

Press Release

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NucleuS™ production technology boosting efficiency of volume production of printed circuit boards and cutting costs

The new NucleuS™ technology developed by AT&S is a method for volume production of individual printed circuit boards that makes optimal use of the production format and only connects them to their frames just before they are shipped out to assemblers for assembly. This brings cost advantages and improvements in efficiency.

The end product of printed circuit board (PCB) production is the panel, which consists of a number of printed circuit boards, as specified by the customer, held together by a frame. Once the panel has been completed by the PCB manufacturer, it is shipped to an assembler which mounts the various components (chips, resistors, etc.). Ideas for manufacturing frames and printed circuit boards separately and assembling them in the most suitable form before sending them to the assembler have been around since the 1980s, but until now all of these approaches have been unsuitable for mass production, and no cost-effective production methods have been found.

AT&S's NucleuS™ technology, developed at its Leoben-Hinterberg and Shanghai plants, does not have these drawbacks, and promises considerable increases in efficiency. First, the printed circuit boards are produced individually, and then they are inserted in a standard assembly frame. The special process developed by AT&S has the same tolerances as the existing production method; for the specific process patent applications are pending.

Advantages of NucleuS™ technology

- More efficient use of the production format (normally, several PCB panels are produced on one standard-sized panel; eliminating the frame means that even more printed circuit boards per panel can now be produced).
- Reduced costs (the frame, which until now has been produced with the same layer stack-up as the printed circuit boards, can now be manufactured using simpler, cheaper technology).
- Lower assembly losses, because defective printed circuit boards are weeded out immediately (until now, either the whole panel was scrapped – even if only one printed circuit board was defective – or the assembler was unable to work at full efficiency because individual defective printed circuit boards that were not to be populated were running through its production process).
- Increased flexibility, because printed circuit boards using a variety of technologies (single-sided, double-sided, multilayer and HDI) can be assembled into a single panel to the customer's specification.
- More environmentally friendly production due to lower material use and rejects.

About AT&S

AT&S Austria Technologie & Systemtechnik Aktiengesellschaft (AT&S) is the European market leader and one of the world's most efficient printed circuit board manufacturers. AT&S is especially well positioned in the market for high-tech HDI Microvia printed circuit boards, which are chiefly used in mobile devices. The Group is also highly successful in the automotive, industrial and medical sectors. AT&S is a fast growing international business and has a global reach through its production facilities in Austria (Leoben, Fehring and Klagenfurt), India (Nanjangud), China (Shanghai) and Korea (Ansan, near Seoul). For more information visit www.ats.net.

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