

# ABENGOA

Innovative technology solutions for **sustainability**

## **Michael Grätzel, Nobel Prize candidate, gives master class to Abengoa's researchers**

- The Swiss scientist is inventor or co-inventor of more than 50 patents and has authored more than 1,100 publications. He has been selected by Scientific American as one of the 50 best scientists in the world.
- This initiative forms part of an extensive research program at Abengoa, focusing on energy production from renewable sources.

May 9, 2013. The research team at Abengoa (MCE: ABG.B), the company that applies innovative technology solutions for sustainability in the energy and environment sectors, yesterday welcomed Professor Michael Grätzel, the Swiss scientist who has pioneered new energy systems, especially photovoltaic cells. Professor Grätzel gave a talk entitled "Nanostructured photosystems for generating electricity and fuels from sunlight" at Campus Palmas Altas, Abengoa's headquarters.

The talk centered on dye-sensitized solar cells (DSCs), photovoltaic devices that have been developed in Professor Grätzel's laboratory. These types of cells work in a similar way to photosynthesis and are the only photovoltaic devices that separate the process of light absorption from the separation and transport of the electrical charge. Since their appearance in 1991, DSCs have experienced incredible development and today's cells are now 12% more efficient. This increase in efficiency reaches 16% when the device uses cells in tandem, proving that DSCs can offer a real alternative to traditional silica photovoltaic cells.

Industrial production of flexible DSC modules on a megawatt-scale began in 2009. Professor Grätzel emphasized the advantages of these types of cells in large-scale energy conversion systems due to their cost, efficiency, stability and availability, as well as their environmental credentials.

Abengoa collaborates with nationally and internationally renowned partners and research centers in its R&D+i activities in the field of energy and the environment, developing projects with enormous innovative potential, as well as leading multiple research programs that have been selected by the US Department of Energy, the European Union and numerous other organizations around the world that promote technological development. Abengoa Research, the company's fundamental research center, is collaborating with Professor Grätzel's group to develop new DSCs. Innovation has been the driving force behind Abengoa's

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activities from the outset and enables it to maintain a competitive advantage in the sectors in which it operates.

## Michael Grätzel

Director of the Laboratory for Photonics and Interfaces at the Swiss Federal Institute of Technology in Lausanne, Michael Grätzel has been involved in more than 50 patents and has authored more than 1,100 publications. He holds an honorary doctorate from numerous universities and is a member of various associations such as the European Academy of Sciences and Arts and the Royal Society of Chemistry. He was also short-listed for the Nobel Prize and has received major international awards, including the Balzan Prize in 2009, the Millennium Technology Prize in 2010 and the Wilhelm Exner Medal in 2011. He has been selected by Scientific American as one of the 50 best scientists in the world.

## About Abengoa

Abengoa (MCE: ABG.B) is a company that applies innovative technology solutions for sustainability in the energy and environment sectors, generating electricity from the sun, producing biofuels, desalinating sea water and recycling industrial waste. ([www.abengoa.com](http://www.abengoa.com))

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