



THERMAL SYSTEMS

## Press release

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### Rehm Seminar “SMT Technology and Smart Factory Solutions” in Suwon, Korea

Topics such as Industry 4.0, China Smart Manufacturing 2025, Artificial Intelligence and the Internet of Things are currently heavily influencing the evolution of traditional manufacturing. Rehm has launched a seminar tour that has been taking place in October for several years to discuss these and other topics affecting the industry. In 2018, the “Rehm SMT Technology and Smart Factory Solution Seminar” tour travelled to Suzhou, Dongguan, Thailand, Taiwan and South Korea. Industry partners and customers met to exchange technologies. On 15th November 2018, the latest seminar was successfully held in Suwon, South Korea.

Rehm Thermal Systems GmbH  
Leinenstraße 7  
89143 Blaubeuren-Seissen, Germany

**Press officer:**

Carmen Hilsenbeck  
Tel.: +49 73 44-96 06 535  
Fax: +49 73 44-96 06 525  
[c.hilsenbeck@rehm-group.com](mailto:c.hilsenbeck@rehm-group.com)  
[www.rehm-group.com](http://www.rehm-group.com)



*Tour start in Dongguan*

The seminar brought customers together with experts from research and development such as Dr Hans Bell and Dr Paul Wild from Rehm Thermal Systems as well as leading manufacturers of manufacturing equipment such as ASM, Panasonic, PARMI and Air Liquide to exchange views. The main topic of discussion was the trend towards intelligent manufacturing and factory solutions that use new SMT technologies in the context of Industry 4.0.



*Seminar in Korea*

The seminar clearly showed that intelligent production processes and the digital networking of manufacturing equipment are key to the success of Industry 4.0. In this respect, the introduction of a new standard for interface communication “The Hermes Standard” is a big step in the right direction. The Hermes standard offers an overarching protocol, irrespective of manufacturer, for machine-to-machine communication (M2M) in module manufacturing. The objective is to improve the board-flow-management and the traceability across all stations of an SMT line. This uses modern communication technology and standardised data formats for M2M communication. The Hermes standard is officially recognised as a next-generation technology and follows the IPC-SMEMA-9851 standard. Rehm plays a key role in the development of this standard, helping to make system networking within SMT manufacturing easier, quicker and more efficient in the future. The Rehm Reflow soldering system can already be equipped with a Hermes interface. The new, clearly structured interface design and the intuitive touch control of the ViCON system software also contribute with numerous features such as the monitoring tools from the ViCON Analytics range, the ViCON Connect remote manager for monitoring the entire Rehm machinery and the ViCON app, which allows the operator to keep an eye on production at all times, directly contributing to the networking of production processes with respect to Industry 4.0.

Another focus of the seminar was the increasing miniaturisation of electronics production. Driven by the rapid development of the wearables market, manufacturing processes for flexible substrates are becoming increasingly important. Dr Hans Bell from Rehm Thermal Systems addressed the challenges of printed circuit boards and other substrates

twisting and warping during the soldering process. He also explained the corresponding IPC standards. Also discussed in the seminar were the differences between Through Hole Technology (THT) and Surface Mount Technology (SMT). Both the advantages and possibilities as well as the limits and challenges of the two processes were considered by participants and experts. A subject that is frequently discussed in the industry is voids. The formation of voids can be significantly reduced with appropriate process technology. Rehm has years of experience in this field and showed the possibilities available. These include condensation soldering under vacuum, which is implemented in CondensoX series soldering systems, as well as convection soldering with an integrated vacuum chamber as implemented in the VisionXP+ VAC. The methods used reduce the voids to less than 2%, ensuring outstanding reliability for the manufactured assemblies as well as high process stability. The themes of energy efficiency and conservation of resources are becoming increasingly important when producing reliable electronic components. As part of his talk, Dr Paul Wild explained some ways in which soldering systems can work more efficiently and which parameters within the process are important for using resources responsibly.

Then Dr Hans Bell set out his view on the development of electronics production in China. With the ever-increasing demand for electronics in all fields, the resulting steady miniaturisation of components and the rapid development of new technologies, it is vital to continue drive further innovation in research and development. For Rehm, it is important to have direct exchange with customers, users and partners in the SMD process chain. The seminar series in China is the ideal platform for this exchange of knowledge, with benefits for everyone involved.

### **About Rehm Thermal Systems**

As a specialist in thermal system solutions for the electronics and photovoltaics industry, Rehm is a technology and innovation leader in state-of-the-art, cost-effective manufacturing of electronic assemblies. We are a globally active manufacturer of reflow soldering systems with convection, condensation or vacuum, drying and coating systems, functional test systems, equipment for the metallisation of solar cells as well as numerous customised systems. We have a presence in all key growth markets and, as a partner with more than 25 years of industry experience, we are able to implement innovative production solutions that set new standards.