

# Bringing it All Together at UIC's Grand Opening at Shekou, China

**T**raditional Chinese lion dances and state-of-the-art pick-and-place machines share a common characteristic that can be described as synergistic precision. Earlier this year, these two diverse movements, one cultural and the other high tech, joined together in a colorful spectacle at Universal Instrument Corp.'s (UIC, [www.uic.com](http://www.uic.com)) grand opening of their Shekou, China, facility. You won't find Shekou on a map; it is a high-tech industrial park in Shenzhen, just across the border from Hong Kong. Anyone who is serious about surface-mount technology knows Shenzhen.

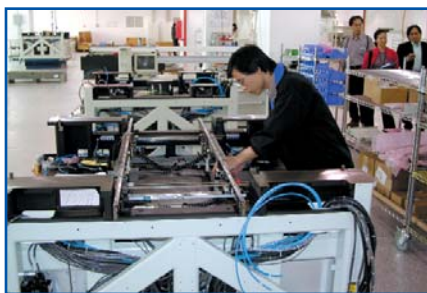
## A Spectacular Opening

At the launch, UIC officially opened, with considerable fanfare, its \$5 million facility, Universal Instruments Manufacturing (Shekou) Co. Ltd. Invitees included professionals, technical media, the general press and associates from affiliated industries. Over 190 global guests attended the event; the majority were from the Asian areas the new plant expects to serve. The gathering, a surface-mount United Nations of sorts, was comprised of engineering and management professionals, presidents, managing directors, officials and dignitaries.

Presentations and press conferences gave information about the company, the reasons for its move and possible future directions. A tour of the plant included the placement machine assembly floor, a surface-mount process development line and a technology gallery. Proceedings were conducted in both English and Mandarin. The event was a colorful affair, with balloons, streamers and flags lining the plant's walkways, cultural Chinese lion dances for luck and good fortune and a ribbon-cutting ceremony. Many guests participated in a game of golf, and the day ended with 200 guests at a gala dinner.

## New Plant, New Machines

The event was also the official launch of UIC's two new platforms, Vantis and GSM Genesis. Both machines trace their lineage to the company's GSM platform. The new platforms were developed to address the changing nature of



products and manufacturing environments. The design goals and features are unique to each platform, but the generic driving force is the growing use of 0402s, 0201s, chip-scale packages (CSPs) and direct chip attachment.

The new platforms reportedly combine placement accuracy with long-term stability, high placement speeds, flexibility and low maintenance but are positioned to compete in the low-to mid-end spectrum. The new machines will be produced in the Shekou facility for Chinese customers and eventually for export to other Asian markets.

## The Soul of the Plant

The plant floor area of some 4,700 sq. m. demonstrates ample room set aside for expansion. The facility also houses a full surface-mount line used to support customers' hands-on process training and support needs. The technology gallery displays a variety of supporting technologies, such as the vision systems, placement head and drive mechanisms used in the machine build.

The facility is operational and currently assembles machines for the local markets. The first five machines were assembled as early as Q4 2001 -



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Q1 2002 from subsystems shipped from the U.S. The facility is now expected to assemble a growing proportion of locally manufactured subsystems. By 2005, UIC expects up to 50% of its product platforms to be built in the Shekou facility.

## The Heart of a Machine

Most of us are familiar with assembly production processes, but the opportunity to see surface-mount equipment manufacturing is a rare treat. The assembly of precision equipment on the UIC floor was fascinating. The process sequence starts from the base frame subassembly upwards. Precision parts and modules are added with testing at each step, the final additions being customer-configuration specific. Precision glass slugs are used with dedicated software as part of the final test to characterize the machine's placement capability.

The heart of the machine lies in the precision and value of its parts. The subsystems, precision parts (such as the lead screws used in the x-y movements) and the placement head assemblies are complex. The current local content of parts is reportedly nearing 70% and growing. Many of UIC's supporting subcontractors have established local presence, and the company expects that others will do so in time. According to the company, it expects to reach close to 100% local content by next year.

## Focus on Asia

When a global company such as UIC makes a major strategic move, examining its reasoning is worthwhile. Before understanding UIC's move to China, let's examine the impact of recent global events transforming our industry. The worldwide electronics industry has seen a downward spin since 2001, and its impact on global economies and the high-tech sector in particular has led to

one of the most challenging periods for Asian assembly operations.

Although our industry is cyclical, the last downturn of similar magnitude in Asia was around 1984. For a while, "head count management," "right sizing" and "strategic refocusing" were soft words conveying the economy's impact on Asian operations. Events over the past year have triggered many operations to relocate to lower-cost areas. China, well poised for hardware assembly, has been a major magnet for electronics manufacturing services (EMS) and subcontractors. These moves were evident before 2001, but the last two years have accelerated erosion in mid-to low-end product manufacturing in Singapore, Thailand and Malaysia, all main centers of surface-mount assembly operations. Meanwhile, China, picking up much of this business, has been booming.

In elaborating its move, UIC enumerated different operational and business factors, differentiating its approach from those just looking for the lowest cost. "It's not about cheap labor," Ian McEvoy, UIC's president, explained. McEvoy cited the facility as "more than a manufacturing unit: it's a China business," and he stated that he was "impressed by the dedication and work ethic of the staff."

The facility is going to be a hub for applications support, training, spare parts, finance, product development and marketing activities. Its launch follows soon after the company's earlier ventures in China, including the May 2002 opening of a Technical Excellence Center in nearby Sozhou. The Asian market accounts for over 40% of UIC's global revenues, and this number is growing. "China is the foundation for global growth," reads part of the headline in a company press release.

## Conclusions

UIC's move is indicative of how leading companies are restructuring their business strategies in a dynamically changing worldwide situation. The company's approach positions manufacturing closer to its major markets and combines it with a variety of support and training services, forming an operational base instead of just a manufacturing cell.

The Asian emphasis is a reflection of changes in the surface-mount EMS and original design manufacturer (ODM) segments and shifts in the electronics marketplace. The new equipment platforms signal the changes seen in the nature of products and associated assembly. Technologies

## In Other Asia News:

### Three-Five Systems Acquires Malaysian EMS Company

Three-Five Systems Inc. (TFS, Tempe, AZ, [www.threefive.com](http://www.threefive.com)), an electronics manufacturing services (EMS) and display products provider, announced recently that it acquired the business and certain assets of Unico Technology Bhd., a privately held Malaysian company located in Penang.

Unico is an electronic manufacturer for original equipment manufacturer (OEM) customers in the computer, server and communications industries. The Unico business was acquired by TFS Electronic Manufacturing Services Sdn. Bhd. (TFS-Malaysia), a joint venture established by Three-Five Systems Inc. and the former parent company of Unico Technology to facilitate the acquisition.

As a result of this transaction, TFS-Malaysia now has six surface-mount manufacturing lines with full box-build capability, including lines dedicated to new product introduction and prototyping activity. TFS-Malaysia will also offer engineering support, including radio frequency (RF) design, automated printed circuit board assembly, in-circuit and functional testing, systems integration and box-build, supply chain management and turnkey packaging and fulfillment services.

TFS-Malaysia is owned 60% by an overseas TFS subsidiary and 40% by Unico Holdings Bhd., the former parent of Unico. Unico Holdings is the investment arm of the Chinese Chamber of Commerce of Malaysia. The financial statements of TFS-Malaysia will be fully consolidated with those of TFS.

TFS expects that this acquisition will be accretive, cash flow positive and contribute \$15 to \$20 million of additional revenue to TFS for the remainder of 2003. TFS' share of the initial cost of capitalizing TFS-Malaysia was under \$5 million, most of which will be used for working capital. No advance payment was required for the acquisition of the property, plant and equipment of Unico, all of which will be leased from the seller.

### John Yim Appointed VP Sales, Asia, by Enthone Inc.

John Yim has been appointed vice president of sales, Asia, by Enthone Inc. (West Haven, CT, [www.cooksonelectronics.com](http://www.cooksonelectronics.com)), a Cookson Electronics PWB Materials & Chemistry business. Yim will be responsible for the sales and technical support of Enthone printed wiring board (PWB) products and processes throughout the Asia Pacific Region.

Yim joined Cookson Electronics in 1990 and has been instrumental in establishing and growing the PWB chemistry and Polyclad laminate materials business throughout Hong Kong and China. Yim served his PWB apprenticeship at Elek and Eltek, followed by a period at LeaRonan as sales manager for the company's PWB division.

Yim earned a B.A. in administrative studies/economics from the University of Winnipeg and a MSc in information system from the Hong Kong Polytechnic University. Yim is a committee member of the Hong Kong Printed Circuit Association (HKPCA).

related to CSPs, direct chip attach (DCA) and small form factor components in mid-to low-end products are increasingly pervasive, calling for assembly platforms better suited for production in cost sensitive and medium-mix, medium-volume environments.

While this column centers on the journey of one company, it hopefully gives a broader perspective of many aspects of surface-mount technology in the East. If you happen to live and work in the Asian assembly environment, or elsewhere for that matter, don't be surprised to

see your next assembly machine bearing a "Made in China" tag.

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Would you like to contribute to **Asia WATCH**?  
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