

Leapfrogging by air to overseas markets via Global Transpark

The Kenan Institute explains why speed to market will
be one of the key competitive advantages for
manufacturers in the 21st century.

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All leading manufacturers will need to have reasonable prices, high quality, efficient processes and good marketing in the next century. The difference that will define winners and losers will be the ability to react quickly to rapid changes in technology and customer needs and to deliver the right product faster than anyone else.

This will have the added advantage of lowering stocking costs, improving sales and cutting down products that cannot be sold because they are out of style. Of course, the Kenan Institute is not alone in focusing on this factor. As Alvin Taeffler put it, "By the early 21st century, one inescapable rule will determine competitive success – survival of the fastest."

The coming century is therefore likely to be the "fast century".

As the advantages of global sourcing become more important, companies will have to find ways to bring together parts from all over the world in time to meet fast-changing public tastes driven by a vast expansion in the flow of information.

To accomplish this manufacturers will have to improve and streamline internal processes, but equally important they will need the support of a new kind of infrastructure integrating transport, information and manufacturing technology. It will have to bring together computer-based market information, computer-aided designs and raw materials in the shortest time possible and then deliver the resulting products extremely quickly. The physical infrastructure designed to give manufacturers this speed advantage is the Global Transpark.

As conceived by the Kenan Institute and its director, John Kasarda, the Global Transpark is far more than a cargo airport. It integrates the market and design information that is increasingly available through electronic data inter-

change with the physical means to turn that information into products.

That means bringing in raw materials and sub-assemblies via jet cargo liner, truck, ship and railroad. Just-in-time manufacturing and distribution facilities will be located directly along customised taxiways, allowing air freighters to nose-dock or side-dock with those facilities for fast cargo movement.

The Global Transpark requires the use of real-time market information from point-of-sale systems to manufacture only what is needed and ship that product to wherever it is needed via advanced air transport. The linkages between factories and customers must be seamless and efficiently tracked by advanced electronic equipment.

In an era of global markets and sourcing, the Global Transpark provides the ability to use "just-in-time" production, distribution and inventory control methods on a global scale.

The sharp increase in usage of air transport is one indication of the need for rapid delivery. Air freight accounts for more than one-third of the value of US exports and the percentage is rising steadily. The same trend is occurring in Southeast Asia, where air freight accounts for the same fast-rising percentage of total exports. Thailand has become one centre for this air cargo boom, with volumes rising from 450,000 tonnes in 1990 to 713,000 tonnes in 1995.

Thailand's air cargo shipments are projected to grow to 1.35 million tonnes by 2000 and almost double again to 246 million tonnes by 2010. International air cargo shipments are projected to triple over the next 20 years with the Asian market share increasing to 52 per cent of the world total.

These estimates are conservative because more types of cargo are going by air. Of the

\$2.3 billion worth of turbo jet engines exported from the United States in 1992, 92 per cent went by air.

When live animals are shipped, 80 per cent go by air. Many products that were never before shipped by air, such as automobiles, live seafood and heavy machinery, are being sent by plane because business has learned that customers will pay for speed.

Advances in air transport technology extending ranges, increasing fuel efficiency and enlarging cargo capacities will only accelerate this trend. The next generation of air freighters will be similar in size but far better in technology to the Russian Antonov 225. This plane is nearly 100 metres long with a payload of 250 tonnes. Supersonic cargo planes are expected to be in commercial use by 2010.

The speed available through the linkage of computer information and air cargo is creating new industries through the fast shipment of customised clothing, computers, fresh-cut flowers and seafood. Speed-based marketing is proving a great success for everything from clothes and office supplies to computers.

The Kenan Institute brought the results of its research and infrastructure design efforts to the attention of the leadership of North Carolina, which quickly saw the need for such a facility.

In 1991, the state enacted legislation and allocated funds for the development of a Global Transpark. A feasibility study concluded the concept was viable. Since then, master-planning and environmental impact studies have been completed. Private sector tenants have already

begun signing up and construction is due to start next year.

Germany has also begun to develop a Global Transpark for Europe and other countries are now interested in creating such a facility.

But with the pace of growth along the Pacific rim, the need for such a facility in Asia is also clear. With funding help from USAID a feasibility study concluded that a Global Transpark would work in Thailand and suggested that the best location would be the navy airbase at U-Tapao on the Eastern Seaboard.

In fact, the location and existing infrastructure at U-Tapao puts the Asian Global Transpark on a potentially faster track for completion than either the US or European versions.

U-Tapao already has an excellent, virtually unused 3,500 metre runway. It is adjacent to the main east-west highway, near railway lines and adjacent to three deep-water ports – Laem Chabang, Sattahip and Map Taphut. U-Tapao is also squarely in the middle of Thailand's fastest-growing industrial area – the Eastern Seaboard.

Relatively little needs to be done to turn this confluence of transport modes into the first phase of a Global Transpark. The most important need is to put in place a management structure that is focused on speed. The first steps in this direction have been taken with the government's nomination of a Global Transpark Executive Committee.

The committee, headed by Phisit Pakkasem, has already concluded that

the speed and flexibility needed by the Global Transpark management will require private-sector management.

However, it will also require full cooperation from national regulatory and planning agencies as well as leading state enterprises such as Thai International Airways, the Airport Authority of Thailand, State Railways and the Industrial Estate Authority. A public/private joint venture is therefore being established to develop and operate the Asian Global Transpark.

The investors are likely to be companies that see the potential profitability of the transpark and whose other activities – manufacturing, agro-business, real-estate, industrial parks, telecommunications or finance – will benefit from the existence and effective management of the Global Transpark.

While the investments are being arranged, the US and Thai governments have recognised the importance of Global Transpark as a mechanism for accelerating trade and improving economic relations between the two countries.

The US Trade Development Agency has provided \$495,000 to help develop the master plan for the Global Transpark in Thailand. The Thai government, under both former Prime Minister Chuan Leekpai and Premier Banharn Silapa-archa, has allocated \$1 million for the planning phase.

Contracts for both the US and Thai planning funds are scheduled to be signed in June and the master plan is set to be completed nine months afterwards.

The master plan will determine exactly what needs to be developed at U-Tapao, but the needs are not necessarily great and can be addressed in a phased fashion as long as the development is coherent and based on the single most important objective – speed.

Some likely initial needs include:

- Improved aviation controls and facilities;
- Expanded surface access to the site;
- Expanded telecommunications links;
- A comprehensive information system to serve tenants and management;
- Improved water, electricity and gas service to the site;
- An efficient security programme that allows rapid, safe movement of shipments;
- Installation of a modern, cargo-handling facility.

Longer term needs include capacity expansion with the addition of a second runway; construction of a dedicated cargo movement facility; acquisition of additional land for industrial development; and adaptation to changing market needs.

The need for such a facility should be clear as the growth of Thailand's economy is constrained by infrastructure shortcomings. Air cargo demand is growing quickly, with one survey projecting a 12 per cent average annual growth in exports by air cargo for the next three years.

The obstacles are not physical or financial, they are largely psychological – the inability to imagine new ways of doing things or the cynicism that says ambitious, visionary plans will never work here. Too many past infrastructure development efforts have become bogged down in disputes.

The Global Transpark concept, however, provides an "all win" scenario. Its benefits will not be restricted to those who manage or invest in the project but will spread throughout much of the Thai and regional economies.

The Asian Global Transpark provides an opportunity not only to alleviate capacity constraints but to leapfrog to a new, more effective mode of air transport that will give Thai and Southeast Asian companies a competitive advantage in the "fast century".