

Dresden, 2 August 2016

VON ARDENNE DELIVERS CLUSTER SYSTEM FOR NEW BOSCH RESEARCH CAMPUS IN RENNINGEN, GERMANY

VON ARDENNE has delivered a sputter cluster system for the new Bosch research campus in Renningen. The CS500SI is a highly flexible seven-chamber cluster system. It is suitable for the processing of customer-specific substrates through RF plasma etching, DC, RF and ion beam sputtering. The RF plasma etching and magnetron sputtering processes are performed in process-down mode.

The system is designed for the special requirements of research and development. It allows for the parallel use of a variety of different coating materials and the production of complex layer systems. The modular concept makes it possible to flexibly adjust the system to changing technological requirements and to integrate new layering technologies in the future.

Bosch will use the CS500SI mainly for the development of MEMS sensors. These microelectromechanical systems (MEMS) are needed, for instance, for a variety of sensors in the automotive industry.

The cluster design of the system with several process chambers enables the deposition of a multitude of different materials. The flexibility of the system is also increased by the confocal arrangement of the magnetrons. Thus, a separate or parallel deposition of the same or different materials with multiple magnetrons can take place in only one process chamber. The optimized adjustment of the VON ARDENNE magnetrons to the substrate holder and their geometrical arrangement ensure best layer characteristics.

The deposition of metals, which is necessary for creating contact layers, takes place in a separate process chamber. Another process chamber solely serves the sputtering of ceramic materials such as insulators and transparent conductive layers (TCO). A third process chamber is reserved for reactive deposition.

For special, very dense and high-precision layer systems, an ion beam sputtering chamber with a target revolver (for multiple materials) has been integrated into the system. Furthermore, an assisting ion beam source increases the cluster system's range of use. Further functions for the pre- and post-treatment of the substrates, such as specific temperature control or BIAS treatment, complete the research system.

The CS500SI is another milestone in the close relationship between the two companies since 1996. It is already the third coating system that was especially designed for the Bosch corporate research and advance engineering department. VON ARDENNE is proud to have laid the foundation for the development of future product generations at Bosch with its equipment solutions.

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ABOUT VON ARDENNE GMBH

VON ARDENNE develops and manufactures equipment for industrial coatings on materials such as glass, wafers, metal strip and polymer films. These coatings give the surfaces new functional properties and can be between one nanometer and a few micrometers thin, depending on the application. The coated materials are the basis for products such as architectural glass, solar modules or touch screens.

VON ARDENNE is a leading provider of architectural glass coating equipment and coating systems for thin-film photovoltaics. The family-owned company with subsidiaries in China, Japan, Malaysia, Taiwan and the USA relies on customer proximity in order to offer ideal on-site service. VON ARDENNE equipment is in operation in more than 50 countries around the world.

ABOUT THE BOSCH RESEARCH CAMPUS

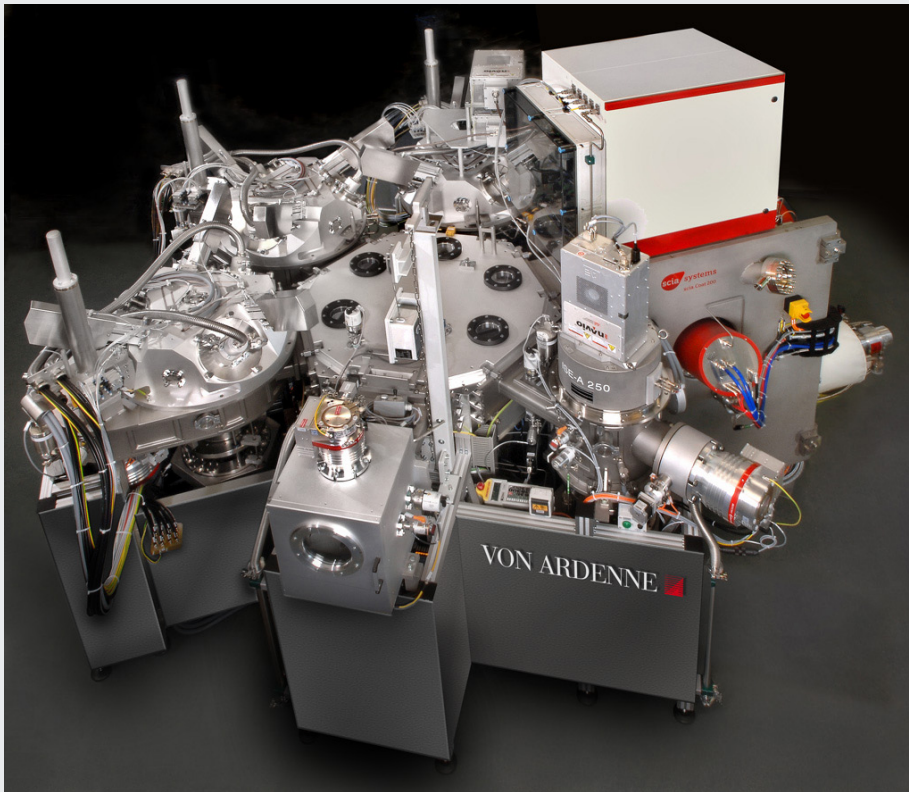
The new Bosch research campus in Renningen was officially opened on 14 October 2015 in the presence of the German chancellor Dr. Angela Merkel and Baden-Württemberg's Minister-President Winfried Kretschmann, as well as numerous further guests representing politics, economy and science. The Robert Bosch GmbH has invested around 310 million into the new facility.

The campus combines many technical and scientific disciplines. Be it in electrical engineering, mechanical engineering, computer science, analytics, chemistry, physics, biology, or microsystem technology: A total of 1,400 corporate research and advance engineering employees now work in Renningen on the technical challenges of the future.

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