

CLIANTECH SOLUTIONS

YOUR PATH TO TECHNOLOGY

TURNKEY SOLUTION FOR
SOLAR MODULE & CELL MANUFACTURING

www.cliantechsolutions.com

ABOUT US

Cliantech Solutions, established in **2019**, is the brainchild of an exceptionally experienced team boasting over 20 Years of collective expertise within the Solar Industry. With a steadfast commitment to addressing the burgeoning demand for **Solar Module and Cell Manufacturing** in India, our sole mission is to provide unrivalled Turnkey Solutions to our valued clients.

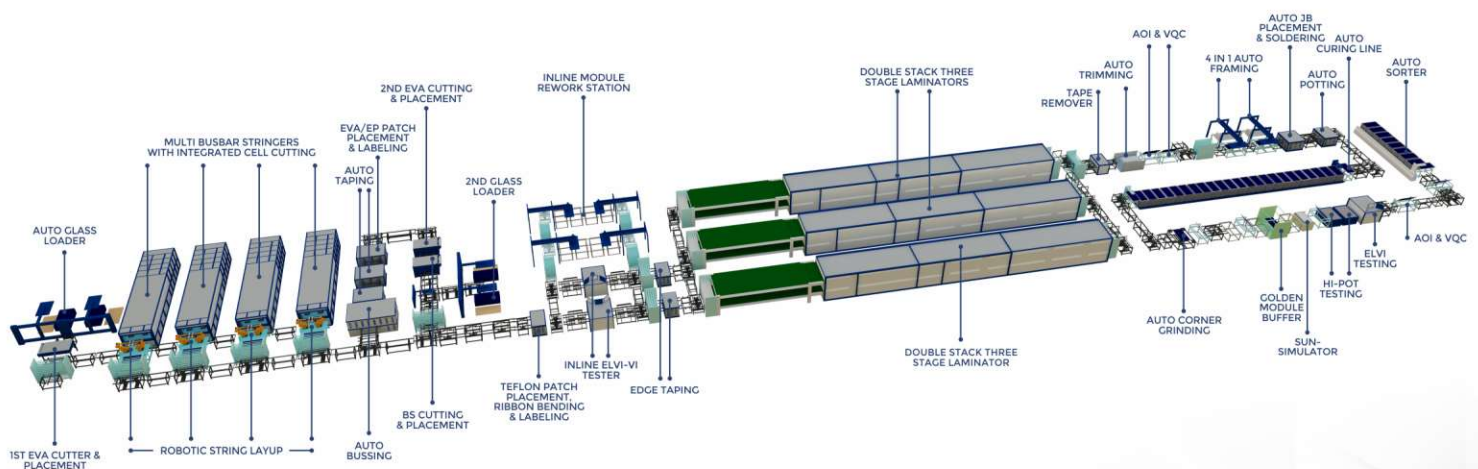
We have earned our place at the forefront of the industry, focusing on delivering state-of-the-art equipment for Solar Module manufacturing, bolstered by enduring relationships with **more than 54 Dedicated Customers**, including **65+ Turnkey Lines**. At Cliantech, we prioritize customer satisfaction and ensure seamless after-sales support through a proficient team of **Over 85 Service Engineers** strategically positioned in various cities across the nation.

Collaborating with esteemed technology partners such as **GAORUN, VISUAL, ASICPY, HSPV and AUTO-ONE**, each excelling in their respective machinery domains, we have successfully crafted one of the most exceptional Turnkey Solutions for PV Module Manufacturing.

Cliantech takes pride in our substantial footprint, with **Over 57GW** of machinery installations across India. Our extensive network encompasses Sales and Services offices in key regions, including New Delhi (NCR), Surat (Gujarat) and Ambala (Haryana).

In **2025**, Cliantech has ventured into **Solar Cell Line Equipment** in collaboration with **CETC** and **CLS Intelligent**. This partnership aims to establish a robust presence in the Indian market by offering a one-stop turnkey solution for solar cell manufacturing.

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COMPANY FORTE

54+
CUSTOMERS
IN INDIA

65+
TURNKEY
LINES

57+ GW
MACHINES
SUPPLIED

85+
SERVICE
ENGINEERS

OUR TECHNOLOGY PARTNER

LINE AUTOMATION



LAMINATORS



CELL LINE EQUIPMENT



CELL LINE AUTOMATION



EL TESTER



STRINGER & LASER CUTTER



SUN SIMULATOR



OFFLINE EQUIPMENTS

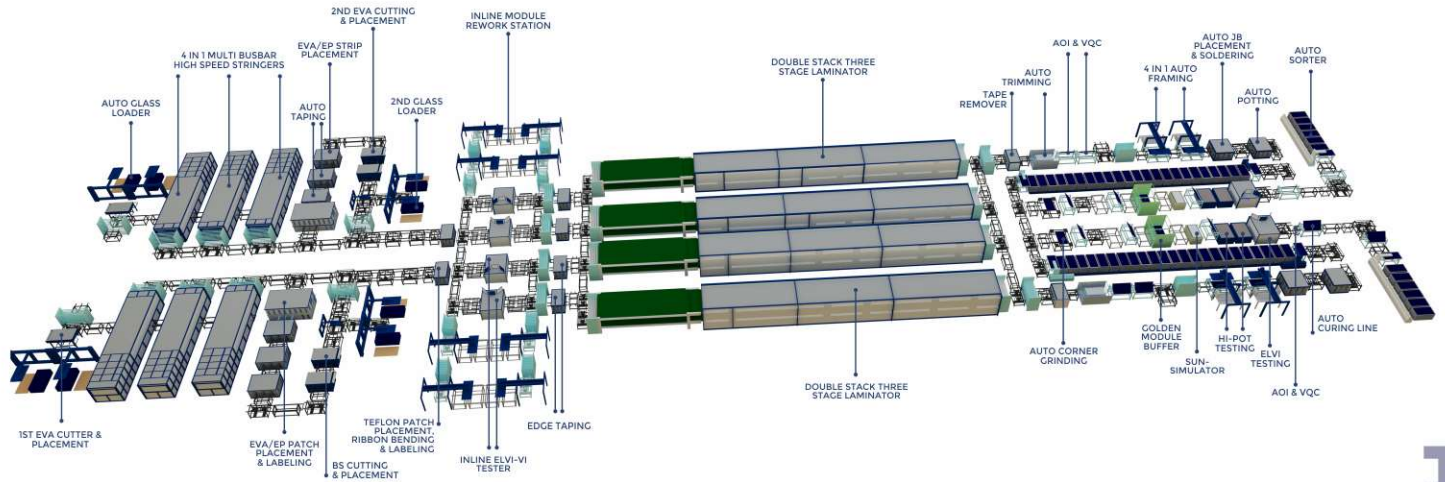


SPARE & CONSUMABLES



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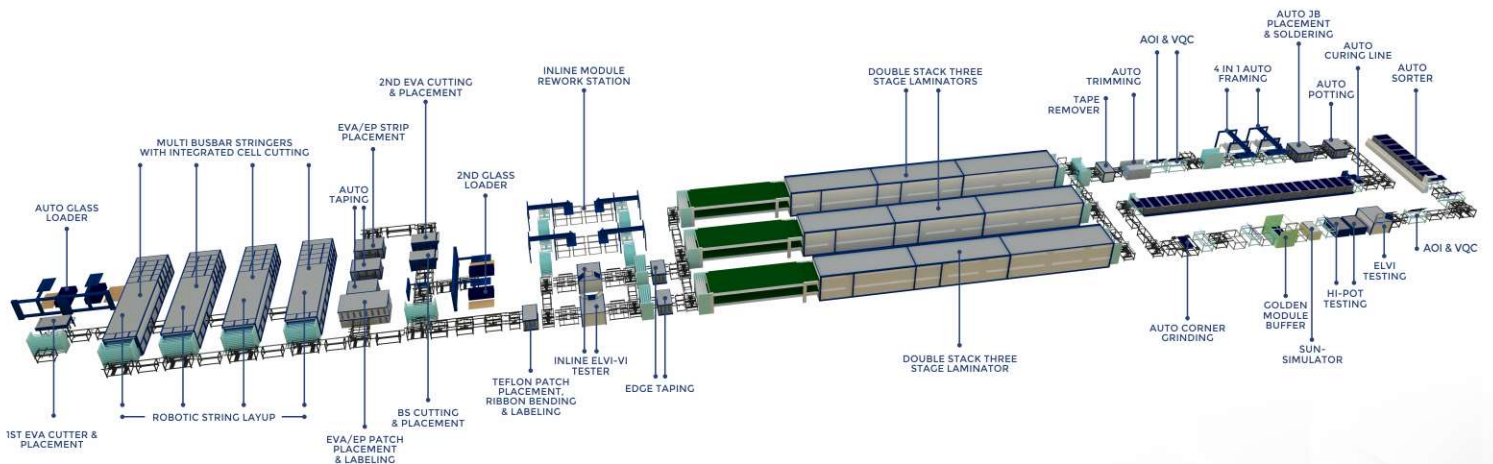
LINE CONFIGURATION: 1.5GW



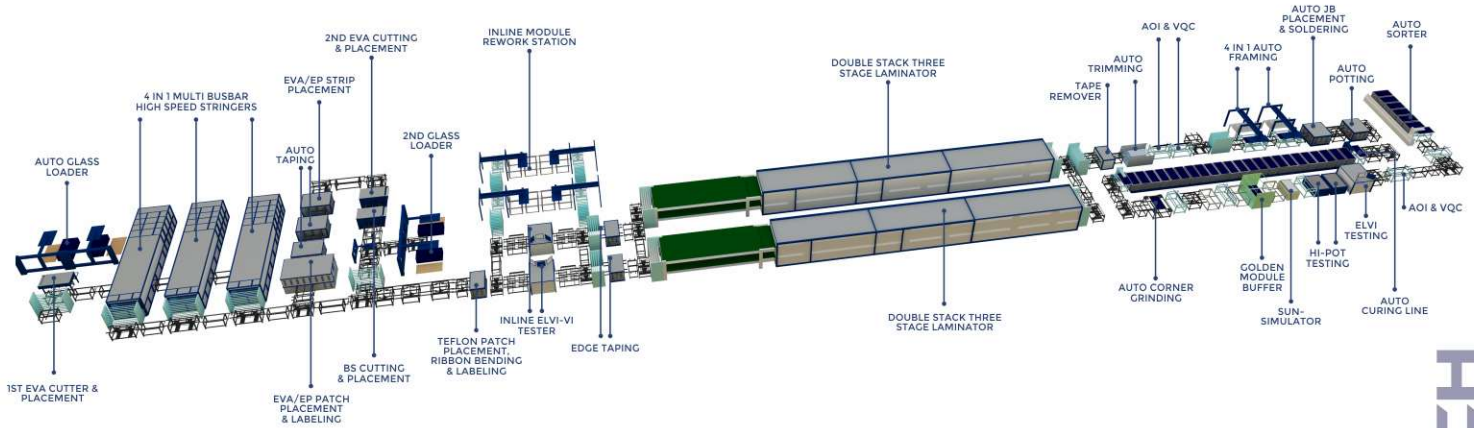
Line configuration can be customized, as per customer's requirement.

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LINE CONFIGURATION: 1GW



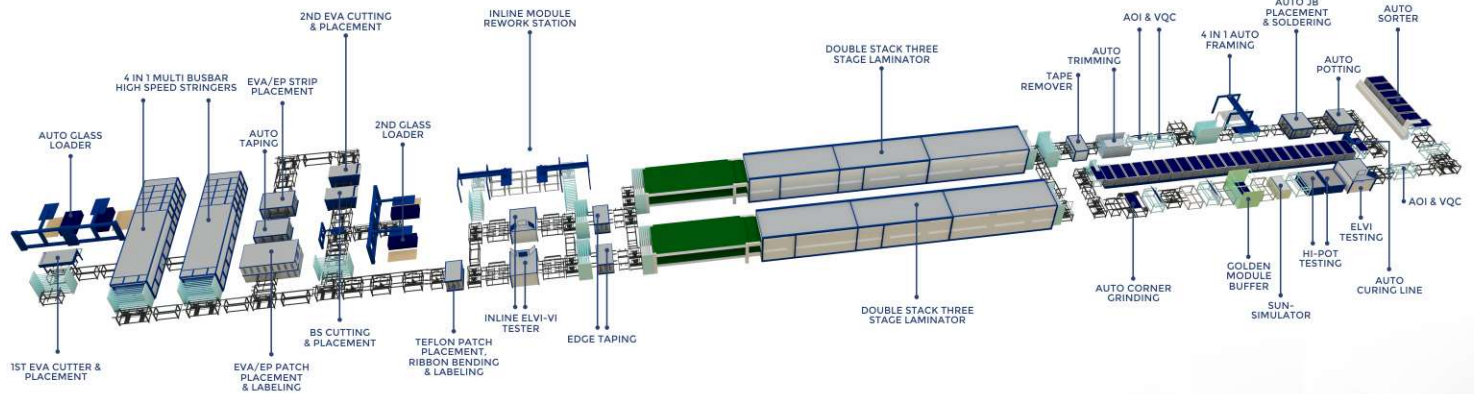
LINE CONFIGURATION: 800MW



Line configuration can be customized, as per customer's requirement.

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LINE CONFIGURATION: 600MW



CUSTOMIZED AUTOMATION



Auto Bussing



EVA Patch & Barcode Placement



Auto Taping



High Speed Layup



JB Cover Placement



Jigs Loading & Unloading Machine



Framing



Auto Labelling



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AUTOMATIC LAMINATOR



THREE STAGE DOUBLE STACK LAMINATOR

| Model | Effective Lamination Area | Installed Power | Working Power | Temperature Accuracy | Machine Colour | Heating Mode |
|----------------|---------------------------|-----------------|---------------|----------------------|----------------|--------------|
| KSL2788 OAC-ED | 2700mm×8800mm | 414 | 195 | ± 1 | Customized | Oil Heating |
| KSL2778 OAC-ED | 2700mm×7800mm | 403 | 184 | ± 1 | Customized | Oil Heating |
| KSL2776 OAC-ED | 2700mm×7600mm | 395 | 189 | ± 1 | Customized | Oil Heating |
| KSL2774 OAC-ED | 2700mm×7400mm | 390 | 175 | ± 1 | Customized | Oil Heating |

** The size of the Laminator can be customized as per Customer Requirement



THREE STAGE SINGLE STACK LAMINATOR

| Model | Effective Lamination Area | Installed Power | Working Power | Temperature Accuracy | Machine Colour | Heating Mode |
|---------------|---------------------------|-----------------|---------------|----------------------|----------------|--------------|
| KSL2788 OAC-E | 2700mm×8800mm | 199 | 90 | ± 1 | Customized | Oil Heating |
| KSL2778 OAC-E | 2700mm×7800mm | 193 | 84 | ± 1 | Customized | Oil Heating |
| KSL2776 OAC-E | 2700mm×7600mm | 189 | 81 | ± 1 | Customized | Oil Heating |
| KSL2774 OAC-E | 2700mm×7400mm | 187 | 79 | ± 1 | Customized | Oil Heating |

** The size of the Laminator can be customized as per Customer Requirement



AUTO-ONE

HIGH SPEED MBB STRINGER



| TECHNICAL PARAMETERS | |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model: | GYM-CH12000Y |
| Capacity | ≥ 10000 PCS/H (Half Cell) |
| Cell Types/Dimensions | Suitable for Mono/Poly, PERC, HJT, N-Type, P-Type, TOPCON, Busbar: 9BB-24BB Cell Size: 166mm-230mm, Thickness: 130um-180um, Compatible 90um-180um. |
| Cell Breakage Rate (Stringer) | ≤0.15% (130um) |
| Uptime | ≥98% (1 Fault Time/Actual Running Time) ×100% |
| String NG Rate | ≤1% (Including Soldering Deviation, Virtual Soldering, Hidden Cracks, etc) |
| Laser Cell Scribing | Yes |
| Cell Breakage Rate (Cell Scriber) | ≤0.2% (130um) |
| Cutting Type | Half Cut; 1/3, 1/4 is ungradable |

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NDC LASER CUTTER

| TECHNICAL PARAMETERS | |
|------------------------|-------------------------------------------|
| Model | GPV-WS-HP1-7500 |
| Production capacity | ≥7200 PCS full cell/H |
| NG ratio | ≤0.05% |
| Equipment failure rate | ≤2% |
| Cell type | Mono P type or N type bifacial cell |
| Cell demension | 156mm*156mm-230mm*230mm; |
| Cut mode | 1/2 cut (standard) , and 1/N cut optional |
| Cell thickness | 140um-200um |
| Cutting straightness | ±0.075mm |
| Slotting | From head end or both head/tail end |
| Slotting length | ≤1.5mm |



INLINE EL TESTER



INLINE SOLAR PANEL EL/BVI SCANNER

| | |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FUNDAMENTAL DESCRIPTION | Capture Type: Automation Mode, direct capture type |
| | Applications: Solar Panel pre-lamination or post-lamination |
| | Camera Q'ty: Quadruple camera for EL testing Quadruple camera for front VI testing Quadruple camera for rear VI testing |
| | Camera Resolution: 2,720*1836*4*3 pixels for EL testing (5.0M) 4,000 3,000*4*3 pixels for VI testing (12M) 4,000 3,000 4 3 pixels for VI testing (12M) Trans funtion: Length-side on front |
| | Panel Size included: 1. 12BB(round wire) PERC cells, both gap & gapless (tiling)+main, half-cut, both mono & bi-facial(with transparent + white patterned backsheet), only framed & glass to backsheet configuration 2. Cell size(to be applied): M10, M12 3. Module size: L1600-2400mm x W950-1200mm x T30-40mm 4. Gapless (tiling, switchable to normal gap type when it's required) & half-cut technology |
| | Conveyor height: 950+30mm |
| | Footprint: W2700mm* L2900mm |
| | Facility Inquiry: AC 220V 50Hz (240V option) 3KW, CDA (0.6Mpa, M10) |
| | Cycle time: <25s/pcs (excluding defect judgemet) |
| | Transportation sample size: Length: 2000-2500mm; Width: 1000-1500mm |

INLINE SOLAR PANEL ELVI SCANNER

| | |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| FUNDAMENTAL DESCRIPTION | Applications: Solar Panel pre-lamination |
| | Camera Qty: Quadruple camera for EL testing |
| | Quadruple camera for VI testing |
| | Camera Resolution: 2,720*1836* 4*3 pixels for EL testing (5M) |
| | 4,000*3,000*4*3 pixels for VI testing (12M) |
| | Trans funtion: Length-side on front |
| | Panel Size included: 166*83 mm/12* 6 pcs; 166*83mm/10*6 pcs; 182*91 mm/24* 6pcs; 182*91 mm/20* 6pcs; |
| | Up to 2500* 1500mm solar panel |
| | Conveyor height: 950130mm |
| | Footprint: W2900mm * L2800mm |
| | Facility Inquiry: AC 220V 50Hz (240V option), CDA (0.6Mpa, M10) |
| | Cycle time: < 22s/pcs (excluding defect judgemet) |
| Optical system: Quadruple EL Camera system for EL | |
| Quadruple EL Camera system for VI | |
| Transportation sample size: Length: 1700~2500mm; Width: 1000 ~ 1500mm | |



INLINE SOLAR PANEL ELVI SCANNER

| | |
|----------------------------------------|-------------------------------------------------------------------------------------|
| FUNDAMENTAL DESCRIPTION | Capture Type: Automation Mode, direct capture type |
| | Applications:Solar string |
| | Camera Resolution: 1,920* 1,200*2 pixels for EL testing (1.3M) |
| | Panel Size included: 166~210 mm full cell/half cell/tri-cut cell string compatible; |
| | Facility Inquiry:AC 220V 50Hz (240V option), CDA (0.6Mpa, M10) |
| | Cycle time: < 6s/pcs (excluding defect judgemet)] |
| | Optical system: Duel EL Camera system for EL |
| Judgement and Classification: Manually | |



SOLAR SUN SIMULATOR/IV TESTER

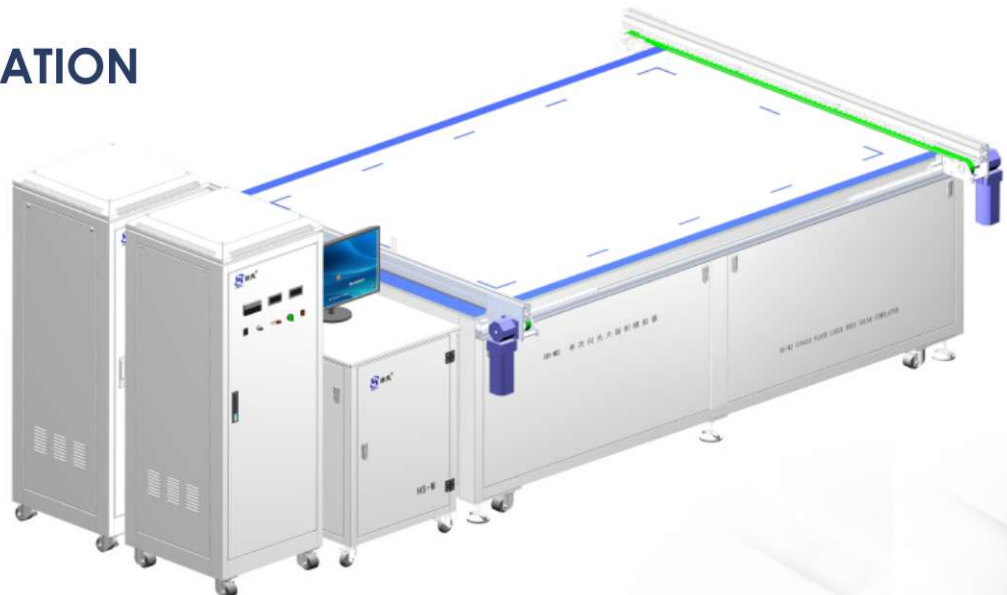
TOP ILLUMINATION



| | Item | Specification |
|--------------------|-------------------------|-------------------------------------------------------------------------------------------------------|
| General | Grade | A+A+A+ according to IEC 60904-9:2020 |
| | Range of Use | Crystalline/Half cell module /Glass to glass module, center 3 Jbox module PERC/ N type Module Testing |
| | Effective Area | 1400mm*2600mm |
| | Light Source Type | High Voltage Xenon Lamp |
| Optical Parameters | Light Direction | Vertical from Above (Top Flash) |
| | Spectrum Grade | AM 1.5 G Class A+ (0.875-1.125) |
| | Spectrum Distribution | 300nm-1200nm |
| | Xenon Arc Lamp Lifetime | 100,000 Flashes (With Pre-flash function) |
| | Light Intensity Range | 700-1200 W/m2 |
| | Pulse Duration | 100ms |

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BOTTOM ILLUMINATION



OFFLINE MACHINE

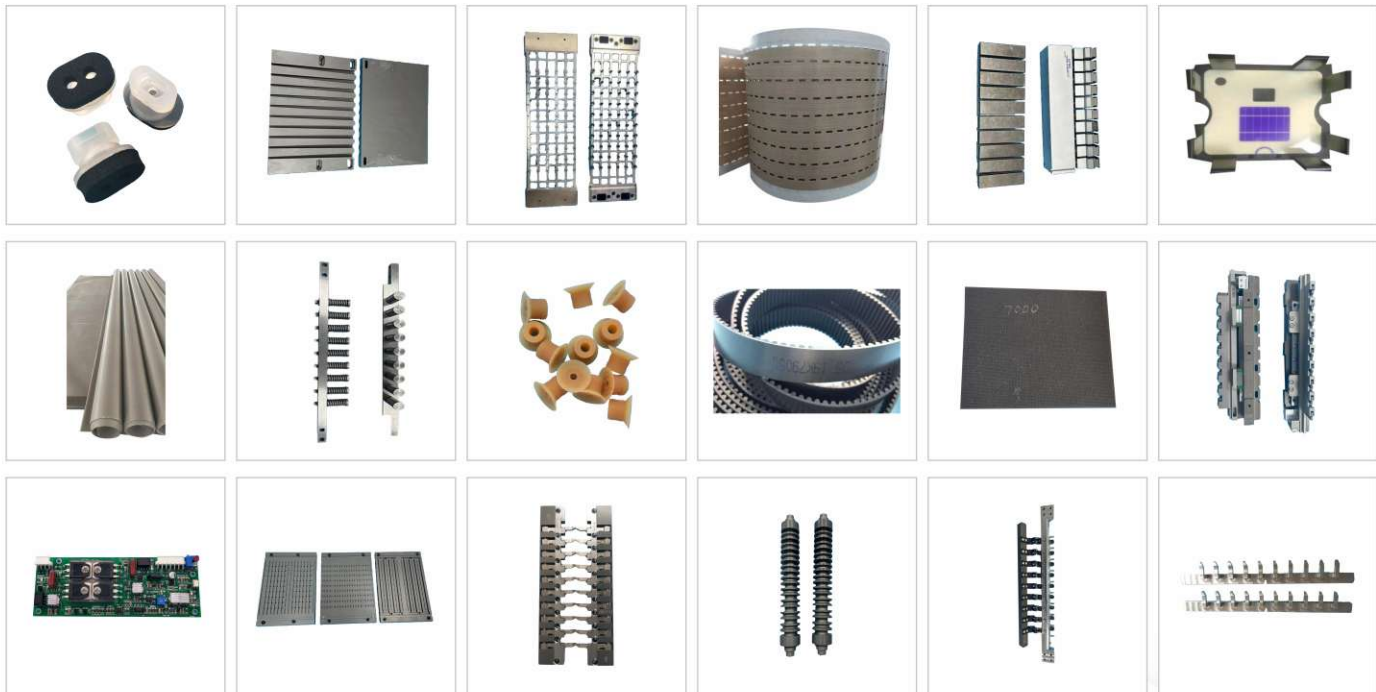
SOLAR CELL AUTO EL+IV & SORTING



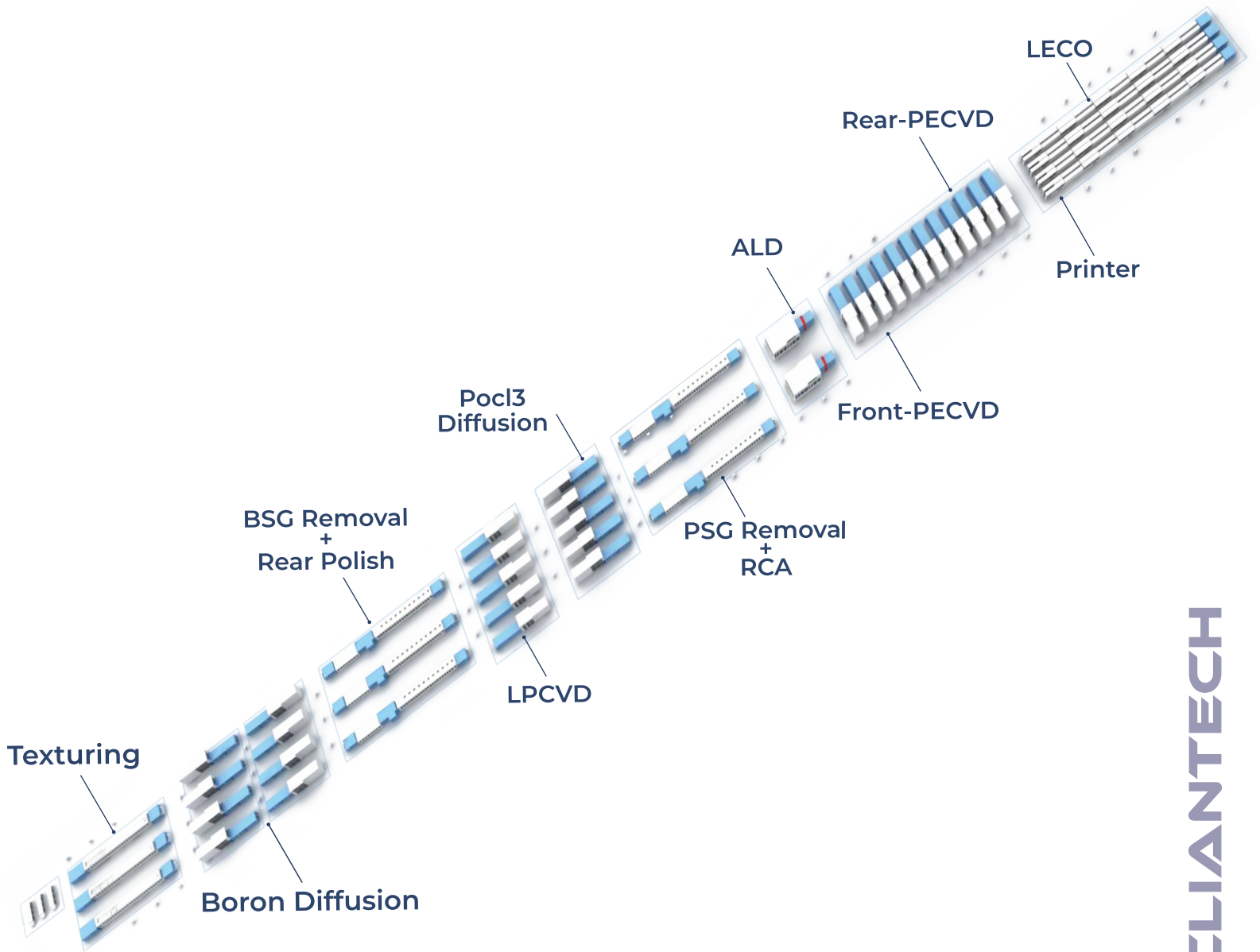
OFFLINE SOLAR CELL TESTER



MACHINES SPARES PARTS AND CONSUMABLES



TURNKEY SOLUTION FOR SOLAR CELL MANUFACTURING



CLIANTECH



PROCESS FLOW



Texturing

B Diffusion

Inline BSG Removal

Batch Alkali Polishing



LPCVD

P Diffusion

Inline PSG Removal

RCA Cleaning



ALD

Front PECVD

Rear PECVD

Printing



Photon Injection

Leco

Sorting & Packing



PROCESS EQUIPMENT



◀ **DIFFUSION EQUIPMENT**

LPCVD ▶



◀ **PECVD**

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CLS Intelligent

AUTOMATION EQUIPMENT



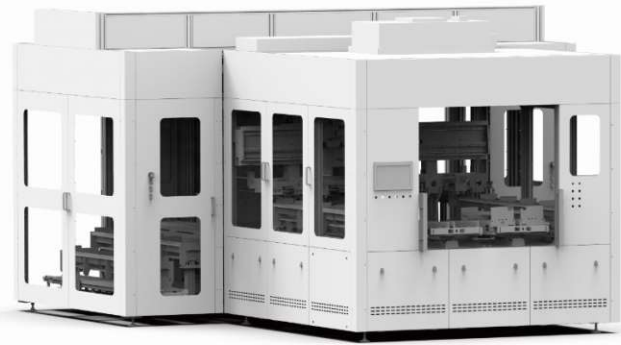
Batch Texture Automation



BSG Automation



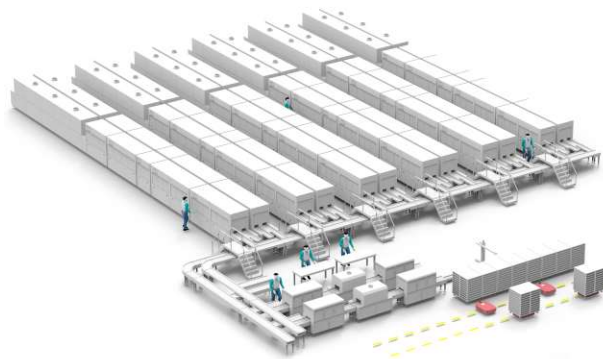
Diffusion Automation



LPCVD Automation



PECVD Automation



Testing, Sorting & Packing Line

CLIANTECH

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OUR PRESTIGIOUS CLIENTS



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Uttar Pradesh, India

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