

Dr Hans-Martin HENNING – Fhg ISE - Statement

The future of the global energy system will be based on two major columns: energy efficiency and an energy supply system that increasingly uses renewable energies. Renewable energies include heat and electricity generated by various sources such as biomass, wind, geo-thermal energy and solar energy. Among all renewable energies solar energy is the one with the by far largest potential and available almost everywhere in the world.

Renewable energies are applied in different ways: decentralized on a local level directly linked to the application and in central power generation plants. Conversion of solar radiation into electricity based on photovoltaic cells and modules can be applied in both sectors: PV modules can be used for decentralized generation of electricity to supply buildings and appliances – either grid-connected or stand-alone – and they can be used in large power plants which produce electricity and feed it into the grid. A large and increasing variety of technical solutions is being developed and introduced into the market to cover the various application sectors and needs. In this strongly increasing market it is most critical to assure a high quality of all products of the conversion chain and the PV module is the key element of this chain. PV modules have to operate under very different weather and climatic conditions. They have to stand exposure to high levels of UV radiation, they have to stand conditions of high humidity, large temperature variations, extreme rainfall and – may be not in Singapore but in other places in the world – strong hail and snow. And they have to operate for a long service lifetime of at least 20 years, better more, without significant performance reduction. Therefore quality measures are one of the key elements and needs for a long-term sustainable development of the huge future market for photovoltaic industry.

VDE and Fraunhofer ISE have clearly identified the importance of these quality issues and started established a collaboration for the testing and certification of PV modules. The establishment of the new VDE – ISE Pte.

Ltd. is a next step to enlarge our capacities in the quality assurance of PV modules in one of the most dynamic photovoltaic markets in the world. In close collaboration with the Solar Energy Research Institute of Singapore SERIS we want to provide our expertise in PV module testing and certification to the manufacturers and industries in the Asian-Pacific region.

Fraunhofer ISE is Europe's largest solar energy institute and one of the leading solar energy research centers in the world. Mainly financed through research contracts we serve as a bridge between applied research and technology development and such as a bridge between academic research and industry. Our work is based on a triangle of application oriented basic research, product development and services for the industry including testing of products in the laboratory and in real-life application. The latter helps us to understand shortcomings and identify optimization potentials of products and systems in their practical application. We strongly believe that our engagement in the testing of PV modules on a worldwide level deepens our understanding of PV application and markets.

Therefore we are very happy about the foundation of the new company VDE – ISE Pte Ltd. and the related opportunity to collaborate with the PV manufacturers and industry in Singapore and the region.