PRESS RELEASE

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SolarWorld presents TU Freiberg with massive silicon monocrystal

ON 6 MARCH, DR. HOLGER NEUHAUS, DIRECTOR RESEARCH AND DEVELOPMENT AT SOLARWORLD INDUSTRIES GMBH IN FREIBERG, WILL PRESENT A LARGE SILICON MONOCRYSTAL TO PROF. DR. GERHARD HEIDE, DIRECTOR OF THE GEOSCIENTIFIC COLLECTION AT THE TU BERGAKADEMIE FREIBERG (THE UNIVERSITY OF RESOURCES). WORTH AROUND EUR 5,000, THE CRYSTAL BLOCK WILL SERVE AS DEMONSTRATION MATERIAL FOR ACADEMIC RESEARCH AND TEACHING.

"We are delighted and grateful to receive this sizeable gift," says the TU Mineralogy Professor on the subject of the new exhibit. The University of Resources has been collecting geoscientific objects since its establishment in 1765. Today, the TU owns over a million scientific samples which are accessible to the general public at the 'Terra Mineralia' centre at Freiberg's Freudenstein castle and at the neighbouring 'Deutsche Minerale' permanent exhibition, among other places.
The silicon monocrystal will be exhibited at the Institute of Inorganic Chemistry in the Clemens-Winkler building. It will primarily serve as an illustrative teaching material for chemistry and applied sciences students.
"The silicon monocrystal is a great asset to add to our teaching collection of around 1,500 inorganic chemical compounds," says Prof. Edwin Kroke whose research at the University of Resources focuses, among other subjects, on silicon chemistry and chemical material science in the silicon field.
"The crystal could be cut into more than 6,000 silicon wafers which could be incorporated into solar modules with an electrical output of around 40,000 kilowatts. This output covers the annual electricity requirement of more than ten households," explains SolarWorld's Dr. Holger Neuhaus.
In Freiberg, SolarWorld Industries GmbH processes monocrystal solar modules which are made from silicon solar cells. The basic material of the crystal consists of ultrapure silicon which is melted at a temperature of 1,400 degree Celsius. As a next step, a nucleus measuring one millimetre is dipped into the melted silicon. The crystal then forms around the nucleus, growing into a pillar with a diameter of more than 20 cm, a length of two metres and a weight of over 170 kg. The silicon crystal is then cut into thin slices to produce the wafers.

Further information
http://tu-freiberg.de/geowsam
http://tu-freiberg.de/fakultaet2/aoch

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