



Welcome & Introduction

Ulrike Jahn, Fraunhofer CSP & Task Manager of IEA PVPS Task 13



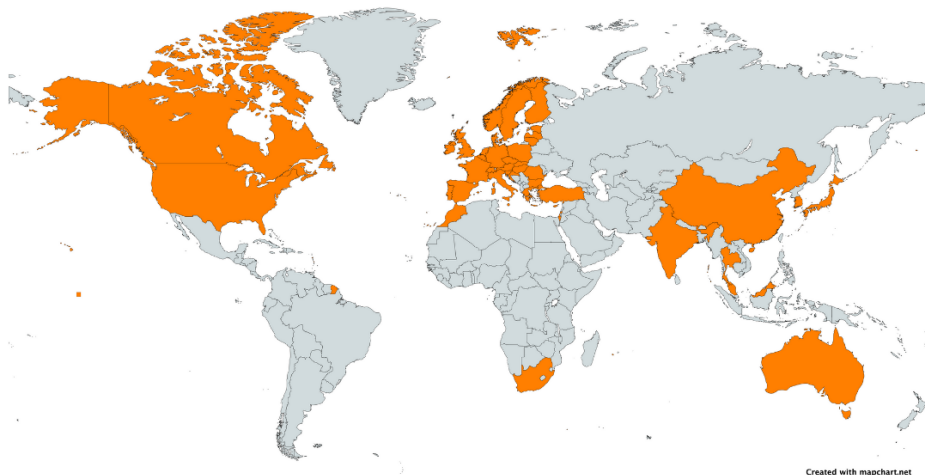
- What is IEA PVPS?
- Task 13 activities
- Task 13 deliverables



- One of 39 currently active Technology Collaboration Programmes within the IEA
- 32 years old – established in 1993
- 27 countries plus the European Commission and 2 Sponsors
- 9 active Tasks and 1 Action Group
- 34 reports published and 17 events organized in the past year
- ~400 participants across ExCo and all Tasks



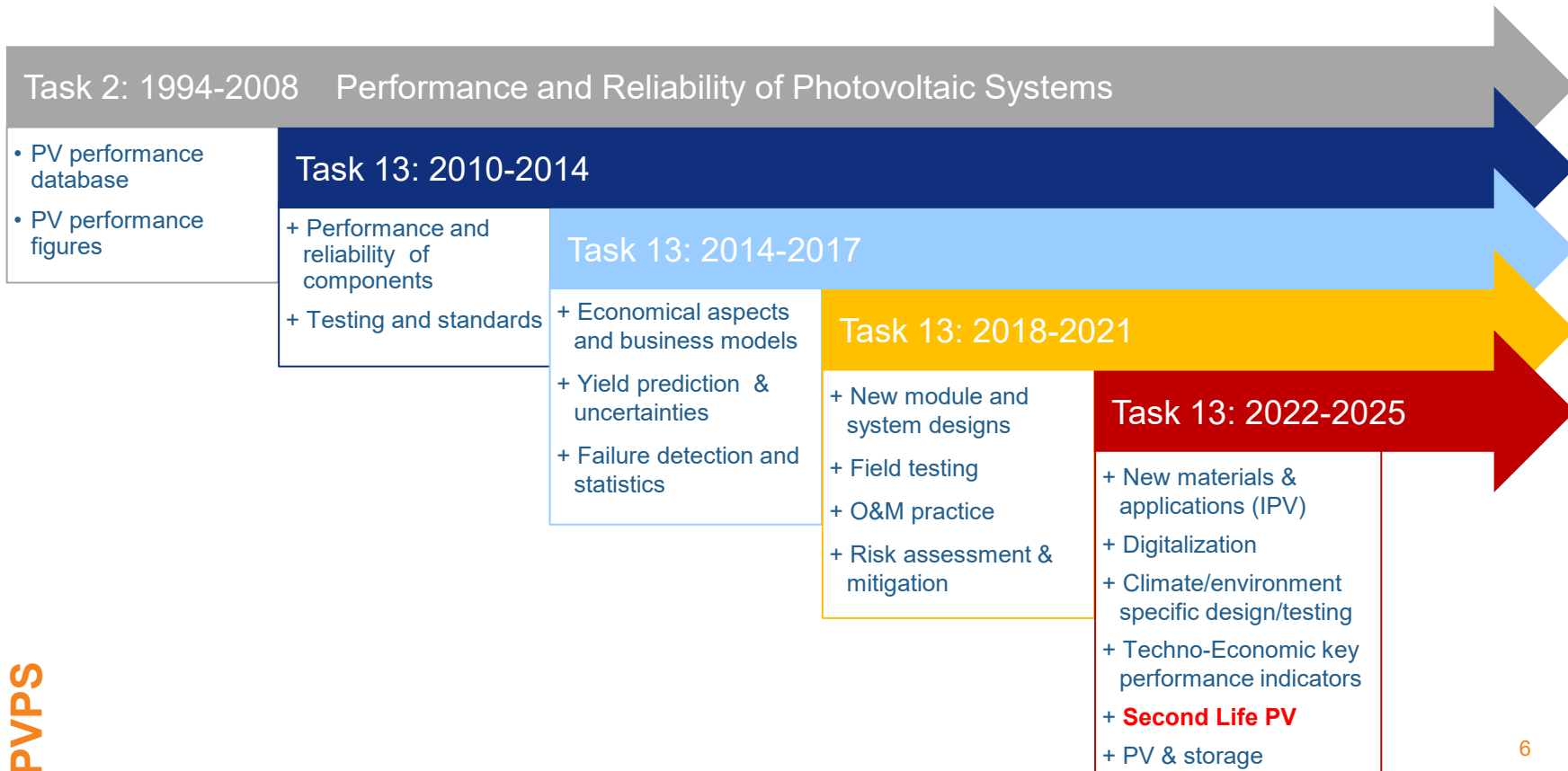
Our members



Created with mapchart.net

- | | |
|--|---|
|  Australia |  Morocco |
|  Austria |  the Netherlands |
|  Belgium |  Norway |
|  Canada |  Portugal |
|  China |  Solar Energy Research
Institute of Singapore |
|  Denmark |  Solar Power Europe |
|  European Union |  South Africa |
|  Finland |  Spain |
|  France |  Sweden |
|  Germany |  Switzerland |
|  India |  Thailand |
|  Israel |  Türkiye |
|  Italy |  United States |
|  Japan |  United Kingdom |
|  Korea | |
|  Malaysia | |

1. Task 13 Collaboration - History and Presence

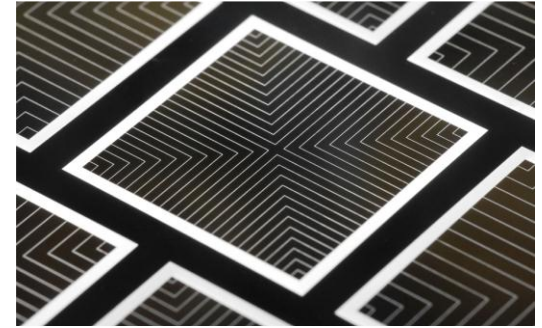


Task 13: Reliability of novel PV materials, components and modules



PV Cells and Modules

- Degradations modes of new backsheet materials
- Degradation modes in new cell and module technology
- Impact of testing strategies under specific load conditions
- Review of PV module repair strategies
- Re-qualification & standardization of 2nd life PV



PV + Storage Systems

- Application-specific performance and degradation
- Estimating lifetime of PV + storage systems
- Guidelines for O&M of PV + storage systems
- Cost estimations for O&M of PV + storage systems





PVPS Task 13 Workshop at EU PVSEC, Bilbao, 25 September, 2025

Ulrike Jahn

Welcome & Introduction



Gernot Oreski, PCCL

Overview of PV Module Repair Procedures



Ioannis Tsanakas, CEA-INES

Testing & Requalification of PV Modules for Reuse



Luc Federzoni, Solreed

Extending the Lifespan of PV Modules via Repair/Reuse: Practices and Perspectives



Simon Prüller, 2nd Cycle FlexCo

Reuse Needs Reliability: The Role of Fully Automated PV Testing & Repair



Panel Discussion & Wrap-Up

Stay connected!



International Energy Agency
Photovoltaic Power Systems Programme

TASK 13

Reliability and Performance of PV Systems

WORKSHOP

Characterisation of Photovoltaic Systems

23

Oktober
2025

ABOUT THE WORKSHOP

This workshop explores how to detect the most important and most difficult to identify failure types in current PV module technologies, as described in the report. We aim to share practical methods for identifying hidden defects, foster discussion among industry experts, and gather valuable feedback to support further development and implementation in the PV field.

AGENDA HIGHLIGHTS

- **Challenges and needs in PV inspection:** Current failures in PV systems, advances required in inspection methods, and fault diagnosis using monitoring data.
- **Innovative inspection technologies:** Autonomous drone-based electroluminescence, and new approaches to identify open-circuited bypass diodes.
- **Expert insights and collaboration:** Contributions from international PV experts and Task 13 leadership on improving system reliability.

For the full agenda, visit
www.iea-pvps.org/events

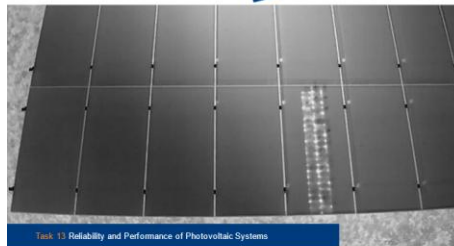
IEA PVPS Task 13 report:
Degradation and Failure Modes in New Photovoltaic Cell and Module Technologies



Technology Collaboration Programme
by IEA



International Energy Agency
Photovoltaic Power Systems Programme



Task 13 Reliability and Performance of Photovoltaic Systems

PVPS Degradation and Failure Modes in New Photovoltaic Cell and Module Technologies

2025

Report IEA-PVPS T13-32:2025

This report overviews currently known degradation modes and failures of PV module technologies and their mitigations.

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Task 13 Reliability and Performance of Photovoltaic Systems

PVPS Optimisation of Photovoltaic Systems for Different Climates

2025

Report IEA-PVPS T13-32:2025

The report explores strategies for enhancing the performance of PV systems in different climates.

Thank You

