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Get SUNplugged



Empowering A Brighter Tomorrow

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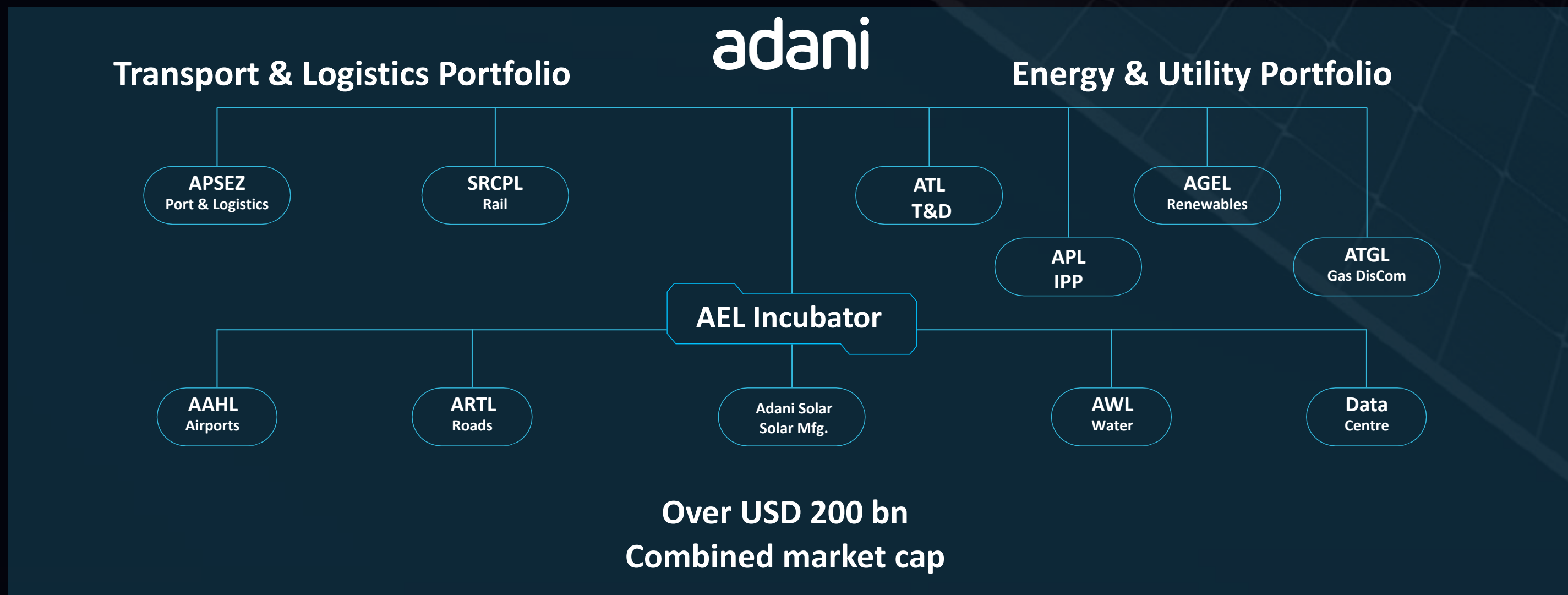
Visionary leadership, illustrious experience, and remarkable track record have been the signature of our legacy.

Adani Group

- Founded in 1988
- Leading business conglomerate of India and a global integrated infrastructure play with businesses in key industry verticals - resources, logistics, energy and agro
- Nine publicly traded companies with combined market cap of over USD 200 billion
- Expanding global footprints across Australia, Bangladesh, China, Dubai, Indonesia, Myanmar, Singapore, and the United States

Adani Group – World Class Infrastructure & Utility Portfolio

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In Tune with the Big Vision

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"Of all the renewable energy technology options, today, solar is the fastest growing source of power. Over the past decade, the price of solar panels has dropped by 90% and possibly over the next decade we will see price drops of the same magnitude as panels become even more efficient and new materials come into play. The fact is that the **marginal cost of solar power is moving towards "zero"** and this is both transformative and disruptive."

- TIE 2021

Adani Group Chairman's grand keynote speech "No vaccine for Climate Change"

\$50-70 bn investment planned across energy chain

"Over the next decade, **we will invest over 20 billion dollars in renewable energy generation.** Our overall organic and inorganic investments across the entire green energy value chain will range between 50 and 70 billion dollars. This will include investments with potential partners for electrolyzer manufacturing, backward integrations to secure the supply chain for our solar and wind generation businesses, and AI-based industrial cloud platforms."

Adani's focus is on renewable energy to enable a responsible energy transition with accelerated footprints in energy sector. Our proactive investments in clean energies and technologies validates our commitment to our sustainable future.

Improving All Lives

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**Committed to making solar energy
affordable and accessible to all**

Adani Solar

- Solar PV manufacturing arm of Adani Group
- India's first and largest vertically integrated solar company offering latest technology products across the spectrum of photovoltaics manufacturing
- Produces and offers Mono PERC and TOPCon (Monofacial and Bifacial) modules with superior efficiency, higher performance and enhanced reliability
- Dominant market share in retail (Rooftop and KUSUM) module sales in India
- One of the Largest exporters of solar modules in India
- Only Tier 1 Solar PV Manufacturer from India

Adani Solar Highlights

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Annual production capacity of 4 GW
placing it amongst
Top 15 Global Solar manufacturers



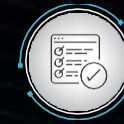
Located in India's **largest electronic manufacturing cluster**



Developed in an ecosystem with ancillary units
that can supply important raw materials by
substituting its imports



Strong & experienced team with **~5,000 employees**
to ensure process sustenance and continuously
working on product development and research



Strict adherence to **Electro Luminescence Testing**
ensuring micro-crack free Modules



Energy efficient building with
IGBC Platinum rating



Best in class equipment from
European suppliers



All facilities are **ISO 9001:2015 and ISO 14001:2015, ISO 45001:2018, ISO 50001:2018**
certified and meet highest industry standards

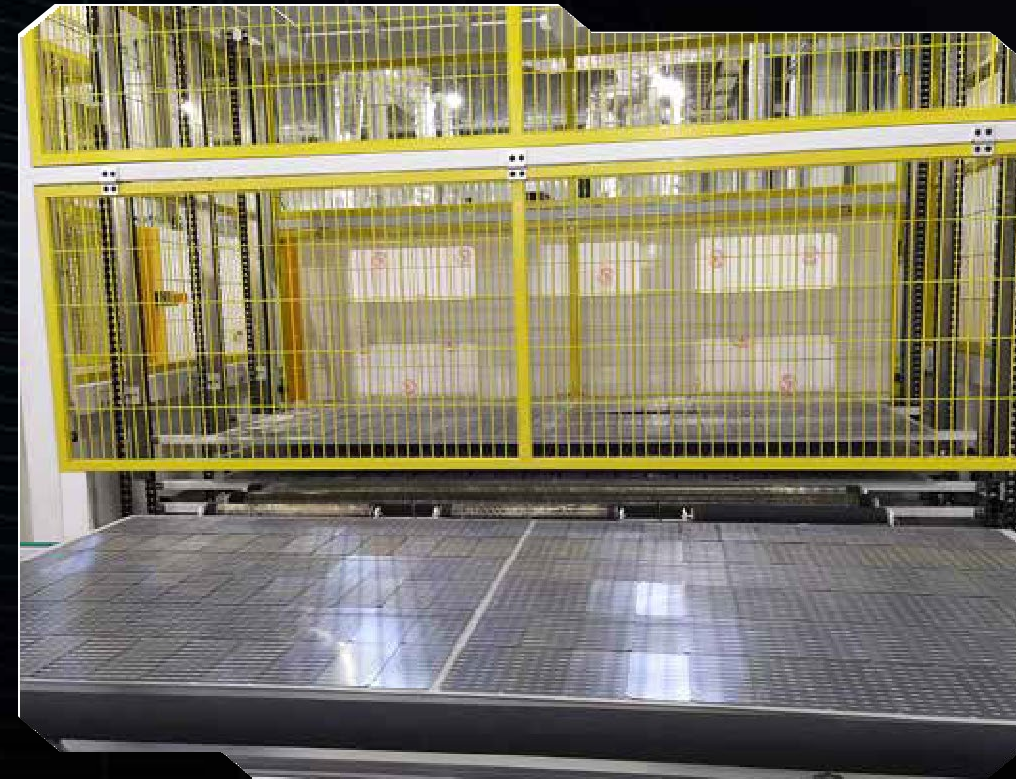


In-house testing facility For Cell sorting &
Module flash test

Being Matchless

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Cutting edge manufacturing technology procured from seven countries across the world



Being Extraordinary

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Fully Integrated and Comprehensive Ecosystem

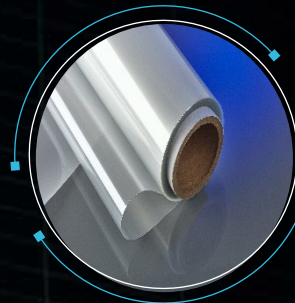
Just in Time Supplies

Reduced import dependency

Seamless supply of key raw materials



EVA
Facility



Backsheet
Facility



Glass
Project



Cell &
Module
Facility



Warehouse



Training &
Testing
Lab

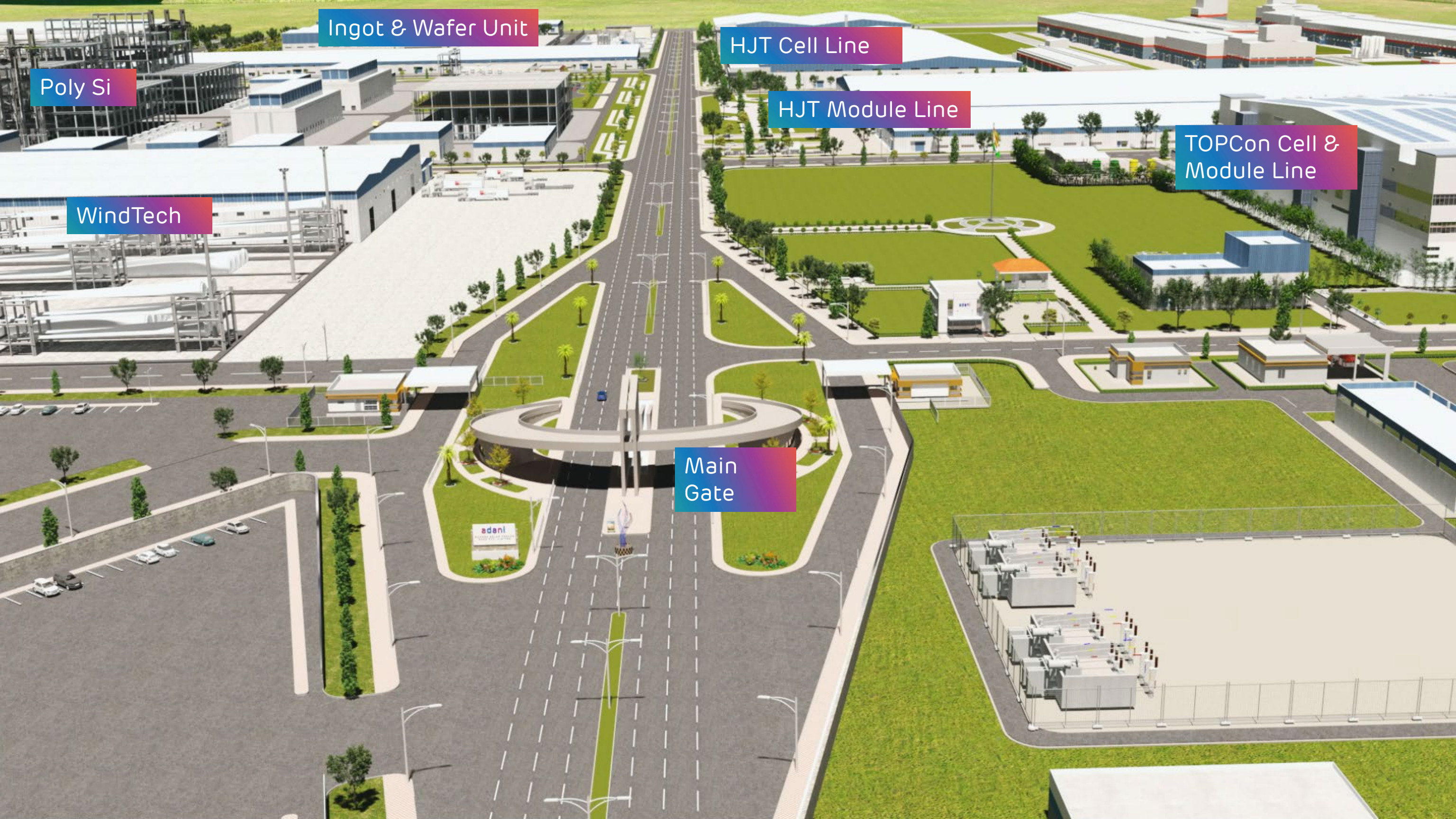


Aluminium
Frame
Facility

Building the World's 1st ever Fully Integrated and Comprehensive Ecosystem of 10 GW Solar PV manufacturing

Get SUNplugged





Ingot & Wafer Unit

Poly Si

HJT Cell Line

HJT Module Line

TOPCon Cell & Module Line

WindTech

Main Gate

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H2 Electrolyser

Ingot & Wafer Unit

HJT Cell Line

Glass Unit

MG Si Plant

Poly Si Plant

HJT Module Line

Aluminium Frame Unit

Warehouse

WindTech

MonoPERC and TOPCon
Cell & Module Line

Raw Material Storage

Main Gate

EVA &
Backsheet

Project Location



The Right Place

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Uniquely located to leverage economic raw material from the east and supply to the west, leading to cost competitiveness for export-oriented PV manufacturing



- ⊙ Head Quaters
- ⊙ Global Presence

Certified by International agencies

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CERTIFICATE

TESTS

IEC 61215

Design Qualification And Type Approval Of PV Modules

IEC 61730

Safety Qualification Of PV Modules For Construction And Testing

UL61730

Complying With The National Electric Code NEC, OSHA, The National Fire Prevention Association

IEC 62716

Ammonia Corrosion Resistance Certificate

IEC 61701

Salt Mist Corrosion Testing Of Photovoltaic Module

BIS/IS 14286

To Comply All PSU / Domestic Tenders Requirement

IEC 62804

PID , 85% RH , 85° C, up to 3 Cycles , 288 Hours

IEC 62759

Shipping & Transportation Certification

IEC 60068

Sand & Dust Certification

ISO

Occupational Health and Safety, Quality Management and Environmental Management System

Product Portfolio (TOPCon)

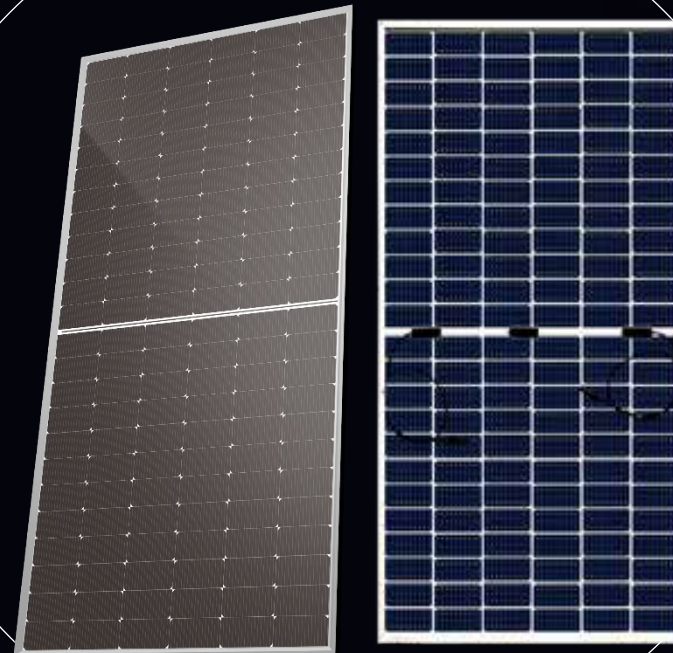
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Elan & Eternal SHINE TOPCon Series

Wafer Size M10 – 182 mm | 144 HC cells 550-575 Wp | 22%+ Efficiency

25 year

Performance Warranty



12 year

Product Warranty

30 year

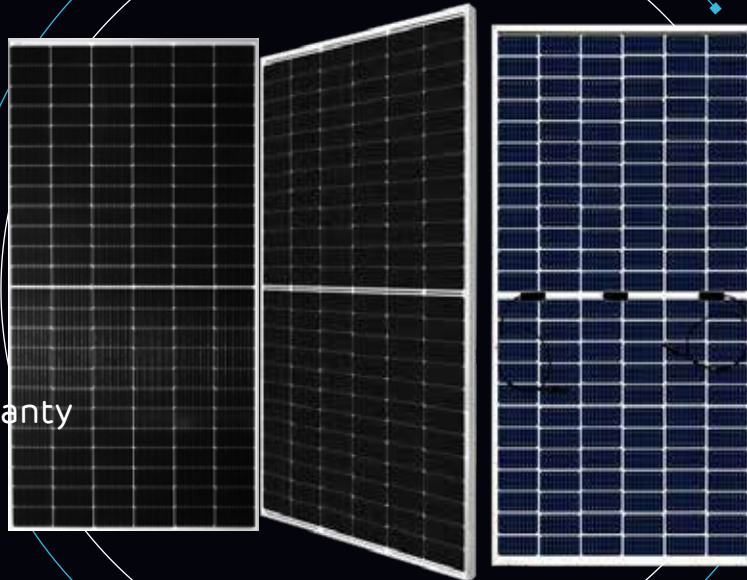
Performance Warranty

Product Portfolio (Mono PERC)

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Elan & Eternal SHINE Series

Wafer Size M10 – 182 mm | 144 HC cells
520-545 Wp | 21%+ Efficiency



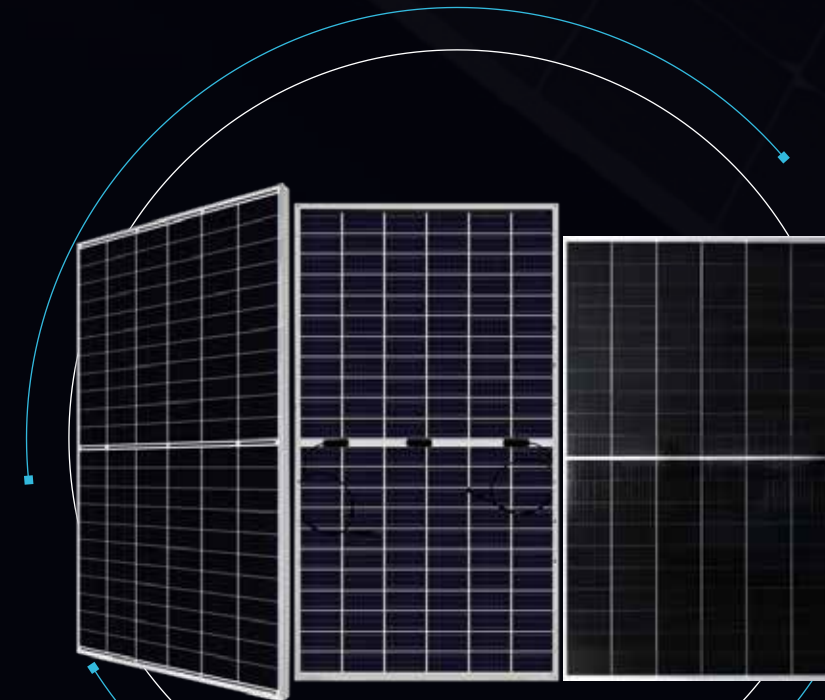
25 year
Performance Warranty

12 year
Product Warranty

30 year
Performance Warranty

Elan & Eternal PRIDE Series

Wafer Size G12 – 210 mm | 132 HC Cells
630-650 Wp | 21%+ Efficiency



12 year
Product Warranty

30 year
Performance Warranty

Offering Top-notch Quality

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High efficiency modules for unparalleled performance

PERFORMANCE

High Fill Factor

Low Temperature Coefficient

Lower NOCT

Lower LID

Lower LeTID

Better Performance at Low Irradiance

RELIABILITY

Damp Heat - up to 2000 Hours Thermal
Cycling - up to 600 Cycle

PID – up to 288 hrs.

UV Performance - >120 kWh/m²

Dynamic Mechanical Load - up to 2000 cycles

LeTID- 300 hrs. at 75 °C

Beyond Certification

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Test Type

Damp Heat¹

Thermal Cycling

Potential Induced Degradation
@ 1500V ; 85°C / 85% RH

Ultra Violet

Humidity Freeze

Dynamic Mechanical Load

Industry Criteria (IEC) < 5% Pmax Degradation

1000 Hours

200 Cycles

96 hours

15 Kwh/m²

10 Cycle

1000 cycles

Targeted Criteria : (3 IEC) < 5% for Pmax Degradation

3000 hours

800 Cycles

288 hours

120 Kwh/m²

30 Cycles

2000 cycles

Note: 1 Damp Heat Refers to the no. of hours of high temperature and penetration of humidity

IEC - International Electro Technical Commission • Pmax degradation - Maximum Power degradation • Kwh - Kilo Watt Hour | m2 - Square Meter • BOM - Bill of Materials | RH - Relative humidity

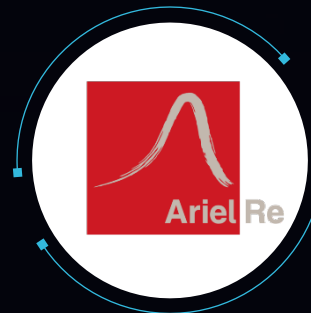
Exceeding Expectations

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Deploying the latest technology available globally to enhance productivity



ONLY INDIAN TOP
PERFORMER FOR 6
CONSECUTIVE YEARS
FROM 2018 - 2023



MODULES INSURED FOR
WARRANTY BY ARIEL RE &
MUNICH RE



RATED AS BANKABLE
MODULE BY BLACK &
VEATCH FROM 2018 TO
2022



MODULE LINE AUDITED
BY CEA IN 2019, 2021,
2022, 2023



MODULE LINE AUDITED
BY PI BERLIN (Solar Buyer)
IN 2019, 2020, 2022,
2023



MODULE LINE AUDITED BY
STS IN 2022, 2023

Most Bankable Indian Company

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Being Perfect

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Achieving landmark milestones like a rising star of the solar industry





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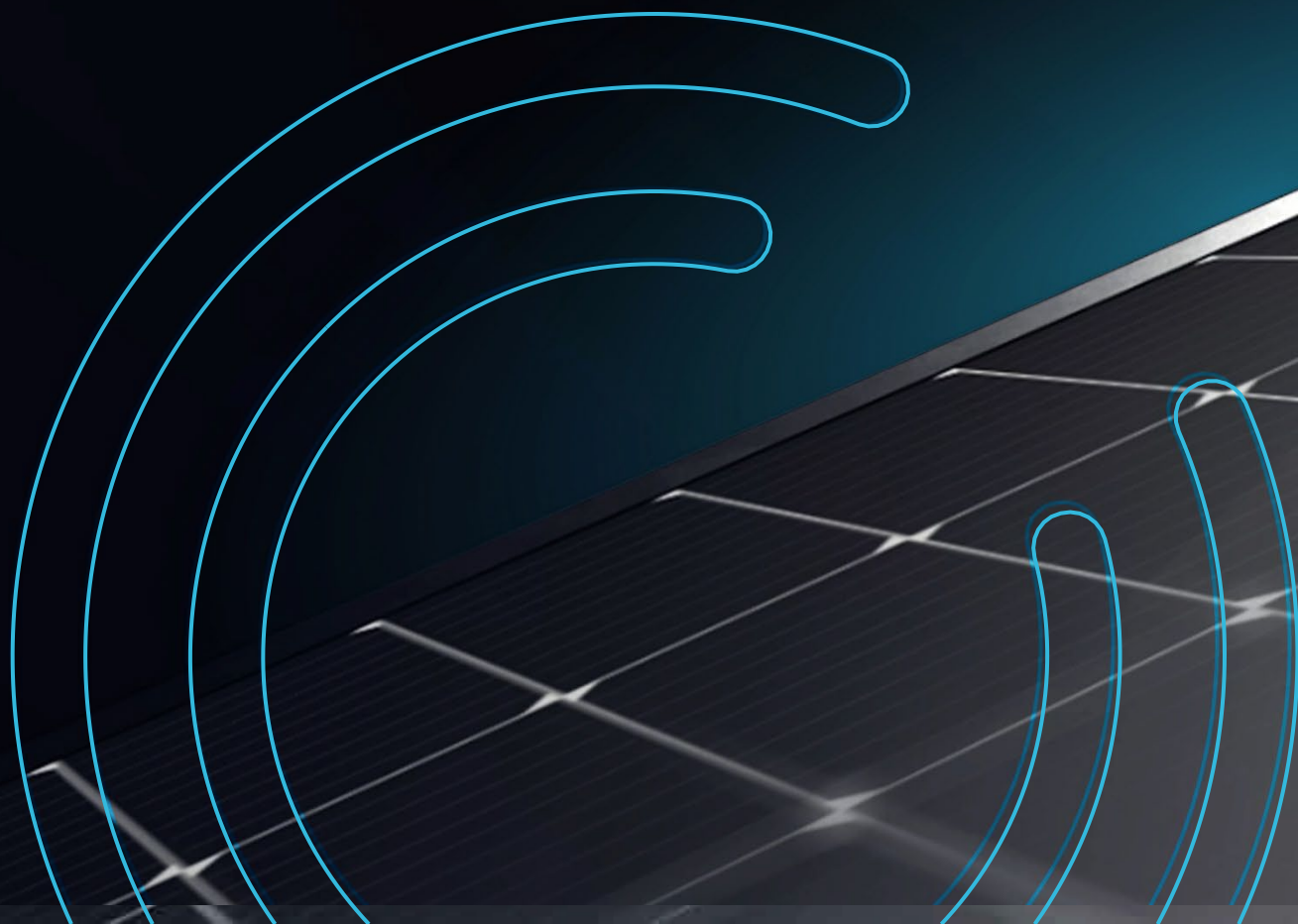
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Annexure

TOPCon (G2TB)* Datasheet

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ELAN SHINE TOPCON Series

N-type
Bifacial Transparent Backsheet Modules

ASB-M10-144-AAA (AAA=550-575)
144 Cells | 550-575 Wp

570+ Wp
Maximum Power Output

22.40%
Maximum Efficiency

0~+5W
Power Tolerance

Linear Performance Warranty

Adani Linear Warranty 1.00%
STD Linear Warranty 0.40%

99.00%
87.4%

5 10 15 20 25 30

Highlights

- Up to 30% Additional Power Generation** when compared with conventional P-type module
- No LID Loss** which means more power generation
- Better Output In Low Irradiance**
Higher power output even under low-light environments like on cloudy or foggy days
- Better Temperature Coefficient**
Higher power generation under higher ambient temperature conditions

Delivers Reliable Performance Over Time

- Full-automatic facility and industry-leading technology
- Best-in-class durability and reliability

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N-type Bifacial 144 Half-cut cell Module

Electrical Properties	STC*
Testing Condition	Front Side Front Side Front Side Front Side Front Side
Peak Power (Pmax) (W)	550 555 560 565 570 575
MPP Voltage (Vmp) (V)	42.0 42.2 42.4 42.6 42.8 43.0
MPP Current (Imp) (A)	13.10 13.16 13.21 13.27 13.32 13.38
Open Circuit Voltage (Voc) (V)	50.2 50.4 50.6 50.8 51.0 51.2
Short Circuit Current (IsC) (A)	13.87 13.93 13.99 14.05 14.11 14.17
Module Efficiency (%)	21.42 21.62 21.81 22.01 22.20 22.40

*STC: Irradiance 1000 W/m², Cell Temperature 25°C, AM1.5
The data above is for reference only and the actual data is in accordance with the product testing.
Power Measurement Tolerance: ±3%

Electrical Properties	NOCT*
Testing Condition	Front Side Front Side Front Side Front Side Front Side
Peak Power (Pmax) (W)	417 421 424 428 432 436
MPP Voltage (Vmp) (V)	39.5 39.6 39.8 40.0 40.2 40.4
MPP Current (Imp) (A)	10.56 10.61 10.65 10.70 10.74 10.79
Open Circuit Voltage (Voc) (V)	48.0 48.2 48.4 48.6 48.7 48.9
Short Circuit Current (IsC) (A)	11.18 11.23 11.28 11.33 11.38 11.42

*NOCT: Irradiance 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

Operating Temperature

Operating Temperature (°C)	-40 ~ +85
Maximum System Voltage (V)	1500V DC (SEC)
Maximum Series Fuse Rating (A)	30
Power Tolerance	0~+5W
Bifaciality*	80%

*Bifaciality: Power/Power STC (Front Side) STC (Back Side) STC (Bifaciality) STC

Temperature Coefficient

Temperature Coefficient of Pmax*	-0.31%/°C
Temperature Coefficient of Isc	-0.26%/°C
Temperature Coefficient of Voc	+0.046%/°C
Nominal Operating Cell Temperature (NOCT)	42±2°C

*Temperature Coefficient of Pmax: 0.02%/°C

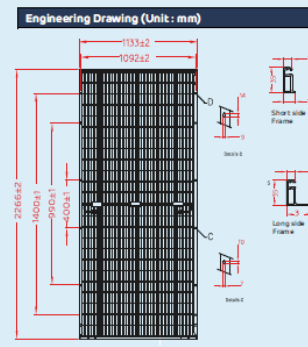
Mechanical Properties

Cell Size	182.0mm*91.00mm
Number of Cells	144pcs(2*12)
Module Dimension	2266mm*1133mm
Weight	28kg
Front	3.2mm
Rear	Transparent Backsheet
Frame	Anodized Aluminium Alloy
Junction Box	3 diodes
Length of Cable	40mm/ 300mm (Cable length can be customized)

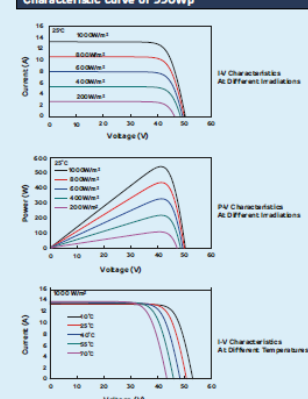
With Different Power Generation Gain regarding 550W as an example

Power Gain (%)	Peak Power (Pmax) (W)	MPP Voltage (Vmp) (V)	MPP Current (Imp) (A)	Open Circuit Voltage (Voc) (V)	Short Circuit Current (IsC) (A)
10	594	42.0	14.13	50.2	14.97
15	616	42.0	14.65	50.2	15.51
20	638	42.1	15.17	50.3	16.06
25	660	42.1	15.69	50.3	16.61
30	682	42.1	16.20	50.3	17.16

Engineering Drawing (Unit: mm)



Characteristic curve of 550Wp




Packaging Configuration

Packing Type	4014Q
Pieces/Pallet	31
Pallet/Container	20
Pieces/Container	620

*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Adani Solar reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet, which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

Warranty and certifications

Product warranty** 12 years of product warranty
Performance guarantee** Power degradation <1.00% in first year <0.40%/year in 2-30 years
Approvals and certificates*: IEC 61215 Ed2, IEC 61730, IEC 61701, UL 61730, MCS, JET, CEC, CEC-Aus, IEC 62716, IEC 62782, IEC 60068-2-68, IEC 61853, BIS
*All certifications are under process



*Launching in December 2023

Annexure

TOPCon (G2G)* Datasheet

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Preliminary

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ELAN SHINE TOPCON Series

N-type
Bifacial Double Glass Module

ASB-M10-144-AAA (AAA=550-575)
144 Cells | 550-575 Wp

570+ Wp
Maximum Power Output

22.40%
Maximum Efficiency

0~+5W
Power Tolerance

Linear Performance Warranty

Adani Linear Warranty STD Linear Warranty

1.00%
Yearly Degradation

0.40%
Annual Degradation

87.4%

5 10 15 20 25 30

Highlights

- Up to 30% Additional Power Generation when compared with conventional P-type module
- No LID Loss which means more power generation
- Better Output In Low Irradiance Higher power output even under low-light environments like on cloudy or foggy days
- Better Temperature Coefficient Higher power generation under higher ambient temperature conditions

Delivers Reliable Performance Over Time

- Full-automatic facility and industry-leading technology
- Best-in-class durability and reliability

*Launching in December 2023

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N-type Bifacial 144 Half-cut cell Module

Electrical Properties	STC*					
Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	550	555	560	565	570	575
MPP Voltage (Vmpp) (V)	42.0	42.2	42.4	42.6	42.8	43.0
MPP Current (Imp) (A)	13.10	13.16	13.21	13.27	13.32	13.38
Open Circuit Voltage (Voc) (V)	50.2	50.4	50.6	50.8	51.0	51.2
Short Circuit Current (Isc) (A)	13.87	13.93	13.99	14.05	14.11	14.17
Module Efficiency (%)	21.42	21.62	21.81	22.01	22.20	22.40

*STC: Irradiance 1000 W/m², Cell Temperature 25°C, AM1.5
The data above is for reference only and the actual data is in accordance with the practical testing
Power Measurement Tolerance ±3%

Electrical Properties	NOCT*					
Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	417	421	424	428	432	436
MPP Voltage (Vmpp) (V)	39.5	39.6	39.8	40.0	40.2	40.4
MPP Current (Imp) (A)	10.56	10.61	10.65	10.70	10.74	10.79
Open Circuit Voltage (Voc) (V)	48.0	48.2	48.4	48.6	48.7	48.9
Short Circuit Current (Isc) (A)	11.18	11.23	11.28	11.33	11.38	11.42

*NOCT: Irradiance 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

Operating Temperature

Operating Temperature (°C)	-40 ~ +85
Maximum System Voltage (V)	1500V DC (IEC)
Maximum Series Fuse Rating (A)	30
Power Tolerance	0 ~ +5W
Bifaciality*	80%

*Bifaciality = Front side STC (Power) / Back side STC (Power) × 100%

Temperature Coefficient

Temperature Coefficient of Pmax*	-0.31%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	+0.04%/°C
Nominal Operating Cell Temperature (NOCT)	42±2°C

*Temperature Coefficient of Pmax@25°C

Mechanical Properties

Cell Size	182.0mm*91.0mm
Number of Cells	144pcs(12*12)
Module Dimension	2266mm*1133mm
Weight	33.5 kg
Front	2.0 mm
Frame	Anodized Aluminium Alloy
Junction Box	3 diodes
Length of Cable	4.0mm ² , 30.0mm(Cable length can be customized)

With Different Power Generation Gain regarding 550W as an example

Power Gain (%)	Peak Power (Pmax) (W)	MPP Voltage (Vmpp) (V)	MPP Current (Imp) (A)	Open Circuit Voltage (Voc) (V)	Short Circuit Current (Isc) (A)
10	594	42.0	14.13	50.2	14.97
15	616	42.0	14.65	50.2	15.51
20	638	42.1	15.17	50.3	16.06
25	660	42.1	15.69	50.3	16.61
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Warranty and certifications

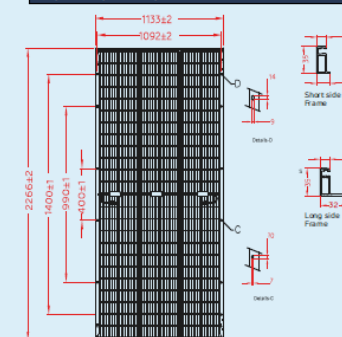
Product warranty** 12 years of product warranty

Performance guarantee** Power degradation <1.00% / year in first year <0.40% / year in 2-30 years

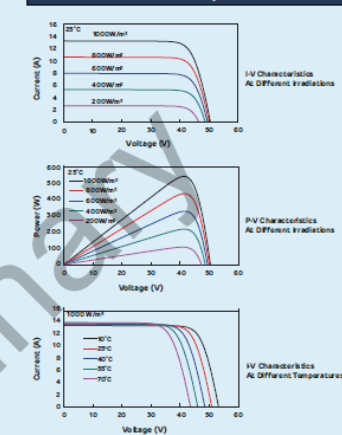
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*All certifications are under process

Engineering Drawing (Unit: mm)



Characteristic curve of 550Wp



Packaging Configuration

Packing Type	401KQ
Pieces/Pallet	31
Pallet/Container	20
Pieces/Container	620

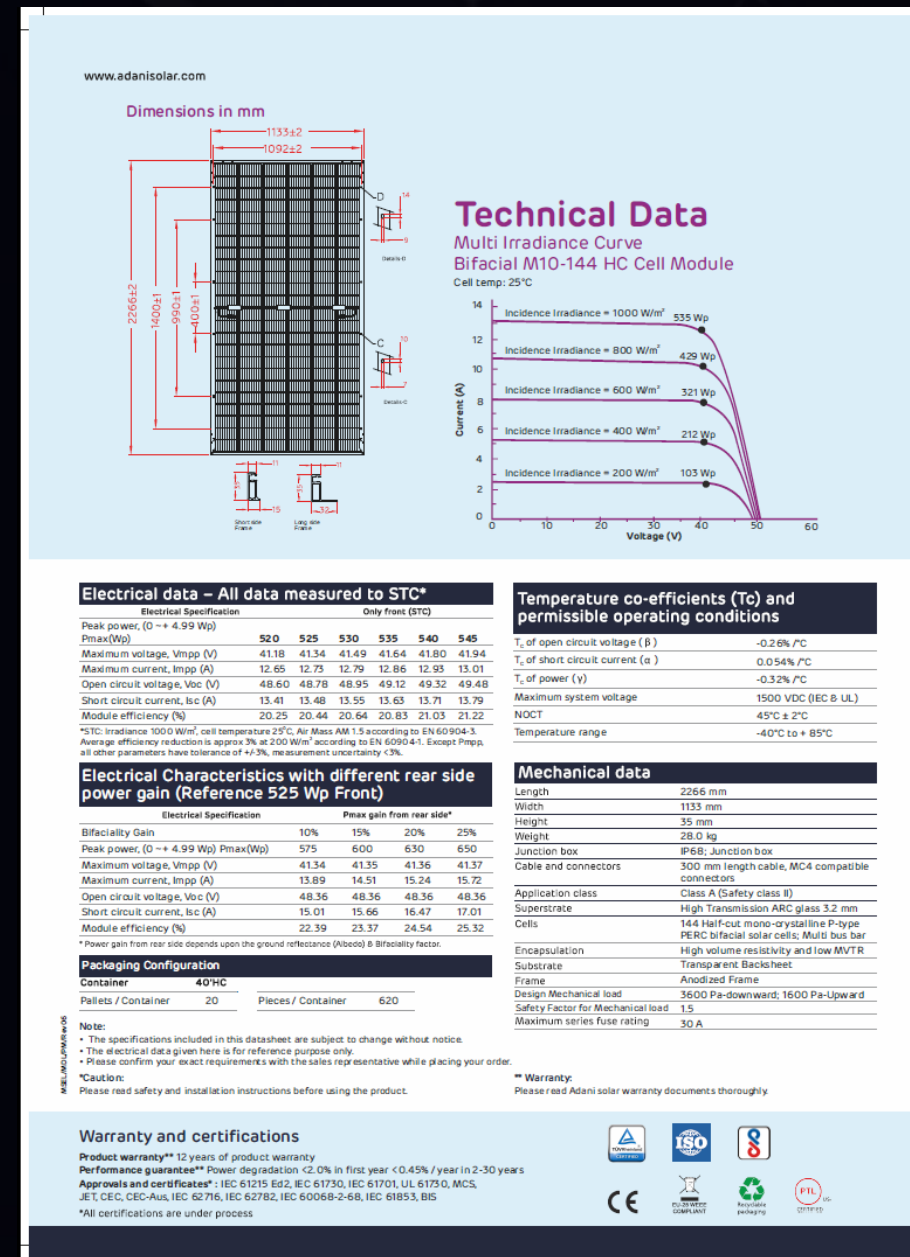
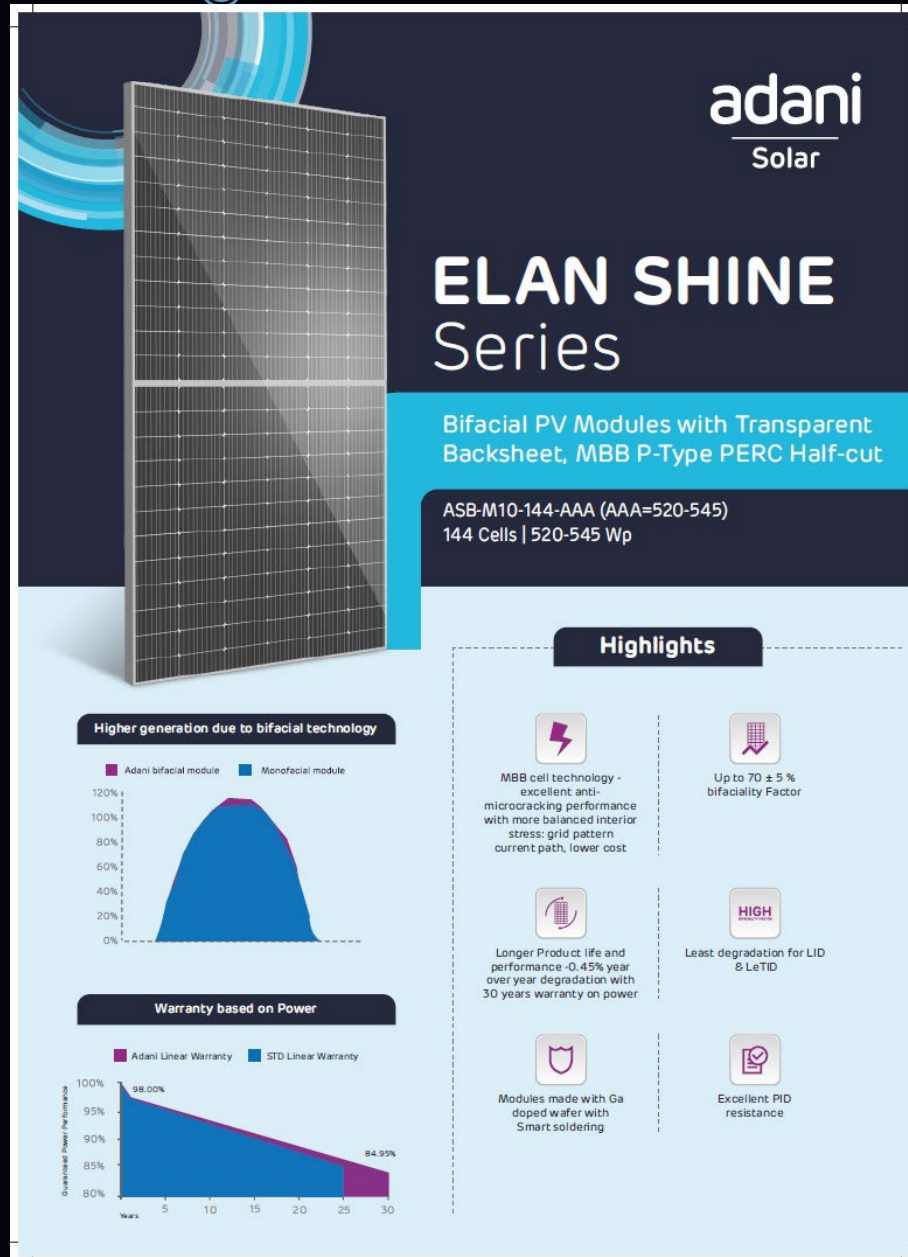
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Annexure

MonoPERC (G2TB) Datasheet

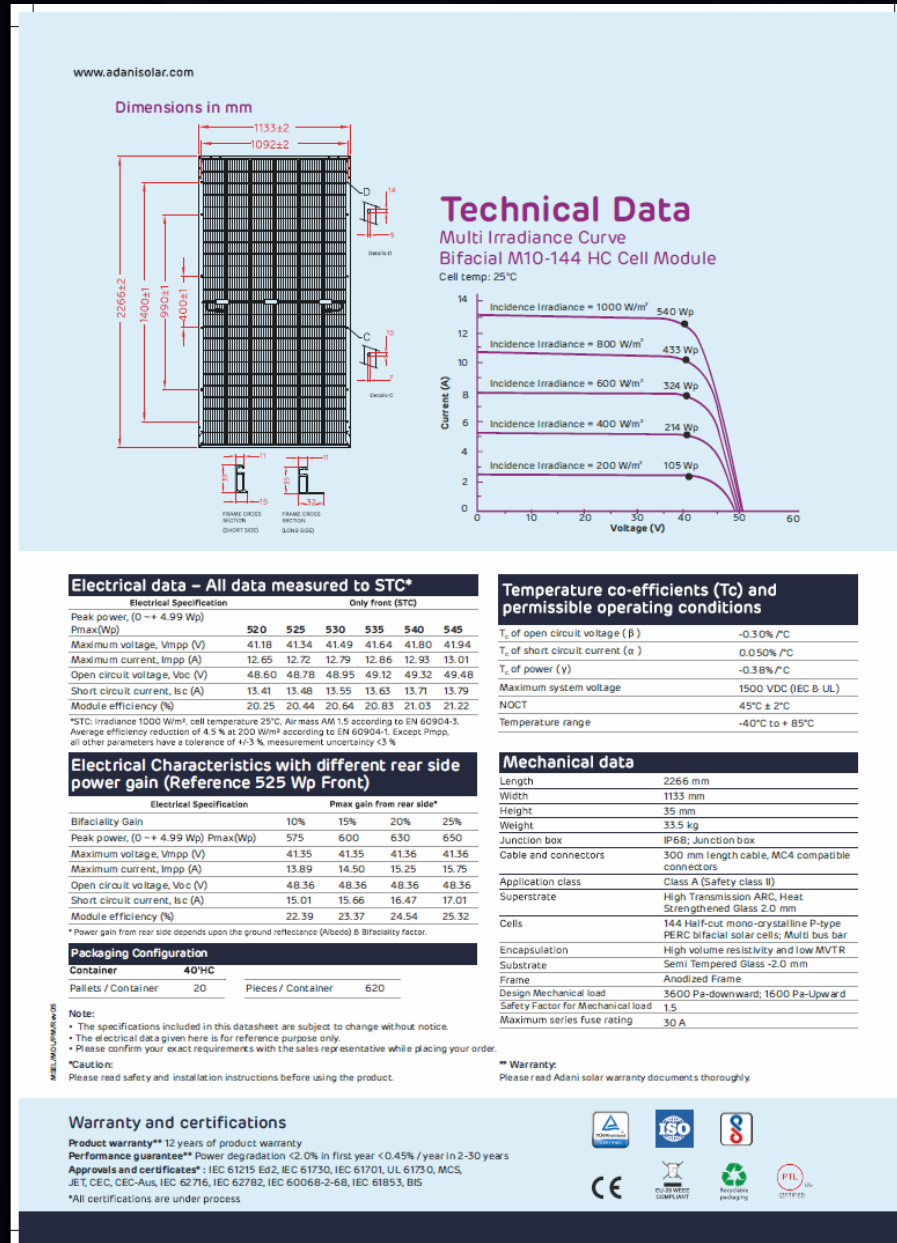
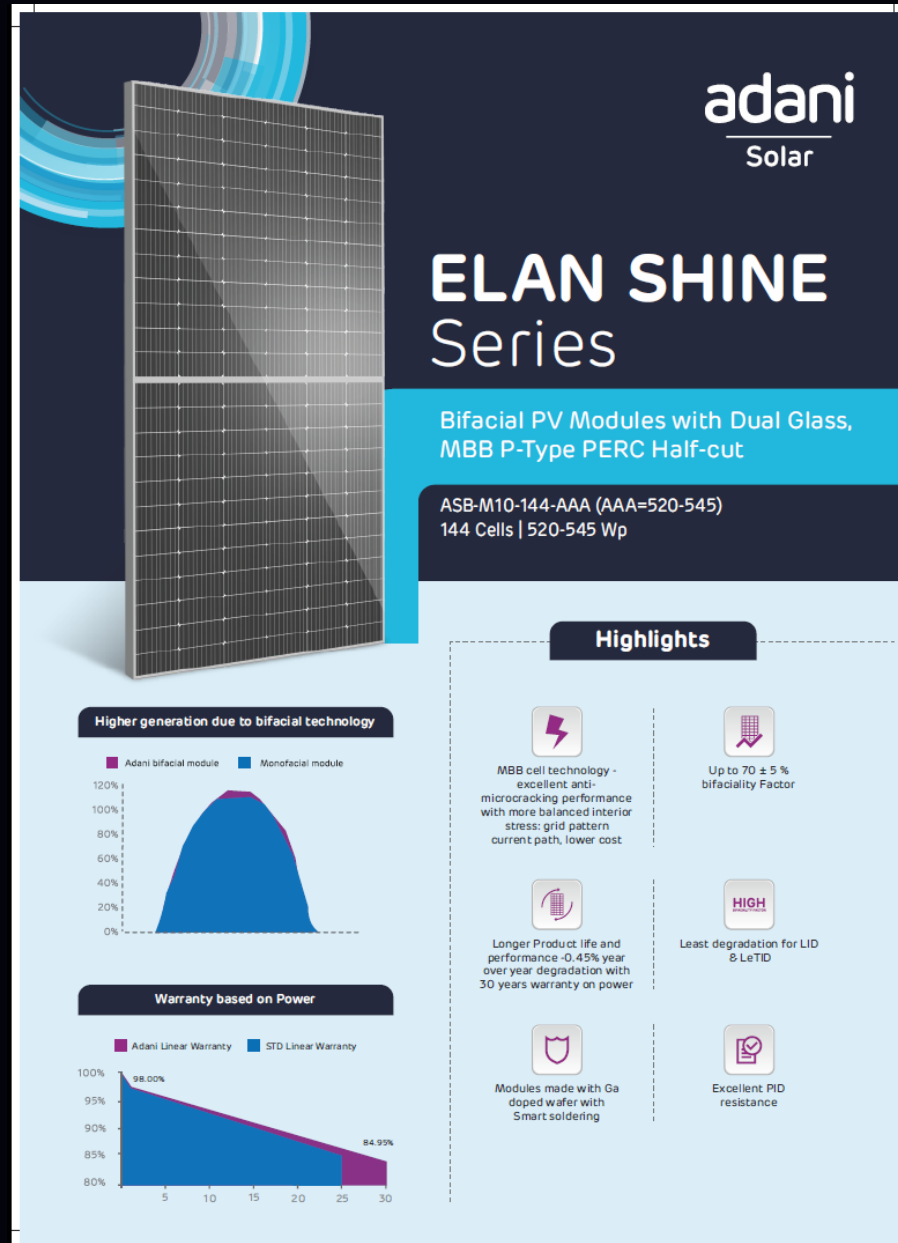
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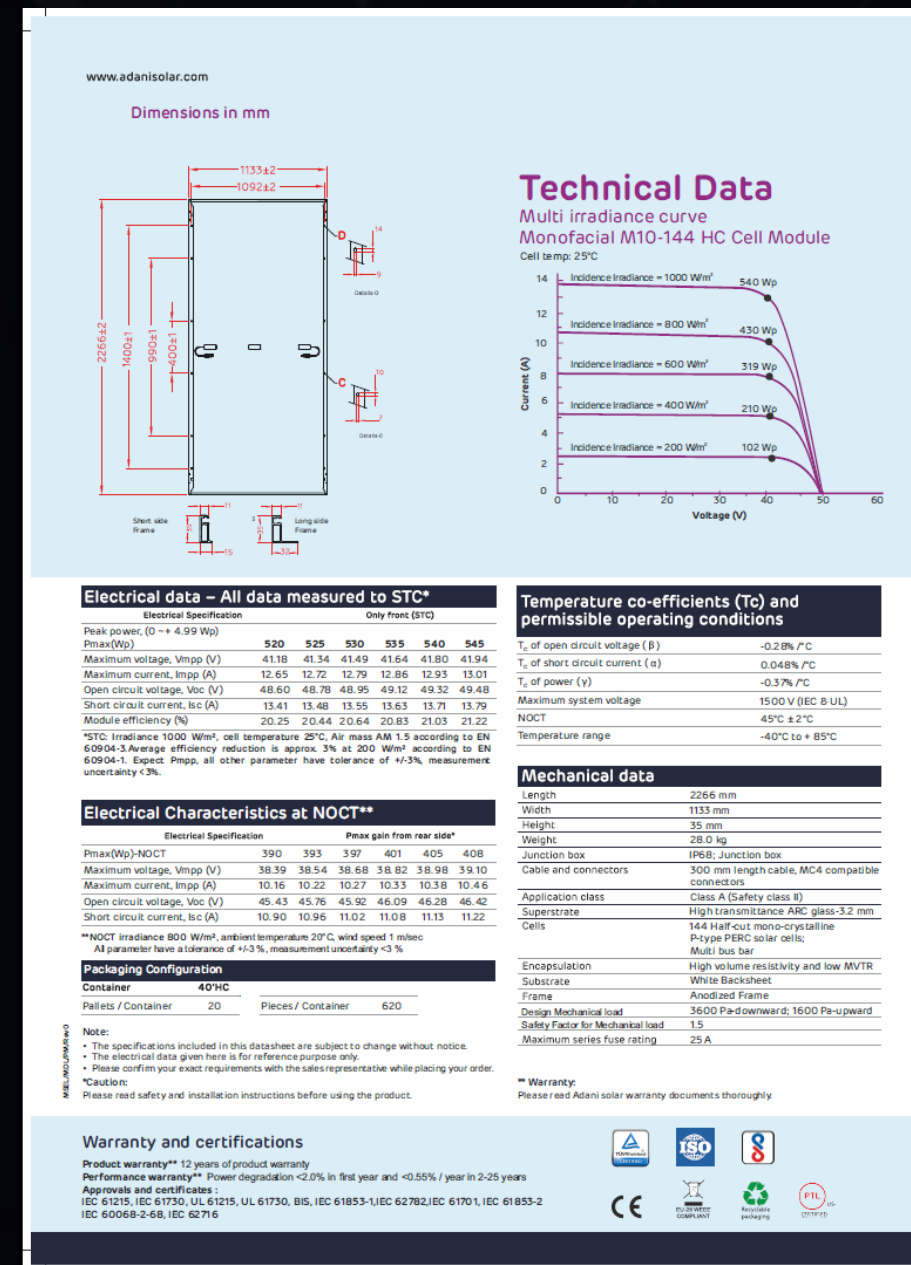
Annexure

MonoPERC (G2G) Datasheet

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Thank You

