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二十世纪八十年代以来，新加坡一直是一个电子制造业中心。中国作为低成本制造中心越来越受欢迎，使重点北移。但是，新加坡仍然是其它低成本制造资源的门户，并继续提供一个稳定的法律和经济平台，从那里探索如越南的新兴低成本地区。本文将探讨两家新加坡公司的战略，并分析该地区的一些正在形成的趋势。

After China, What's Next?

Susan Mucha

Singaporean companies explore new frontiers in Vietnam.

Singapore has served as a center for electronics manufacturing since the 1980s. The growing popularity of China as a low cost center for manufacturing has redirected focus north. However, Singapore still serves as a gateway to alternative sources of low cost manufacturing and continues to offer a stable legal and economic platform from which to explore emerging low labor cost regions such as Vietnam. This article will explore the strategies of two Singaporean-based companies and look at some evolving trends in the region.

CEI Contract Manufacturing Limited

CEI Contract Manufacturing Limited is a mid-tier electronics manufacturing services (EMS) provider headquartered in Singapore; the company also has facilities in Batam, Indonesia and Vietnam. CEI's entry into Vietnam is relatively recent. Its Vietnam operation is currently doing customer qualification runs and is located in the Vietnam-Singapore Industrial Park (VSIP), which is 17 kilometers north of Ho Chi Minh City.

CEI chose an industrial development in Vietnam with strong ties to Singapore, in part because of existing business relationships.

"We chose to locate in the VSIP because of our relationship with Singapore Technologies (ST)," said SC Tien, CEI's executive chairman. "ST is a shareholder of CEI, and ST also has

interest in VSIP. Therefore, we are familiar with the management of VSIP. This was one major consideration for us.

"VSIP is a very well managed and maintained industrial park," continued Tien. "We went in at the time when demand for sites was low and construction cost highly competitive. We engaged a Vietnamese architectural/civil and structural engineering consultant to work on the project. We did not encounter any major show stopping events, and everything was handled to our satisfaction in terms of cost, time of completion and quality of work. We have hosted several visits by our customers, and comments on the facility have always been very favorable."

Tien also mentioned that he had been told that over 100 industrial parks had been established in Vietnam over the last few years. Some were foreign-owned, and many were locally owned. "I believe that the foreign-owned, particularly those owned by the Japanese, are all of very high standards," he added.

Timothy Toh, IE Singapore regional director-Europe, noted that Singapore was number one in investments by registered capital, although Japan led in the category of implemented capital.

Tien did not feel that either Vietnam or Batam (an island off the coast of Indonesia) had sufficient infrastructure for independent operation.

"I believe that both Vietnam and Batam cannot stand alone by themselves, at this time and in the near future, without the support of Singapore-based headquarters," stated Tien. "Singapore is still effective in providing necessary support in terms of admin, finance, engineering, sales and pro-



CEI Contract Manufacturing Ltd.'s Vietnam facility.

curement. On the other hand, for the highly competitive business of PCB [printed circuit board] assembly, Singapore can no longer compete as a stand-alone operation, especially on the consumer-type products. We, as a Singapore-headquartered company, need to learn to leverage on the lower cost production areas like Batam and Vietnam.

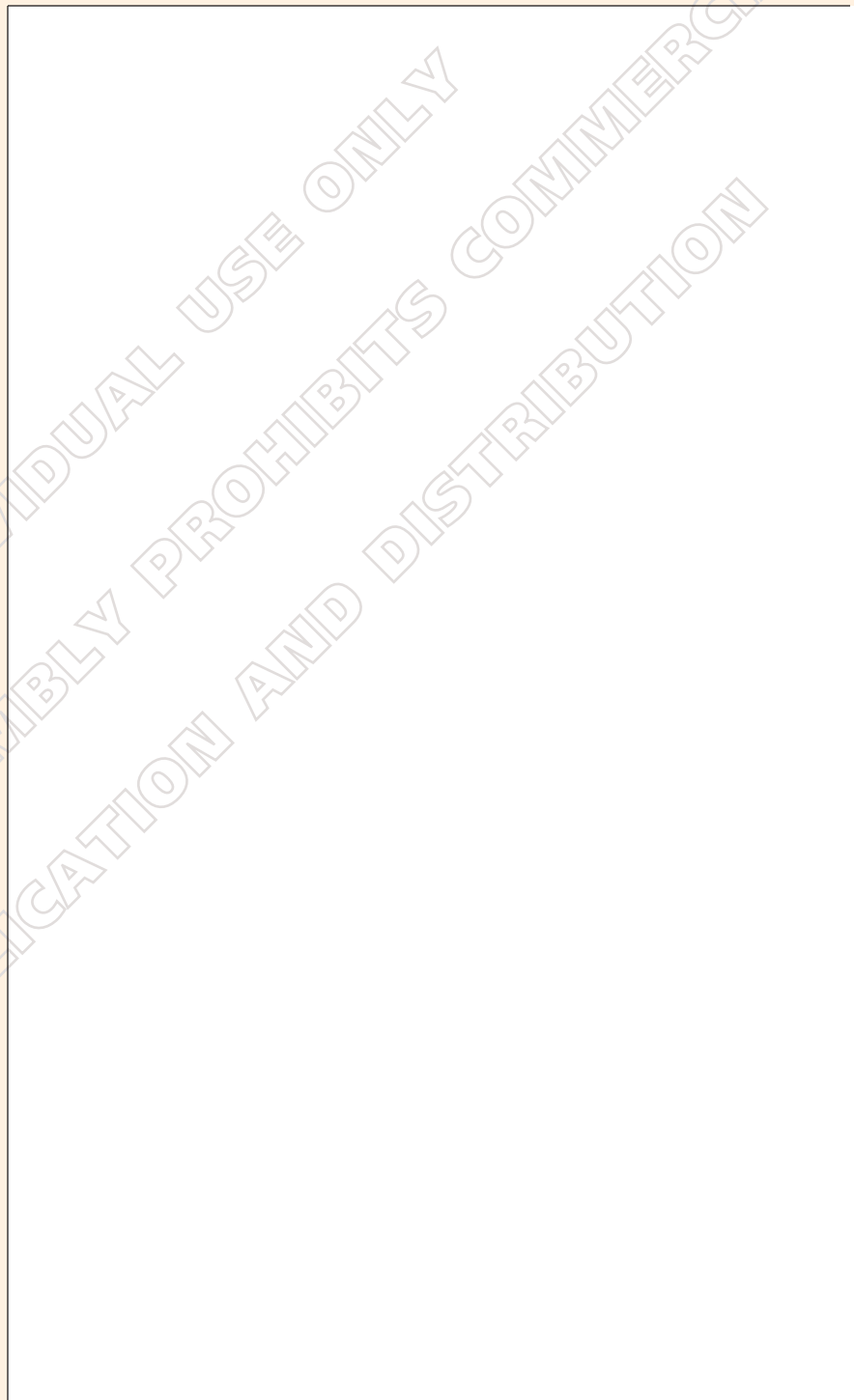
“On the longer term, Vietnam may have an edge over Batam in terms of availability of trainable college-level engineering graduates,” continued Tien. “Vietnam has several four-year college-level engineering schools, mainly in Ho Chi Minh City and Hanoi. The standard of educational training is acceptable, but Vietnam lacks the industries to provide them with practical training. This will take time to develop as the country makes progress. We know that their college graduates are good because it is confirmed by the two universities in Singapore, where I was told there are nearly 500 Vietnamese students at the graduate and undergraduate levels. We hope to develop, over the longer term, locally trained engineering to support our operations there without the need for engineering support from Singapore.”

Infrastructure challenges in Vietnam are still a concern, but interest in the market’s potential continues.

“We have heard of issues with logistics and customs,” stated Tien. “This is a big question that we have asked ourselves many times over. The VSIP management continues to assure us that they are there to help if such issues come up. So far, we have not given them very tough assignments to tackle yet. We were able to recruit quite readily some local engineers, and we brought them to Singapore for several months for training. They are now all back in Vietnam. So far, so good. The one issue I keep grumbling about is the high cost of telecommunications. Quality of the line is good, but the rate of overseas calls is still unacceptable. I have heard many times over from all relevant people... ‘rates are coming down’ ... ‘rates are improving’ ... but I believe it will be awhile before it can come down to the rate of, say, calling the U.S. from Singapore ... now at the very good rate of Singapore 5 cents per minute.

“China totally outshines Vietnam as the place favored for manufacturing at this time, especially with the Japanese,” continued Tien. “The support industries in Vietnam are still at the very infant stage. Therefore, there is limited opportunity to do local sourcing. Nonetheless, there are some big Japanese names like Canon and Fujitsu that have set up very

sizeable operations in Hanoi and Ho Chi Minh City, respectively. Our neighbor in the VSIP is a Korean company. I was told they make stereo speakers on an OEM [original equipment manufacturer] basis for major brands. This Korean company has been expanding quite well, indicating that they are quite pleased with their experience so far. Yes, at this time, there is



little interest in manufacturing in Vietnam from North America, but there are many Viet Kieu (overseas Vietnamese), particularly from the San Francisco Bay Area, who are venturing back to set up software companies.”

An Evolving Strategy

Tien indicated that the Vietnam facility represents a continuing evolution in long-term strategy.

“We have not started full production PCB assemblies in our Vietnam facility yet,” stated Tien. “Our main business focus has all along been in the very high-mix, low-volume area. The additional facility in Vietnam has given us some flexibility to take on maybe higher volume work ... this I do not rule out. We are also looking at some local needs that we have been able to identify. Batam, Vietnam and China are not mutually exclusive in our strategy. We continue to believe that China cannot be ignored, and we will do something in China in the near term.

“We modeled our facility in Vietnam on the one we have in Batam,” continued Tien. “We will keep our investment in Vietnam, in terms of size of facility, amount of equipment, etc., the same level as in Batam [currently five surface-mount lines]. This way, we can use the facilities to back up each other. We are also looking at China for other offerings besides PCB assemblies. Metal and plastics do fit in well for us, and China has many such operations that will save us the headaches and time of doing greenfields. We know that China is also a sensible place for us to grow our hardware and software product development team. So far, we have tapped into such third-party expertise in India, which we will continue to build on.”

Setting High Quality Standards

CEI has also chosen to focus on QS9000 registration for its quality system, although automotive production is not currently a core focus.

“The primary motivation [for adoption of QS9000] was our philosophy of continuous improvement in quality and operations,” said K.H. Tan, CEI’s managing director. “So, after getting qualified for

Interest in Alternative Manufacturing Location Options Continues

As this article was going to press, U.S.-headquartered EMS provider Spartron Corp. (Jackson, MI) announced that its board of directors had approved an expenditure of up to \$7 million, including land, building and initial operating expenses, to expand the company’s operations into Ho Chi Minh City, Vietnam. The authorization includes the construction of a 50,000 sq. ft. facility on a parcel of land in the Vietnam Singapore Industrial Park large enough to accommodate a future expansion of equal size as the business warrants.

With the addition of the new facility, Spartron will be the first U.S.-owned EMS provider in Vietnam. The new facility will house both electronics manufacturing operations and engineering services for Spartronics, Inc., a wholly owned subsidiary of Spartron Corp. With the addition of Spartronics, Spartron Corp. will have over 800,000 sq. ft. of combined manufacturing and administrative space in the U.S., Canada and, now, Vietnam. Construction will commence almost immediately with completion expected by January of 2005 or before. The company will begin hiring and training personnel during the summer months prior to the opening of the facility. Jason Craft, longtime director of operations for Spartron’s Brooksville, FL, location, has been promoted to VP and general manager of Spartronics, Inc.

ISO 9002 for so many years and having examined the QS9000 features, we believe the QS9000 certification will sharpen our competitive edge further through more rigorous training and development for our people—[and subsequently] our business operations, in general, and our production system, in specific. It just keeps us on our toes, so to speak. Then comes the secondary objective to explore the automotive market, which is now being addressed working with Bitwave, a sister company, who is talking to the top marques like Daimler, BMW and Audi and also second liners such as Renault. ISO/TS16949 will be a logical migration for CEI in 2005. Meanwhile, we are now planning for AS9000 certification by PSB by end of 2004, again with the primary motivation of further improvement followed by exploring the avionics market as a secondary motive. So, it was a pretty unique approach of setting the priority, which worked out quite well for CEI.”

SembCorp Industries

SembCorp Industries is an infrastructure service provider with five key businesses in utilities, engineering and construction, environmental engineering, logistics and marine engineering. Its SembCorp Parks subsidiary operates industrial parks in Singapore, China, Vietnam and Indonesia. SembCorp operates in the VSIP. While every industrial

park offers some degree of infrastructure support to tenant companies, in Vietnam industrial parks are critical links in the industrial development food chain and take a much greater role in creating basic infrastructure.

“The VSIP provides an integrated solution to its tenants,” said Benjamin Chow, a member of the VSIP’s staff. “This is comprised of the infrastructure and soft skills required to run the VSIP efficiently. Infrastructure would include facilities like an efficient road network system, power generation, telecommunications and broadband facilities, fresh water treatment, sewerage treatment, drainage system, amenities center and other engineering and safety considerations.

“The soft skills set us apart in the management and administration of the VSIP,” continued Chow. “It is also key to preserving a good environment for business while protecting the investment values over the long run. Tenants in the VSIP are comprised of nationalities from at least 18 nations. Except for running the tenants’ business, all matters relating to the operations of the VSIP are channeled through the customer service professionals. The main focus of the multilingual customer team is on investment licenses, recruitment and VSIP matters. However, they are also able to assist on matters ranging from taxation, import/export human

resources, legal, etc. This facilitates an efficient 'one-stop shop' solution for the tenant to experience hassle-free operations."

The VSIP offers two basic options: custom purpose factories built on leasehold land and rental of existing factories in sizes of 1,000 and 2,000 square meters.

A key difference exists between SembCorp's park management model in Vietnam and that in the company's other parks in other countries.

"The services that are provided in the other parks in other countries under our umbrella are the same," added Chow. "That is an integrated solution, one-stop shop. However, the VSIP is privileged to have a dedicated approving authority (termed management board) housed in the VSIP for exclusive approval of licenses and other business matters for VSIP tenants only."

Foreign Investment Growing

Chow also shared some information regarding development trends the VSIP was observing in Vietnam.

"As a developing nation, there are many investments coming into Vietnam," stated Chow. "The key areas of industrial investment for 2003 were the heavy industries, ceramics, clothes, consumer products, vehicles, electrical and electronics, chemicals and pharmaceuticals, food and beverage, and gas and petroleum. Foreign investments were broad-based, and there is no noticeable trend in investment. However, the country is hoping to attract foreign direct investment in mechanical engineering, chemicals and IT [information technology] electronics to spearhead the development of Vietnam."

He added that, while intentional clustering of electronics investment was not occurring, some patterns were emerging.

"There is no integrated clustering of electronics companies in Vietnam, and there is no fully facilitated supply chain management system in Vietnam," said Chow. "The electronics companies present in Vietnam are located mainly in the southern region in the provinces in and surrounding Ho Chi Minh City. These are mostly consumer electronics companies. The major investment in electronics are from Japanese companies that

include Fujitsu (PCB/a), Nitto Denko (flexible PCBs in VSIP) and Canon (printers in Hanoi). Another major milestone is the HP presence in Ho Chi Minh City through its contract manufacturer Allied Technologies Ltd. in Singapore for desktop PC assembly to be operational in 2005. Local content will be metal stamping, plastics molding and labor for assembly.

"Electronic manufacturing is certainly an area that the VSIP is targeting," added Chow. "In terms of training, the VSIP has closely associated with the Vietnam Singapore Technical Training Centre where student graduates are being funneled to VSIP for employment. The campus is five minutes away and based on Singapore technical training standards. To continue as a leading industrial park and choice location for investment and employment, the future plan of the VSIP is to be facilitated with research, standards and teaching institutes, integrated supply chain management (SCM) and features that create a more conducive 'business park' environment as the attraction of the future."

Chow also sees infrastructure challenges.

"In the area of IT electronics, the challenge can be quite big as there is a lack of supporting industries and SCM infrastructure," Chow indicated.

A Strategy to Watch

The comments above clearly indicate that Vietnam is not going to replace China as the preferred low cost manufacturing destination in the near future. Infrastructure is in development in the areas of key services such as telecommunications and in terms of established supply chains. Great variation can also occur in the efficiency of the permitting process

between regions, creating unanticipated delays. While the political climate appears favorable to business investment, no long-term guarantees of favorable economic policy exist. On the other hand, several trends make Vietnam a country to watch:

- increased foreign investment by large electronics OEMs
- a gross domestic product (GDP) growth rate in the 7% range since 2002, second only to China in Asia
- large supply of available labor, strong work ethic and, long-term, a large potential consumer market
- labor rates nearly half the cost of China
- industrial park infrastructure sufficient to minimize market entry learning curve.

Low cost labor markets are constantly evolving. As demand increases, often costs rise and service drops. While Vietnam is not the magnet for manufacturing that China has become, it may be a viable longer-term alternative strategy for export-focused manufacturing as China's economic development focus matures. Proximity to Singapore provides access to well-developed infrastructure for operations not well managed in-country, as well as the ability to regionally headquarter in a country with strong legal and finance systems. The focus of these two Singaporean-headquartered operations provides insight into Asian expansion strategies that may support sustainable competitive advantage over time. ■

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Companies desiring to explore supply base opportunities in this evolving region may wish to attend GATE 2004, scheduled to be held in Singapore from July 19-23. Sponsored by IE Singapore and HQ Link Pte. Ltd., the event includes a conference and focused matchmaking events between buyers and suppliers. An unusual aspect of the event is that buyers can actually define a list of commodities they wish to identify sources for and then be matched to a prequalified list of suppliers in those commodities in a series of scheduled interviews held concurrently with the conference. For more information, see the news section on p. 8 or www.gate2004.com.