

**Brite Hellas A.E.**  
9<sup>th</sup> klm Thessalonikis - Thermis, Building THERMI no. 2  
P.O. Box: D8129, Post Code: 57001, Thessaloniki Greece  
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### **Request for Quotes (RFQ)**

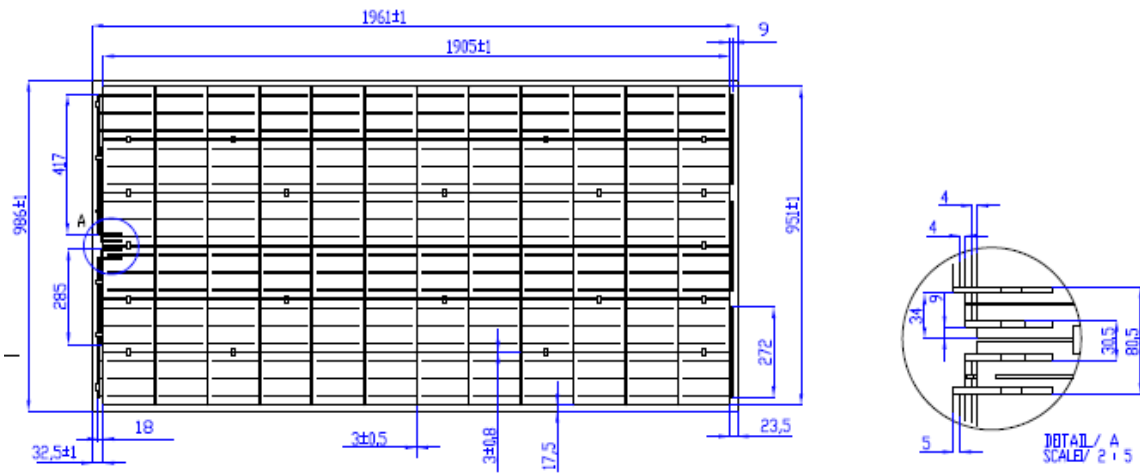
**Open: 22-02-2023**

**Close: 14-03-2023**

Brite Hellas S.A. is currently working on an investment project partially funded by a grant from Iceland, Liechtenstein and Norway through the EEA Financial Mechanism 2014-2021, in the frame of the Program “Business Innovation Greece”, grant reference number ProSol 2021/580905. In the course of this project, Brite will develop a manufacturing line for its nanocoated semi-transparent panel technology.

The panel assembly section shall be capable of delivering PV modules with the following materials and adhering to the following characteristics:

- Raw materials reference and characteristics:
  - Cell
  - String Ribbon
  - Flux
  - Interconnection ribbon
  - Glass
  - Encapsulant
  - Backsheet
  - J-Box
  - Frame
  - Corner Block
  - Silicone
  - Tape
  - Label
- Geometrical definition of the whole module shall be as in the sample below:



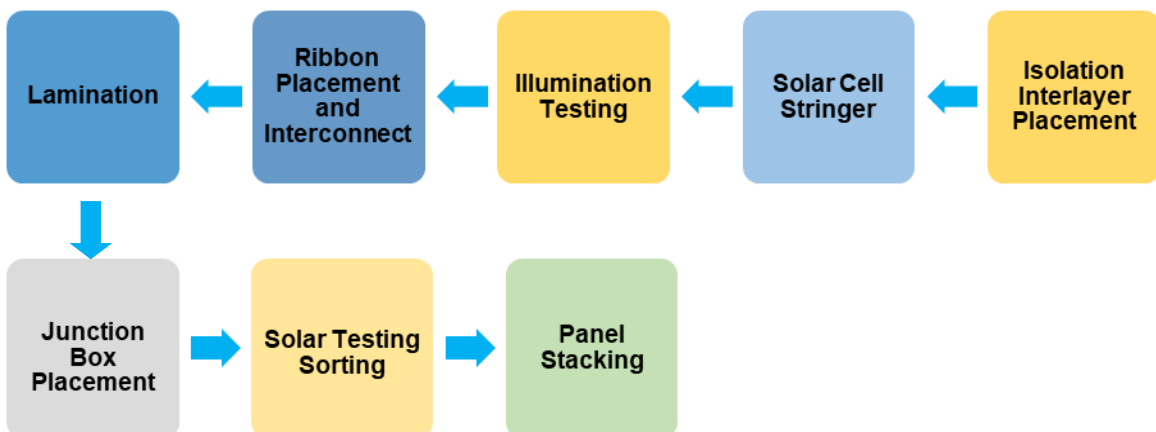
**The flow of the production line**

The steps in the production of solar glass are shown in the diagram below.

**Coating Section:**



**Panel Assembly Section:**



This RFQ is for the **Panel Assembly Section** of the production line.

**Specifications of the line:**

The line shall be able to produce a wide variety of different modules: Specifically, at a minimum:

- BRITE BSG 115/77
  - Glass-glass 4 string 9M10 HC PERC 2.089x1.033mm
- BRITE BSG 250/49
  - Glass-glass 8 string 10M10 HC PERC 2.089x1.033mm
- BRITE BSG 450/8
  - Glass-glass 12 string 12M10HC PERC 2.089x1.033mm

**General specifications of the line:**

<b>Module size</b>	
Maximum module size (mm)	2.500 x 1.400
Minimum module size (mm)	1.400 x 650
<b>Line throughput</b>	
Nominal	150 MWp p.a.
Nominal	73 modules/hour
Nominal	50 sec/module
Nominal	630.000 modules/year
<b>Yield</b>	> 90%
<b>Uptime</b>	> 80%
<b>Facilities</b>	
utilities (phase / voltage / frequency)	3 Ph+N 380-420V 50-60Hz
Noise	< 80dB
Ambient Temperature (Storage area not included)	< 30°C ±3°C
Ambient Humidity	< 70 %
Floor load	1.500 kg/m <sup>2</sup>
Floor evenness	Max 50 mm in all surface.
Required surface	concrete
Room height	4 m

**Special modules / new technologies:**

Special modules should be manufactured using the machines of this line, changing a few parameters and/or processes:

- Up to 2.500x1.400 mm panels
- Up to 16 buscar
- Up to 220 mm size cell
- Framed and frameless modules
- Glass-glass and glass backsheet modules

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The equipment supplied for the line shall include, but not be limited to the following:

LINE EQUIPMENT 150MW LINE
Automatic glass loading 2+1 bins
Automatic 1st encapsulant cutting and loading
MTS-3000
Layup 6 axis for T&S 3000 (6 seg/string) (only including conveyors inside the fence) VISION Included
Automatic bussing IC120 3 HEADS
EL with Visual Inspection
Manual tape aplying station
Automatic 2nd encapsulant/BS cutting and loading
Automatic Second Glass Loading and Placing machine 2+1 bins
Automatic Glass-Glass Edge Taping Machine
ML Membrane double stack Triple-step automatic laminator (with pins)
Automatic edge trimming
Automatic visual inspection
Servo Automatic Gluing & Frame Integrated Machine with Frame storage (1 dispenser)
J-Box silicone dispensing machine with 5 galloon pump
Automatic Jbox potting machine
Curing line 4H (26m conveyor) + module separator conveyor&handling (for frameless)
Automatic corner grinding machine
LED Sun Simulator 4.0 MAX with integrated Hi-Pot
Frameless HI-POT
EL Quickline 4.0 HRS MAX
Automatic labelling machine
Automatic module unloading and sorting (Horizontal and Vertical)
Buffer lifo LEL
Conveyors

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The number of machine copies in the line should be determined based on the required throughput in the General Line Specifications. The line should also include a number of supporting accessories that will at a minimum include:

**RFQ: ProSol 3**

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<b>LIST OF ACCESORIES 150MW LINE</b>
Module repairing table
String tray
String tray Carrier
Cell stack preparation table
Cell stack carrier
Encapsulant cutted support
Backsheet tray carrier
Manual soldering unit
Soldering unit with transport table
Manual peel test unit
Differential Scanning Calorimetry DSC4000
String reparation table
Trolley for laminates
Glass vertical tray
Encapsulant or backsheet rolls transport trolley
Tape feeding system
Automatic ribbon cutter
Small material to start up the production

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The received offer should include the cost of the line equipment, the installation of the line and the demonstration of its operation. The location of installation will be Patras, Greece and the transport cost should be quoted 30 days prior to the actual shipment of the equipment.

The received quotes/proposals will be evaluated within 4 weeks of the closing date. Non-selected proposals can submit an appeal within 3 days from the time of notification of the evaluation result. All quotes should refer to **RFQ: ProSol 3** and be submitted electronically to: [info@britesolar.com](mailto:info@britesolar.com)

All questions or other inquiries concerning this quote should be addressed to the point of contact for this procurement who is:

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+30 6943461393

**RFQ: ProSol 3**