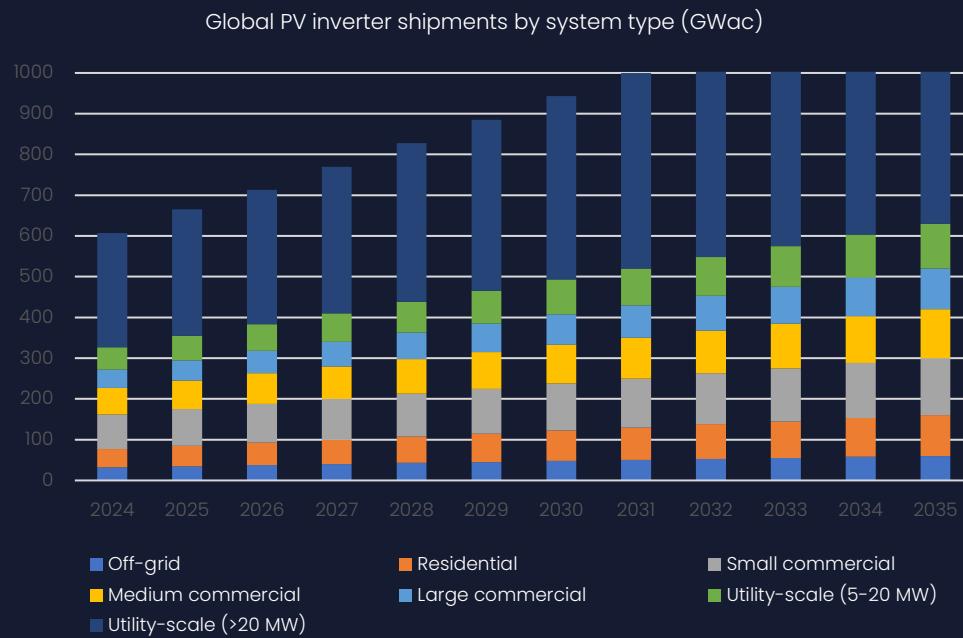
- Modular design & stackable installation
- Innovative DC-coupled architecture
- Built-in EMS for streamlined configuration

Utility-scale Energy Solution

2026 Coming soon...

Utility-Scale PV: The Structural Backbone Across Global Markets

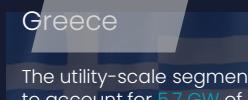
Utility-scale remains the backbone of the PV inverter market, accounting for about **52% of total shipments** over 2025–2035, even as other segments accelerate.

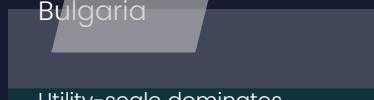


* Source: 2025 S&P Global.

 Australia
9.33 GW of utility PV installations forecast for 2025–2030, backed by CIS and government support.

 Germany
The utility-scale segment will see strong growth, boosted by both tender plants and unsubsidized projects.

 Greece
The utility-scale segment is expected to account for 5.7 GW of new installations from 2025 to 2030.
This growth will be primarily driven by PPAs and merchant investments.

 Bulgaria
Utility-scale dominates Bulgaria's solar growth, with 6.9 GW added by 2035 under the updated NECP.

 Finland
The utility segment will reach 2.8 GW by 2025–2030, supported by large solar park investments, favorable policies, and hybrid solutions.

 Ireland
From 2025 to 2030, Ireland is expected to install 6.0 GW of solar PV, led by utility-scale projects (3.6 GW), supported by RESS.

Three Growth Engines Behind Utility-Scale PV Solutions

1

Grid Integration Needs

From Grid Connection to Grid Participation

- Coordinated multi-inverter operation
- Reduced harmonic distortion (low THDi)
- Robust thermal & electrical design
- ...

2

Cost Competitiveness

From Device Cost to Lifecycle Value

- Lower product and system costs
- Advanced technologies
- BOS & O&M reduction
- ...

3

Policy & Market Support

From Incentives to Technical Access

- Net-Zero Industry Act (NZIA)
- EU Solar Strategy & REPowerEU
- Evolving PPA and market reform frameworks
- ...

Emerging Challenges in Developing Utility-Scale PV Plants

1

Technology Choices Under Market Pressure

- More strings per MPPT
- Technological path changes
- Increasing safety issues

Which architecture truly fits future projects

?

2

Diverse Sites, Fewer Ideal Locations

- Complex terrain
- One-size-fits-all no longer works

How adaptable is the solution when site conditions change

?

3

Scaling Up Projects, Scaling Up O&M Complexity

- More equipment to maintain
- Higher O&M workload

How can O&M remain manageable

?



Sigenergy Utility PV Solution

Designed for the Next Phase of Utility-Scale PV

Ultimate LCOE

Safe & Reliable

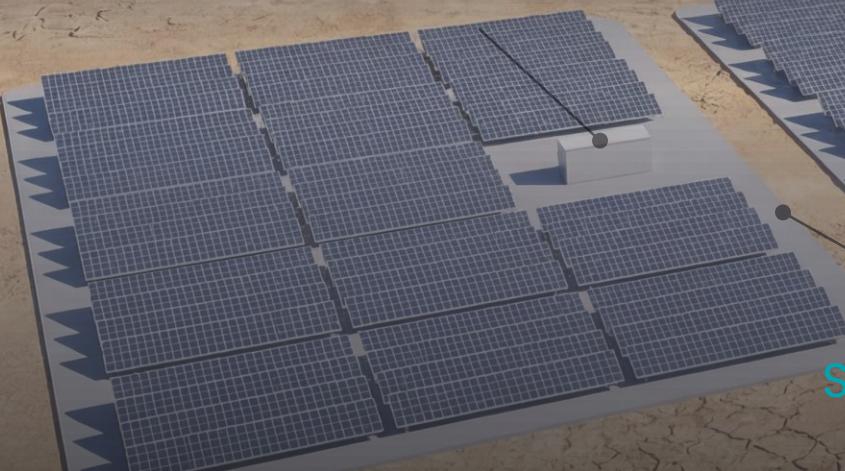
Optimized O&M



Sigenergy Utility PV Solution



Sigen Data Logger
Sigen Communication Box



Sigen PV
Inverter



Sigen MV
Transformer



Sigen Cloud
mySigen App





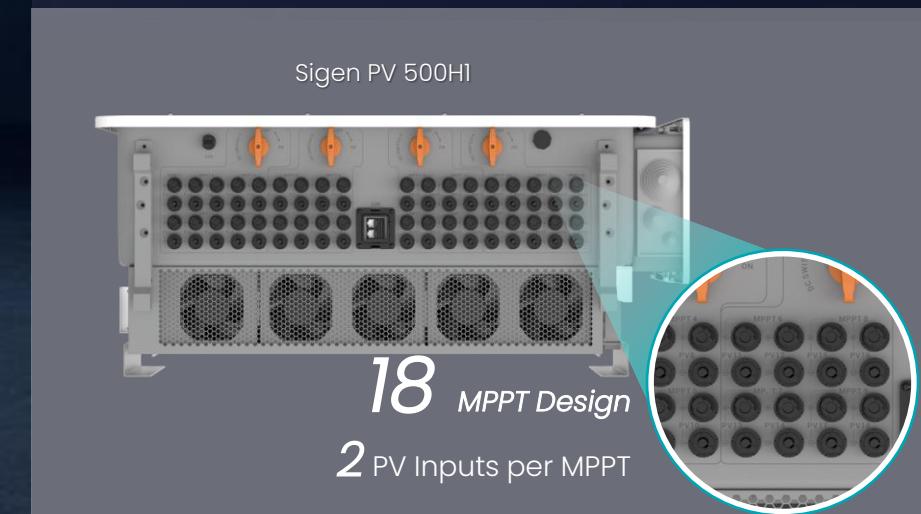
Sigenergy *Utility PV Inverter*

Power and Voltage, Redefined.

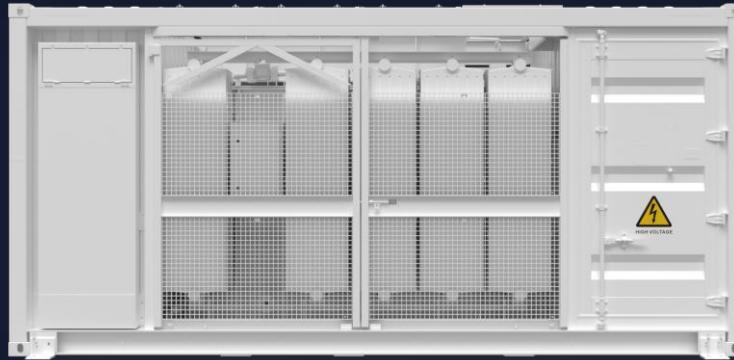


500+ kW

	Sigen PV 500H1	Sigen PV 370/400H2
Nominal power	460 kW	333/360 kW
Max. DC input voltage	1500 V	
MPPT voltage range	480~1500 V	
Number of MPP. trackers	18	14
Number of PV strings per MPPT	2	
Max. input current per MPPT	40 A	

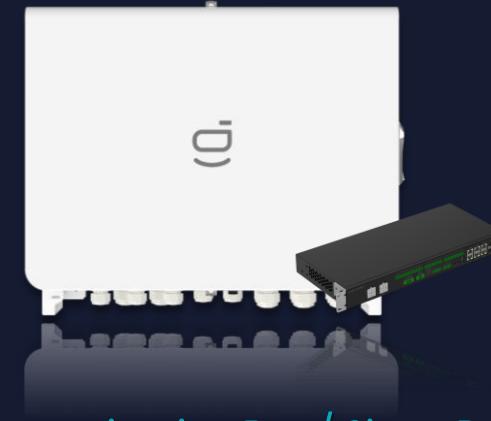


Comprehensive Offerings for System-Level Excellence



Sigen Transformer Station
SigenMVT 4000/9000H1

- 20' HC Container
- Higher efficiency, Tier 2 PEI $\geq 99.615\%$ available
- Leading Large PV Subarrays - up to 9.2 MW
- Form 2b design, prevent risk spread



Sigen Communication Box / Sigen Data Logger

- Support PLC network
- Supports connection of up to 160 Inv.
- Comm. Box support Anti-PID

Exceeding 500kW, Pioneering 1000V Innovation, Saving CAPEX

500 kW+ & 1000V AC System

50%+

AC Output Power

200 Vac

AC Output Voltage

330 kW
800 Vac

350 kW
800 Vac

506 kW _{max. power}
1000 Vac AC output

Sigenergy

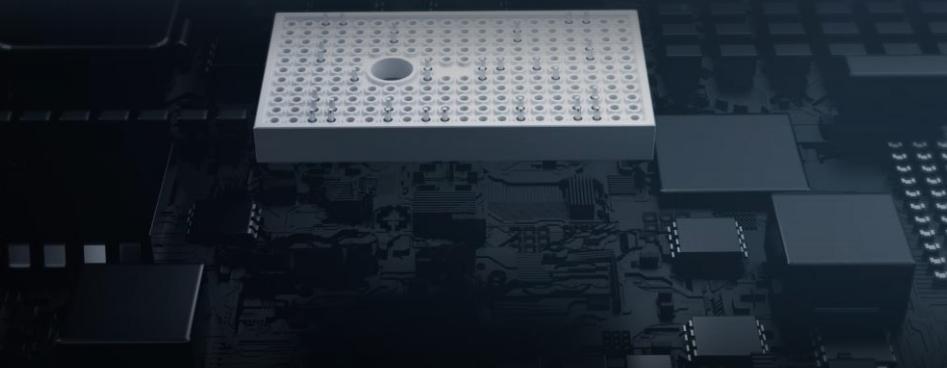
1 Component Upgrade

Based on SiC technology
2000V MOSFET

2 Thermal Design Upgrade

Directed airflow – eliminating
internal airflow interference

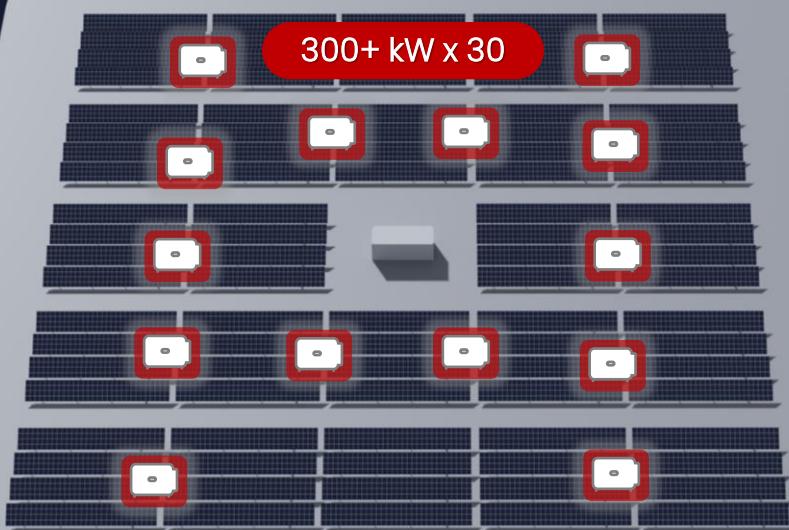
Zigzag heat exchange –
8°C lower chamber temperature



Lowered BOS with Higher AC Voltage & Power

Traditional 9 MVA

Standard Block PV Solution



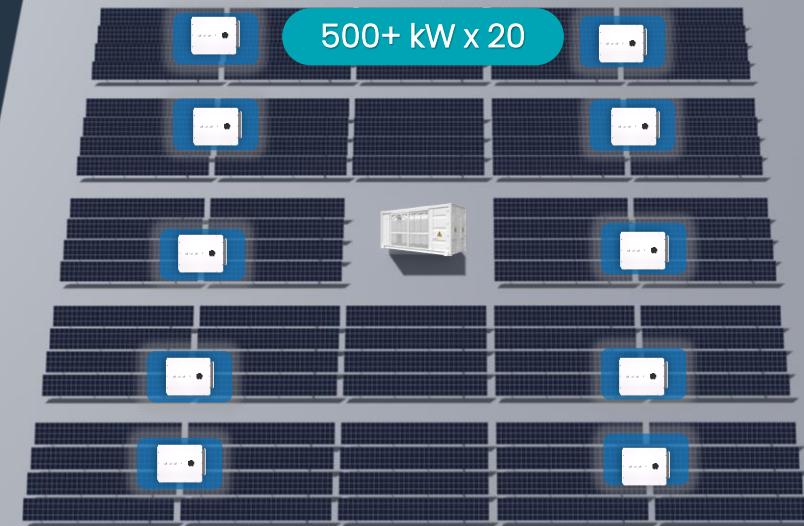
Others	Sigenergy
AC Cables 300 mm² 9018 m	AC Cables 300 mm² 6662 m
INV Qty 30 pcs	INV Qty 20 pcs
BOS 19.4 \$/kW	BOS 15.7 \$/kW

OPEX – Lower down by 10%

CAPEX – Lower down by 19%

Sigenergy 9.2 MVA

Standard Block PV Solution

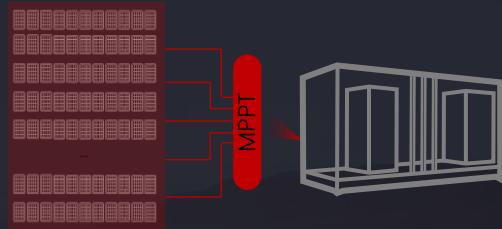


*Calculation assumption: DC/AC ration = 1.2; Cable derating = 0.75; Use aluminum wire as AC cable; PV Modules = 710Wp

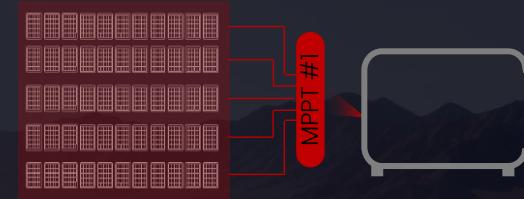
Multi-MPPT Design, Better Fit for Complex Terrain

Traditional Solution

Cost reduction at the expense of power generation



Central Inverter
MPPT inputs - 20+ Strings

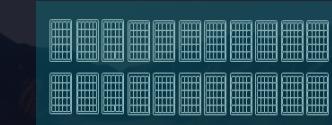


Traditional String Inverter
MPPT inputs – 4/5 Strings

Sigenergy Solution

A true string inverter, boosting energy yield

Single MPPT: 2 Strings



Higher efficiency in complex scenarios

MPPT #1



1.5~2% Higher Yield
by reducing string mismatch loss

Inter-row Shading

Mismatched Orientation

Edge Shading





Safe and Reliable, Complete
Coverage of DC-side Faults

Utility level AFCI
for arc fault

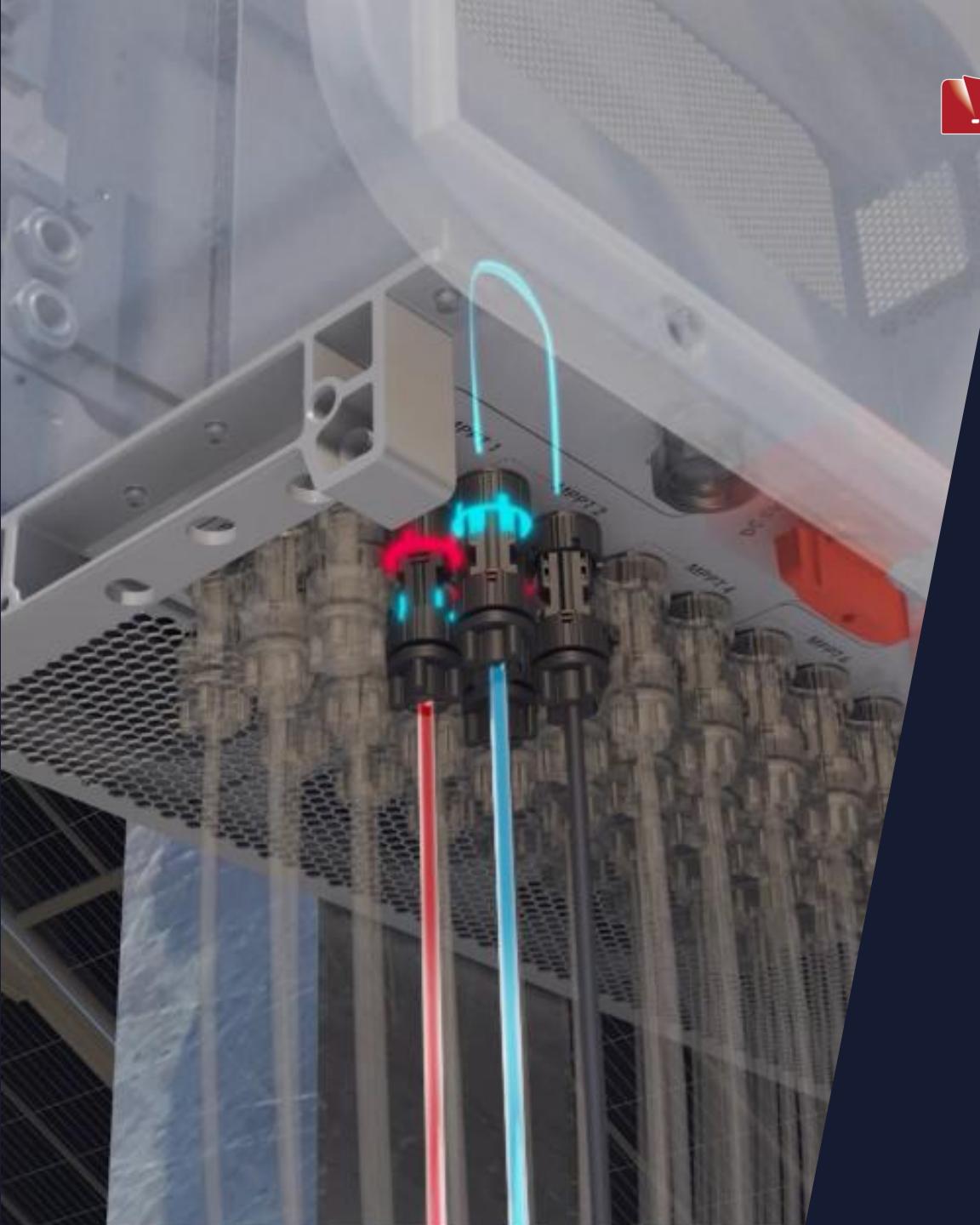
Sigenergy

500m detection

*The distance is measured in specific scenarios

Other Solution

No AFCI function

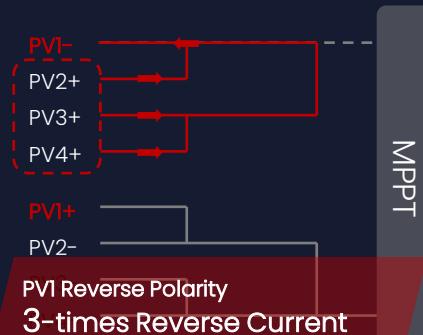


Safe and Reliable, Complete Coverage of DC-side Faults

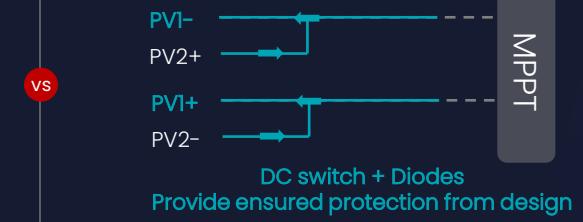
Reverse Polarity Protection for reverse polarity

Multi MPPT Less reverse current, less fire risks

Industry: Reverse polarity may cause fire risks



Sigenergy: Less inputs per MPPT, less fire risks

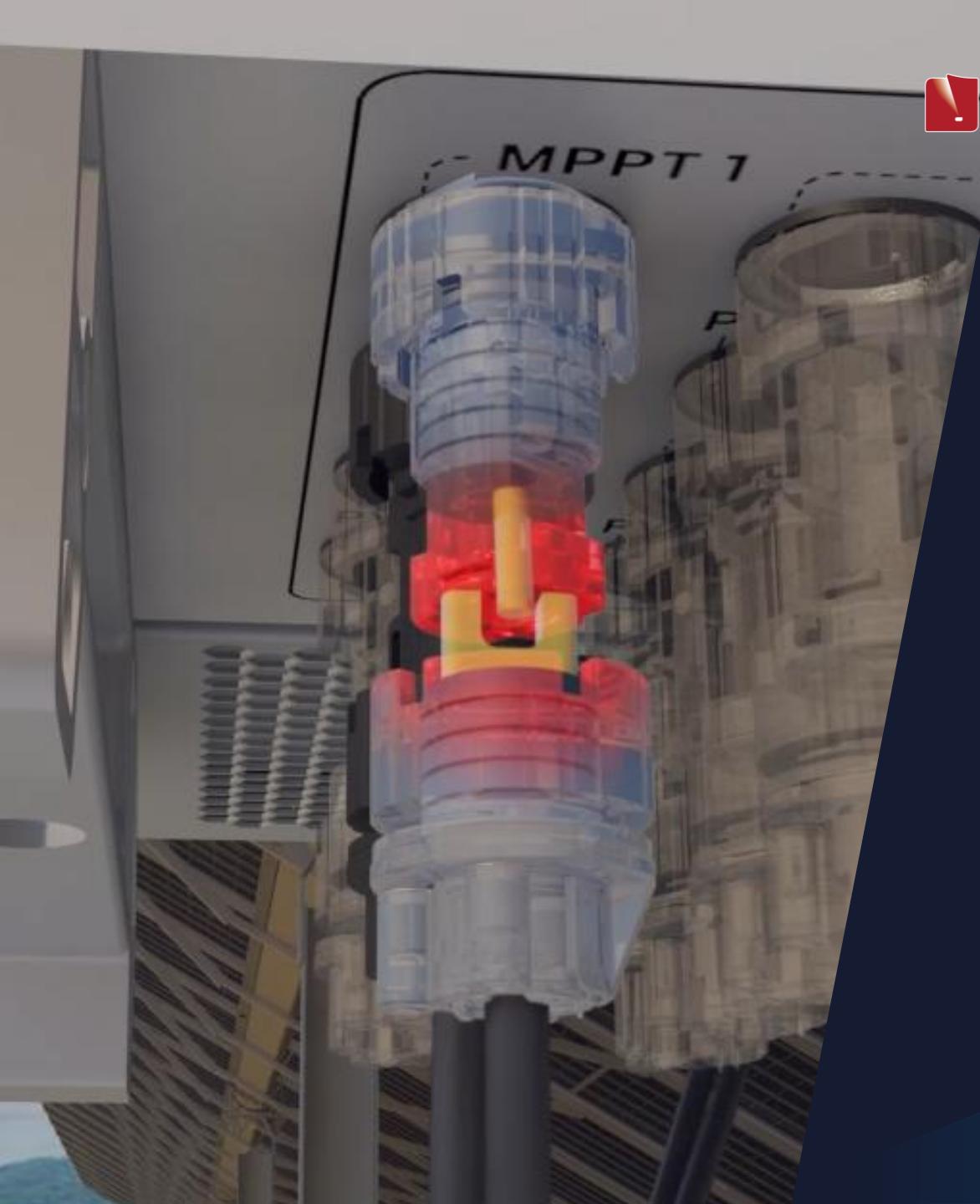
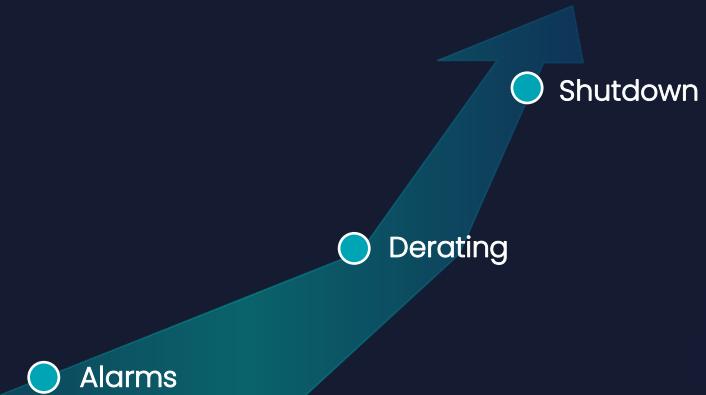


Worse Situation
Only 1-time Reverse Current

Safe and Reliable, Complete Coverage of DC-side Faults

Terminal Temp. Detection
for loose connection

Tiered Protection Minimize downtime loss
Cover DC & AC terminals





Safe and Reliable, Built for Harsh Environments

IP66 Protection Rate

Integrated with dual-compartment design, no need to open power compartment, preventing foreign objects from entering



C5-H Anti-corrosion Rate

Featuring high weather resistance, enhanced anti-corrosion, and high-fume environment resilience, available as an upgrade



Enhanced Lightning Protection

As the preferred solution for superior lightning protection exceeds Type I standards, with an optional DC SPD to further enhance resilience

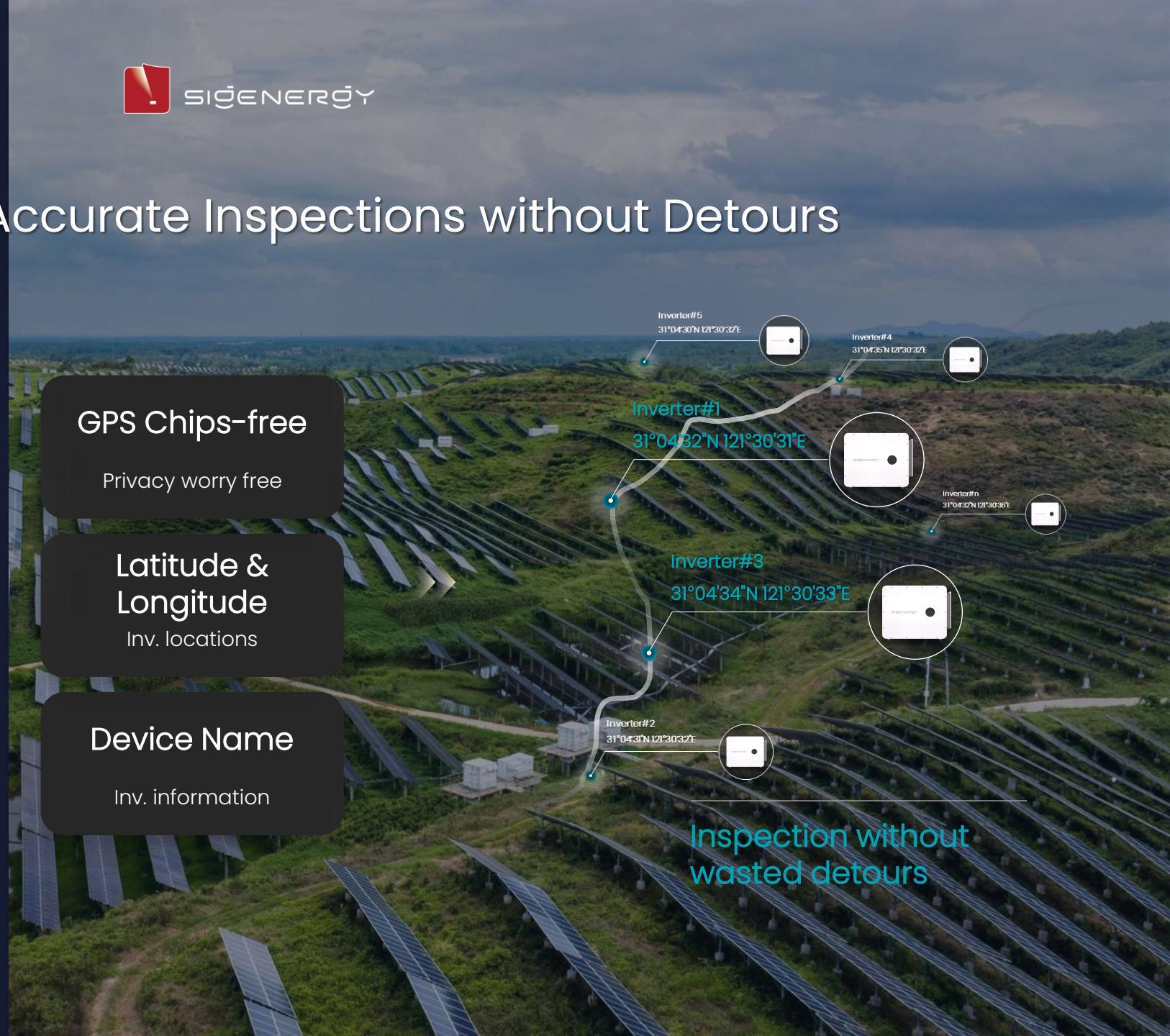


Geo-tagging, Accurate Inspections without Detours



O&M App Built-in Map

Recording device location
coordinates during commissioning



Inspection without
wasted detours

MPPT-level ISO Fault Location, Boosting Efficiency by 15 Times

Traditional
Inverter-level Solution



Average Level

30+ strings

Need to detect

Traditional
MPPT-level Solution



Industry-Leading

6 Strings

Need to detect

Sigenergy
MPPT-level Solution



Sigenergy – Multi-MPPT Design

2 Strings

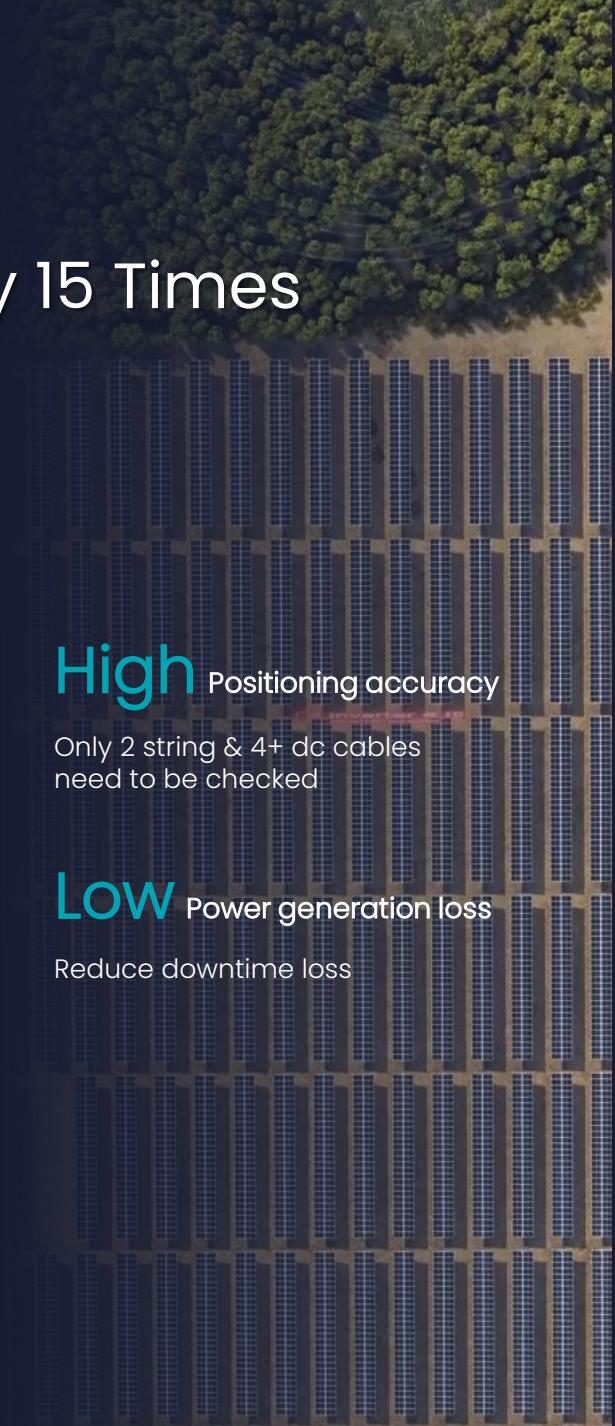
Only Need to detect

High Positioning accuracy

Only 2 string & 4+ dc cables
need to be checked

Low Power generation loss

Reduce downtime loss





Powering the Future of Utility-Scale PV

Sigenergy Utility PV Solution

Ultimate LCOE

|

Safe & Reliable

|

Optimized O&M



Thank you!



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