

SOLARONIX

The First Dye Solar Cell Façade

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About Us

Founded by Andreas & Toby Meyer in 1993

15 people + typically 2 ~ 4 interns

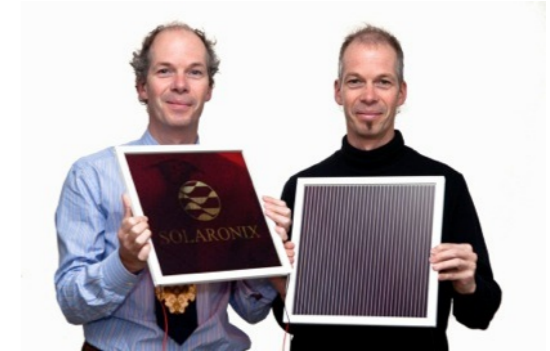
Running business in DSSC specialty chemicals & test equipments
(solar simulators, light soakers)

Maker of the world's first DSSC façade on a public building

35 cm Dye Solar Cell module test line

Perovskite Solar Cell developments

R&D contracts + 5 FP7 projects



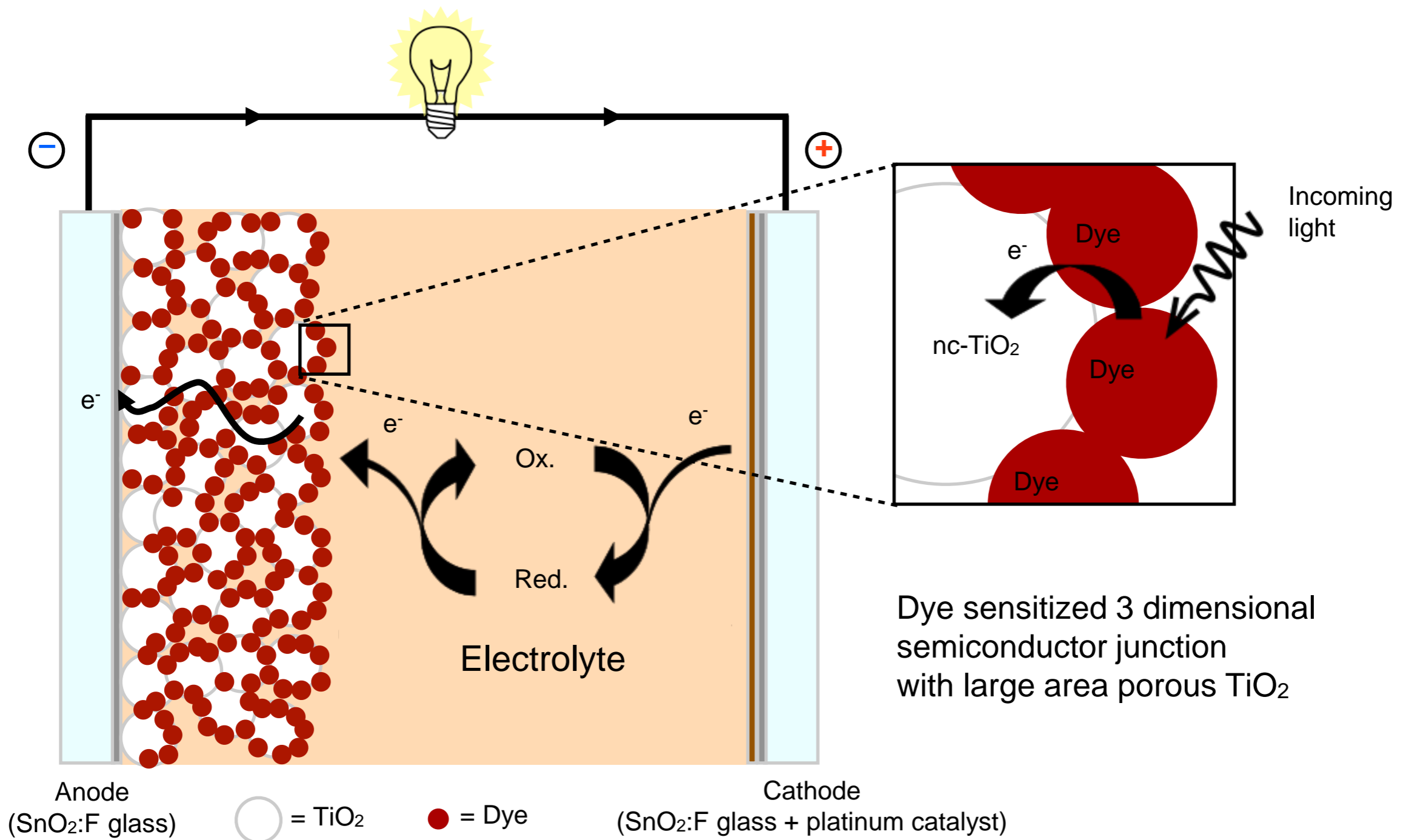
Where to buy: shop.solaronix.com

Dye Sensitized Solar Cells Advantages



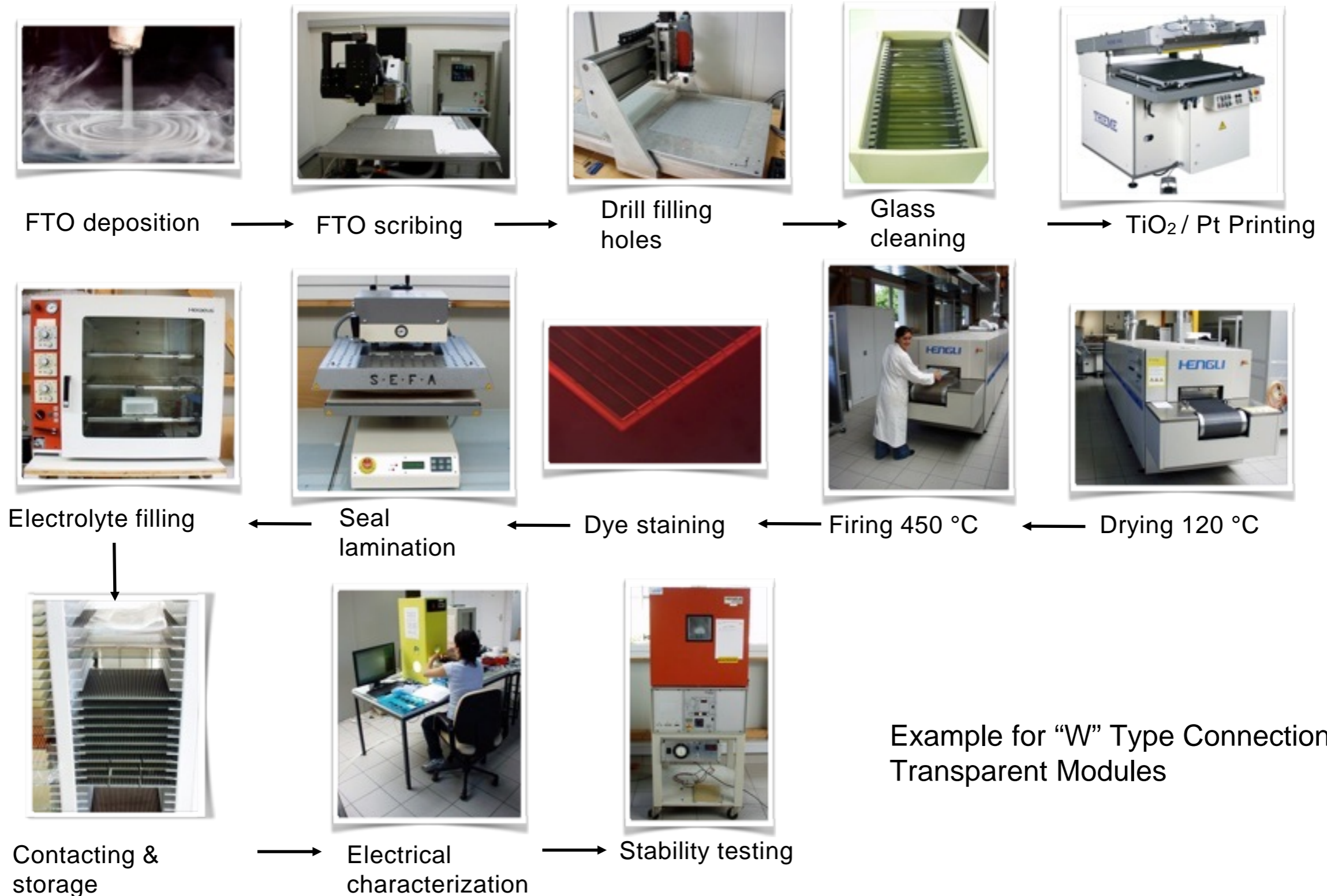
- Choice of coloration
- Semi-transparent
- Customized shapes & sizes
- Low-light sensitive
- Based on printing processes
- Based on abundant materials

Dye Sensitized Solar Cell Working Principles



Dye sensitized 3 dimensional semiconductor junction with large area porous TiO₂

DSSC Manufacturing @ Solaronix



Example for "W" Type Connection:
Transparent Modules

SwissTech Convention Center @ EPFL, Lausanne

Semi-transparent colored solar module façade



Rendering: Richter - Dahl Rocha & Associates

SwissTech Convention Center - « Active » Sunshade

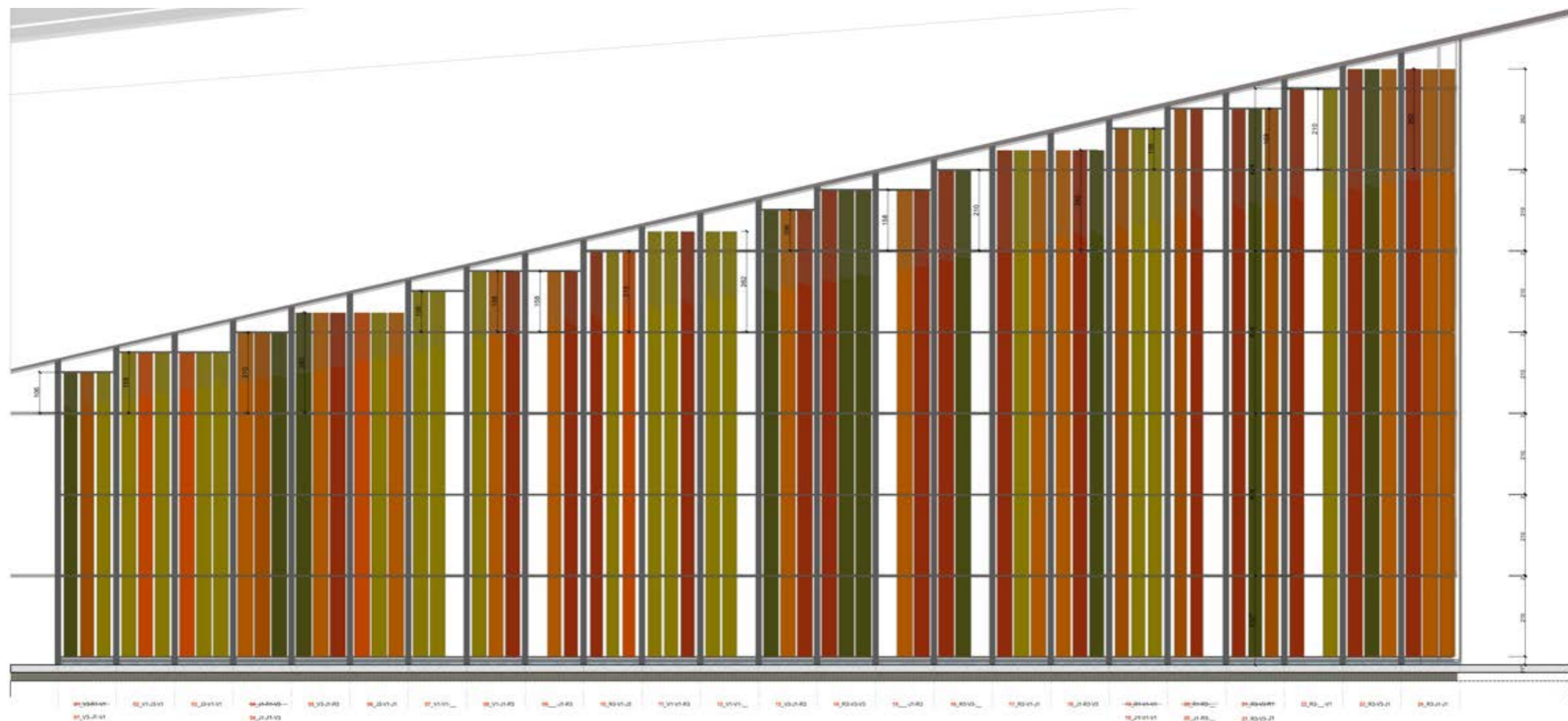
Semi-transparent & colorful solar modules, based on the dye solar cell technology

Reduction of heat build-up during the day, while producing electricity



SwissTech Convention Center Solar Façade

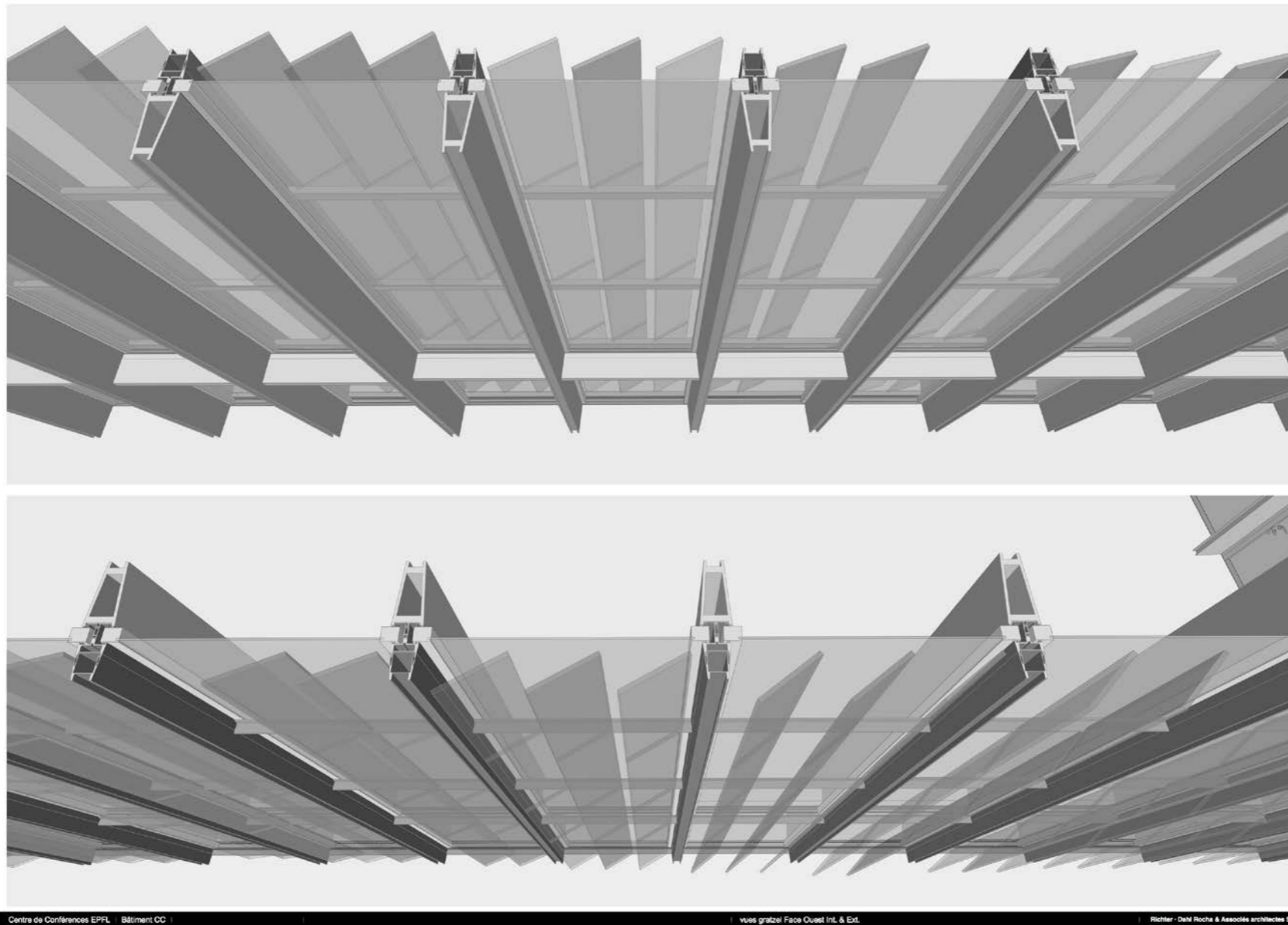
Vertical view ~ 300 m² façade (250 m² solar modules)



Richter - Dahl Rocha & Associates

SwissTech Convention Center Solar Façade

Westerly oriented lamellae, installed at different angles



Centre de Conférences EPFL - Bâtiment CC

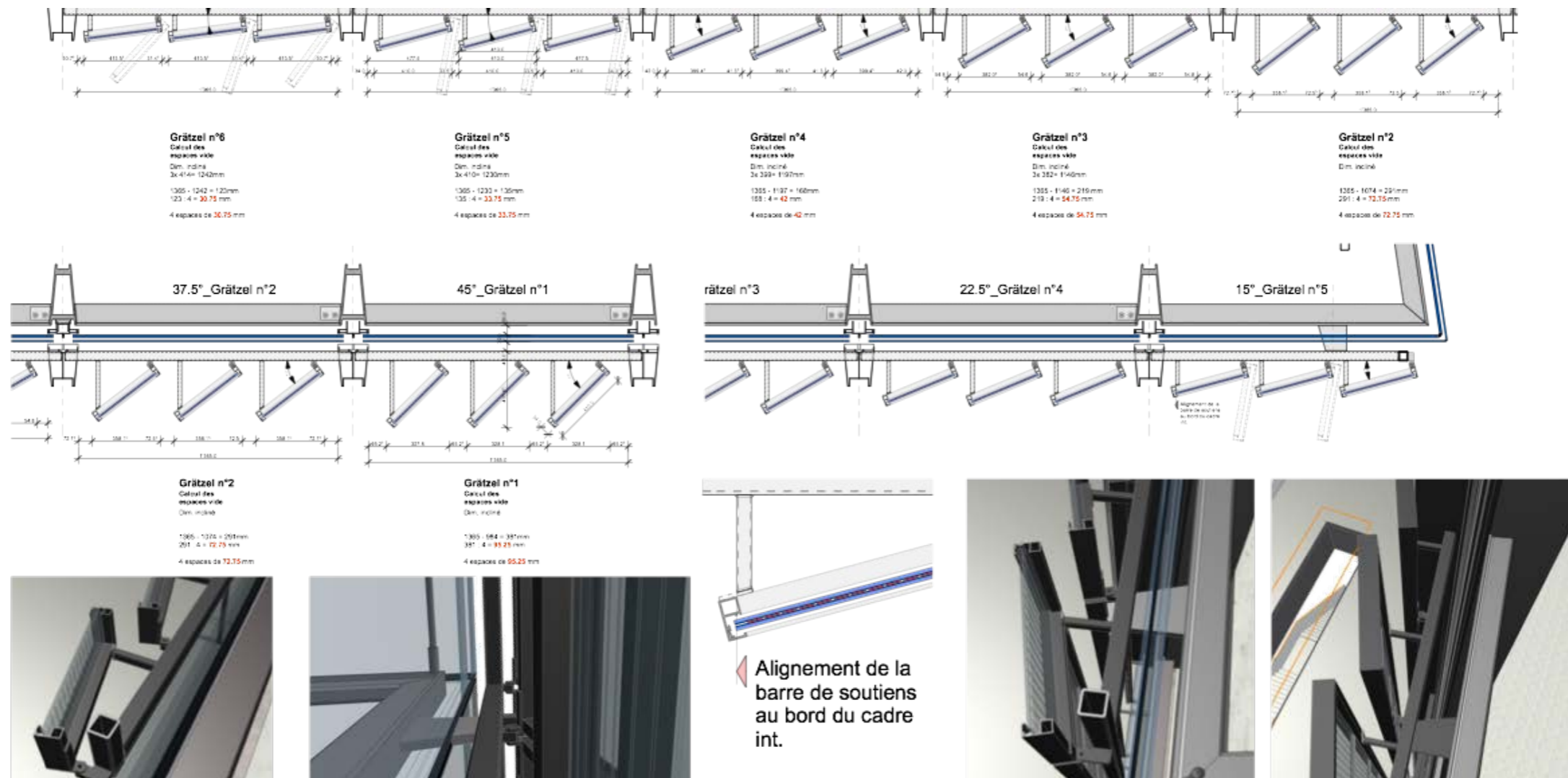
vues grates Face Ouest Int. & Ext.

Richter - Dahl Rocha & Associés architectes SA

Richter - Dahl Rocha & Associates

SwissTech Convention Center Solar Façade

Construction details...

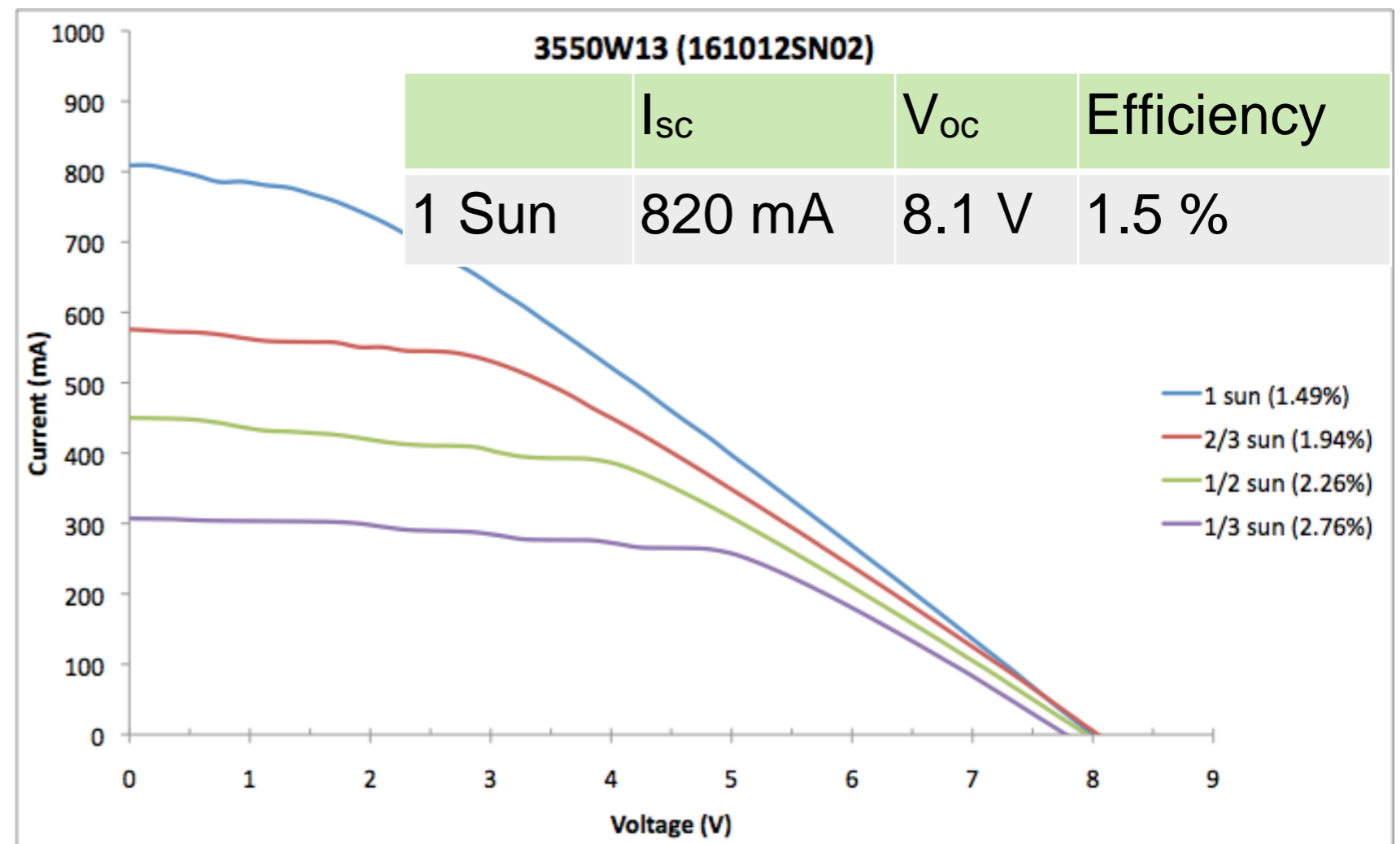
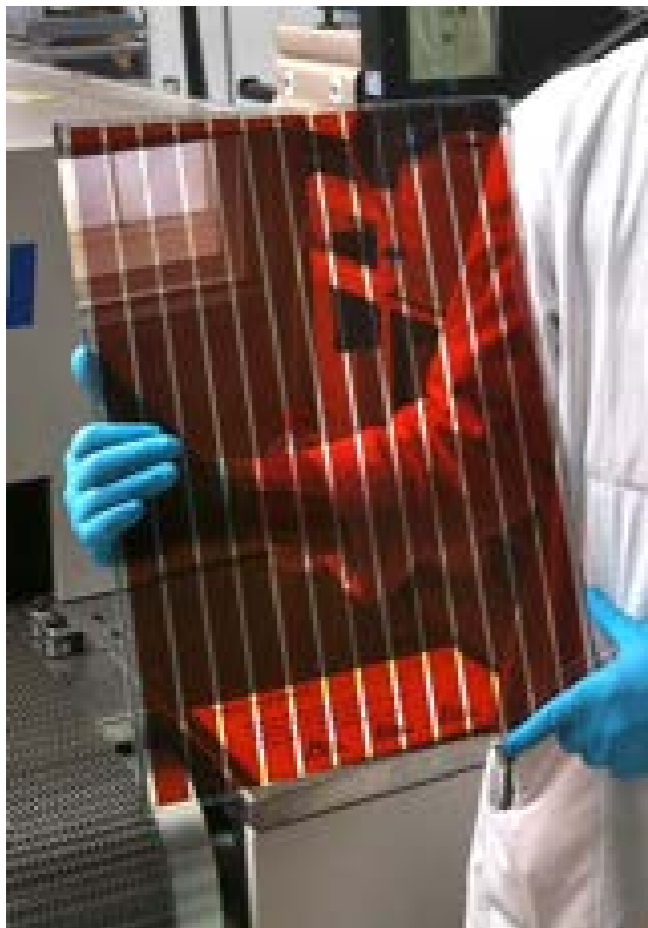


Richter - Dahl Rocha & Associates

Stable Ionic Liquid DSSC Module

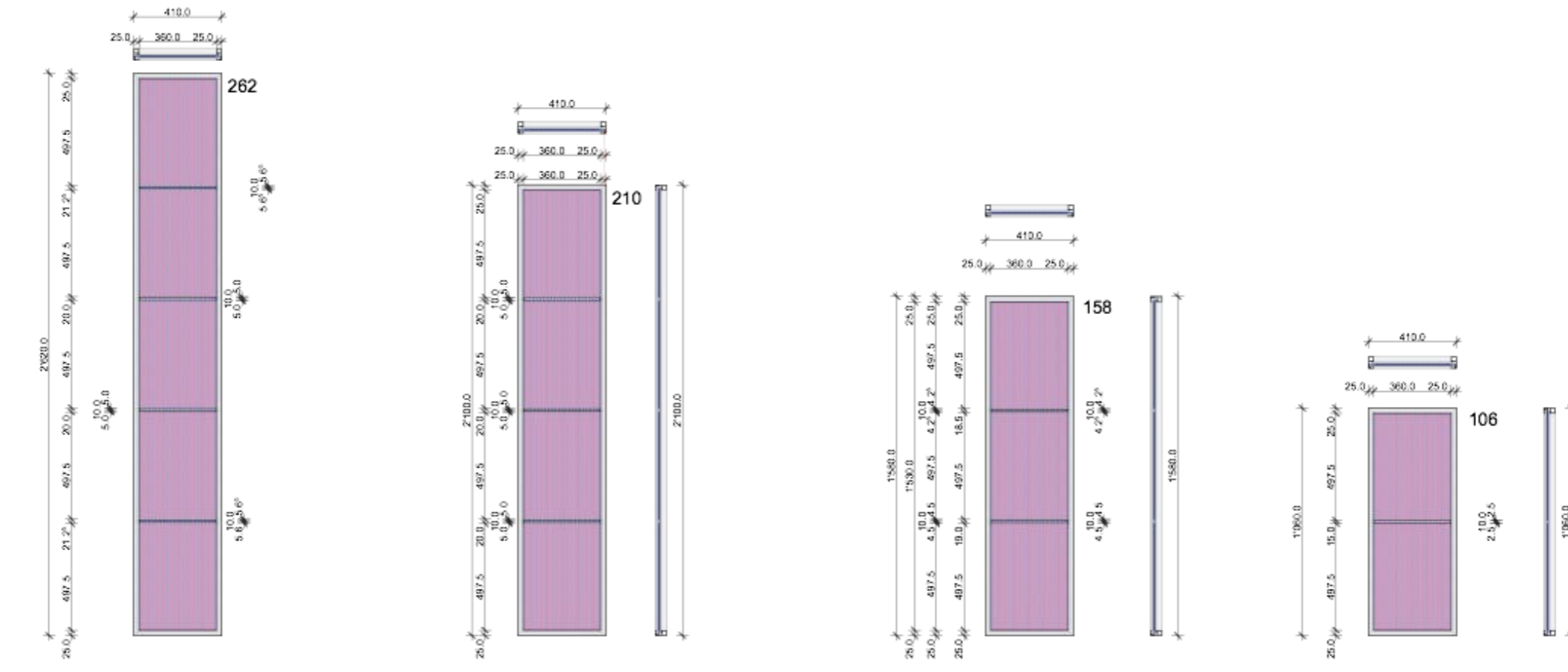
Compromise between performance and manufacturing processes!

Transparent W module 50 x 35 cm ~1'400 cm² active area



SwissTech Convention Center Solar Façade

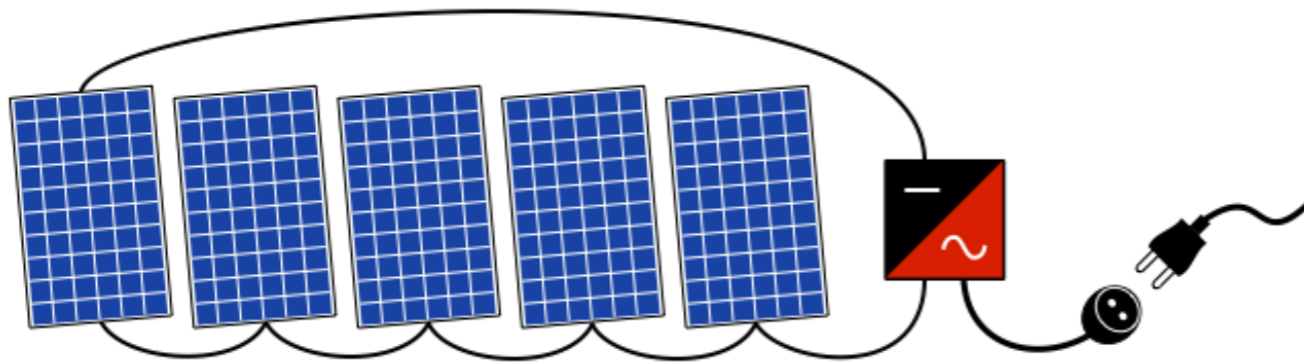
Dye Solar Sensitized Cell module laminated panels:
from 1 m to 2m50 in size (all 40 cm wide)



Richter - Dahl Rocha & Associates

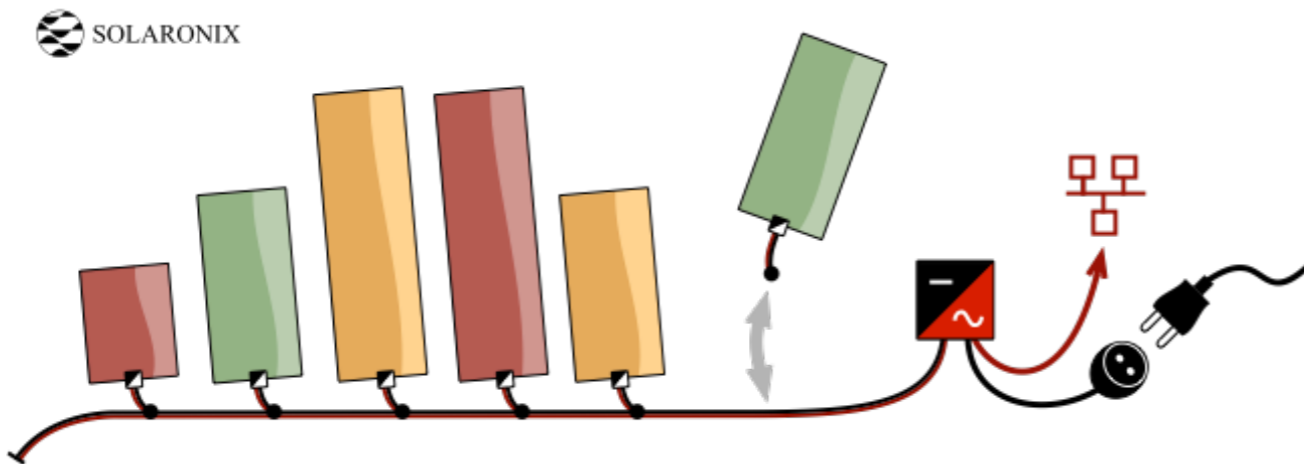
Original solution to connect several types of panels:

Classic installation: solar panels connected in series



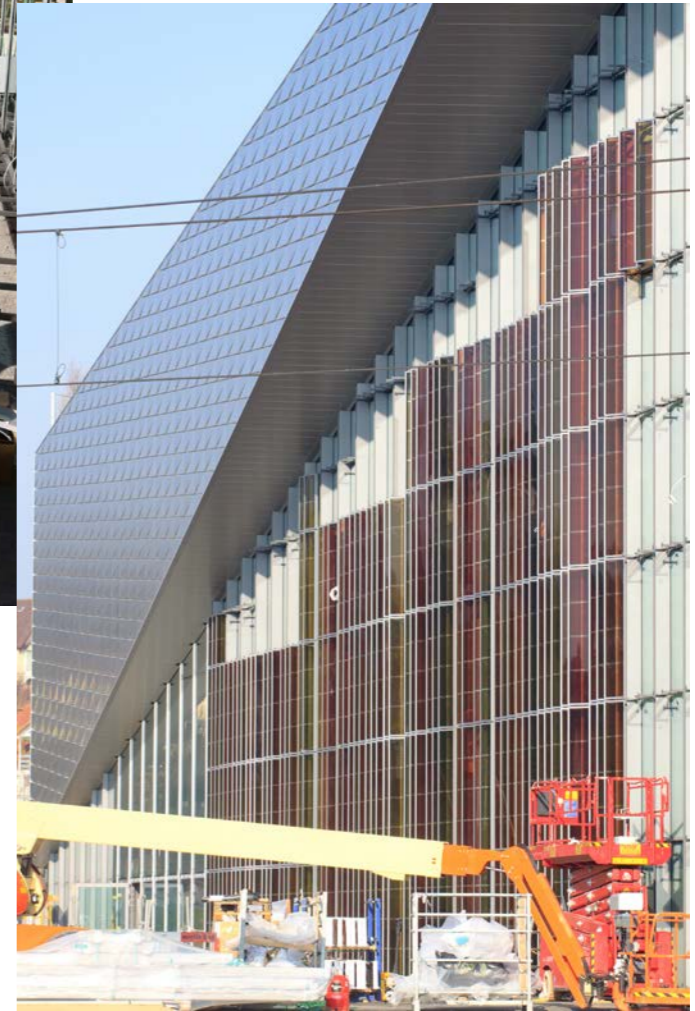
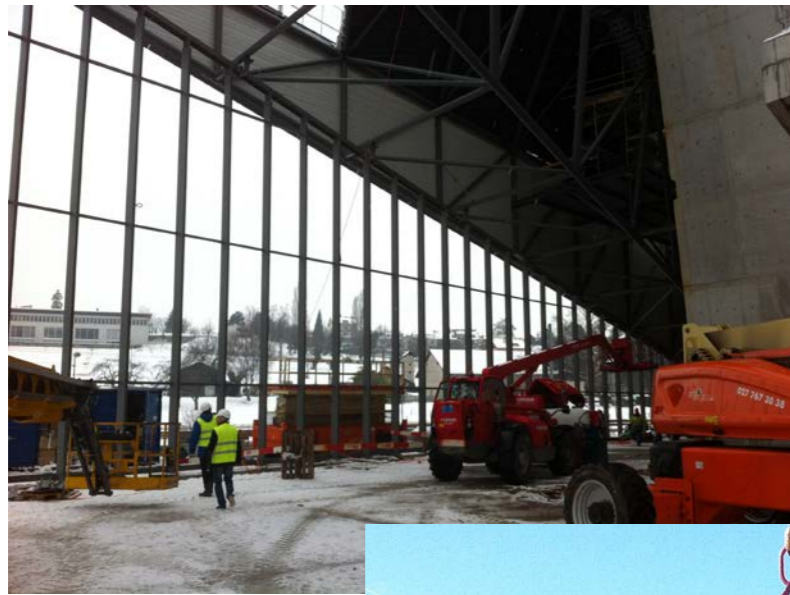
- All panels have to give the same power
- Shading issues

Solaronix parallel connection

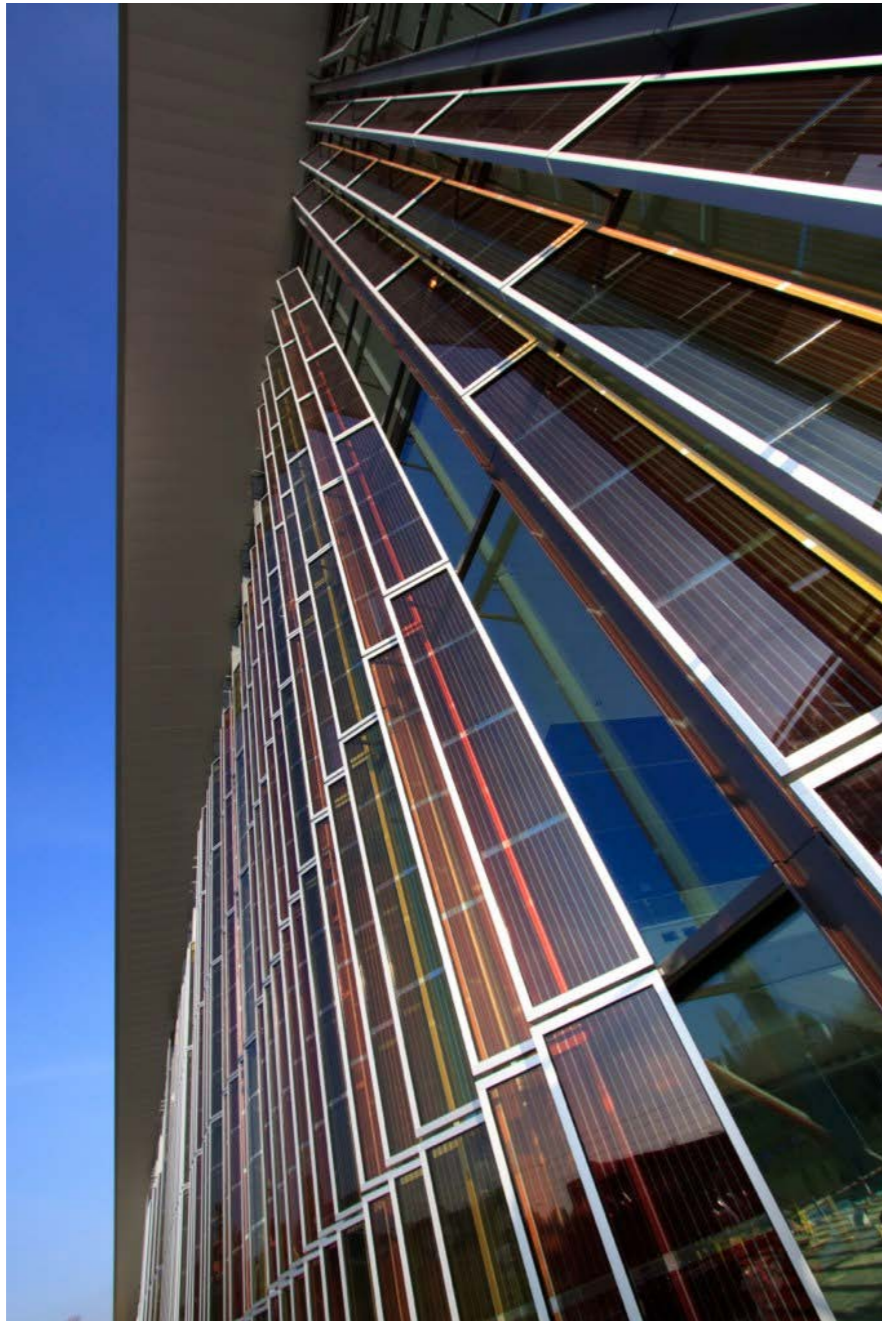


- Mix panel types & sizes
- No shading issues
- Safety (galvanic separation)

SwissTech Convention Center Solar Façade



SwissTech Convention Center Solar Façade



Facts & Figures

- 250 m² panel area
- 1'400 modules 35 x 50 cm
- 355 laminated panels
- 3 colors, 5 tints
- ca. 2 ~ 3 kWp output
- Installed November 2013

Future Works @ Solaronix

Go for the next façade (in Germany)

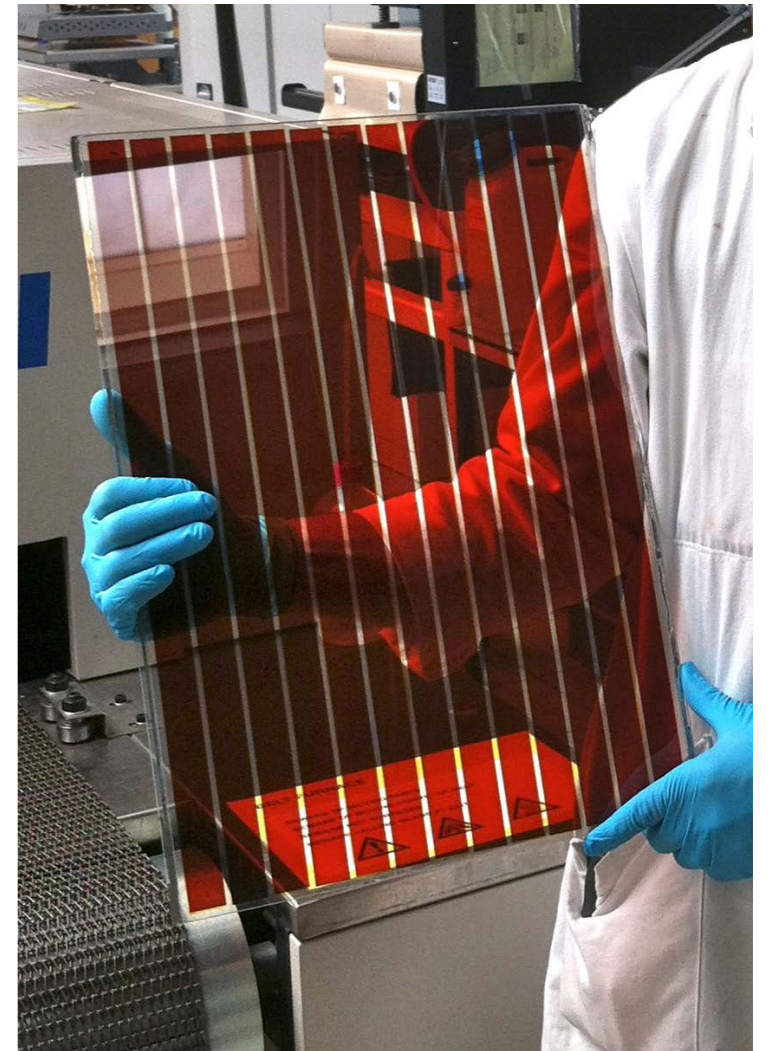
Scale-up of actual test production line

Cost reduction of produced modules

Performance enhancements

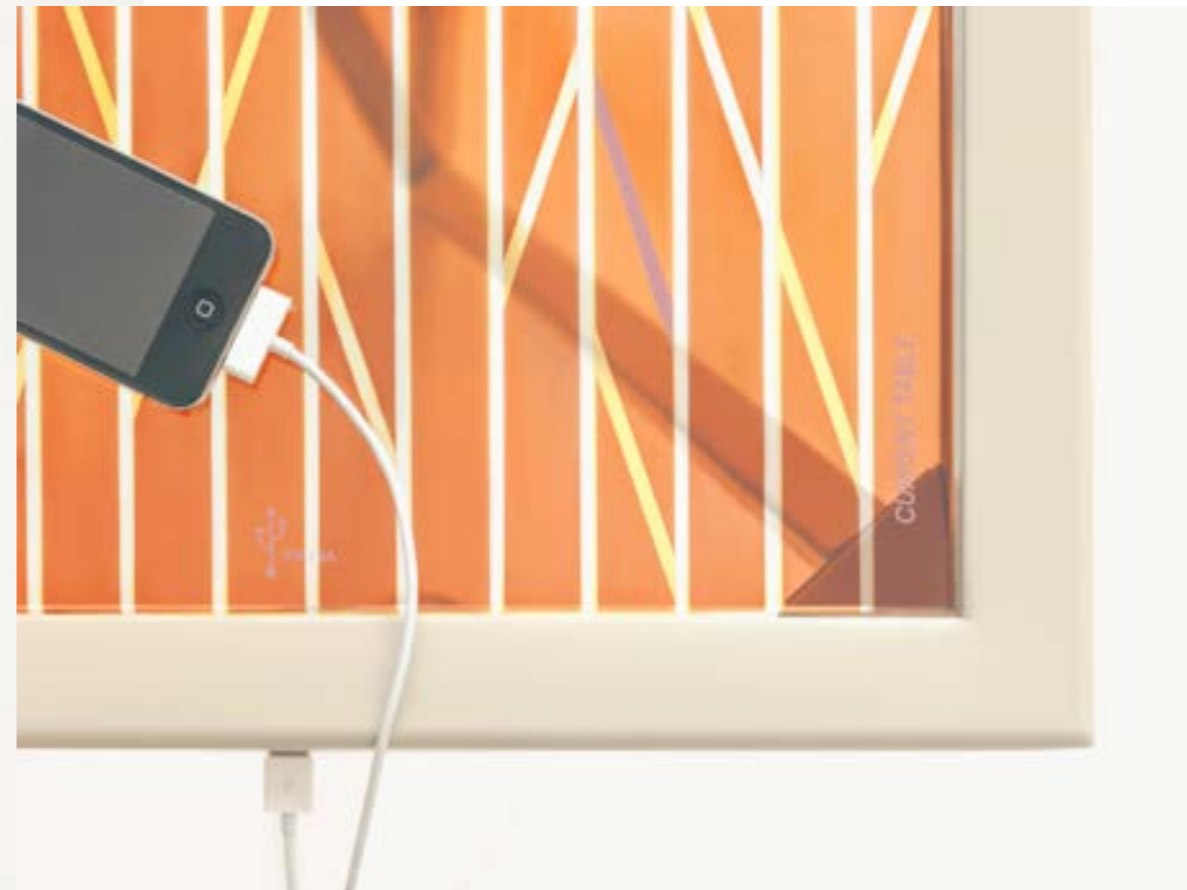
Explore next generation modules:

Perovskite & solid-state



Other Transparent Photovoltaic Applications...

Current Table by Marjan Van Aubel



<http://www.marjanvanaubel.com>

Current Table is now been shown at the DesignColumn of the Boijmans van Beuningen Museum Rotterdam

Thank you for the attention



World's first multicolored semitransparent solar façade - 2014