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## NETgain

THE LATEST THE INTERNET HAS TO OFFER



### Web Sites Worth Mentioning

**www.pro-mation-inc.com** Pro-Mation Inc., a provider of printed circuit board handling equipment, selective laser soldering, intelligent routing systems and assembly lines, has updated its Web site to reflect expanded product offerings. For instance, the laser soldering section now includes more definitive information and an analysis about diode laser technology versus soft beam technology.

**www.polyonics.com** Polyonics Inc. has introduced numerous language choices to its Web site. Users can click on the region of interest to select their language of choice, including Spanish, French, Portuguese, Italian, German, Chinese, Korean and Japanese.

**www.bpmicro.com** In association with BP Micro's corporate re-branding, which introduced a new logo and color change late last year, the company has refined the features and improved navigation on its Web site. The information tabs have been reduced from eight to four categories: products, software, support and about BP Micro. Subcategories showcase the most searched and asked-about information.

**www.makemehappy.com** April showers bring May flowers, so take a moment to make somebody's day by emailing them a picture of a beautiful flower for free. Or, if your love life is lacking, you could just send your least favorite people some of the unusual pictures, like mating snails, earthworms and warty frogs.



### Industry Resources

**www.smta.org/knowledge/knowledge.cfm** The SMTA Knowledge Base is a searchable archive of all technical papers presented at SMTA conferences. It currently has over 1,400 technical articles, dating back as far as 1996 and covering a range of electronics manufacturing issues, including assembly, design, packaging, soldering, quality, test and reliability. SMTA International 2003 papers have recently been added to the site.

**www.pcdandm.com/pcdman/resource/pcb\_basics.shtml** The fourth edition of *Printed Circuit Board Basics* is now available. This edition contains an updated primer on single-, double-sided and multilayer PCB manufacturing processes; a review of new technologies; updated PCB specifications; a history of the industry; and an updated glossary of terms and definitions.



### Surveys and Guides

**www.circuitsassembly.com/online/0404/0404salary.shtml** The results of our 2004 salary survey are now available online.

CIRCUITS  
ASSEMBLY  
ONLINE

[www.circuitsassembly.com](http://www.circuitsassembly.com)

- **Guest View: Aqueous Cleaning & DFM**  
Ray Wilson, Victron Inc.
- **Process Defect Clinic**  
Bob Willis, EPS

Would you like to contribute to NET gain?

Contact Robin Norvell at [rnorvell@upmediagroup.com](mailto:rnorvell@upmediagroup.com)

## Celestica Completes MSL Acquisition

Celestica Inc. (Toronto, Ontario, Canada, [www.celestica.com](http://www.celestica.com)), an electronics manufacturing services (EMS) provider, has completed its acquisition of Manufacturers' Services Limited (MSL, Concord, MA), another global EMS provider.

Pursuant to the merger agreement, in consideration for the acquisition, Celestica will issue to holders of MSL common stock and certain holders of MSL preferred stock approximately 14.3 million subordinate voting shares and will pay cash consideration to certain MSL preferred stock holders totaling approximately \$50.6 million.

## Dynatech to Distribute Aegis Software with Samsung Equipment

Dynatech Technology Inc. (Horsham, PA, [www.dynatechsm.com](http://www.dynatechsm.com)), the North American distributor for Samsung surface-mount technology equipment, has signed a distribution agreement with Aegis Industrial Software Corp. (Horsham, PA, [www.aiscorp.com](http://www.aiscorp.com)) to sell and install Aegis' CircuitCAM and Check-Point software on Samsung equipment.

In the market for small to medium electronics manufacturing services (EMS) and original equipment manufacturer (OEM) shops, the Samsung Techwin line includes the newly introduced CP60L compact high-speed chip shooter, CP45F full vision assembly system and a variety of entry-level placement systems, as well as machine-control software that can tie into line manufacturing and enterprise information systems.

Manufacturing and process engineers use CircuitCAM to convert CAD information into visual assembly documentation, reports and optimized machine programs that include the generation and optimization interfaces for the pick-and-place insertion process, inspection and test machines.

## Assembléon, Tecnomatix Extend Collaboration Agreement

Assembléon (Eindhoven, The Netherlands, [www.assembleon.com](http://www.assembleon.com)), a designer and manufacturer of surface-mount pick-and-place equipment for the global electronics industry, and Tecnomatix Technologies Ltd. (Herzlia, Israel, [www.tecnomatix.com](http://www.tecnomatix.com)), a provider of manufacturing process management (MPM) software, have announced an agreement to offer a replacement to the CIMbridge software tool with eM-Assembly Expert, from Tecnomatix Unicam, for all Assembléon customers.

Under the agreement, the software tool—a key component of the printed circuit board (PCB) assembly and test solution suite from Tecnomatix Unicam—will replace the platform currently being used by Assembléon customers. Since acquiring the CIMbridge business unit from Genrad in October 2002, Tecnomatix has been committed to a transition plan to upgrade CIMbridge users to a more advanced, integrated programming platform.

Assembléon customers will also benefit from eM-Document Expert, a subset of the software that automates the creation of method sheets and other documentation for electronic assembly operations.

The programming front-end will interface with Assembléon optimizers and line balancers for all Assembléon machines. Expansion of the platform to other MPM solutions is available directly from Tecnomatix.

## Jabil to Implement Valor Software Worldwide

Valor Computerized Systems (Yvane, Israel, [www.valor.com](http://www.valor.com)), a provider of engineering software solutions to the electronics design and manufacturing industry, has reached an agreement with Jabil Circuit Inc. (St. Petersburg, FL, [www.jabil.com](http://www.jabil.com)), a top-tier electronics manufacturing services (EMS) provider.

Valor's Trilogy 5000 will be implemented at a majority of Jabil's manufacturing and service facilities located in Asia, Europe and the Americas to increase efficiencies in new product introduction (NPI), design for manufacturability (DFM) and assembly process optimization. The deal marks the largest software deployment in Valor's corporate history.

## Agilent Offers Purchasing Programs for Pre-Owned Test Instruments

Agilent Technologies Inc. (Palo Alto, CA, [www.agilent.com](http://www.agilent.com)) has introduced Agilent CertiPrime and Agilent Advantage Assurance, two programs that provide options for purchasing pre-owned test equipment.

In the more comprehensive of the two programs, CertiPrime units are fully remanufactured by Agilent to its standards. In addition, the equipment undergoes the same production-quality calibration as new units, and it includes the latest compatible software and firmware updates. The instruments typically are demonstration and off-lease units less than three years old and represent the most popular models and configurations of Agilent's current test equipment.

The fully remanufactured products are ordered directly from Agilent and ship within five days of receipt of order. The products carry the same warranty as new instruments and the same 60-day return policy as new products. Free technical support is offered during the warranty period. The test equipment is available in volume now. Prices are reduced 30 to 50% from list prices.

The Advantage Assurance program consists of pre-owned instruments purchased through an approved channel partner. Instruments purchased through the program have been fully calibrated and come with one year of protection against all repair costs, along with one year of free technical support. The program is initially available through eBay.

Under the terms of the program, an eBay seller may ship a pre-owned instrument to Agilent, where it receives an initial evaluation and then is fully calibrated by Agilent technicians. Once Agilent determines the unit meets its specifications, the seller is allowed to post the unit for sale on the eBay Web site.

## SMTA Launches Medical Electronics Symposium

The Surface Mount Technology Association (SMTA, Minneapolis, MN, [www.smta.org](http://www.smta.org)) Medical Electronics Symposium will take place May 19-20 in Bloomington, MN. It will explore devices, components, packaging and assembly technologies. Technical sessions include design/reliability, manufacturing techniques and requirements, process and quality control, packaging, sensors/microelectromechanical systems (MEMS) and business/regulations.

A plenary session, NEMI Medical Sector Roadmap, will be presented by Terry Dishongh of Intel Corp. J. Doug Field, vice president of product development and chief engineer for Segway Co., will give the keynote presentation. His company is known for the world's first self-balancing, electric-powered personal transporter.

A second plenary session on Medical Product Outsourcing and Technology Trends will be presented by Keith Robinson, Frost & Sullivan, and a concluding roundtable discussion will focus on trends and challenges associated with bringing new products to market and working with multiple partners in a complex supply chain. The panel will expose barriers to entry of service to the medical sector and the unique challenges associated with supporting the medical products manufacturing process.

## Circuits Assembly Announces Winners of 2004 Service Excellence Awards

UP Media Group Inc. (Atlanta, GA, [www.upmediagroup.com](http://www.upmediagroup.com)) announced the winners of the 2004 Service Excellence Awards (SEAs) for Electronics Manufacturing Services (EMS) Providers and Electronics Assembly Equipment, Materials and Software Suppliers during a ceremony at APEX 2004 in Anaheim, CA. Sponsored by *Circuits Assembly*, the awards highlighted the winners who received the highest customer service ratings, as judged by their own customers.

Participating EMS companies' customers rated each company in five service categories: dependability/timely delivery; manufacturing quality; responsiveness to requests and changes; technology; and value for the price. Overall winners in the EMS category were Plexus Corp. (Neenah, WI) for companies with revenues over \$500 million; Sparton Electronics (Jackson, MI) for revenues between \$100 and \$500 million; and Masstech EMS (Woburn, MA) for revenues less than \$100 million.

*Circuits Assembly* also gave awards to the small and medium EMS companies with the highest scores in each of the five individual service categories. The overall EMS winners were excluded from winning individual categories. In the small-company category, Key Electronics (New Albany, IN) won for dependability/timely delivery and tied with Able Electronics (Hayward, CA) for responsiveness. Able Electronics also tied for the manufacturing quality award with Nu Visions Manufacturing LLC (Springfield, MA). Nu Visions Manufacturing won the value award and tied with Elcoteq—Dallas NPI (Dallas, TX) in the technology category. In the medium-company category, Creation Technologies (Burnaby, Canada) had the highest scores for dependability/timely delivery, manufacturing quality, responsiveness and technology, while Repron Manufacturing Services (Tampa, FL) won in the value category.

Equipment, materials and software suppliers were also rated in five service categories: dependability; ease of use; responsiveness; technology; and value for price. Aegis Industrial Software Corp. (Horsham, PA) received top honors in the manufacturing software category, and Agile Software Corp. (San Jose, CA) won the supply chain management software category.

Electronics assembly equipment award winners were: Asymtek (Carlsbad, CA) for dispensing; Assembléon (Eindhoven, The Netherlands) for pick-and-place; Petroferm Inc. (Fernandina Beach, FL) for cleaning; DEK (Flemington, NJ) for screen printing; and FEINFOCUS USA (Stamford, CT) for test and inspection. EFD Inc. (Lincoln, RI) won the electronics assembly materials suppliers award in the solder paste category.

A donation of \$5,000 was made on the participants' behalf to the Surface Mount Technology Association's (SMTA, Minneapolis, MN) Charles Hutchins Educational Grant.



JoAnn Stromberg (left), SMTA, accepts the *Circuits Assembly* donation of \$5,000 for the Charles Hutchins educational grant from Lisa Hamburg Bastin (right).

## Universal Instruments, CyberOptics Sign Partnership Agreement

Universal Instruments Corp. (Binghamton, NY, [www.uic.com](http://www.uic.com)) and CyberOptics Corp. (Minneapolis, MN, [www.cyberoptics.com](http://www.cyberoptics.com)) have signed an agreement to integrate the new Embedded Process Verification (EPV) inspection technology from CyberOptics into Universal's electronic component placement systems.

Universal will offer the EPV sensor system as a feature on its recently released platform placement machines that incorporate its new placement head. Introduction of the sensor is currently planned for the second half of 2004.

Steven Case, CyberOptics' chairman and founder, said, "Unlike traditional inspection systems that are positioned after the placement machine in an electronics assembly line, EPV puts the inspection process right at the point of action, inside the pick-and-place machine. Ultimately, defects detected by the EPV sensor may be corrected while the circuit board is still within the placement machine."

## Vanguard EMS Selects DEN-ON's Lead-Free Rework Equipment

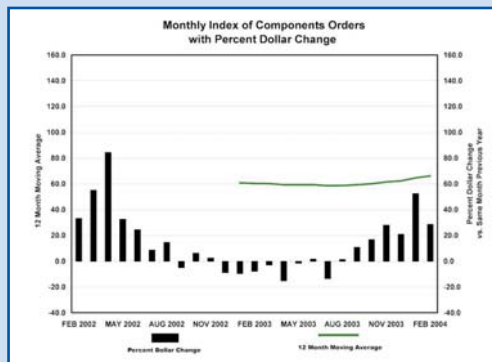
FocalSpot, Inc. (San Diego, CA, [www.focalspot.com](http://www.focalspot.com)), a provider of inspection and rework/repair solutions and services, recently announced that contract manufacturer Vanguard EMS (Portland, OR, [www.vanguardems.com](http://www.vanguardems.com)) has selected Den-on Instruments' RD-500 for advanced rework applications, including rework of lead-free assemblies.

Designed for both lead-free and standard solder, the system is a vision-based, semi-automated reflow, removal and placement rework station for printed circuit assemblies, surface-mount devices (SMDs) and connectors. The system combines high-powered top and bottom heater configuration with auto-profiling technology to efficiently heat and reflow rework applications—from small personal digital assistants (PDAs) and cell phones to personal computer (PC) motherboards and multi-layered avionics backplanes.

## ECA: Industry Comeback Continues in February

The monthly order index compiled by the Electronic Components, Assemblies & Materials Association (ECA, Arlington, VA, [www.ec-central.org](http://www.ec-central.org)) continued its upward movement in February, extending an industry comeback that began last fall. ECA's 12-month moving index is up nearly 10 points in the last six months after being flat for much of the first half of last year.

The ECA represents manufacturers and producers of passive and active electronic components, component arrays and assemblies, and materials and support services.



## China, Mexico Lock Horns to Woo North American Market

Rising business costs in Mexico have compelled North American electronics manufacturing services (EMS) providers and electronics assemblers to reevaluate the viability of continuing manufacturing operations in that region.

New analysis from Frost & Sullivan (Palo Alto, CA, [www.electronics.frost.com](http://www.electronics.frost.com)), *China versus Mexico EMS Provider Markets*, reveals that the world EMS provider market generated revenues of \$92.2 billion in 2002 and is likely to reach \$334.7 billion by 2009.

China is emerging as the most preferred low-cost destination for manufacturers across the world with its inexpensive, yet educated or skilled, workforce. China's relatively high quality of products, rapidly developing infrastructural facilities and untapped domestic market are helping to fuel market expansion.

Electronics manufacturers, though lured by the overwhelming benefits offered by China, are treading cautiously due to the laxity in strict enforcement of intellectual property protection laws. Widespread reports about the duplication of processes and products by local manufacturers have increased these concerns.

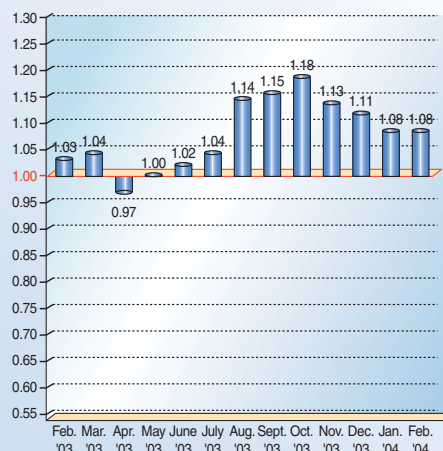
Currently, the Chinese government is working toward improving intellectual property protection while expediting its research and development efforts. This is likely to enhance China's attractiveness as a popular low-cost destination while reducing its reliance on Western technology.

## February 2004 Book-to-Bill

The North American IMS/PCB Industry Book-to-Bill Ratio for February 2004 remained firm at 1.08. The ratio is calculated by averaging the index numbers for orders booked over the past three months and dividing by the average index numbers for sales billed during the same period. A ratio of more than 1.00 suggests that current demand is ahead of supply, which indicates probable near-term growth.

Industry sales billed (shipments) in February 2004 increased 27.5% from February 2003, and orders booked increased 42.3% from February 2003.

Compared to 2003, shipments of PCBs are up 27.9% year-to-date, while bookings of PCBs are up 30.9% year-to-date.



### Universal, DaimlerChrysler Announce China Partnership

Universal Instruments Corp. (UIC, Binghamton, NY, [www.uic.com](http://www.uic.com)) has established requisites for a long-term partnership with Shanghai, China-based DaimlerChryslerSIM Technology (DCSIM Tech.). DCSIM Tech. is a joint venture between DaimlerChrysler and Shanghai Institute of Microsystem and Information Technology.

According to UIC, the objective is to build local expertise in advanced electronics packaging by training engineers, working with local suppliers, increasing local infrastructure and supporting local company projects for first- and second-level packaging.

Under the draft terms, UIC—with laboratories in Binghamton and Suzhou, China—will also help sponsor a student from DCSIM Tech. to join the electronics packaging program at Bing-

hamton University. DCSIM Tech. will offer students and other resources such as failure analysis and reliability testing for specific Universal projects.

### TKK, Enthone to Strengthen Plating Process in Asia

Tanaka Kikinzoku Kogyo K.K. (TKK) and Enthone Inc. (West Haven, CT, [www.enthone.com](http://www.enthone.com)), a Cookson Electronics company, have reached an agreement to strengthen their precious metal plating process business in Asia. The agreement includes strengthening customer driven partnerships in Korea, Taiwan, China, Hong Kong, the Philippines, Singapore, Malaysia and other countries throughout the region.

As part of the agreement, Enthone's joint venture, Electroplating Engineers of Japan Ltd. (EEJA), will sell, distribute and market its precious metal surface treatment chemicals in Asia. EEJA was established in 1965 as a joint venture between TKK and Enthone. The company markets precious metal plating processes for both electronic goods and semiconductors throughout Asia.

TKK will increase the number of sales engineers specially trained in surface treatment processes at its existing sales offices in the area. It will also strengthen the process of distributing precious metals' salts as well as recycling precious metals waste through sales activities.

### Intelicoat Names Oblong China Distributor

InteliCoat Technologies (South Hadley, MA, [www.intellicoat.com](http://www.intellicoat.com)), a manufacturer of coated paper, film and specialty substrates for imaging and electronic technologies, has appointed Ricky Wu and Oblong Technology (Taipai, Taiwan) as its new distributor for the company's Tecnilith artwork protect film across China.

Oblong Technology has provided sales and technical support for InteliCoat protective film in Taiwan over recent years. Now, the company is extending its reach to customers on the Chinese mainland.

Wu, Oblong's section manager and a 17-year industry veteran, will coordinate the sale of one of the films for printed circuit board (PCB) artwork in matte and super matte finishes.

Would you like to contribute to **Asia WATCH**?  
Contact Robin Norvell at [norvell@upmediagroup.com](mailto:norvell@upmediagroup.com).

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