

Press Release

mechatronic systemtechnik and ProTec Carrier Systems Complement One Another in the Field of Thin Substrate Handling

(Villach/Austria, April 20, 2011) The two specialists in thin wafer handling systems, mechatronic systemtechnik and ProTec Carrier Systems (PCS), are intensifying their collaboration in the field of handling thin substrates by means of T-ESC®-Technology.

T-ESC®-Technology is based on using an electrostatic field to apply an electrical force on materials of even lower conductivity. The mobile electrostatic carriers (T-ESC®) developed by PCS can build up such a field and lock in especially thin substrates (< 50µm) for a long period of time (up to 50 hours) by applying the so-called Coulomb force. The release at the end of the process takes only a short amount of time and leaves absolutely no traces on the substrate. Organic residues caused by the use of tapes or by bonding - and thereby involving additional cleaning processes - are avoided. By using T-ESC®-Technology the safe handling and transport of the thinnest substrates for the semiconductor, photovoltaic and display industries can also be guaranteed during the individual processing phases, in particular under vacuum and high temperature conditions.

Applications in which the advantages of thin substrates can be exploited, e.g. 3-D integration, are on the threshold of mass production. Hence the manufacturers of semiconductors require fully automated systems with which thin wafers can be safely transported and processed. Therefore PCS and mechatronic systemtechnik have developed the fully automatic Chucking/De-Chucking System ACU 3000. The system is now intended to be comprehensively tested and demonstrated at LFoundry in Landshut, Germany within the framework of the "SEAL" project which is funded by the European Community.

The ACU 3000 System is able to assemble up to 120 carrier packets per hour, i.e. to fix or remove a wafer on a carrier by means of the electrostatic holding force. The electrostatic charging / discharging unit of the ACU 3000 is also available as an individual module. On the basis of standardized interfaces it can thereby also be integrated into other systems, e.g. process tools. In this way existing systems can be used for processing thin substrates without the necessity of any system- or process-related modifications.

"Collaboration with mechatronic systemtechnik leads to an ideal symbiosis and it creates crucial competitive advantages for both of

the companies” explains Roland Raschke, CEO of PCS GmbH. “One great advantage of T-ESC[®]-Technology lies in the fact that customers can process thin substrates quite simply with their existing equipment and without major investments” adds Walter Schober, CEO of mechatronic systemtechnik gmbh.

About mechatronic systemtechnik gmbh

mechatronic systemtechnik gmbh based in Villach (Austria) develops, manufactures and markets special-purpose machines for the semiconductor industry since 1998 and has a world-wide unique product portfolio for handling of silicon thin-wafers. Discs made from semiconductor material find application above all in the growing market of entertainment electronics, e.g. mobile phones, MP3 players, digital cameras or camcorders. With their patented thin wafer handling systems, mechatronic systemtechnik has a unique selling proposition in the international market. mechatronic systemtechnik handling-systems transport wafers contactless and 100 percent automatic. Various processes and instruments have been developed for this purpose. Depending upon customer requirements, these can be installed, e.g. Bernoulli (Vacuum) Technology. This gives a minimum technological lead of four years. Leading international companies such as Infineon, NXP, Nikon, Rudolph, TSMC, UMC, ASE, STATS ChipPAC, ... are amongst the customers.

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About ProTec Carrier Systems GmbH (PCS)

PCS is a young, highly innovative company which is involved in the development, production and marketing of systems and components for the transport and processing of thin and ultrathin substrates. These applications are designed for the semiconductor, solar and display industries in the form of the worldwide patented Transfer-Electro-Static Carrier (T-ESC[®])-Technology. Hereby great emphasis is placed on applications in which conventional, temporary bonding systems fail or do not function adequately. Thanks to T-ESC[®]-Technology some processes for thin substrates become possible for the very first time, such as Back Side Gas Cooling. The company, which was founded in 2008, has its premises in Siegen, Germany.

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