

JOC WEEK

THE JOURNAL OF
COMMERCE

July 9 - 15, 2001

Volume 2, Issue No. 27

\$5.00

THE NEWSMAGAZINE OF TRADE LOGISTICS

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COVER STORY

Aerotropolis

It's probably not in your dictionary, but you can find examples around every air-cargo hub

BY WILLIAM ARMBRUSTER

Smith & Nephew Orthopaedics distributes replacement hips and knees worldwide, sometimes on short notice. The company finds that it helps to have its U.S. distribution center three miles from Memphis International Airport, home of FedEx.

"Our proximity to the FedEx hub here in Memphis allows us the maximum amount of time to get our products distributed on a daily basis," said Angie Craig, a spokeswoman for Smith & Nephew. The company's products can be delivered to FedEx as late as midnight for shipment to hospitals, allowing surgeries to be performed the next morning.

Smith & Nephew isn't alone. As more companies depend on time-definite transportation as part of their business models, airport access is emerging as a key logistics-management tool. Companies are using proximity to airports to provide just-in-time inventory. The evidence is visible in the distribution centers rapidly clustering around hub airports throughout the world.

There's even a word coined to describe a logistics cluster around a hub airport — "aerotropolis." These clusters include bonded warehouses, industrial parks and distribution centers as far as 15 miles away. John Kasarda, director of the Kenan Institute of Private Enterprise at the University of North Carolina, said the growth of "aerotropoli" has far-reaching impact. "Airports will drive 21st Century urban development as much as highways in the 20th Century, railroads in the 19th Century and seaports in the 18th Century," he said.

Kasarda cites Memphis and Louisville — the principal hubs for FedEx Corp. and United Parcel Service — and other U.S. airports such as Dallas/Fort Worth, Chicago O'Hare, Miami, Washington Dulles and Ontario, Calif. The phenomenon isn't limited to the U.S. The two best examples outside the United States are Singapore and Schiphol Airport in Amsterdam, but Hong Kong and the new Incheon air-



port in South Korea are prime candidates to achieve aerotropolitan status.

Emir Pineda, manager of cargo and trade development for Dallas/Fort Worth International Airport, predicts that aerotropolis is a term that people will be hearing more frequently. "We have over 18,000 acres, of which only 10,000 are developed," Pineda said. "We have all that capacity for future development. A lot of that development is going to be reserved for air cargo, logistics and distribution facilities."

"Speed and agility have become so critical to the new economy that air commerce is quickly becoming its logistical backbone," Kasarda said. He noted that airborne shipments account for 42% of intercontinental trade as measured by value.

Air is the preferred mode for shipping microelectronics, automobile electronic components, aircraft parts, mobile telephones, high-fashion apparel, pharmaceuticals, optics and small precision manufacturing equipment, along with many perishables such as seafood and fresh-cut flowers.

Shippers confirm Kasarda's observation. "Access to airports with good air cargo services and competitive rates is critical to our success," said Mark Drury, a spokesman for Dell Computers. "The key to Dell's success is our ability to maintain our status as the low-cost leader in our industry. Efficient and cost-effective freight operations are integral to that effort."

Memphis, where FedEx has its main U.S. hub, is an example of how companies use air-cargo centers in their logistics strategies. Beside Smith & Nephew — whose U.K.-based parent, Smith & Nephew Plc., uses FedEx's Paris hub for European distribution — companies with distribution centers near the Memphis airport include Nike, Baxter Healthcare, Pfizer Inc., Sears Logistics Services, Williams-Sonoma and Hewlett Packard.

"If you store products in Memphis, they can be put on a plane at midnight for next-morning delivery. That



John Kasarda, director of the Kenan Institute of Private Enterprise at the University of North Carolina, expects airports to drive urban development.

tremendously extends a company's business day," said Larry Henson, a spokesman for the Memphis Chamber of Commerce. Nike chose Memphis as the location for its sole apparel distribution center and one of its two footwear distribution centers.

"If a Foot Locker store is running a special on a new Nike product and sales are running high, they can put in an order at the time the store is closing and have it by the time the store opens next morning," Henson said.

Larry Cox, president and chief executive of the Memphis-Shelby County Airport Authority, said FedEx "has transformed Memphis from a sleepy, mid-sized southern city into a global trading center." He said the presence of FedEx has resulted in the development of "millions and millions" of square feet of new distribution facilities and a full-employment economy.

Economic development officials in cities that have hubs describe the airports as their economic engines. "We've got a whole region that thrives on the airport," said Mary Jane Olhaso, economic development director for the city of Ontario, Calif., where UPS has its West Coast hub.

Companies that have relocated to Louisville within the past 10 years

because of its status as UPS's principal hub include Mercedes Benz, which distributes parts from the city; Amgen, a pharmaceuticals distributor; Stride Rite, with a shoe distribution center; Hannah Andersen, a children's catalog clothier; and Clearwater Fine Foods Inc., a large distributor of seafood.

"They want to be here because they ship their goods worldwide overnight taking advantage of UPS air services here," said Rande Swann, a spokeswoman for the Louisville Regional Airport Authority.

"Our customers are increasingly looking for good transportation connections in order to meet a variety of time-definite deadlines," said Lynette McIntire, a spokeswoman for UPS Logistics, which handles computer repairs for some customers at its Louisville distribution center. Customers can drop off packages as late as 1 a.m. for next-morning delivery, although midnight is the usual deadline.

"There are some customers where we can push the envelope a little further depending on where they're going," said Mark Giuffre, a spokesman for UPS Airlines.

Development around cities that have already achieved air-cargo hub status has largely been spontaneous,

Kasarda said. Future hub airports such as Hong Kong's Lantau Island have dedicated expressway links with truck-only lanes and high-speed rail connections to the central city. These "aerolanes" and "aerotrails" will efficiently connect airports to nearby and more distant business and residential centers.

"Accessibility, accessibility, accessibility" could replace "location, location, location" as the new mantra for corporate real estate specialists and urban planners.

The roster of aerotropolis continues to grow. Other candidates include Subic Bay in the Philippines, where FedEx has its Asian hub, and Kuala Lumpur, which opened a new airport in 1998, the same year as Chek Lap Kok in Hong Kong.

Kasarda predicts that Viracopos airport, in Campinas, Brazil, 60 miles east of Sao Paulo, will become the air cargo and e-commerce fulfillment center of South America over the coming decade. High-tech manufacturing, distribution, and logistics industries are already clustering around Viracopos, which is primarily a cargo airport.

Guadalajara, Mexico, might be another candidate, said John Meyer, vice president of AMB, a San Francisco-based developer of airport facilities. "About every major electronics company you can think of is located at or near Guadalajara Airport," he said.

Kasarda said the winners will be airports that successfully position themselves as gateways. "They will benefit as a result of the trends impacting global business — speed, agility and global supply chains," he said.

But as companies cluster around airports, one drawback has emerged that could slow the trend.

"Land values have started to climb so high that companies are moving away from airports," said Julian Keeling, president of Consolidators International Inc., a Los Angeles-based freight wholesaler. ■

Big plans for Kaohsiung

Joint venture will develop Taiwanese city
into an air-cargo hub

BY WILLIAM ARMBRUSTER

Kaohsiung, already the world's fourth-busiest container port, could become a major air cargo hub for trade among Taiwan, China and the rest of the world.

A new joint venture between the Taiwan Sugar Corp. and Airis Corp., an Atlanta-based developer of airport facilities, calls for conversion of 120 acres bordering the Kaohsiung airport into a manufacturing and air-cargo center that could handle 300,000 tons a year, said Robert Kelly, senior vice president of Airis.

The plan envisions freighter aircraft delivering components produced in China, Vietnam and other countries with low-cost labor to Kaohsiung for final assembly in a free trade zone at the airport.

"Cargo will be offloaded and put directly on a conveyor into the manufacturing facility," Kelly said.

After the final product is packaged and labeled, it would then be sent back through that same conveyor belt.

The high-tech products then would be placed on other aircraft for shipment around the world, he said. The Export Processing Zone Administration in Kaohsiung anticipates that 98% of all orders for commodities produced at the airport could be assembled and shipped within two days of that order.

He noted that most airports do not have enough land to accommodate manufacturing. The land used in this project was previously dedicated to growing sugar cane,

The deal, expected to be signed within the next two months, is largely contingent on the entry of both China and Taiwan into the World Trade Organization — expected later this year — and the start of direct flights across the Taiwan Straits. Taiwan's ban on direct air service to China is expected to be lifted within the next two years.

The airport authority plans to extend Kaohsiung's 10,400-foot runway by 1,000 feet, enabling it to accommodate fully loaded 747s flying inter-continental routes, said Kelly, a former director of aviation for the Port Authority of New York & New Jersey.

The Export Processing Zone Administration is working with Airis on a marketing program. "Just about every high-tech company that wants to be represented in Taiwan will be approached," Kelly said.

Kaohsiung handles about 100,000 tons of air cargo, compared with 1 million tons in Taipei. The Ministry of Commerce in Taiwan forecasts that volume in Kaohsiung will grow to 400,000 tons by 2006.

Kaohsiung has some intra-Asia service, thanks to such carriers as China Airlines, EVA Airways, FedEx, Dragonair, Malaysian Airlines and Singapore Airlines.

Most goods produced in the southern part of the island destined for air shipment, however, are transported by truck 200 miles to Chiang Kai-shek Airport, which is outside Taipei. ■