

# Press Release

Freiburg  
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## **Concentrator Photovoltaic Technology Continues to Break New Records**

### **Fraunhofer ISE's mini-module achieves new world record efficiency of 43.4 %**

The highest efficiencies for the direct conversion of sunlight into electricity are reached with concentrator photovoltaic (CPV) systems, and the technology still promises room for improvement. After announcing their world record solar cell two years ago, Fraunhofer ISE now reports that they have just achieved a new highest efficiency on the module level. A mini-module comprised of four-junction solar cells reached a newly confirmed world record of 43.4 percent. "This value is a new milestone in the history of CPV technology and demonstrates the potential available for industrial implementation," says a pleased Dr. Andreas Bett, Deputy Director of the Institute and Division Director of Materials, Solar Cells and Technology at Fraunhofer ISE.

Multi-junction solar cells are used in concentrator photovoltaics (CPV). This technology is implemented in regions with a high share of direct irradiation to generate renewable electricity at cost-effective prices. In 2014 the researchers in Freiburg, together with their French partners Soitec and CEA Leti, achieved a new world-record efficiency for a four-junction solar cell. The mini-module holding the new current record is based on this type of multi-junction solar cells in combination with a high-efficiency optic. The details of the technology behind this success will be presented at the upcoming CPV12 International Conference on Concentrator Photovoltaic Systems. This international conference for CPV will be held in Freiburg, Germany from 25-27 April 2016. [www.cpv-12.org](http://www.cpv-12.org)

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Fraunhofer ISE and the US research institute NREL (National Renewable Energy Laboratory) publish a current report on

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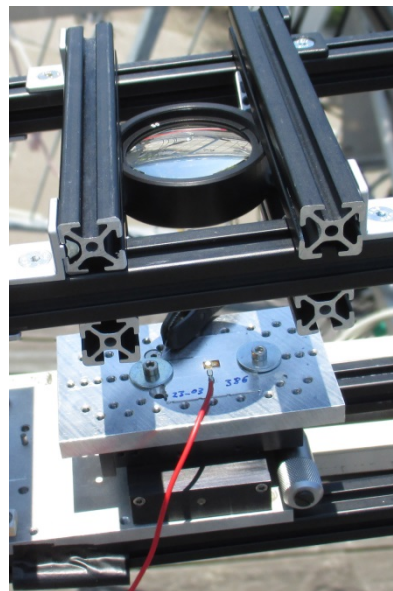
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the status of this exciting technology, entitled "[Current Status of Concentrator Photovoltaic \(CPV\) Technology](#)".

**Text of the PR and photos** can be downloaded from our webpage: [www.ise.fraunhofer.de](http://www.ise.fraunhofer.de)

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World record for concentrator photovoltaic technology: mini-module comprised of four-junction solar cells reached 43.4 percent efficiency.  
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