40. PV-Symposium 2025

Preface

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# Preface

## PV-Symposium 2025

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PV Symposium 2025 was a very special edition marking the 40th anniversary of this event. It is a great honor to host you at Kloster Banz as we reflect on four decades of advancements in photovoltaics and look ahead to the future of this pioneering technology.

From its humble beginnings in off-grid applications, photovoltaics has evolved into a cornerstone of climate-friendly energy systems. Today, the focus lies on reliable, integrated energy infrastructures that include far more than solar modules: power electronics, inverters, storage solutions, grid integration, AI-based forecasting tools, quality assurance, manufacturing technologies, and building-integrated systems are just a few of the components driving PV's success. In many regions, solar electricity has become the most cost-effective form of clean energy generation.

This progress has been driven by tireless research, technological innovation, and growing global demand for sustainable energy. In Germany alone, more than one million new PV systems were installed in 2023, adding over 14 GWp of capacity – from balcony systems to large-scale solar parks.

Looking ahead, we face a new challenge: in the next 40 years, photovoltaics must assume greater responsibility in securing the energy supply of our industrialized nation. Within a few years, solar electricity will cover large portions of daily demand, and within 15 years, it is expected to contribute one-third of total annual electricity generation. This requires not only more efficient modules and robust systems, but also increased societal acceptance and smart integration in open spaces and urban environments.

In addition to technological topics, this year’s symposium will again focus on regulatory and political developments in the DACH (GSA) region, as well as current research, planning, installation, and application strategies.

In this context, the proceedings volume plays a particularly important role. It not only documents the thematic breadth and scientific depth of the symposium, but also serves as a valuable reference for future work in research, industry, and policymaking. The proceedings contribute to the visibility and long-term impact of the presented work and enable informed knowledge exchange well beyond the event itself.

Together, we can shape a climate-neutral energy system. The exchange of knowledge, ideas, and best practices at this symposium will help us join forces to pave the way toward a more sustainable future.