

# Presse Release

**Freiburg,  
April 12, 2012  
No. 7/12**

## **PV Modules: Success Factor Reliability**

### **International Workshop on the Current State of the Affairs in Research and Industry**

Given the growing importance of photovoltaics for the provision of electricity from renewable energy sources, the issues of reliability and efficiency of PV modules are becoming increasingly crucial. The workshop "PV Module Reliability", which will take place on May 3 and 4, 2012 in Lugano, is devoted to this complex key topic. Under the auspices of the EU project "SOPHIA", the Fraunhofer Institute for Solar Energy Systems ISE and the ISAAC Supsi invite the international public involved in the field of photovoltaics to discuss the current state of the art and to attempt to integrate existing industry requirements into the durability of modules in research and testing practices. Online registration is possible until 30.4.2012 using the following link:

<http://form-gen.app.supsi.ch/form/view.php?id=8>

Focusing on reliability and operating life, the workshop organizers Fraunhofer ISE and ISAAC Supsi seek to meet the needs of the PV industry, which has become increasingly concerned with quality assurance issues and the reliable operating life and yield predictions of modules. After all, the optimization of PV module reliability creates new challenges for researchers, manufacturers and certifiers; thus, the balance between sustainability and economics in particular must be redefined. The question of the relationship between reliability and security, the implementation of non-destructive measurements for the determination of efficiency, durability, and the requirements of application-oriented tests are also aspects of the workshop, as well as the search for possible causes of deviations from specifications and requirements on the part of investors and insurance companies.

**Fraunhofer Institute for  
Solar Energy Systems ISE**  
Heidenhofstr. 2  
79110 Freiburg  
Germany  
Press and Public Relations  
Karin Schneider  
Phone +49 761 4588-5150  
Fax +49 761 4588-9342  
info@ise.fraunhofer.de

www.ise.fraunhofer.de

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## **Renowned Experts**

Peter Hacke (NREL), Tony Sample (JRC), Thomas Friesen (ISAAC Supsi) and Michael Köhl (Fraunhofer ISE) provide an overview of the following topics in their respective presentations: "Mechanical Load", "Potential Induced Degradation and Moisture", "UV Radiation and Moisture", "Possible Errors and their Effects" und "Materials". Michael Köhl, Fraunhofer ISE host and speaker, explains the trend toward a more specific analysis of module reliability as follows: "The market has grown significantly in recent years and many new competitors have crowded their way into this attractive market of the future. They bring with them new materials and concepts that need to be qualified, and their long-term stability must be put to the test in a short time, requiring extensive research in this sector."

## **Successful Continuation**

During the first "PV Module Reliability" workshop in 2011, 130 participants from 13 countries discussed various issues surrounding the reliability of PV modules such as material test procedures, reexamined questions and results which had come up in the final plenary discussion, and provided industrial and research partners with an important impetus for further action in regards to optimizing the reliability of PV modules. In small groups, topics such as quality assurance, operating life predictions or material requirements were addressed and debated in terms of their practical implementation.

## **About the Organizers**

Established in 1981 in Freiburg, the Fraunhofer Institute for Solar Energy Systems ISE is the largest solar energy research institute in Europe. For years, researchers at Fraunhofer ISE, e.g. as part of the EU project "PV PERFORMANCE" or the national project "Reliability of PV modules" (funded by the the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and industry partners), have

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Heidenhofstr. 2  
79110 Freiburg  
Germany  
Press and Public Relations  
Karin Schneider  
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Fax +49 761 4588-9342  
info@ise.fraunhofer.de

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been focusing on topics such as efficiency and durability of PV modules and materials. The emphasis is on material requirements, economic feasibility and potential improvements in module design.

The ISAAC Supsi is celebrating its 30<sup>th</sup> anniversary this year. In May 1982, the TISO (Ticino Solare) connected a 10 kW PV system – which is still fully functional today – to the grid for the first time in Europe. The Institute for Applied Sustainability to the Built Environment (ISAAC) has emerged from what was then a small group of researchers. Of its approximately 50 employees, about 20 are working and researching in the field of photovoltaics.



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Fraunhofer ISE operates an outdoor weathering station for PV modules on the "Schneefernerhaus" at the Zugspitze. Extreme temperature differences, high snow and wind loads and an increased proportion of UV radiation are used for the qualification of highly weather-resistant products and as a reference for the development of accelerated stability testing methods.  
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## **Additional Information:**

Fraunhofer ISE, Press and Public Relations  
Phone +49 761 4588-5150  
Fax +49 761 4588-9342  
info@ise.fraunhofer.de

**The press release and photographic material** can be downloaded from our website: [www.ise.fraunhofer.de](http://www.ise.fraunhofer.de)

## **Organizer Contact:**

Sina Friedrichs, Fraunhofer ISE  
Phone +49 761 4588-5033  
sina.friedrichs@ise.fraunhofer.de

## **Workshop Schedule and Registration:**

<http://www.ise.fraunhofer.de/de/veranstaltungen-und-messen/2012/workshop-pv-module-reliability>

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Germany  
Press and Public Relations  
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