

Nepcon World a 'Big Sight' to Behold

Written by matt holzmann

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TOYKO – Expanded significantly from last year's edition, Nepcon World Tokyo used both the massive East and West Halls at the Tokyo Big Sight convention center, in part to accommodate the arrival of a major fiber optics wing. Even better: The halls were packed with visitors all three days.

While the Japanese electronics industry experienced a slow down early in 2007, business was reported to be stable or stronger in the last half of the year. The North American economy has become a major concern, and many companies have begun planning strategies to counter a possible U.S. slowdown by targeting markets in China, India and beyond. Vietnam has become a favored destination for Japanese manufacturers in particular.

The technical program at Nepcon World was comprehensive. The keynoter, Dr. Makoto Kikuchi, former executive director of Sony's Central Laboratories, gave his recollections of Sony's initial foray into semiconductor technology. Dr. Hideo Honma of Kanto Gakuin University then addressed advances in surface finishing and packaging technology. The interconnect is critical to functionality at all levels. Technical presentations on lead free processing were extensive, and evidenced by titles such as "The Problems for Lead Free & the Control of Whisker on Reliability" and "Problems and Solutions of Lead-free in Mass Production." Embedded component technologies had their own session, with other sessions on VOC-free materials, high temperature materials, surface finishes, RFID, and automotive electronics. Interest in the latter is so high, a new show will be launched later this month to encompass the entire range of electronics manufacturing, packaging, software and systems technologies related to this growing sector.

The show floor was packed all three days. As the show drew to a close at 3 p.m. on Friday, participants were still streaming in as the teardown crew prepared for a long night. Participation by pick-and-place manufacturers was limited, as many of these companies, which typically have the largest booths, migrated to the Protec show several years ago in order to reduce costs. As Protec became largely a component placement show with limited interest it has struggled, and will merge with JPCA in June this year. Yamaha launched its YS-12 placement system, which uses intelligent feeders, while Samsung exhibited its SM-421 system, advertising 0402 capability and up to 21,000 cph capability on 1608 packages or 5,500 QFPs/hr. Other exhibitors included Mydata and I-Pulse.

In printing, New Long Seimitsu exhibited its LZ 12WDA wafer screen printer for 0.5 mm pitch on substrates up to 12" diameter as well as the VPES vacuum encapsulation system,

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which has a wide range of applications. Micro-Tec showed its MTT-450TVC low pressure paste printer for flexible web applications. The booths of solder paste suppliers were very active. As lead-free has become the standard, the emphasis was on niche applications such as package-on-package (PoP), anti pillow defect for BGA and CSP applications, and reduced voiding in lead-free solder joints. Several reflow equipment manufacturers focused on energy and space saving technologies.

The test and inspection area was particularly busy. Over 25 AOI suppliers exhibited. There were few new product offerings in this area, but many refinements. Omron introduced their first x-ray system, the VT-X 3 dimensional inline unit, while Pony introduced an inline 3-D system as well. In test, Takaya and Hioki both exhibited their latest technology in flying probers, while Agilent focused more on x-ray.

A number of printed circuit manufacturers exhibited from all over Asia. Sanmina-SCI and Viasystems had large stands, while CMK, Meiko, Wus, and many others were all busy as well. Dai Nippon Printing focused on its B2it HDI substrates incorporating embedded active and passive components. This process differs from the EWLP process used by CMK and others in that the components are conventionally attached to the inner layer, reflowed, and then laminated into the printed circuit board. A major cell phone manufacturer confirmed that they have integrated this technology into high volume production. Other production applications now include Bluetooth devices, cameras, fingerprint identification modules (now in widespread use by Japanese Immigration) and other compact devices. Renesas, a major system-in-package manufacturer, is also working on embedded applications.

An issue of concern on the component side was counterfeit, low cost components originating in East Asia. More and more assemblers are beginning to examine the source of their components. It was pointed out by one supplier that if only one or two counterfeit components are placed on an assembly, breakdown could cause the entire end-product to fail.

A reported 70,000 engineers, managers, and others attended the show, and there was something for everyone.

Nepcon World encompasses such a wide range of technologies that it is difficult to write intelligibly on all of them. From printed circuit manufacturing equipment suppliers to wire bonders to silicon wafer polishers to fiber optic network testers, it is all at Nepcon. It is a must for those developing and manufacturing electronics products. Japan is now the global leader in

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electronics manufacturing technology, and Nepcon is an excellent window on future trends.

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