

Press Release

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Fraunhofer ISE Laboratory and Service Center, LSC Gelsenkirchen, celebrates its 10th birthday

Industry-driven solar cell research in North Rhine Westphalia

October 2000 saw the launch of the Fraunhofer ISE Laboratory and Service Center LSC in Gelsenkirchen, supported by the state government of North Rhine Westphalia. The objective of the venture was to create model conditions for interaction between applied research, industry and users. On November 5, 2010, ten successful years later, the facility celebrated its 10th anniversary with an event graced by many distinguished figures, including Dr. Heinz Baues from the Ministry for Climate Protection, Environment, Agriculture, Nature Conservation and Consumer Protection in the State of North Rhine Westphalia, Fraunhofer Senior Vice President Prof. Ulrich Buller and Mayor Frank Baranowski.

The Fraunhofer ISE Laboratory and Service Center was established in close collaboration with industry in order to enable research findings to directly benefit production work. "We not only have ultramodern equipment," states Dr. Dietmar Borchert, head of the LSC in Gelsenkirchen, "but are also able to draw on expertise acquired over almost thirty years at Europe's largest solar research institute, Fraunhofer ISE in Freiburg." Work at the LSC focuses on research under industrial conditions and the direct application of laboratory results to production.

During the center's early years, activities centered on technological support and development for Shell Solar, which at the time was Europe's most high-tech solar cell producer, as well as materials testing for Bayer Solar. Later,

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the evaluation of multicrystalline silicon materials was also added to the LSC's repertoire. Developments made by Fraunhofer researchers on the LSC pilot line in Gelsenkirchen include back surface passivation for multicrystalline silicon solar cells. Work there is now currently focused on developing large-area heterojunction solar cells and special measurement technology for solar cells.

The tenth anniversary is also marked by both spatial and thematic expansion of the Fraunhofer LSC. To illustrate, a modern technology lab measuring around 400 sqm has been opened for the new research areas 'silicon heterojunction solar cells' and 'thin film silicon solar cells'. "The increased capacity at our site in Gelsenkirchen reflects the dramatic development underway in the photovoltaic market and hence the nascent energy revolution," declared Prof. Eicke R. Weber, the Director of Fraunhofer ISE, at the anniversary celebrations. The Fraunhofer Gesellschaft is thus financing a 1.5 million euro 3-chamber coating system from its own reserves to equip the new laboratory.

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Multicrystalline silicon wafers on a graphite substrate following the application of an antireflection coating $@{\sf Fraunhofer}$ ISE



Light absorption of a glass plate coated with a thin a morphous silicon layer. $\ensuremath{\textcircled{\text{\scriptsize SF}}}$

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