

Solar Energy

Improve your profit margin
with our technology

ECN

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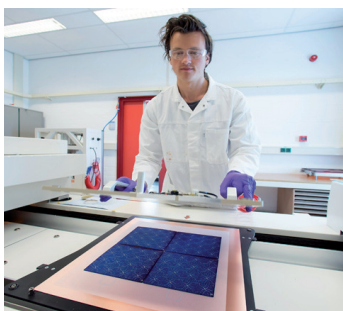
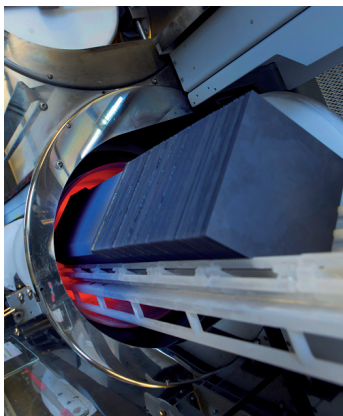
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The world of solar energy is undergoing revolutionary change. Prices have eroded enormously and profit margins have disappeared. This calls for rapid action to reduce production costs and improve efficiency of the solar panels. To tackle this we need to jointly develop and implement improved processes and technologies. The Energy research Centre of the Netherlands (ECN), home to numerous breakthrough technologies, is ready to support the industry in this challenge, both in crystalline silicon and in thin-film solar cells. ECN is a flexible partner for the industry, participating in joint development in various ways, in accordance with the client's wishes.

ECN has been a Research and Development institution since the early days in PV. ECN is renowned of its development work in photovoltaics with a high Technological Readiness Level. In the early days ECN was at the beginning of the success of the introduction of SiNx in the market. In the nineties SiNx was brought to the market by ECN's licensee Roth and Rau. The SiNx technology has in the meantime become the standard anti-reflection coating in the market. For every R&D project ECN has been carrying out always a strong focus on feasibility in an industrial environment is present. The strength of ECN lies in a perfect balance of maintaining an innovative power and being sufficiently realistic towards market applications.

Joint development in cSi production technologies

Our breakthrough technology offers include individual process upgrades, complete production line upgrades and full license to produce n-type bifacial silicon solar cells – all technologies ready to shape the PV industry. In recent years, ECN has successfully completed a number of remarkable projects with partners. Yingli, Tempres and ECN jointly implemented ECN-patented n-type technology. Likewise, ECN is ready to implement technology that made us the world leader in back-contact multi-crystalline silicon module efficiency. ECN's success rate is demonstrated by the fact that technology jointly developed with ECN is employed in the manufacture of 60% of solar cells worldwide.



Scaling up of thin-film technologies

Scaling up without loss of efficiency from square centimeters to square meters is for thin-film PV crucial to become successful. ECN is right on top of this issue. Our ultimate goal is to develop roll-to-roll large scale production at the lowest possible cost of manufacturing. Many enabling technologies are being developed for thin-film PV roll-to-roll production technology. ECN's cutting-edge results are being incorporated into existing thin-film production lines. Focus of ECN is on advanced light management, dynamic deposition technologies such as printing, coating, plasma-deposition and sophisticated laser treatment. Development is focused on the incorporation of PV into existing structures and building modules of any size and at a lower cost.

Accelerating change in the market

From lab to fab in one year: we offer you an unparalleled opportunity to work with one of the most successful and knowledgeable PV research institutes in the world.