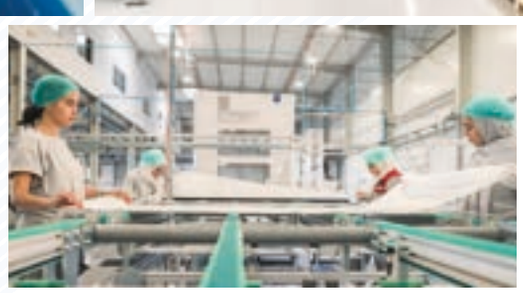
100% Made in Italy

ECOPROGETTI

SPECIALIST IN PHOTOVOLTAIC
PRODUCTION PROCESS

MACHINES AND TURNKEY LINES

FOR PHOTOVOLTAIC MODULE PRODUCTION



WWW.ECOPROGETTI.COM

Examples of PV panel installations
made with Ecoprogetti machines

ECOPROGETTI ITALY - HEADQUARTERS AND PRODUCTION SITE

SPECIALIZED IN MACHINES AND TURNKEY LINES

FOR PV MODULE PRODUCTION.

Ecoprogetti is the only 100% European company to design, produce and deliver complete turnkey production lines for the assembly and quality testing of high efficiency photovoltaic panels. Founded in 1998 Ecoprogetti is in the TOP 5 photovoltaic machine manufacturers for worldwide capacity.

TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit, assessment and certification decision according to ISO/IEC 17021-1:2015, that the organization

ECOPROGETTI S.r.l.
Via dell'Industria e dell'Artigianato, 22/D E 27/C
35010 Carmignano di Brenta (PD)
Italy

operates a management system in accordance with the requirements of ISO 9001 : 2015 and will be assessed for conformity within the 3 year term of validity of the certificate.

Scope

Design, production, supply and installation of machinery for producing photovoltaic panels.

Certificate Registration No. 44 100 107372
Audit Report No. 23278/2022

Validity old certificate: 11-01-2023
Valid from 04-02-2023
Valid until: 11-01-2026
Initial certification: 06-02-2008

Certification Body
at TÜV NORD CERT GmbH

Bologna, 04-02-2023

TÜV NORD CERT GmbH Am TÜV 1 45307 Essen www.tuev-nord-cert.com

Ecoprogetti is an ISO9001 certified company

+36 GW OF PRODUCTION LINES INSTALLED

+500 Customers Worldwide

+60 Countries Served

+25 Years of Ecoprogetti

5 Service Offices globally

100% Made In Italy

+150 Employees

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FROM THE IDEA OF THE BEST PV PANEL,

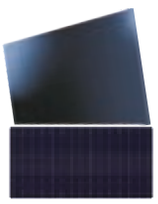
TO THE MACHINES THAT PRODUCE IT.

WE ARE READY FOR THE LATEST

Ecoprogetti can develop machines to work with the latest technologies on the market, such as TOPCon, BC, HJT, PERC, Perovskite tandem and more.

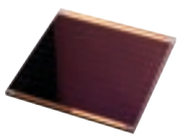
TOPCon

PERC



HJT

Back Contact



Perovskite

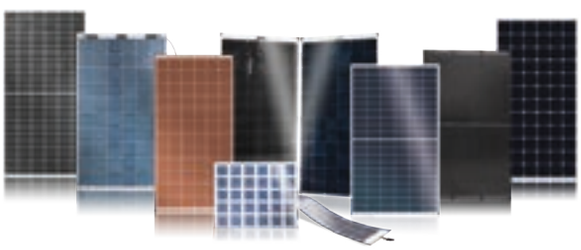
Thin Film

ONLY MACHINES 100% MADE IN ITALY

All Ecoprogetti machines are engineered, assembled and tested only in Ecoprogetti's HQ in Italy with the highest european standards and European components.

INNOVATING SINCE 1998

Ecoprogetti has a long history of more than 25 years both in production process and production of machines, our portfolio of machines is complete, from the beginning to the end.



From PV cells to Tier-1 PV panels

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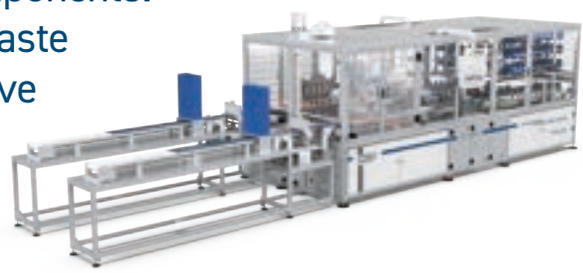
WE OFFER LINES WITH THE LOWEST OPEX

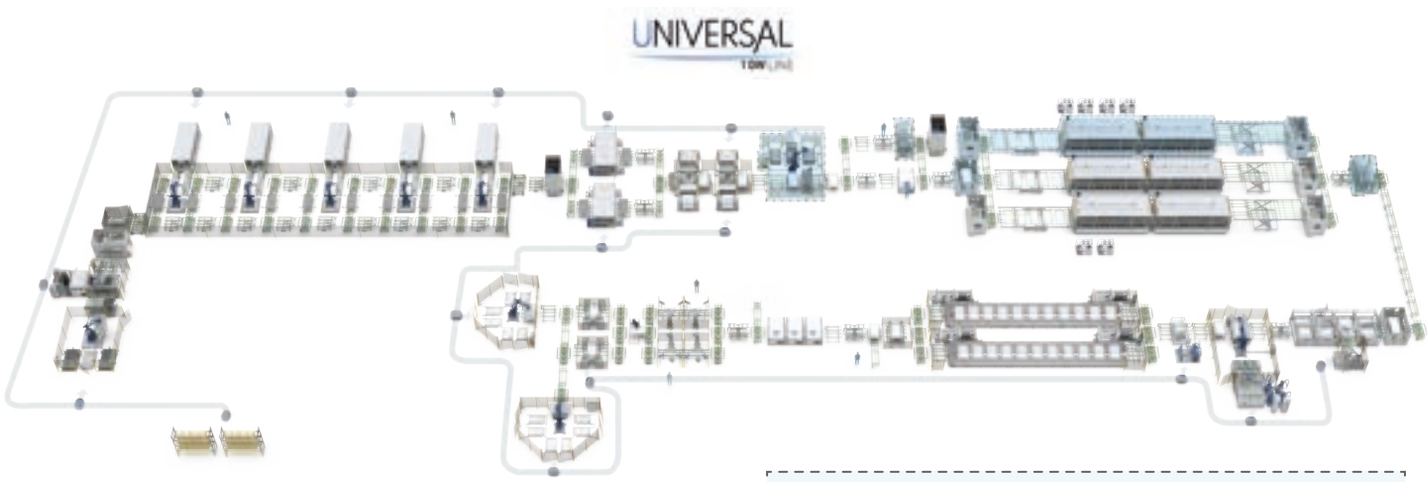
Our production lines drastically reduce operating costs through reduced maintenance and durable components. Our optimised production process minimises waste and rework costs, while automated lines improve productivity and reduce energy consumption.



1.2 GW PV MODULE MANUFACTURING

FULLY-AUTOMATIC

- 1200 MW/Year
- 200 panels/h
- 7 workers per shift
- 1200 kW/h 6bar | 10300 nL/1'
- 6000sqm area required



OPTIONAL EQUIPMENT FOR G+G PRODUCTION

VIDEO EXAMPLE OF OUR FULLY AUTOMATIC PRODUCTION LINE

FULLY AUTOMATIC

600 MW GLOBAL

PV MODULE MANUFACTURING

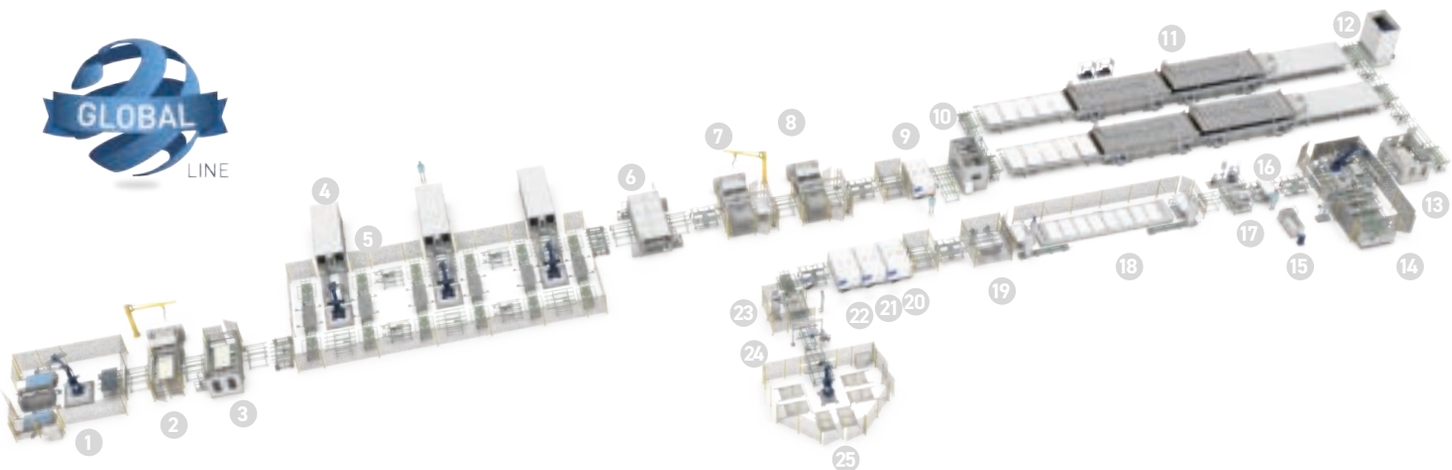
600 MW/Year

120 panels/h

4 workers per shift

470 kW/h
4600 nL/1'

3000 sqm
area required



HALF CELL

M10 - M12
182mm - 210mm

700-750 W
per module

3 shifts
of 8 hours

330
days/year

EQUIPMENT LIST:

1. Robotized Glass Loader
2. 1° EVA Foil
3. Positioner of EPE Stripes
4. Stringer Machine
5. Layup Robot
6. Automatic Bussing
7. 2° EVA Foil
8. Backsheet Foil
9. EL Tester high resolution
10. Buffer Module Storage
11. Electric Laminator
12. Buffer Module Storage
13. Automatic Trimming
14. Automatic Framing
15. J-box Silicone Dispenser
16. Multistation
17. Automatic Potting for J-box
18. Curing tunnel
19. Chamfering of corners
20. LED Sun Simulator
21. EL Tester high resolution
22. Hi-pot tester
23. Visual check station
24. Automatic Labelling
25. Automatic Sorting

ECOPROGETTI MES, Ecoprogetti's Traceability System, from Order to Final product.

Consists in: Grading of PV panels and sorting accordingly; Raw Material Tracking & Bill of Materials; Digitalized plant reports; ERP integration

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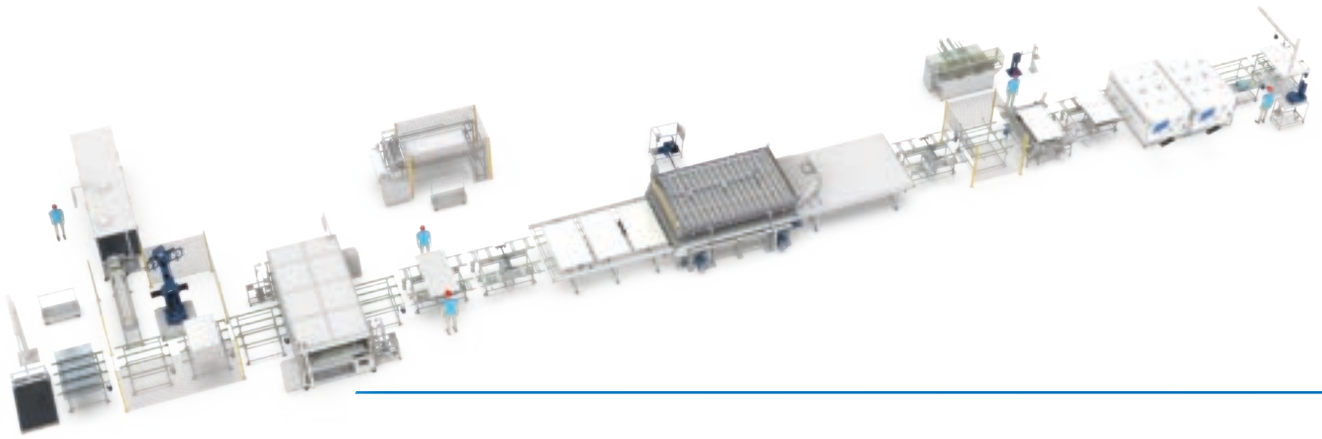
30 MW PV MODULE MANUFACTURING

SEMI-AUTOMATIC

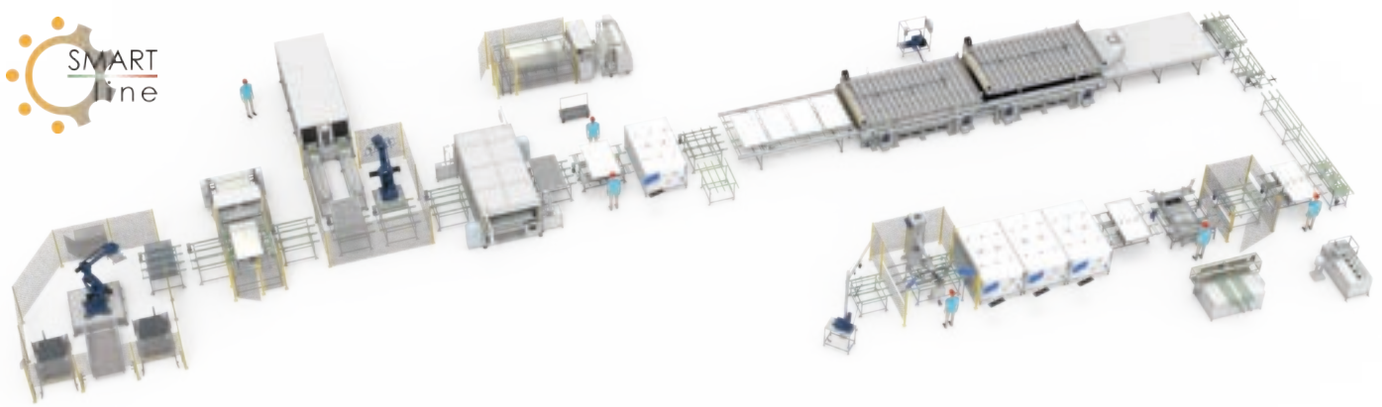
30 MW/Year | 18 panels/h | 5 workers per shift | 150 kW/h 0.6 MPa | 900 nL/1' | 750 sqm area required



200 MW PV MODULE MANUFACTURING

AUTOMATIC

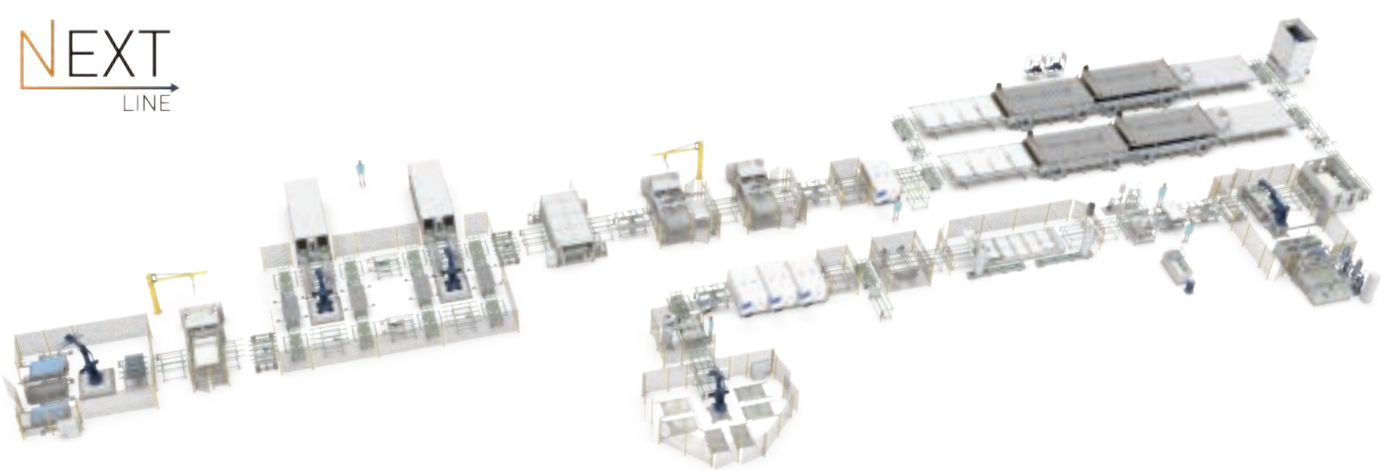
200 MW/Year | 40 panels/h | 8 workers per shift | 200 kW/h 0.6 MPa | 4600 nL/1' | 1300 sqm area required



400 MW PV MODULE MANUFACTURING

HIGHLY

400 MW/Year | 80 panels/h | 4 workers per shift | 360 kW/h 0.6 MPa | 4600 nL/1' | 3000 sqm area required



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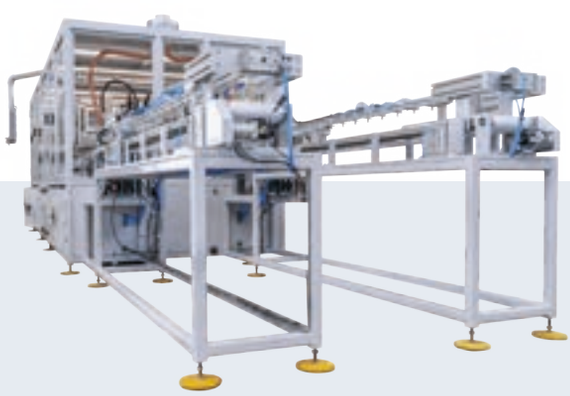
STRINGER MACHINES FOR YOUR PV PANEL PRODUCTION

Ecoprogetti's infrared stringer machines are designed to work with the latest cell technologies (**TOPCon, IBC, HJT, PERC**) and cell'sizes from **166 mm, 182mm, 210 mm** and the new rectangular cells **191x182 mm; 199x182 mm; 210x182 mm** (9 to **24 BB**), full and half-cut.

HIGHLIGHTS



ETS 6000, FLEXIBLE MBB STRINGER

WORKS WITH:

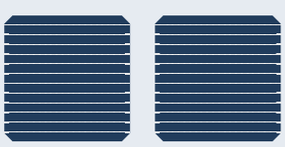
- FLAT RIBBON
- ROUND WIRE

THROUGHPUT

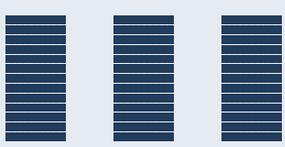
6000 MOV/HOUR

*MOV=Movements

High soldering quality; more than >1N/mm in peel test across the cell



FULL CELL GAP max 35 mm



HALF CELL GAP max 50 mm

HIGHLIGHTS

ECOBUSSING, AUTOMATIC SOLDERING OF INTERCONNECTIONS

WORK WITH:

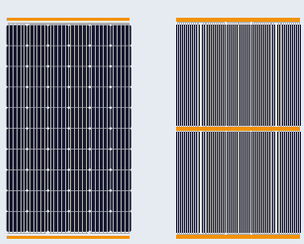
ANY BUS BAR NUMBER

SOLDERING

PATENTED SYSTEM

Automatic bussing for standard, centralized and customized PV panels.

- FULL CELL
- HALF CUT
- CUSTOM



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MONITOR YOUR PV PANEL QUALITY

Monitoring the quality of PV panels is essential to ensure optimal performance, minimize defects, reduce waste and maintain compliance with industry standards.

Full range of testing machines: SUN SIMULATOR | EL TESTER | AOI | IN-FIELD TESTING | MAGNETIC FIELD CONTROL | HI-POT TESTER | CELL TESTER | 90° VISUAL INSPECTION | THERMAL DOME

HIGHLIGHTS

ECOLAB EL HR, HIGH RES. ELECTROLUMINESCENCE TESTER

AUTOMATICALLY DETECT & CLASSIFY DEFECTS

Embedded AI system with neural network from Denkweit detects cells' defects.

NEW LIGHTSOURCE, SPD: >13.7% !

HIGHLIGHTS

NEW! 2024

ECOSUN NOVA, LED SUN SIMULATOR A+A+A++

CLASSIFICATION

A+	A+	A++
SPECTRUM	UNIFORMITY	STABILITY

Compatible with all available solar cells.

Integrated with 18bit instruments for the most acccurate measurements.

LIFETIME: +50 Mil pulses,

Steady state version available.

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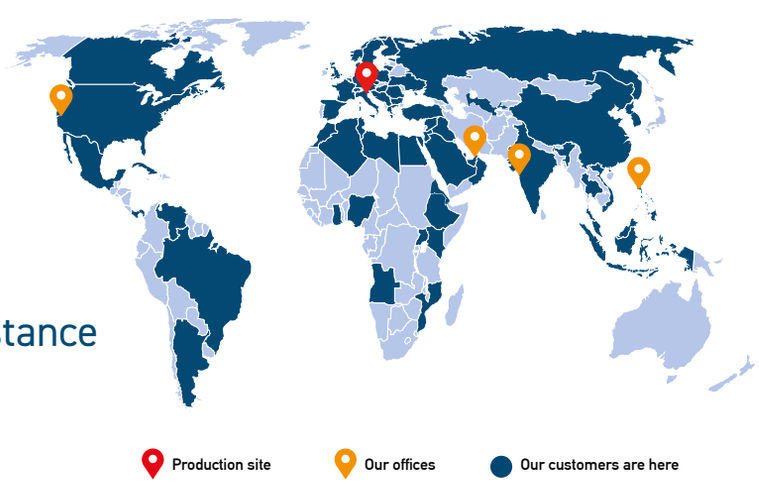
COMPLETE TRAINING SESSIONS, FULL KNOW-HOW TRANSFER

We provide our expertise on PV module production, covering each step of the production, costs optimization and certification of the PV modules. The training provided guarantees that our clients will be able to produce Tier-1 PV modules.

SERVICE WORLDWIDE, ALWAYS CLOSE TO YOU

- 360° Service & Support
- Innovative production solutions
- Complete trainings
- Quality testing solutions
- Tailor made projects
- Raw material procurement
- After sales support & Remote assistance
- Installation & Commissioning
- Certification support



ECOPROGETTI'S AWARDS

- Machinery technology Excellence 2021 by Solar quarter awards.
- Intersolar Award 2018 with the 1st LED sun simulator for Bifacial modules.
- Gold award winner 2018 and 2019 as Manufacturing line Setup by Solar PV Module Tech India.
- Winner of Award 2018 for Solar PV Equipment by Solar+Power Awards.

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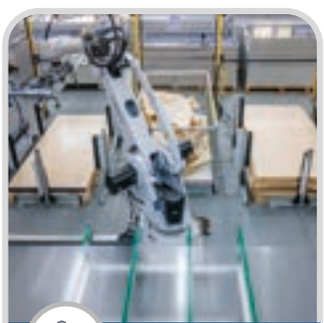
MANUFACTURING EQUIPMENT FOR PV PANEL PRODUCTION

DESIGNED & PRODUCED IN ITALY.


GLASS LOADER

FOIL CUTTER

STRINGER

LAYUP

BUSSING

EL TESTER

LAMINATOR

BUFFER

TRIMMING

FRAMING

J-BOXES

LABELLING

HI-POT TEST

SUN SIMULATOR

SORTING ROBOT

ACCESSORIES

...AND MUCH MORE...

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ECOPROGETTI
SPECIALIST IN PHOTOVOLTAIC
PRODUCTION PROCESS

GLOBAL OFFICES

THE ONLY PRODUCTION SITE

ITALY

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