

EUROTRON

EMBRACING SUNLIGHT



## Election solar Pope





Election solar Pope





## Member of Eurogroep



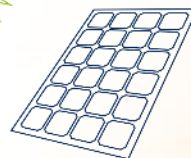
lowpad®

EUROTRON

TTA



Automatic Moving  
Robots (AGV's)



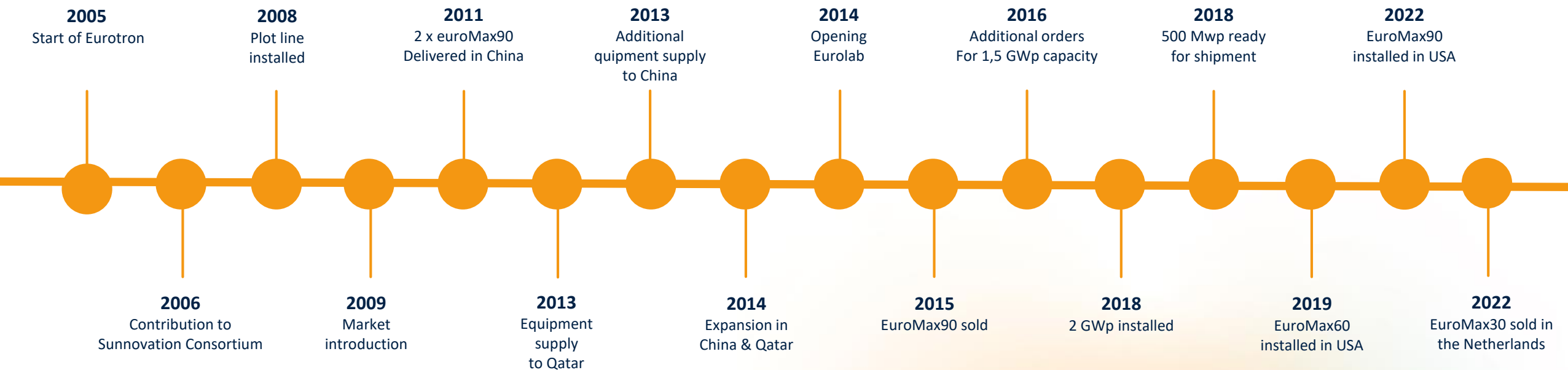
Solar equipment



Automation for  
sustainable food



## Milestones





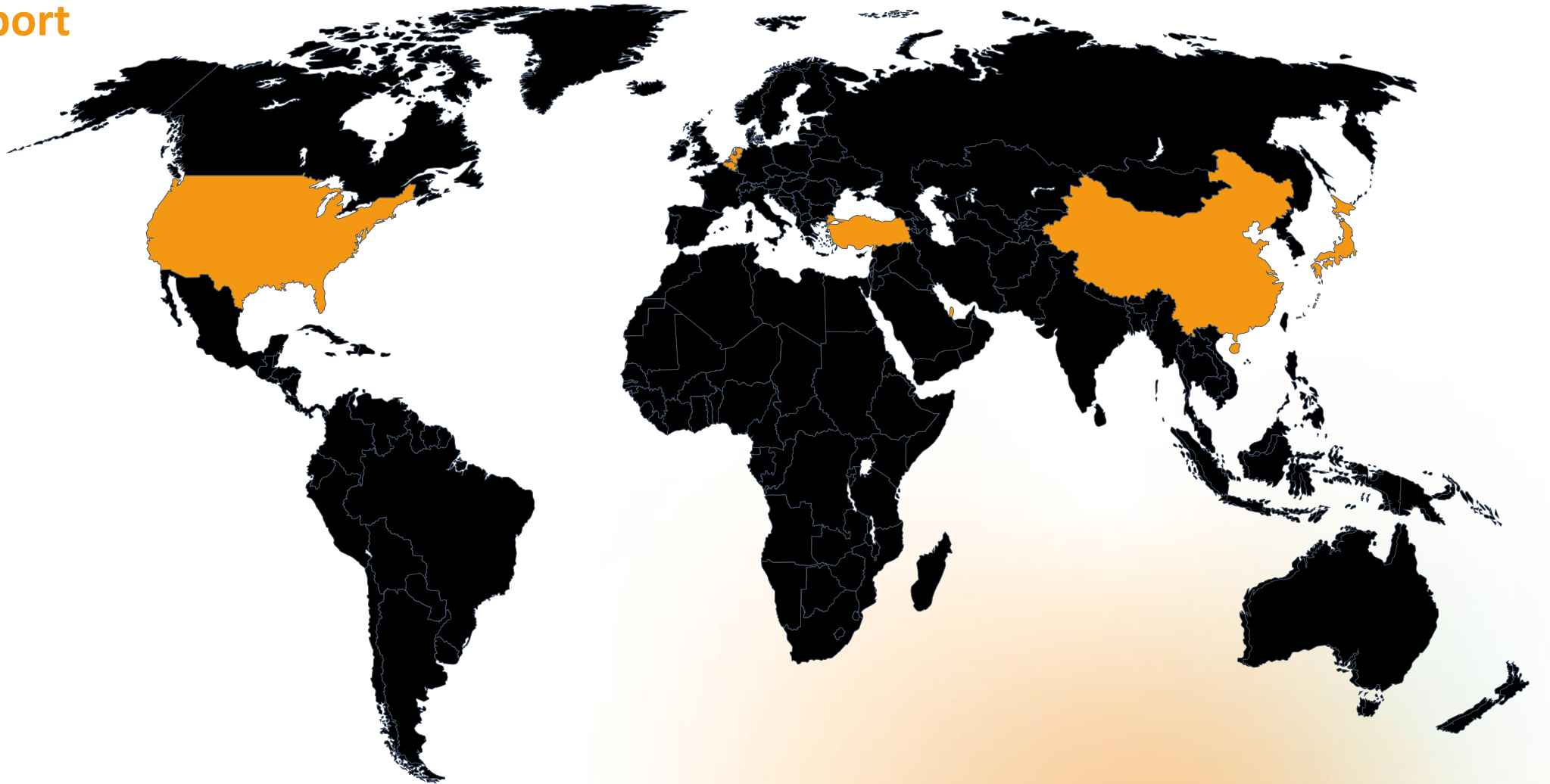
## About Eurotron

- Global leader in manufacturing of back contact modules
- Eurotron platform ready for now and the future
- Back-contact: more power, more profit
- Internationally operating tier-one clients
- Member of Eurogroep





## Global support





# Lasting generations







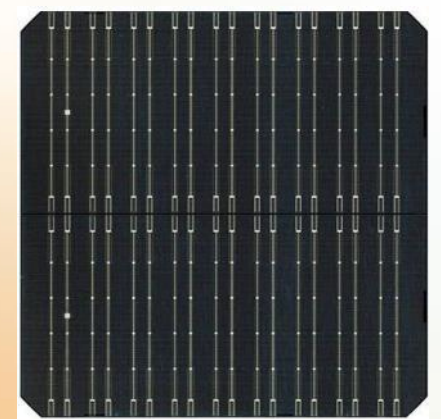
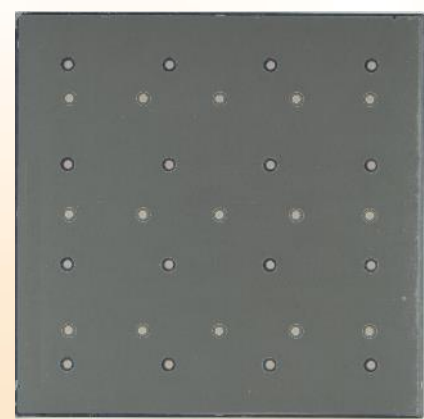
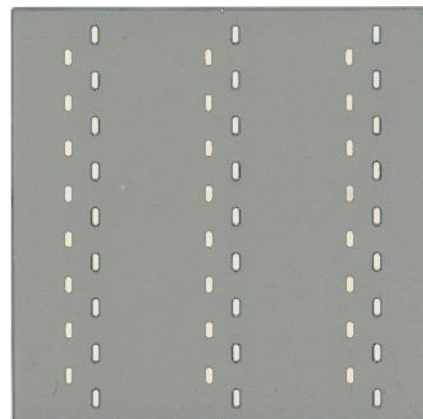
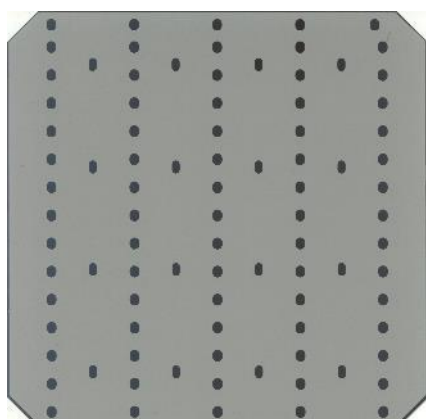
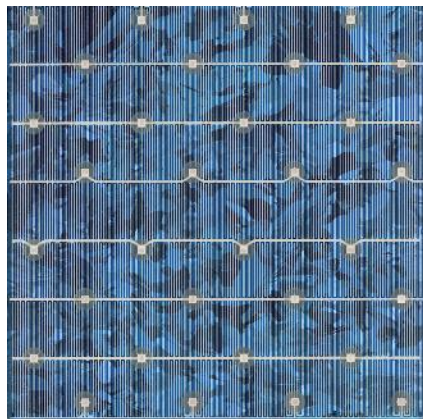
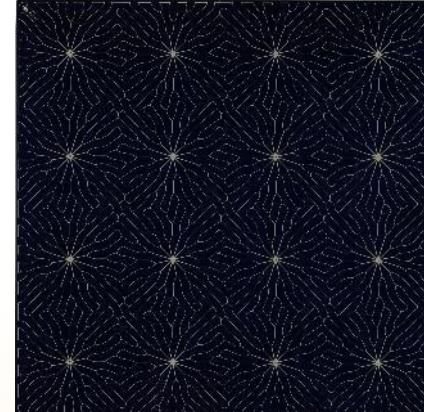
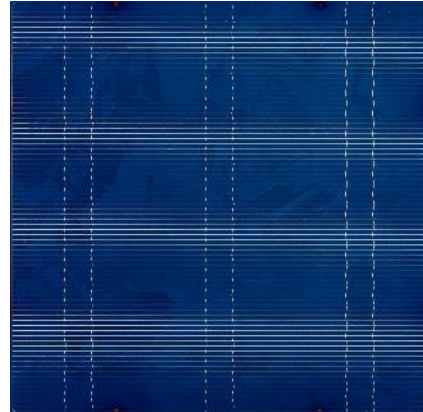
- Lasting generations of technology
- Lasting generations of equipment
- Lasting generations of modules
- Lasting generations of use







- Lasting generations of technology



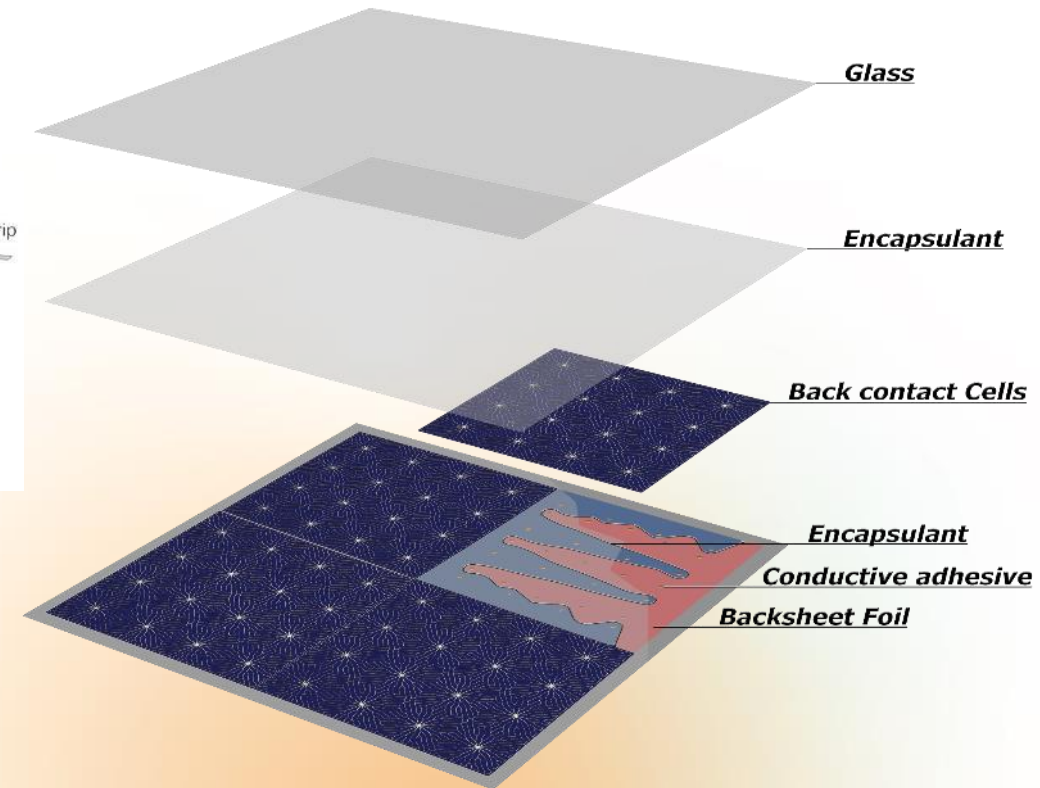
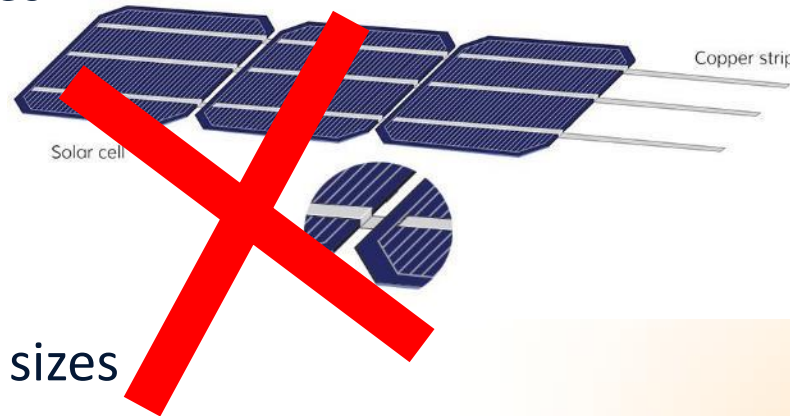




- Lasting generations of technology

## Build-in technology advantages

- Reduction of serial losses
- Lower NOCT
- Better producibility
- Less cell breakage
- Denser cell spacing
- Allows for different cell sizes
- Less hotspots
- Flexible design
- Better optical appearance







## ■ Lasting generations of technology

- Fully equipped lab
- From 2x2's to full industrial module sizes
- Support of science institutes, solar challenge teams, material vendors and customers
- Extensive process knowledge
- Time saver for customers because of pre-production to apply for product certification
- Customer process mirroring







- Lasting generations of technology
- Lasting generations of equipment
- Lasting generations of modules
- Lasting generations of use







- Lasting generations of equipment







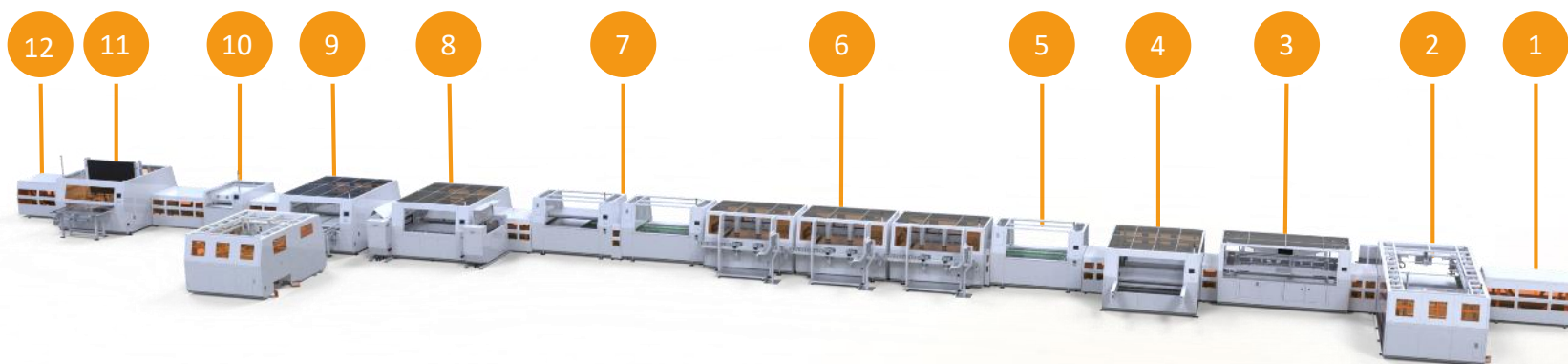
- Lasting generations of equipment







## ■ Lasting generations of equipment



### Process steps

- |                     |                              |   |                       |
|---------------------|------------------------------|---|-----------------------|
| 1 Upwards elevator  | 4 Application of encapsulant | 7 Quality inspection                    | 10 Pre-tagging        |
| 2 Back sheet lay-up | 5 Quality inspection         | 8 Encapsulant unwinding and application | 11 Flipping           |
| 3 Interconnection   | 6 Cell positioning           | 9 Glass de-stacking and lay-up          | 12 Downwards elevator |





- Lasting generations of technology
- Lasting generations of equipment
- Lasting generations of modules
- Lasting generations of use



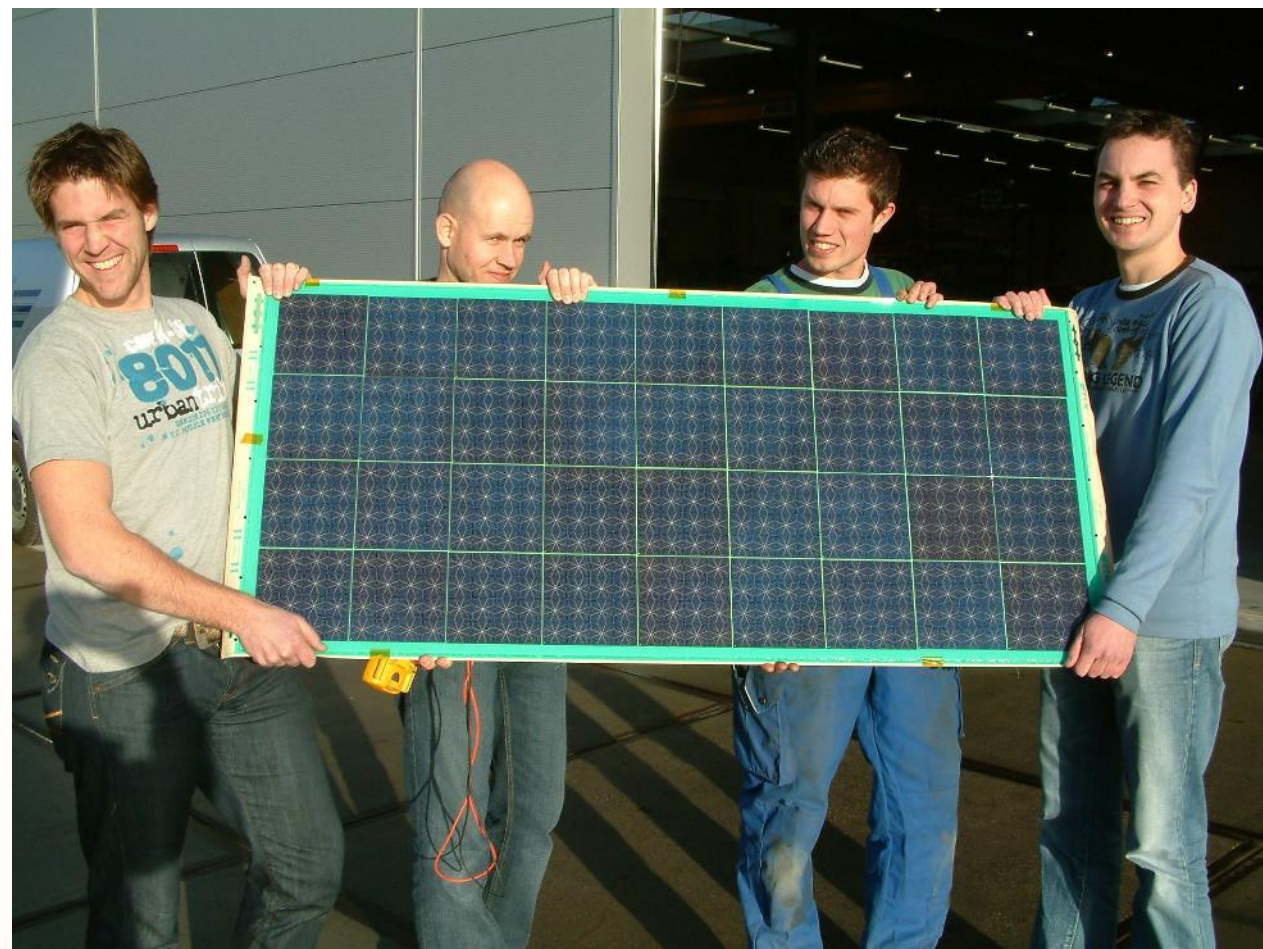




- Lasting generations of modules

Eurotron's first foil-based  
back contact module

Build in Nov 2007  
➔ 15 years ago .....







- Lasting generations of modules



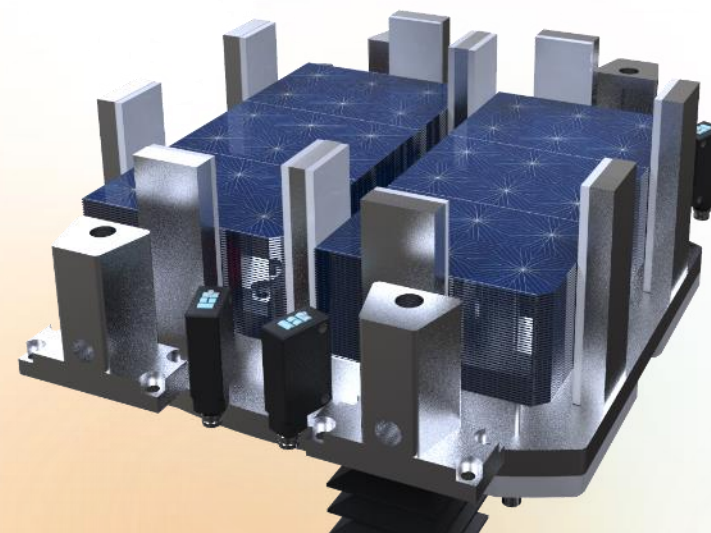
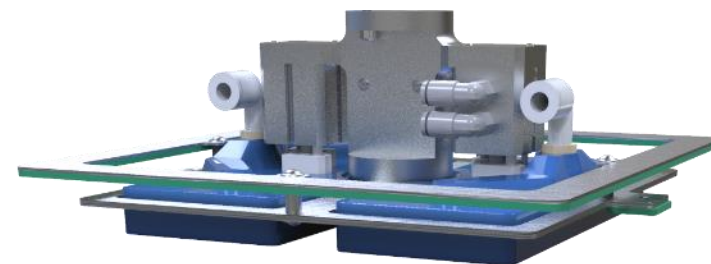




## ■ Lasting generations of modules

‘One size fits all’ .....

- 2x2's / 36 cell / 60 cell / 72 cell
- Modules up to 1.400x2.600 mm
- Half/third/quart cells
- Integrated roof solutions
- EV applications (flexibility)







- Lasting generations of technology
- Lasting generations of equipment
- Lasting generations of modules
- Lasting generations of use







## ■ Lasting generations of use

### Test Report



File No.: SHV12063/17

Test Report No.: 492010958.002

IEC 61215-1, IEC 61215-1-1 & IEC 61215-2							
Clause	Requirement + Test		Result - Remark				Verdict
4.6.1 Performance at STC (after initial stabilization, Gate #1) - MQT06.1/MST02							
Test date [MM/DD/YYYY].....	04/03/2018						-
Test method .....	<input checked="" type="checkbox"/> Simulator / <input type="checkbox"/> Natural sunlight						-
Irradiance [W/m <sup>2</sup> ].....	1000						-
Module temperature [°C] .....	25.0						-
P <sub>max</sub> (lab) lower limit [W] .....	272.4						-
P <sub>max</sub> (lab) lower limit [W] .....	272.4						-
V <sub>oc</sub> (lab) upper limit [V] .....	39.07						-
I <sub>sc</sub> (lab) upper limit [A] .....	9.89						-
Sample #	Voc [V]	Vmp [V]	Isc [A]	Imp [A]	Pmp [W]	FF [%]	-
1	37.98	31.14	9.43	8.88	276.4	77.16	P
2	38.09	31.28	9.43	8.89	277.9	77.36	P
Average	-	-	-	-	277.2	-	P
Supplementary information: The limit value is calculated through considering the tolerance of rated label values and lab measurement uncertainty.							

### Test Report



File No.: SHV12063/17

Test Report No.: 492010958.002

IEC 61215-1, IEC 61215-1-1 & IEC 61215-2							
Clause	Requirement + Test		Result - Remark		Verdict		
<b>4.16 Static mechanical load test - MQT16/MST34</b>					-		
Sample #.....	2				-		
Test date [MM/DD/YYYY].....	04/04/2018				-		
Designed load (downward / upward) [Pa] .....	3600 / 2400				-		
Safety factor .....	1.5				-		
Mounting method .....	Frame mounting holes (4 points)				-		
Load applied to.....	Downward	Upward			-		
Mechanical load [Pa].....	5400	3600			-		
1 <sup>st</sup> cycle duration [hours].....	1h	1h			-		
Intermittent open-circuit? .....	No	No			-		
2 <sup>nd</sup> cycle duration [hours].....	1h	1h			-		
Intermittent open-circuit? .....	No	No			-		
3 <sup>rd</sup> cycle duration [hours] .....	1h	1h			-		
Intermittent open-circuit? .....	No	No			-		
Supplementary information: N/A							
<b>4.1 Visual inspection (after static mechanical load test) - MQT01/MST01</b>					-		
Test date [MM/DD/YYYY].....	04/08/2018				-		
Sample #	Nature and position of initial findings - comments or attach photos						
2	No visual defects			P			
Supplementary information: N/A							
<b>4.2 Maximum power determination (after statistic mechanical load test) - MQT02/MST03</b>					-		
Test date [MM/DD/YYYY].....	04/08/2018				-		
Ambient temperature [°C].....	Corrected to 25.0				-		
Irradiance [W/m²].....	Corrected to 1000				-		
Sample #	Voc [V]	Vmp [V]	Isc [A]	Imp [A]	Pmp [W]	FF [%]	
2	37.82	31.00	9.51	8.95	277.6	77.21	-
Supplementary information: N/A							
<b>4.3 Insulation test (after static mechanical load test) - MQT03/MST16</b>					-		
Test date [MM/DD/YYYY].....	04/08/2018				-		
Test voltage applied [V].....	2 minutes of 1000 and 1 minute of 6000				-		
Sample #	Required [MΩ]	Measured [MΩ]	Dielectric breakdown?		-		
2	24.5	>1000	No		P		
Supplementary information: Minimum requirement according to the standard is 40MΩ·m <sup>2</sup> . Area of the module is 1.63m <sup>2</sup> .							





- Lasting generations of use

- Back contact = 2<sup>nd</sup> to none
- 30 Years of insured warrantee
- Extensive track record
- Build to withstand time





# Lasting generations





A landscape photograph of a golden field at sunset. The sun is low on the horizon, creating a warm orange glow and long shadows. The field is filled with golden grass, and there are trees and hills in the background. The sky is a mix of blue and orange.

# EUROTRON

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