

ETIP PV - Expert Workshop

Definition of the European R&I priorities for the PV industry

- Date:** 13 February 2024
- Location:** Solar Power Europe, Brussels – Hybrid workshop (55 participants)
- WG involvement:** Peter Fath (Leader PV Industry WG)
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Concept: In this high-level workshop, PV experts from academia, research institutes, and the PV industry gathered to define research and innovation priorities for the future of the photovoltaic (PV) industry. The event commenced with an opening and introduction, featuring a discussion on industrializing innovation in PV with insights from the European Commission representatives Maria Getsiou and Elisabeth Schellmann. The participants engaged in dialogue on addressing the valley of death for PV innovation in Europe, focusing on establishing a functional lab-to-fab pipeline, financing instruments, and support programs for scaling up research and innovation. The workshop continued with in-depth discussions on research and innovation priorities for the PV industry in Europe. Breakout sessions covered topics such as PV modules (including silicon, perovskite, thin films, tandem technologies), inverters and balance of system (BOS), manufacturing processes and equipment, as well as materials, upstream, and mid-stream processes.

Key outcomes:

The workshop emphasized many different topics. The first takeaway is that although Europe is highly performant to enable and support research (i.e. low TRL activities for PV), there are gaps and barriers on the innovation process (i.e. transforming research into products available on the market). Better tools are necessary to improve the connection between industry and research and deliver the objectives of the SRIA.

In terms of R&I priorities, the workshop outlined the importance of supporting breakthrough technologies, most notably perovskites, to a degree that can enable their success at scale, while continuing to support other technologies with high potential (e.g. thin films). Beyond cell technologies, circularity by design in products, as well as solving technical challenges to deliver a circular value chain without downcycling was a recurring priority discussed in the workshop. The material challenge (notably for silver) was a crucial concern and priority of the coming years of R&I for PV. The example of the AMPERE project and the 3Sun factory was mentioned to highlight the relevance of accompanying Research and innovation throughout the different steps of the innovation process from low to high TRL, and to aim for transformative and beyond the state-of-the-art innovations. Innovation should also happen in segments of the systems until now overlooked by the SRIA such as glass, but more crucially inverters, defining new services that are expected from them and technological breakthrough that are needed. The upstream (e.g. silicon ingots & wafers) was identified as a key expertise and innovation gap in Europe that should be addressed, probably with a different approach that market best practices which would be complex to upscale in Europe.



