



500 MW
PV Module
Manufacturing
Line



Green
Hydrogen

1 GW+
Turnkey Solar
EPC Portfolio



Plastic
To Fuel



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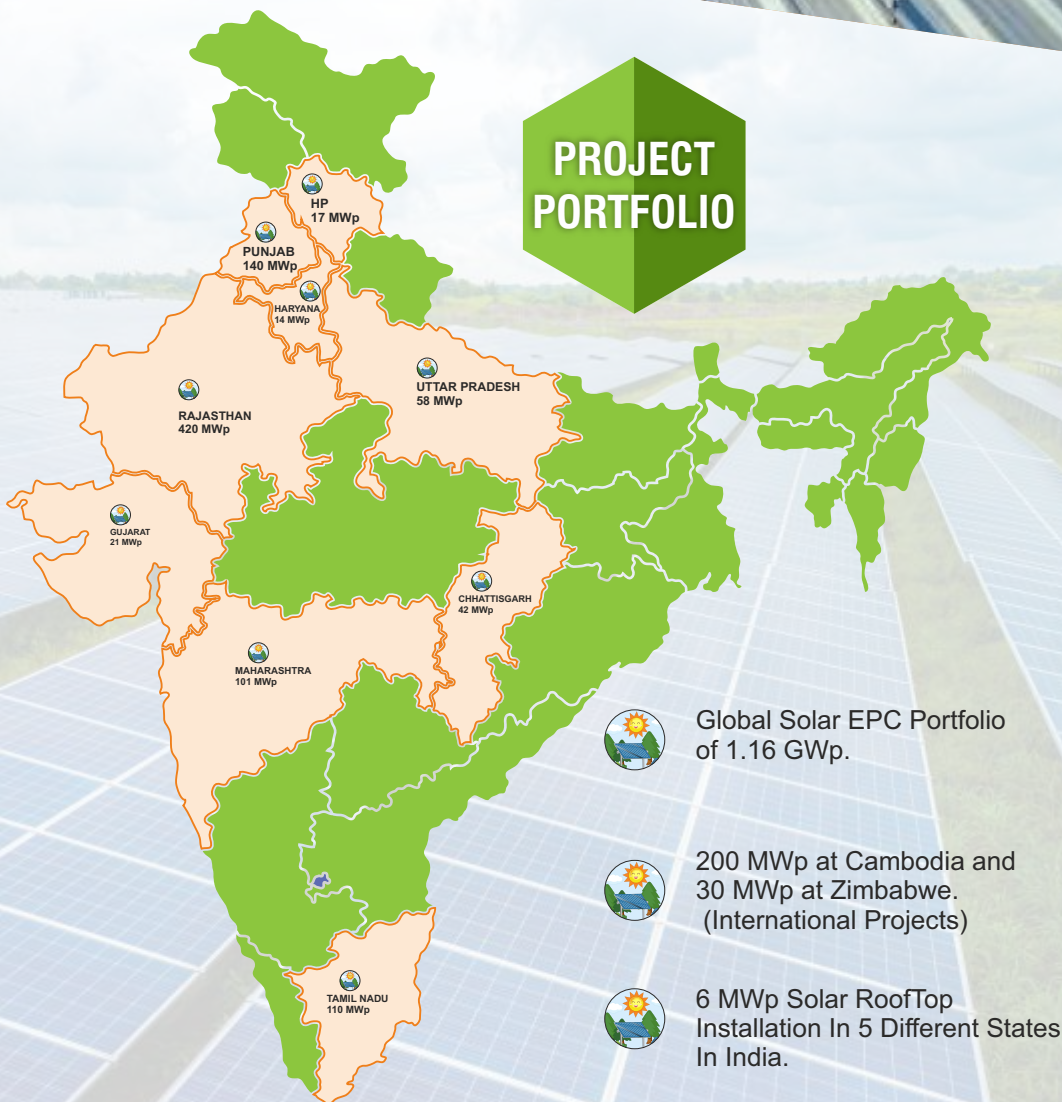


Turnkey Solar EPC

Solar Turnkey EPC Solutions

- 1 GW+ portfolio in International and Domestic market.
- Expertise in Design and Engineering and project management capabilities.
- Hold Strong experience in executing Solar Projects (Rooftop and Utility based), Waste to energy Management, Solar Street Lights, Transmission & Distribution, Mobile tower Solarization along with O&M of the same.
- Hold strong experience In executing solar projects in India and in international grounds

PROJECT PORTFOLIO

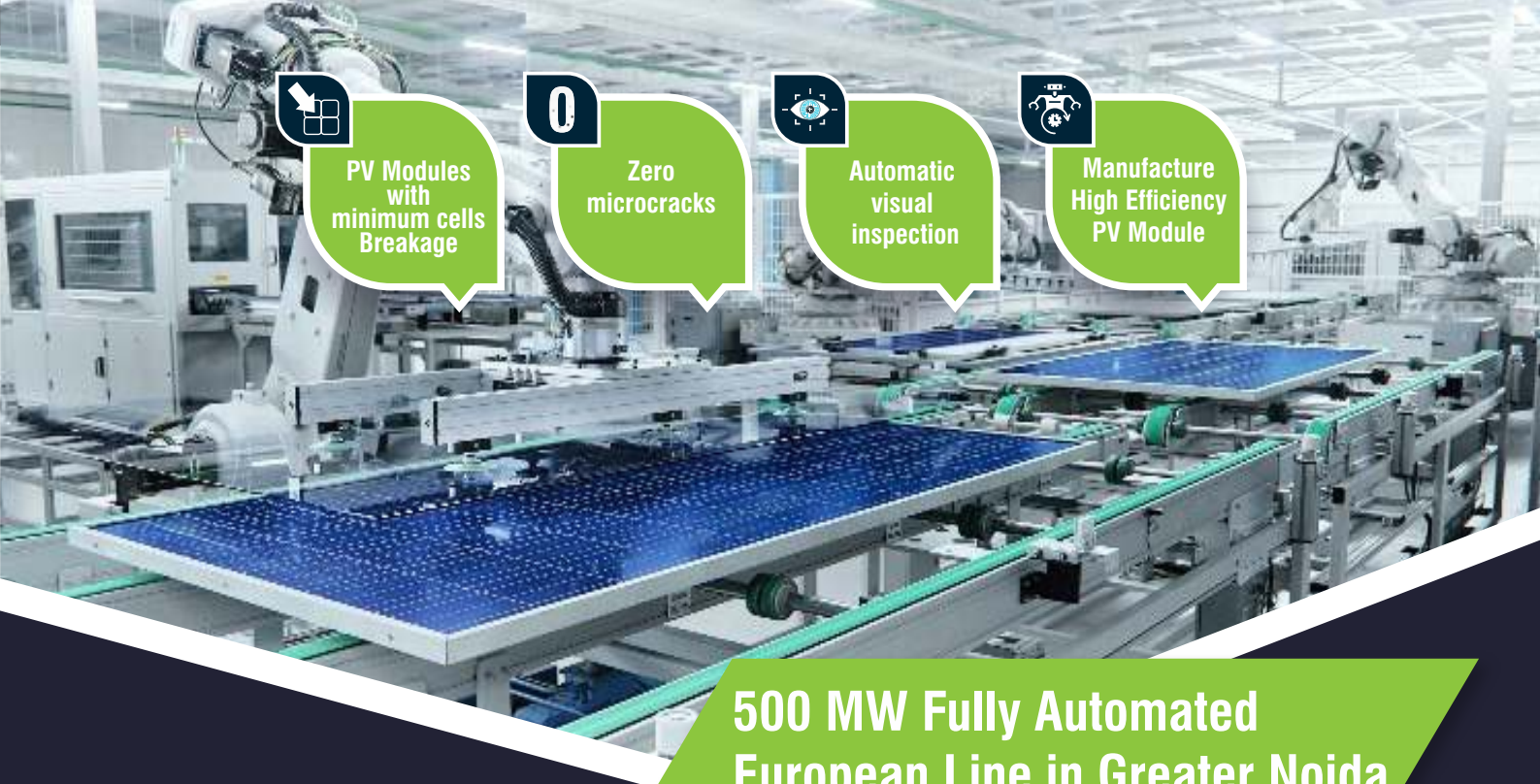


Pillars of Strength

Strong Inhouse Design & Engineering Capabilities to deliver solar projects.

Rich experience in executing Solar PV projects at Pan India level maintaining high quality and HSE standards.

Strong Financial Strength.



PV Modules with minimum cells Breakage

0

Zero microcracks



Automatic visual inspection



Manufacture High Efficiency PV Module

500 MW Fully Automated European Line in Greater Noida

KEY FEATURES



Significantly lower the risk of hot spot

Special circuit design with much lower hot spot temperature



IP 68 junction box, connector

Ip68 junction box and connector have a high degree of waterproof, effectively resist the harsh environment



MBB half-cut cell technology

New circuit design, lower internal current, lower Revenue loss



PID Resistant

Excellent PID resistance at 96 hours (85°C/85%) test, and also can be improved to meet higher standards for the particularly harsh environment



Lower LCOE

2% more power generation, lower LCOE

30

Years
Linear warranty
assuring optimal
performance

15

Years
Product
Warranty

500

MW
Fully integrated and
Comprehensive
Solar PV Module
Manufacturing
Unit

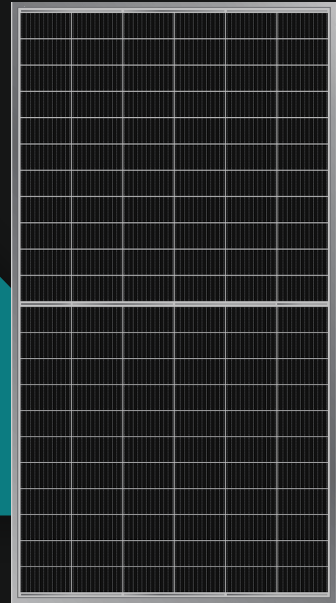
**Driving the
Solar Revolution**

Monofacial Module

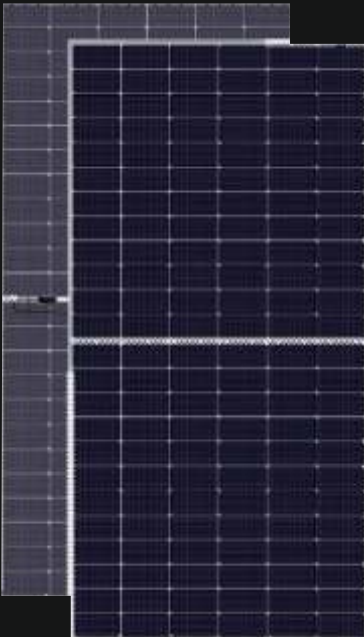
525 Wp to 550 Wp

Up to 21.30% Efficiency

144 Mono PERC Cells



Bifacial Glass - Glass Module

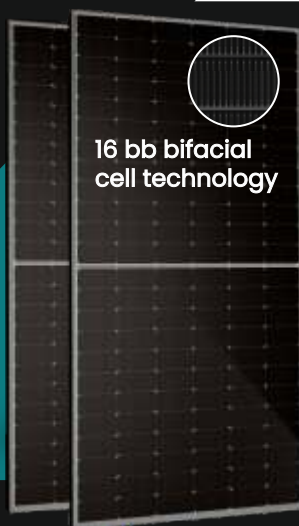


535 Wp to 560 Wp

Up to 21.70% Efficiency

144 Mono PERC Cells

TOPCon Glass - Glass Module



565 Wp to 590 Wp

Up to 22.90% Efficiency

KEY FEATURES

- Higher Efficiency
- PID Resistance
- Round Ribbon Technology
- Up to 5.2 % Lower System Cost
- Compatible with Mainstream Trackers
- Cost Effective Product For Utility Power Plant

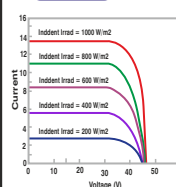
Monocrystalline Solar PV Modules, Monofacial, MBB, M10 Half-Cell

Electrical Parameters at STC

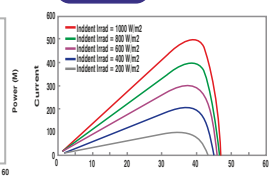
Model	UoM	BVGM10144-525 to 550					
Peak Power Pmax	Wp	525.00	530.00	535.00	540.00	545.00	550.00
Maximum Voltage, Vmpp	V	41.40	41.50	41.60	41.70	41.80	41.90
Maximum Current, Imp	A	12.69	12.78	12.87	12.95	13.04	13.13
Open Circuit Voltage, Voc	V	49.20	49.30	49.40	49.50	49.60	49.70
Short Circuit Current, Isc	A	13.40	13.48	13.56	13.64	13.73	13.82
FF	%	79.69	79.81	79.93	79.98	80.04	80.10
Module Efficiency	%	20.32	20.52	20.71	20.90	21.10	21.30

STC: Irradiance 1000 W/m², cell temperature 25°C, air mass AM1.5g spectrum according to EN 60904-3.
Power measurement tolerance is within + 2%

IV CURVE



PV CURVE



Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1

Electrical Parameters at NOCT

Power	Wp	387	393	397	399	402	407
V@Pmax	V	38.20	38.30	38.40	38.50	38.60	38.70
I@Pmax	A	10.14	10.29	10.34	10.37	10.43	10.52
Voc	V	45.70	45.90	46.00	46.10	46.20	46.30
Isc	A	10.83	10.89	10.96	11.03	11.09	11.15

NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1m/Sec

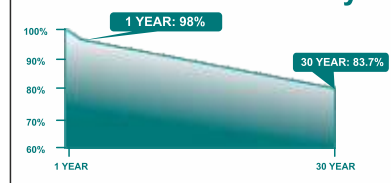
Temperature co-efficients (TC) permissible operating conditions

TC of open circuit voltage	β	-0.27% /c
TC of short circuit current	α	0.050% /c
TC of power	γ	-0.350% /c
Maximum system voltage		1500 v
NOCT		45°C ± 2 °C
Temperature range		-40°C to +85°C

Warranty And Certifications

Product Warranty**	15 years
Performance Warranty**	Linear power warranty for 30 years with 2% degradation for 1st year and 0.55% from 2nd year onward to 30th year.

Performance Warranty

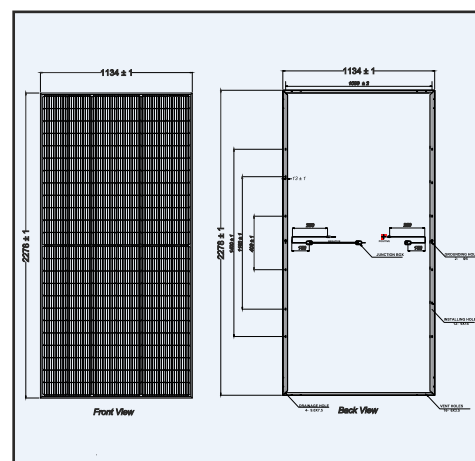


Packing Information

Quantity per Pallet	31
Pallet/Container (40' HC)	20
Quantity/Container (40' HC)	620

Mechanical Data

Length x Width x Height	2278 x 1134 x 35 mm
Weight	28.40 kg ± 0.500 kg
Junction Box	IP68, Split Junction Box with individual bypass diodes
Cable & Connectors	400 mm (+ve terminal) and 400 mm (-ve terminal) length cables, MC4 Compatible / MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate	High transmittance ARC glass
Cells	72 Mono PERC (144 half-cells) P-Type solar cells
Cell Encapsulant	EVA (Ethylene Vinyl Acetate)
Back Sheet	Composite Film
Frame	Anodized aluminium frame with twin wall profile
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Maximum Series Fuse Rating	25 A



Notes:

- The Specifications are subjected to change without prior notice.
- All Electrical Data is for reference only.
- Please consult Sales Representatives for exact data while placing the order.

*CAUTION

Please read safety and installation instructions before using the product

**WARRANTY

Please refer the Warranty Card

Address:

Kolkata: Convergence Contact CenterD2/2 EP GP Block Sector V Salt Lake Kolkata - 700091
Mob: 82768 63844

Kerala: 18/1691/1 Maveli Arcade, Pattalakunnu, Mannuthy - 680651 Thrissur (dst) Kerala
Mob: 77369 81183

Monocrystalline Solar PV Modules, Bifacial, MBB, M10 Half-Cell

Electrical Parameters at STC

Model	UoM	BVGM10144B-535 to 560 (Only Front STC*)					
Peak Power Pmax	Wp	535.00	540.00	545.00	550.00	555.00	560.00
Maximum Voltage, Vmpp	V	41.60	41.70	41.80	41.90	42.00	42.10
Maximum Current, Impp	A	12.87	12.96	13.05	13.14	13.23	13.32
Open Circuit Voltage, Voc	V	49.40	49.40	49.60	49.70	49.80	49.90
Short Circuit Current, Isc	A	13.56	13.64	13.73	13.82	13.95	14.05
FF	%	79.93	80.04	80.10	80.16	79.98	79.99
Module Efficiency	%	20.71	20.90	21.09	21.29	21.48	21.68

STC: Irradiance 1000 W/m², cell temperature 25°C, air mass AM1.5g spectrum according to EN 60904-3.

Electrical Parameters at NOCT

Power	Wp	399.20	402.80	406.70	410.60	414.20	418.10
V@Pmax	V	38.40	38.40	38.70	38.80	39.10	39.20
I@Pmax	A	10.39	10.48	10.51	10.58	10.59	10.66
Voc	V	46.00	46.00	46.20	46.20	46.79	46.80
Isc	A	10.96	11.06	11.09	11.17	11.17	11.24

NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1m/Sec

Equivalent Bifacial Output

5%	560	565	570	575	580	585
10%	585	590	600	605	610	615
15%	615	620	625	630	635	640
20%	640	645	650	660	665	670
25%	665	675	680	685	690	700

**Power gain from rear side depends upon the ground (Albedo) & Bifaciality Factor

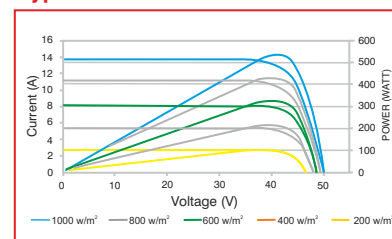
Temperature co-efficients (TC) permissible operating conditions

TC of open circuit voltage	β	-0.27% /c
TC of short circuit current	α	0.050% /c
TC of power	γ	-0.350% /c
Maximum system voltage		1500 v
NOCT		45°C $\pm$ 2 °C
Temperature range		-40°C to +85°C

Mechanical Data

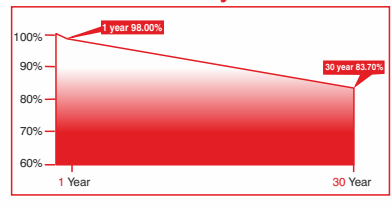
Type	Glass-Glass	Glass-Backsheet
Length x Width x Height	2278 x 1134 x 35 mm	
Weight	31.5 kg $\pm$ 0.500 kg	28.40 kg $\pm$ 0.500 kg
Junction Box	IP68, Split Junction Box with individual bypass diodes	
Cable & Connectors	400 mm (+ve & -ve terminal) length cables, MC4 Compatible	
Application Class	Class A (Safety class II)	
Superstrate	2. MM high Transmission low iron content, AR coated	3.2 MM high Transmission low iron content, AR coated
Cells	P-type Mono Perc	
Cell Encapsulant	PID & UV Resistant	
Back Substrate	2. MM high Transmission Heat strengthend glass	Transparent Backsheet
Frame	Anodized aluminium frame with twin wall profile	
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)	
Maximum Series Fuse Rating	30 A	

Typical I-V Curves



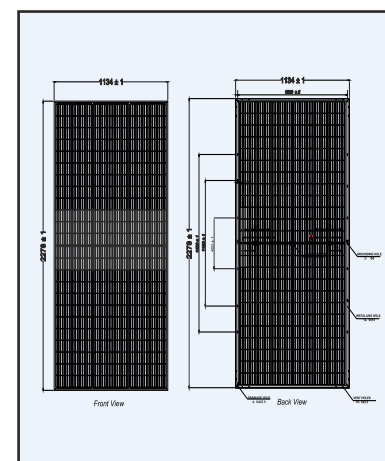
Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1

Performance Warranty



Packing Information

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TOPCon Solar PV Modules, Bifacial, 16 MBB, M10 Half-Cell

Electrical Parameters at STC

Model	UoM	BVGM16T144G / BVGM16T144B-565 to 590 (Only Front STC*)					
Peak Power Pmax	Wp	565.00	570.00	575.00	580.00	585.00	590.00
Maximum Voltage, Vmpp	V	42.80	43.05	43.28	43.50	43.74	43.93
Maximum Current, Imp	A	13.19	13.24	13.29	13.34	13.38	13.44
Open Circuit Voltage, Voc	V	52.30	52.50	52.78	53.03	53.27	53.51
Short Circuit Current, Isc	A	13.75	13.80	13.85	13.89	13.93	13.97
FF	%	78.63	78.67	78.69	78.78	78.87	78.98
Module Efficiency	%	21.87	22.07	22.26	22.45	22.65	22.84

STC: Irradiance 1000 W/m², cell temperature 25°C, air mass AM1.5g spectrum according to EN 60904-3.

Electrical Parameters at NOCT

Power	Wp	420.49	424.21	427.93	431.65	435.38	439.10
V@Pmax	V	39.21	39.38	39.58	39.78	40.00	40.18
I@Pmax	A	10.74	10.78	10.82	10.86	10.89	10.94
Voc	V	48.63	48.82	49.08	49.30	49.53	49.76
Isc	A	11.23	11.27	11.31	11.34	11.38	11.41

NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1m/Sec

Equivalent Bifacial Output

5%	593	599	604	609	614	620
10%	622	627	633	638	644	649
15%	650	656	661	667	673	679
20%	678	684	690	696	702	708
25%	706	713	719	725	731	738

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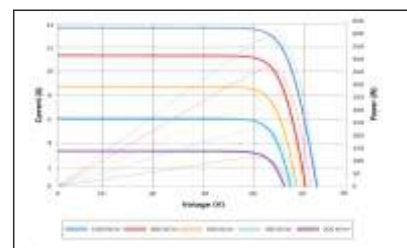
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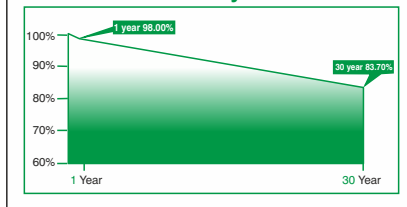
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Cells	TOPCon N-type Bifacial	
Cell Encapsulant	PID & UV Resistant	
Back Substrate	2. MM high Transmission Heat strengthend glass	Transparent Backsheet
Frame	Anodized aluminium frame with twin wall profile	
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)	
Maximum Series Fuse Rating		

Typical I-V Curves



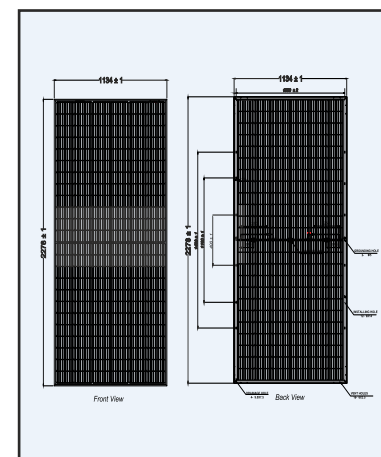
Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1

Performance Warranty



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**Certifications are under progress