

Press Release

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Thin-film ensures growth

- **Investments in thin-film technology contribute above average to success of the German equipment industry**
- **Record export rate of 89 percent, Asian business broader positioned**
- **New orders increased significantly in the second quarter**

Frankfurt, 21 September 2018 - The market for solar equipment for the thin-film application is growing disproportionately for the German mechanical engineering industry. In the first two quarters, 58 percent of sales were generated in this segment. In the first half of the year, 55 percent of sales were already booked compared to the previous year. Looking at the total market solar equipment, sales increased by 24 percent compared to the first quarter and by 35 percent compared to the same quarter of the previous year. The order books of the solar equipment manufacturers are filled, in the second quarter a ratio of orders to delivered systems ("book-to-bill") of 1 was reached. "The future expansion plans of the PV industry in Asia let expect continuous orders. The expected orders will concern thin-film technologies as well as high-efficiency crystalline technologies. Investments in highly efficient solar cell designs are shifting slightly, due to the Chinese government's announcement to limit photovoltaic expansion in China. However, over the next 12 months we anticipate the implementation of the planned investments in additional production capacities. Especially, Indian Government's program to build new production capacities should be emphasized in this context ", Dr. Peter Fath, Managing Director of RCT Solutions GmbH and Chairman of VDMA Photovoltaic Equipment explained.

Asian business broader positioned

The export ratio of German photovoltaic equipment suppliers reached the record level of 89 percent between April and June. The core business continued to be in East Asia, the share of total turnover originating from there amounted to 82 percent in the second quarter of 2018. Asia's sales were as follows: the largest share was made with China (39 percent), followed by Taiwan (4 percent). The rest of Asia which includes Malaysia and Vietnam recorded 38 percent. This shows that photovoltaic plant engineering is now much broader in Asia. Germany remained second behind Asia with a sales volume of 11 percent while Europe accounted 6 percent of sales. America achieved only 1 percent of sales. The strongest sales segment in the second quarter 2018 for German PV manufacturers was the production solutions for thin-film PV (62 percent), followed by production equipment for cells (31 percent). Although the production of modules on thin-film technology, including the CIGS (Copper-Indium-Gallium-Selenide) technology and CdTe technology (cadmium telluride), is less than 10 percent on the world market, the high share shows that especially in this segment many production solutions are purchased from Germany. Machinery for polysilicon, Ingot and wafer production accounted for 6 percent of sales as well as production equipment for production of modules with 1 percent.

Order intake increased

Order intake increased strongly in the second quarter of 2018 compared with the first quarter, to 1.7 times. The regional allocation again had an Asian focus with 55 percent of all orders. America received 31 percent of orders, followed by Germany with 9 percent and Europe with 5 percent. "The order books are still filled. The orders from Asia now show a wider distribution into various Asian countries. Especially the high proportion of equipment for production of thin-film modules shows that German production equipment is in demand", emphasized Dr. Jutta Trube, Division Manager of VDMA Photovoltaic Equipment.