SiLEAN

Dear reader,

As we reach month 12 of the SiLEAN project, we are excited to share several key achievements. We have successfully completed multiple technical deliverables and achieved our second project milestone: the production of epiwafers with a thickness of 50-100 µm. Additionally, our hop-on proposal has been successful, welcoming ODTÜ-GÜNAM to the project. They have commenced their activities as of March 1st, focusing on developing indium-free transparent conductive oxides and nanotexturing processes.

Would you like to stay informed about the project's progress and achievements? Visit here to learn more about the project and subscribe to our newsletter.

SiLEAN welcomes a new project partner!

ODTÜ GÜNAM
CENTER FOR SOLAR ENERGY RESEARCH AND APPLICATIONS

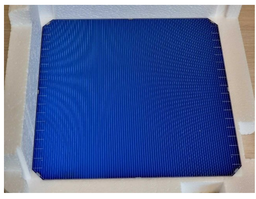
We are pleased to welcome ODTÜ-GÜNAM, a prominent research center in Ankara, Türkiye, to the SiLEAN project. Known for its expertise in photovoltaics, ODTÜ-GÜNAM will focus on developing indium-free transparent conductive oxides and nanotexturing processes.

Their contributions aim to enhance the efficiency and industrial feasibility of silicon solar cells, supporting SiLEAN's goal of advancing sustainable energy solutions.

Achieved Results

During the first project year, important steps have been achieved for SiLEAN. It started with the definition of project identity and of the preliminary plans for management and dissemination (Quality and risk management, data management, Communication and dissemination plan). Also the first technical results have been achieved:

- **The first Epiwafer** (with thickness <100um) for the project have been produced by partner NexWafe (in collaboration with IMEC and TUD). Results has been submitted within report D2.1 and reported by Milestone MS1 (here to read the whole milestone report on Epiwafer) .



- **First feasibility results on novel proposed contact schemes** : one of the project goal is to replace indium tin oxide by boron-doped zinc oxide and replace silver by screen-printed (or plated) copper. In order to test (and possibly adapt) the interconnection between those cells in module application, first early-stage test cells with zinc oxide and copper were fabricated and shipped (reported in Milestone MS6 by partner FJZ, the first achieved by the project. Related published news available here). Preliminary tests, performed by partner IMEC, showing very promising results are reported and submitted in D4.1.

First SMARTIES Online Cluster Workshop

On 20th February we had our first online cluster workshop with BURST and TERASUN, our sister projects and extra guest partner PEPPERONI. The targets of the workshop were to discuss current activities, challenges and possibilities for the future of crystalline Silicon technology. The event titled “Advanced concepts for high efficiency crystalline Silicon technology: how to ensure affordability, security of supply and sustainability of PV technologies” took place online with more than 50 participants. We shared insights on European initiatives on innovative PV technology, sustainability, affordability of PV systems in Europe and challenges for PV sustainability…but also discussed how to face the challenges the sector is facing. Read here the full article.

Events

Project related meetings:

- In 28 and 29 November 2024 the second General Assembly took place in Genk hosted by our colleagues from IMEC.
- The SiLEAN team will come together second half May at the TUDelft facilities for the third General Assembly.

SiLEAN contribution (achieved and planned) to relevant events in 2025:

- Partner GET visited 2 very interesting events: CES Las Vegas 2025 and Tokyo Smart Energy Week 2025. This offered the possibility to discussed their work and also SiLEAN-related activities
- Partners NXW en IMEC attended beginning of April the SiliconPV/nPV conference (Oxford, UK)
- Other relevant contributions from SiLEAN partners are planned for: IEEE PVSC (Montreal, June 2025), EUPVSEC (Bilbao, September 2025), Metallization and Interconnection Workshop (Berlin, October 2025),

Want to know more about the people working on the SiLEAN project? Then follow us also on LinkedIn!

SiLEAN as a Consortium

Project Partners

SiLEAN brings together a multi-disciplinary consortium with three research institutes, one university, four SME's, and one industry partner located in 6 countries including Germany, Belgium, the Netherlands, Italy, Turkey, and Switzerland, to develop advanced innovations in sillicon heterojunction solar cell technology.

Want to know more about the people working on the SiLEAN project? Then follow us on LinkedIn!

Facts & Figures

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