PILATUS

Project introduction

PILATUS

Digitalised **pi**lot **l**ines for silicon heterojunction tunnel interdigit**a**ted back con**t**act solar cells and mod**u**le**s**

European Commissions' Proposal
Evaluation: 14/15

Starting date: 1st of November

Project Duration: 36 months

Coordination Team:

Uniresearch (Official Coordinator)

MB-Germany (Technical coordinator)

CSEM (Scientific coordinator)

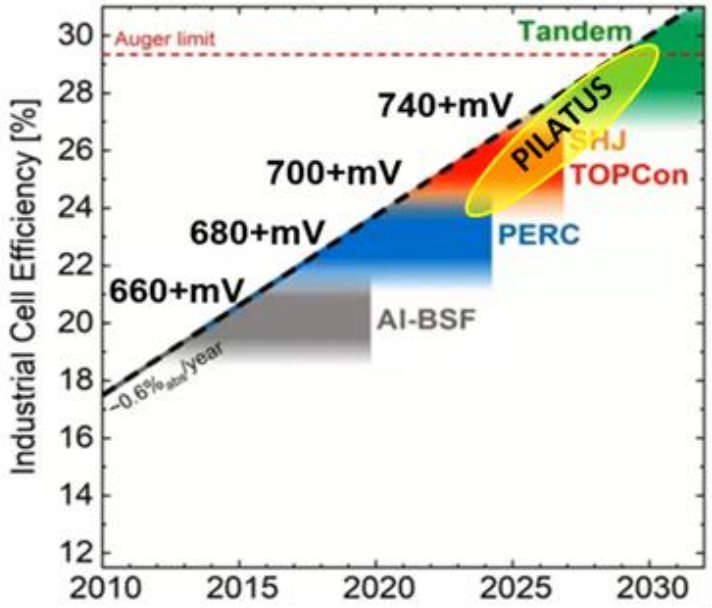
Budget:

Total Funding	:	17 999 435	
Funding from EU	:	10 418 076	(58 %)
Funding from CH	:	7 581 358	(42 %)

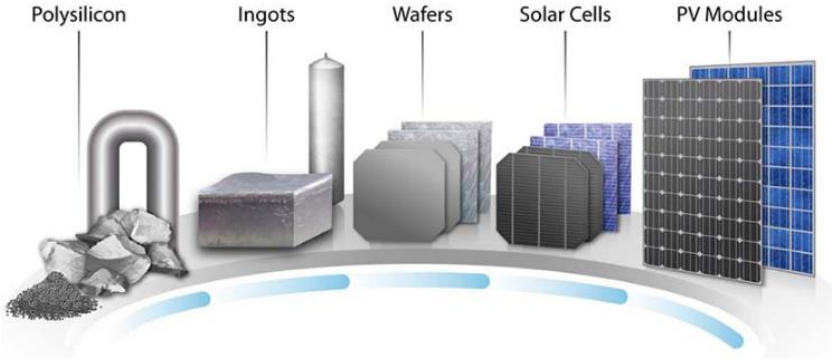
PILATUS

Digitalised pilot lines for silicon heterojunction tunnel interdigitated back contact solar cells and modules

The PILATUS project proposes to prove the scalability of unique technology (EU created and owned) for sustainable, cost-competitive, high-performance solar wafers, cells, and modules. PILATUS will provide energy security and the EU PV supply chain (''made in Europe'' platform); not only for manufacturing but also for novel PV technologies through a program designed to maintain technical leadership and establish an innovation base.



PILATUS Consortium covering the complete PV Value Chain



WACKER · NorSun · MEYER BURGER · MEYER BURGER · csem · ISRA VISION GPsolar · EPFL · Pasan · Fraunhofer · eurac research · FZU

Poly-silicon | Wafers | PV cell | Module Integration | Outdoor performances | csem · MEYER BURGER | Industrial Potential & Business Model | UNIRESEARCH · MEYER BURGER | Exploitation activities

manufacturing equipment: MEYER BURGER · exateq

Processing optimisation: ISRA VISION GPsolar · csem · MEYER BURGER

Advanced materials: padanaplast · CPT

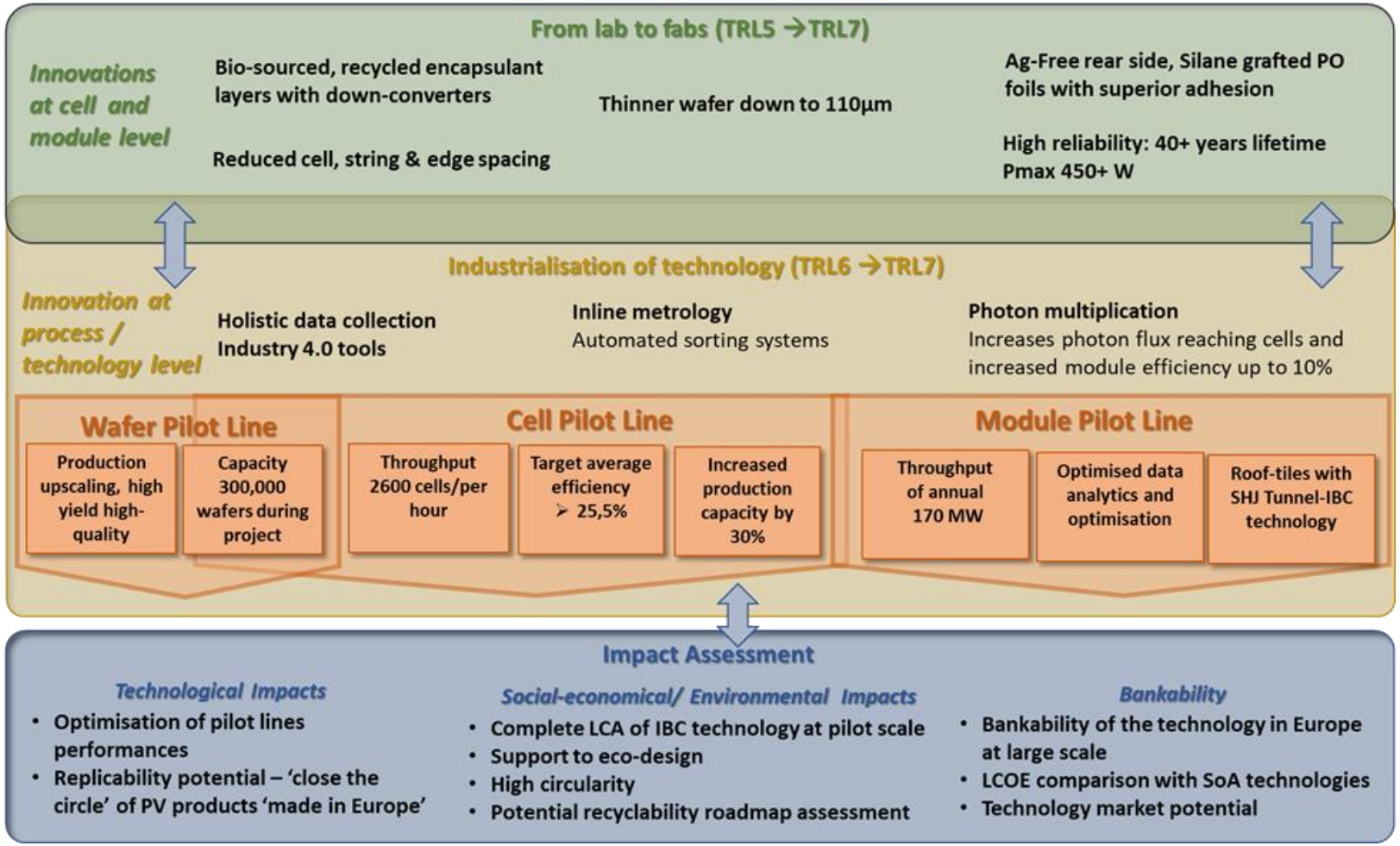
Characterisation & Modelling: EPFL · Fraunhofer · eurac research · FZU · Pasan

LCA, recyclability, eco-design: LIÈGE université · TNO innovation for life

Dissemination & Awareness: UNIRESEARCH

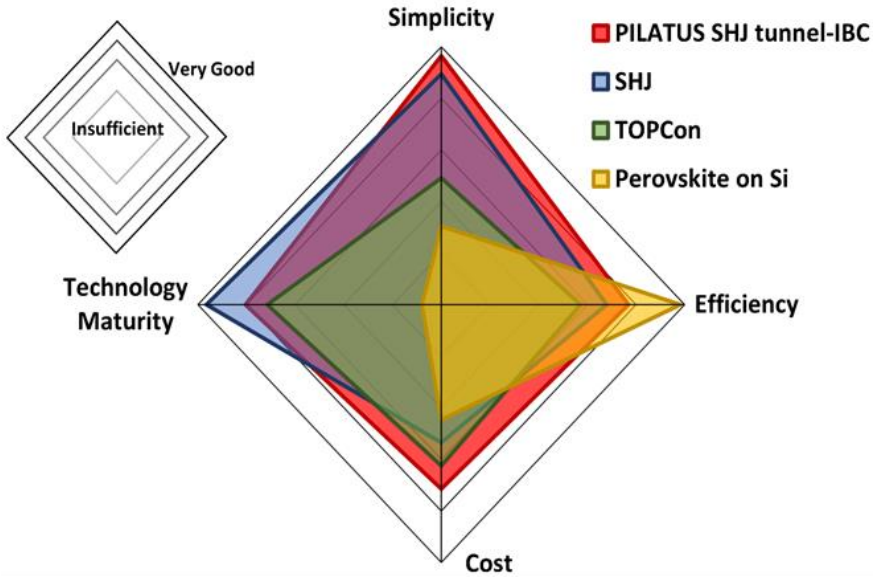
Project Objectives

1. Develop and demonstrate the high-volume production of high-efficiency SHJ tunnel-IBC solar cells and modules in pilot-lines equipped with high-level automation.
2. Develop the industrial tools, processes and materials for the SHJ tunnel-IBC pilot lines thereby strengthening the European PV knowledge base and supply chain.
3. Demonstrate good traceability from wafer level to PV module's field installation combined with the automation and feedback loops to pilot lines.
4. Validate the performance of the PV cells and modules from the SHJ tunnel-IBC pilot lines
5. Eco-design of tunnel-IBC PV modules and manufacturing lines toward zero-waste via life-cycle assessments and developing optimisation roadmaps
6. Document and pre-certify the PV cell and module performance to ensure replicability and further scalability of the production capacity.
7. Demonstrate favourable cost/Wp of the SHJ-IBC modules compared to state-of-the-art commercially available PV modules and proof the potential of business cases towards special product applications.



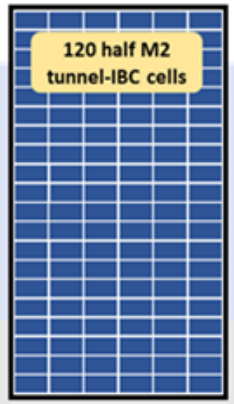
Project Innovations

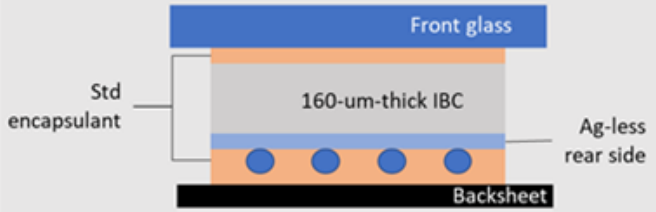
Project Ambition



Current status

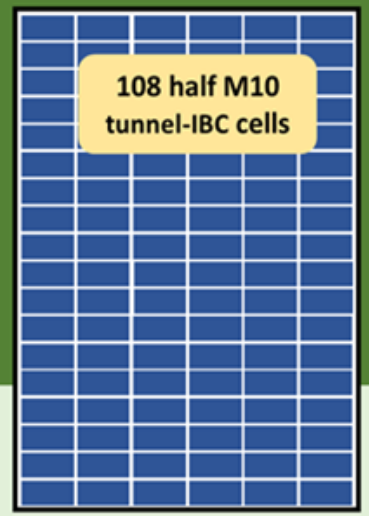
- Cell spacing: 1.5 mm
- Wafer thickness: 160 um
- 25-year lifetime
- Pmax: 350 W

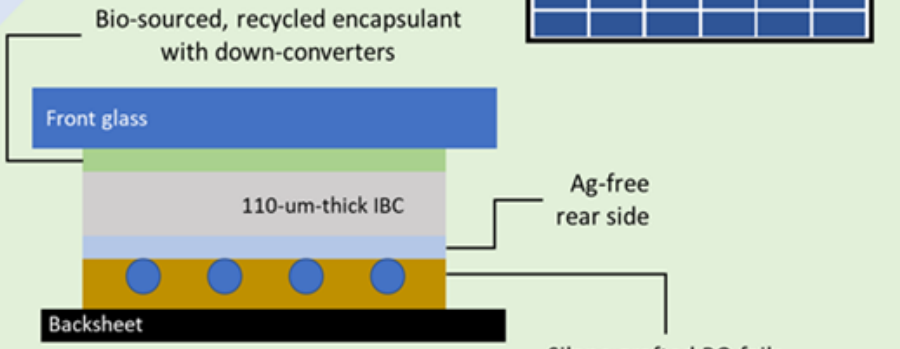




PILATUS innovation

- Cell spacing reduced to 0.5 mm
- Reduction of string & edge spacing
- Wafer thickness reduced to 110 um
- 40-year lifetime
- Pmax: 450+ W
- Holistic data collection using Industry4.0 tools





Thank you for your attention

Disclaimer

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