

Mechanised LayUp



- *Exact positioning*
- *One-person operation*
- *Minimised breakage due to assisted handling of strings*
- *Adjustable to different module- and cell sizes*

System description

Depending on production throughput, a fully automated LayUp is not always necessary.

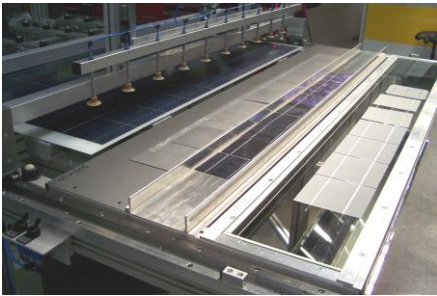
ATN's mechanised LayUp enables a single operator to align strings on the EVA-lined glass of a solar panel, achieving the precision of a fully automated system.

The strings with both directions of polarisation are fed to the process via two string boxes.

The strings are handled by means of height-adaptive suction grippers. They are taken from the string boxes and are then aligned at the alignment station for subsequent precise placement on the module.

An integrated PLC controls pick and place actions of the strings and optionally features a SMEMA interface for process coordination with other machines.

Ball transfer units allow feeding the glass panels sideways, roller conveyors can be raised to precisely transfer the product to the next station.



Handling area with two string boxes and alignment station



Integrated string inspection



Suction grippers adapt to the modules' height

Technical data

Cell dimensions	4" to 6"
Length of string	max. 1.900 mm
Module dimensions	1.000x1.800 mm
Unit dimensions (WLH)	2.400x2.400x1.800 mm
Weight	appr. 500 kg
Power supply	240 VAC, 50/60 Hz

Process

1. Insert and align glass to alignment edges
 2. Insert EVA foil
 3. Take 1st string from string box
 4. Place string onto alignment station and align
 5. Pick up aligned string and place on panel
 6. Repeat for 2nd string with different polarisation
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