MALAYSIA

Road Map to Riches

With all eyes turning to Asia as the world's engine for future economic growth, Malaysia has a very clear vision of how to leverage its strategic position. Planners have identified 12 development targets that build on existing advantages with a mix of value-added services and carefully selected technologies. The goal is to double per capita GDP by 2020.

Introduction

Road Map to Riches

Malaysian leaders have a clear strategy for making the difficult leap from a middle-income to high-income economy: leverage their country's natural advantages through the selective and focused application of technology.

For some years, government and industry in Malaysia have been collaborating to identify and promote the best high-tech niches. To that end, Prime Minister Dato' Sri Mohd Najib announced in 2010 a series of reforms, including the government's New Economic Model and Economic Transformation Program (ETP). Together these initiatives plot a course that will more than double Malaysia's gross domestic product per capita in excess of US$15,000 by 2020. This special report examines these ambitious plans, with a particular focus on their progress and the opportunities they present in high technology, research and development, innovation, health services, and logistics.

Adding value through technology

As Malaysia looks forward, it also remembers the past, especially with regard to areas in which it enjoys a natural advantage. "We can leverage our really rich, resource-based biodiversity; biotechnology will be at the forefront," said Dato' Madinah binti Mohamad, secretary-general of the Ministry of Science, Technology and Innovation. "Palm oil and rubber are our traditional strengths, so I think our strength will lie in exploiting that rich biodiversity."

She explained that Malaysia has studied and sought to learn from international best practices. "We know that Korea did not innovate very much; what they did was replicate and add value to what was already there, and that is how they have become what they are now. Perhaps Malaysia can learn, in the sense that we do not have to reinvent the wheel; we must find our niches," commented the secretary-general.

This pragmatic approach can be seen in the ETP. Malaysia, a country of some 28 million people, will not attempt to do everything. The ETP identifies 12 "National Key Economic Areas" that will receive additional government support, with the explicit understanding that non-priority sectors — i.e., those not on the list — will receive reduced investment. With the exception of oil, gas and energy development, heavy industry is out, as is general manufacturing; it's already dominated by the low-wage economies of Asia, and Malaysia certainly doesn't plan on competing via cheap labor. The exception in manufacturing is specialized electronics and electrical equipment. Rather, the ETP focuses mainly on value-added activities like financial and business services, tourism, wholesale and retail commerce, healthcare, education, and communications content and infrastructure. Agriculture and palm oil are included, preferably with value-added processing.

The program calls for developing Greater Kuala Lumpur into a world-class metropolitan region: a US$11.5 billion

Eye on Senstech

Dr. Azmi bin Hassan
Managing Director, Senstech

A special purpose company supported by the government, Senstech also acts commercially. It focuses on developing RFID technology and manages the Malaysian Microchip Project, which has created a range of chips especially for RFID applications, including one with built-in encryption. The starting point was a technology link-up with a small Japanese design house; now Senstech has a series of strategic international alliances.

Mention RFID and the world thinks of Walmart, an early adopter. But Azmi bin Hassan, managing director of Senstech, sees a series of interesting niches: airport baggage management, halal food tracing and cattle management, among others.

"With halal food we can start in Malaysia and then expand; we can start with Muslim countries and then go to other parts of the world. This is a big opportunity," he said.

Another fascinating project is the e-Haj, which uses RFID technology to track pilgrims and their luggage at the Haj in Mecca. The massive annual pilgrimage involves some 3 million Muslims visiting various holy sites located some miles apart. Last year, Senstech used RFID technology to track and locate 5,000 Malaysian pilgrims and their luggage, and the company has talked with Saudi Arabian officials about expanding its use. Indonesia and Turkey could represent good markets, bin Hassan added.

urban rail system is planned, and a 700-kilometer high-speed rail link to Singapore is under discussion.

Playing a key role going forward will be the Malaysian Industry-Government Group for High Technology (MiGHT), an independent, not-for-profit body established in 1993 that promotes selected technology-based enterprises.

"We translate elements of technology and innovation into business. We tell companies what will be the business of the future; we tell the government to support the private sector; and we tell academia to do their research and training of human capital. In short, we get everybody moving in the same direction," said Mohd Yusoff Sulaiman, president and CEO of MiGHT. Among MiGHT's success stories are Senstech, a Malaysian radio-frequency identification (RFID) pioneer and Spirit AeroSystems Malaysia, the first Asian subsidiary of a U.S. components maker that supplies Boeing, Airbus and Rolls-Royce. Spirit's Malaysian plant makes composite subassemblies, principally for Airbus narrow-body jets, and provides design support for some wing panels on the A350 XWB.

Mohd Yusoff echoes the general pragmatism. Malaysia must be extremely selective, focusing not on aerospace in general but on composite materials in particular, and then leveraging that into automotive and other applications. The country's top universities are steering their research to areas where Malaysia has clear strengths or needs. The Science University of Malaysia (USM), for example, has focused on technologies to diagnose typhoid.

"The technology available for typhoid treatment today is basically technology that requires electricity and refrigeration," said USM Vice-Chancellor Dzulkifli Abdul Razak. "But typhoid exists in very remote areas and used to take five days to diagnose. Our scientists have cut that to 15 minutes, and today they are working to diagnose typhoid in one minute. So now I have a tool to go into the deepest part of the jungle, make the diagnosis, and do the treatment on the spot and save lives. That is the kind of shift we are talking about." To date, 25 nations have acquired the USM typhoid diagnosis kit. ■

H.E. DATO' SRI DR. JAMALUDIN JARJIS

America must look beyond China and India

"When America looks out to the world, it must see beyond just the markets of China and India; there is another big block of 600 million people. Malaysia can be a launching pad to that Asian market. When you have Malaysia, you have these 600 million people."

H.E. Dato' Sri Dr. Jamaludin Jarjis, Malaysian ambassador to the United States and former minister of science, technology and innovation

High-tech logistics key to Malaysia's growth

Malaysia's strategy to grow as a value-added supplier, leveraging its key location in Asia, is creating an ever-greater demand for efficient air freight, with new routes increasing capacity to China and the United States.

With Malaysia charting a future that focuses relatively less on raw materials and much more on high-value services and products, efficient air freight is becoming increasingly important to economic development. Here the major national player is MASkargo, a wholly owned subsidiary of the Malaysian Airline System. MASkargo was set up to handle worldwide cargo delivery in 1972, when the volume was just 30,000 metric tons a year. Today, it's more than 700,000 metric tons and had topped 800,000 metric tons before the crisis, counting the Kuala Lumpur International Airport (KLIA) hub and four other Malaysian cities.

The company flies a fleet of owned and leased all-freight aircraft and also offers belly space in scheduled passenger flights operated by Malaysian Airlines. A new A330-200 freighter is due for delivery in 2011, and the existing six-plane 747 freighter fleet may be expanded.

But MASkargo Managing Director Shahari Sulaiman, who holds a bachelor's degree in aerospace engineering from the University of Southern California, is quick to stress the importance of freight-handling logistics. "In our business, the battle is won on the ground, not in the air," he said.

Annual capacity at MASkargo's 108-acre KLIA main hub is being expanded from around 600,000 metric tons to 1 million, with the potential to go to 3 million metric tons.

"This will involve improvement in the technology so that things can be done more efficiently, and the level of automation will be increased," said Shahari. Already the KLIA hub operates around the clock with 24-hour customs presence to allow for accelerated transshipment within a commercial-free zone. Space is available for value-added and distribution activities, and there are special facilities for live animals, perishables, dangerous goods and so on.

MASkargo has expanded far beyond its Malaysian roots and is now an important regional player with global aspirations. "We have concentrated on intra-Asia freight, which is one of the growth areas, and our trade links to Europe and Australia," Shahari said. As a result, two-thirds of the company's revenue is generated overseas, and 60 percent of its business involves transshipment.

"We are positioned to improve our products in key trade links that might not be related directly to Malaysia," he said. "We have direct distribution from China to the CIS (Commonwealth of Independent States), China to Europe and China to Australia. We are also right in the middle of China, India and Indonesia; these are all the dynamic countries."

MASkargo is leasing 747s from Connecticut-based Southern Air Inc., and one strategic goal is to boost capacity into the United States.

"There has been huge demand since the last quarter of 2009 for services from this region to the United States. We aim to develop some flights; they might originate from KLIA and fly to China and then to the United States, so that way we can serve two markets at the same time."

Universities

Focus on local technologies

As Malaysia strives to double its per capita GDP through 2020, the government is very aware that improving education and boosting R&D will be critical. Once again, the country is being pragmatic. Most public money is being poured into fundamental education. For higher education, there will be more bachelor's and postgraduate courses, more outreach to universities around the world, and enhanced attention to "soft skills," such as communication, ethics, professionalism, teamwork, entrepreneurship and leadership.

A recent World Bank report said that by encouraging companies beyond the high-tech sector to innovate, broad sectors of the Malaysian economy can gain a competitive advantage.

R&D spending for universities will double, but the schools will be expected to generate marketable know-how. "We have set a target that at least 10 percent of the research done by universities will be commercialized," said Datuk Saifuddin Abdullah, the deputy minister of education. Leading public universities want to work more closely with companies and must focus on relevant technologies.

Sharifah Hapsah Syed Hasan Shahabudin, the vice-chancellor of the National University of Malaysia (UKM), said one goal was to "develop an entrepreneurial culture and expose academics to the 'what' and 'how' of product commercialization." At the same time, she added, UKM works closely with the Stevens Institute of Technology in New Jersey, a leading exponent of "technogenesis," to teach undergraduates how to innovate and establish new technology-based businesses. UKM research has produced several renewable-energy patents and a start-up company while contributing to the formulation of Malaysia's national green energy policy.

"We encourage our researchers to take their inventions to the community for a better understanding of market needs," Sharifah said. "For example, solar panels were set up in remote villages to understand what the indigenous people really want to use the energy for. While we may think it is to light their homes, our researchers found that they were more interested in powering their boats."

USM is another leading academic institution with a strong emphasis on sustainability and research to improve living standards. "As we move from an industrial to a postindustrial society, the nature of a university changes," said Vice-Chancellor Dzulkifli. His institution cannot wait centuries to achieve the academic culture and tradition of icons such as Oxford and Harvard. "We do not have the luxury of time."

Dzulkifli is guiding USM to focus on problems that impact Malaysia. "The world has 6.9 billion people today, with about 4 billion living on less than US$3 a day. It doesn't make sense for us to work on rocket science and go to the moon; our priority is to resolve the immediate problems in Malaysia, Asia and the Third World." This means researching diarrhea, malaria, typhoid, dengue and tuberculosis rather than "First World" problems like HIV/AIDS. ■

Health travel seen as boom sector

Healthcare is designated in the ETP as one of Malaysia's 12 National Key Economic Areas, for which the government will allocate additional resources and stimulate private investment. Pragmatism remains the watchword.

Malaysia has a two-tier health structure, with private providers operating alongside a universal state system, and promoting private health care essentially for economic reasons should also create beneficial side effects for the public sector. Rather than a "do everything" approach, however, three targets have been selected within the private sector: pharmaceuticals, for example, generic medicines for export; medical technology products; and health travel.

"The government has set very big targets (for health travel)," said Dr. Mary Wong Lai Lin, CEO of the Malaysia Healthcare Travel Council (MHTC), a body set up by the Ministry of Health in 2009. Its role is to develop and promote the healthcare travel sector, essentially via private investment but with vigorous government backing that includes tax breaks of up to 100 percent for capital expenditures on hospital construction and expansion.

Ten-year goals dictate a roughly five- to six-fold increase in patient numbers, raising revenue by around 12-fold, Dr. Mary Wong said: "It's a tall order, but I believe we can do it because we have all the competitive advantages."

International health travel is one of the world's booming service industries. Global revenue could reach some US$100 billion by 2012; the great majority of people travel with a companion, and most combine their treatment with a vacation, the U.S.-based Medical Tourism Association reported. Malaysia has some three dozen private hospitals certified to provide international-quality health treatment, the country's Health Ministry said. Some have accreditation from the Joint Commission International (JCI); others have an equivalent national certification. The sector was growing at around 20 percent a year until suffering a momentary slowdown during the global economic crisis.

Malaysia has a number of advantages in the health travel sector. First is its ability to offer world-class treatment at prices far below those prevailing in many richer countries.

"A coronary bypass costs US$130,000 in the United States, but in Malaysia it costs US$9,000," Dr. Wong said. Executive health screening can cost less than US$100. "That's a major savings for a lot of people outside of Malaysia, given the exchange rate; people get value for money with top-quality services at affordable prices." This significantly lower cost is not the result of reduced treatment quality, but rather much lower operating and wage costs.

In addition to the attractive price tag, the MHTC points to a series of other advantages for health travel in Malaysia: modern facilities, professionals with internationally recognized credentials, short waiting times, social and political stability, ease of entry (there are special visa facilities for health travelers), low cost of living and accommodation, excellent infrastructure, and lots to see and do.

One major new facility exemplifies the confidence that Malaysian investors have in their country's medical travel sector. The 300-bed, JCI-accredited Prince Court Medical Center, in the heart of Kuala Lumpur, opened in 2007 and is fully owned by Petronas, the national oil company. It offers two dozen specialized services, including neurosurgery, oncology, cardiology and pediatric surgery. The center has an international top management team, and additional medical expertise comes from the Medical University of Vienna, Austria, which provides telemedicine plus an annual rotation of 15 senior clinical specialists.

Given that most international health travelers like to combine treatment with a vacation, and normally bring along a companion, Prince Court offers a tourism service through which patients can make reservations online for a beach vacation and pro golf lessons. ■

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