

# SOLLIANCE

An **R&D** cluster bringing  
**thin film solar energy**  
**technology** to excellence

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# Solliance R&D partners



- **ECN**, the leading energy research institute in the Netherlands, Europe
- **imec**, a world-leading research institute in nano-electronics, based in Flanders, Belgium, Europe
- **TNO**, the leading Dutch (Europe) institute for applied scientific research and strong in generic technologies
- **Holst Centre**, a joint research initiative of imec en TNO located in Eindhoven, the Netherlands, Europe
- **TU/e**, Eindhoven University of Technology, the Netherlands, Europe
- **FZJ**, Forschungszentrum Jülich, Germany, Europe

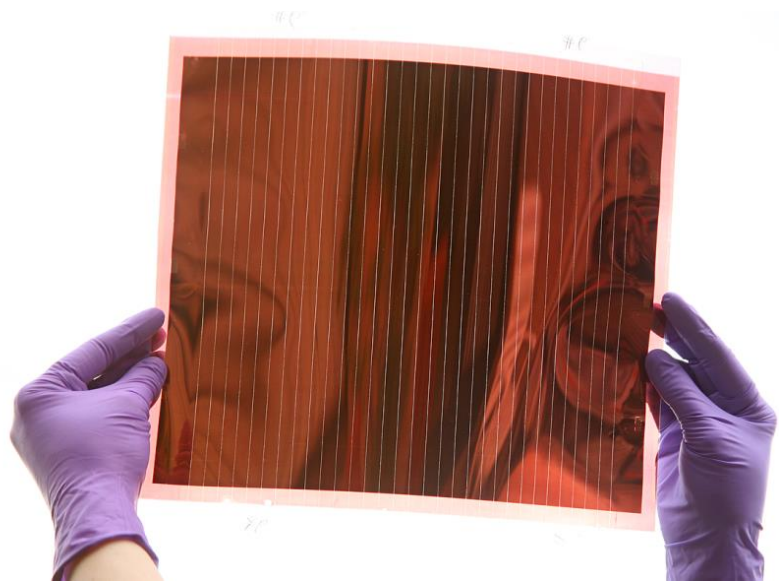
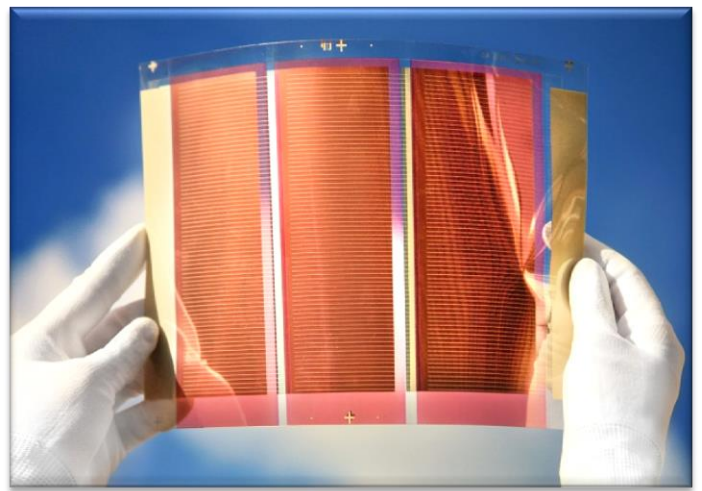


## Up-scaling

# Towards low cost manufacturing

### Low cost generic OPV stack

- Electrodes
- Interlayer materials
- Active layer materials
- Barrier

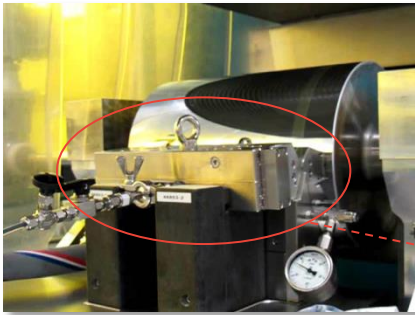


### Maximizing active area

- Low resistance electrode – large area single cell
- Minimize interconnection area – laser patterning

# Current available equipment

R2R



Slot die → together with nTact: R2R intermittent stripe coating

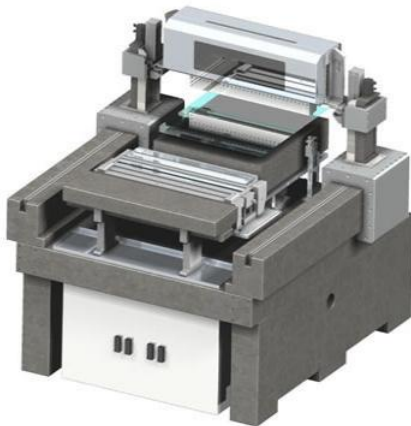


Coatema/Troller/nTact  
30 cm modular R2R coat and print line



R2R 30 cm ink jet modules

S2S



nTact  
S2S intermittent slot die with shims  
Direct coating of squares or rectangles

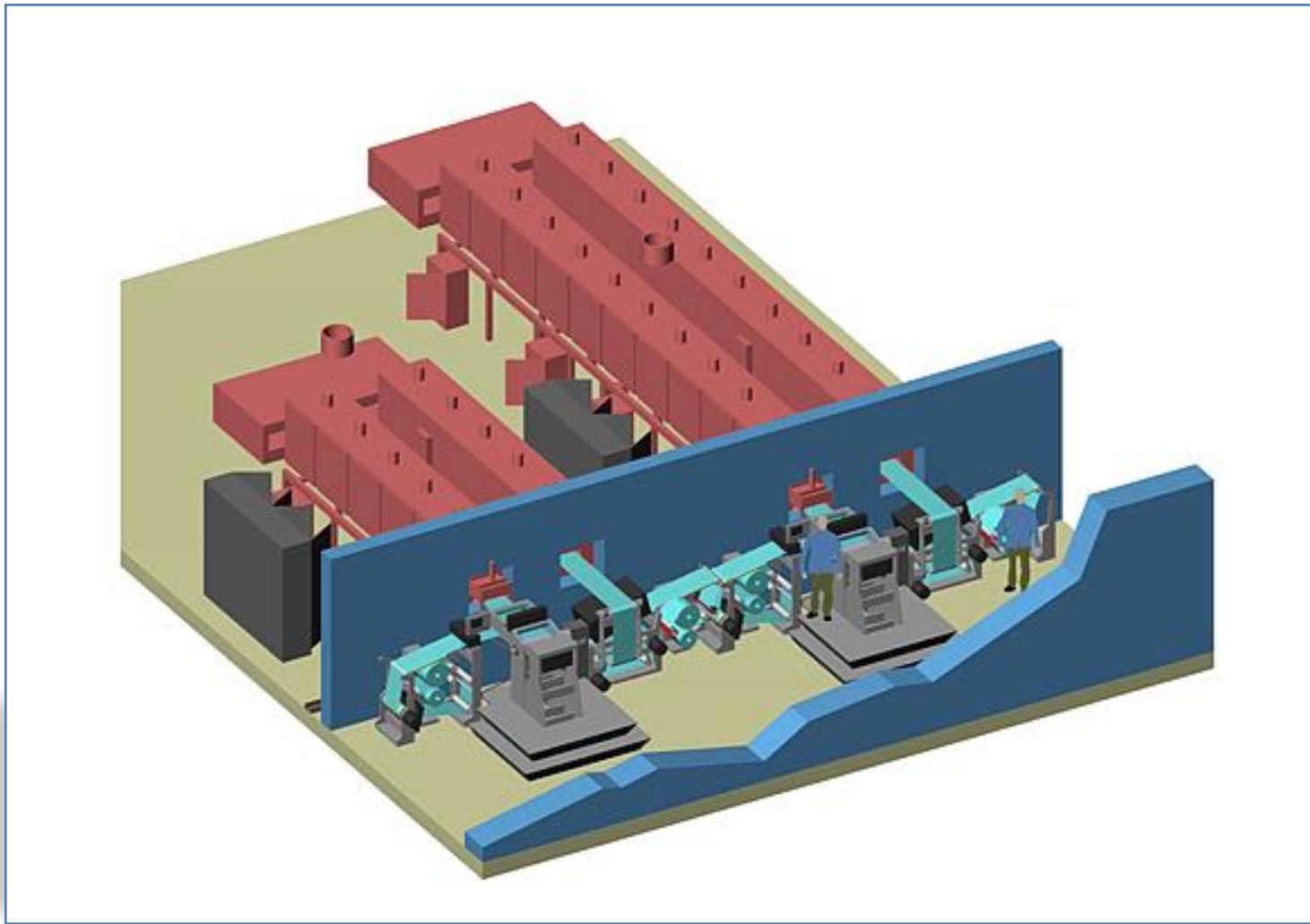


R&R PixDro/MiPlaza  
S2S 6 inch ink jet engine  
with integrated dryer





# Up-scaling New R2R OPV line



Innovative new approach: blueprint for future flexible extensible production plants

# Packaging

- Evaluation of barrier foils
- Evaluation of barrier adhesives
- Evaluation of busbars
- Develop packaging processes S2S and R2R



# Barrier

- R2R Barrier Technology
- WVTR <math> < 10^{-6}</math> g/m<sup>2</sup>/day

