

Oerlikon Solar Presents Record Cell Efficiency confirmed by NREL

Over 10 percent stabilized efficiency on amorphous silicon reconfirmed by US's National Renewable Energy Laboratory

- Historic milestone for amorphous silicon PV technology
- Oerlikon Solar's proprietary TCO front and back contact applied
- Next level of amorphous silicon thin film solar PV cells introduced

EU PVSEC Hamburg, 22 September 2009. – [Oerlikon Solar](#), the world's leading supplier of thin film silicon photovoltaic (PV) production equipment, today announced that it has achieved a new stabilized record efficiency level for amorphous silicon (a-Si) single junction PV cells. Recent test results reconfirmed and approved by the National Renewable Energy Laboratory (NREL) show efficiencies of more than 10 percent power conversion. These results set a new world record for amorphous thin film silicon PV technology. The R&D group of Oerlikon Solar in Neuchâtel was able to consistently reproduce cells with similar record efficiencies, demonstrating a stable and repeatable process.

"This achievement impressively demonstrates Oerlikon Solar's unique ability to rapidly drive thin film silicon PV technology towards grid parity," said Jeannine Sargent. High cell efficiencies on amorphous silicon are a key driver for both, amorphous HIGH PERFORMANCE and proprietary Micromorph® PV technology.

The excellent performance of the record cells demonstrates the advantage of Oerlikon Solar's thin film silicon PV technology, once more verifying the company's comprehensive R&D roadmap. Oerlikon Solar's advanced deposition equipment technology and its vast process know-how result in an optimized cell design that enables the achievement of higher conversion efficiencies. The recent success on a-Si cell efficiency serves as basis to



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achieve Micromorph[®] production modules at stabilized efficiencies of 10% or more.

Leading R&D and fastest time to market

Oerlikon Solar is the clear technology and market leader in the field of thin film silicon PV technology, investing significantly in research and development efforts. This record is the latest result of Oerlikon Solar's ongoing development program and reinforces its role as a technology and market leader.

"We successfully implemented several innovative modifications of key processes, leading to this new record in stabilized cell efficiency which presents a historic milestone for amorphous silicon technology," said Dr. Johannes Meier, CTO Thin Film at Oerlikon Solar: "We are confident that our ability to repeatedly achieve record results can be transferred into mass production soon."

Thin film silicon solar offers cost advantages over traditional crystalline silicon and is demonstrating increasingly impressive efficiency gains. Oerlikon Solar occupies a unique position in this rapidly growing market. To date, the company has supplied manufacturing facilities with a total capacity of over 450 megawatts, and has established a strong execution track record, with each of its customers achieving their technology and commercialization milestones on time. By the end of 2010 the company aims to launch the first PV module production lines that are price competitive compared to conventional energy sources in suitable regions.

"Just one more milestone in Oerlikon Solar's mission to make solar power economically viable."

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About Oerlikon Solar

Oerlikon Solar offers field-proven equipment and end-to-end manufacturing lines for the mass production of thin film silicon solar modules. Engineered to reduce manufacturing cost and maximize productivity, its end-to-end solutions feature high yield production with high equipment uptime, and low maintenance requirements.

The production lines are complete systems, yet modular and upgradeable in both throughput and process technology. As a global leader in thin film PV technology, the company provides its customers with extensive experience in both amorphous and high-efficiency Micromorph[®] tandem technology.

Oerlikon Solar is ranked "global number one solar turnkey line supplier" by VLSI and has been named winner of the 2009 CELL AWARD for the "best technical product for thin film module manufacturing."

Oerlikon Solar is headquartered in Switzerland, has over 750 employees in 13 locations world wide and maintains sales and service centers in the USA, Europe and China, Taiwan, Korea, Singapore and Japan.

For further information visit: www.oerlikon.com/solar

About Oerlikon

Oerlikon (SIX: OERL) is one of the world's leading international high-tech industrial groups specializing in machine and plant engineering. The company is a leader in the field of industrial solutions and innovative technologies for textile manufacture, thin film solar and thin film coating, drive, precision and vacuum systems. With roots in Switzerland and a long tradition stretching back 100 years, Oerlikon is a global player with a workforce of nearly 16 500 at 158 locations in 37 different countries. The company's sales amounted to CHF 4.8 billion in 2008 and it ranks either first or second in the respective global markets.

For further information visit: www.oerlikon.com