

Case Studies

Inventux Technologies AG: Investing in a clean future

The business plan received in April 2007 by Capital Stage AG, a listed private equity firm specialising in renewable energy and environmental technology, had exactly 83 pages. It was an ambitious project: setting up production for technologically advanced thin-film, silicone-based photovoltaic modules with a capacity of 33 MWp annually. The four founders had previously set up the solar division of a leading German window and façade producer - with great success. After several meetings with the management team, Capital Stage CEO Felix Goedhart and his team were convinced by the concept and the individuals behind it.

Capital Stage AG invested in the former start-up company in October 2007. Conetwork Erneuerbare Energien Holding GmbH & Co. KGaA got on board as an investor six months later. Based on favourable subsidy opportunities and an existing solar cluster, Berlin was chosen for the company headquarter. Inventux obtained its first production facilities from the technology partner Oerlikon as part of a 'tool move-in' on 17 April 2008. Inventux and Oerlikon employees then began with the installation of the large coating and structuring machines used to produce micromorphous thin-film solar modules in a clean-room environment. The facilities were set up in record time. Inventux opened the plant with a ceremony on 4 December 2008. On that day, more than 100 employees and 250 invited guests saw the first module come off the production line. Inventux was therefore the first company in Europe to launch the production of high-performance micromorphous thin-film solar modules.

Sustainable thin-film technology

With so-called tandem cells, the Inventux technology converts both visible and invisible sunlight into electricity. Accordingly, the energy output of the TÜV-certified modules is significantly higher under actual environmental conditions than that of crystalline modules, thanks to their particularly favourable low-light and temperature characteristics. The modules also consume fewer resources, are free of harmful substances and have a particularly short energy recovery period. Initially, the efficiency of the modules (the proportion of incident solar energy to the electrical current generated) exceeded 8%. This value was improved to 10% in June 2010, just 17 months after the start of production. Inventux is therefore the first thin-film module producer in Europe able to achieve the jump to 10% efficiency in series production. The efficiency is to be continuously improved to exceed 10% over the coming years. With regard to raw materials, Inventux is unaffected by potential bottlenecks on the global commodities markets thanks to a very low film thickness. Integrated production and a very high yield result in substantial cost reductions for solar-energy generation.

Stepping into a green future

The environmental performance assessment is also very favourable. An Inventux module generates more than the energy required for its production in far less than two years. The production volume in the first year alone is sufficient to supply 7,500 four-person households with renewable energy. Inventux is therefore doing its part to make solar energy a cost-effective alternative to electricity generated using conventional means. The company lives up to its motto: 'Energize the earth – buy the sun.' This has not been lost on the general public. In June 2010, the independent economic research institute DCTI certified Inventux as a 'Clean Tech Driver'.

Inventux is pursuing the objective of becoming one of the five most innovative and largest companies in the thin-film photovoltaics industry over the coming years. The photovoltaics industry can look forward to additional capacity and innovations. It appears likely that the investor who was confident in Inventux at



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the outset has made an especially successful investment.