Thailand Medical Hub of Asia

We have very robust medical equipment and supplies market, so this is a great location for investors, whether they want to sell domestically or export throughout Asia and the world. Thailand’s imports and exports of medical equipment and supplies have been rising significantly since 2001.

—Mr. Preecha Bhandtivej, President of THAIMED—
THAILAND: Medical Hub of Asia

In 2004 Thailand set out a strategic policy to become the “Medical Hub of Asia,” and since then it has become a world leader in medical services. Thailand’s medical services benefit from first-rate technological infrastructure with resulting quality on par with those of developed countries, yet at a fraction of the cost. Many private Thai hospitals have received significant praise for their high level offerings as well.

Recognizing the kingdom’s capacity to deliver world-class medical treatment and significant demand from abroad, the Thai government has pursued a policy designed to make it the “Center of Excellent Health of Asia.” The Ministry of Public Health has thus far focused on three major areas: medical services, healthcare services including spa and traditional massage, and herbal products.

Additionally, the Board of Investment (BOI) supports foreign investments with generous incentives. Investments in medical tourism are concentrated in high tourist areas – Bangkok, Chiang Mai, Phuket, Surat Thani, Pattaya and Hua Hin.

Thailand’s medical tourism industry, as measured by number of foreign patients, has grown about 6% from 2007 to 2010. Plans among the private hospitals to renovate, enhance service quality, build new clinics, and develop more specialized treatments such as beauty treatments and medical care for the elderly will only further promote growth in the sector.

Thailand is also globally renowned for its alternative medicine. The field has been well developed in Thailand with the formal support of the government. Services range from meditation and yoga, to Thai massage. These services are delivered by various service providers from private owners to specialized medical centers where traditional medicine can be incorporated.

Furthermore, investments in high-tech medical equipment and healthcare facilities have been on the rise, providing opportunities for both the medical device sector and pharmaceutical sector to grow. Given its current stage of development there is strong potential for continued growth.
First-Class Quality at Affordable Prices

With over 1,000 public and 400 private hospitals operating in compliance with international standards and fully-equipped with internationally-trained physicians, Thai medical service provides excellent health care at highly competitive prices. Additionally, the prevalence of physicians with overseas training and the hospitals’ multilingual staff help bridge communication barriers.

Thai private hospitals work primarily with cutting-edge medical equipment that meets international standards. For example, the availability of MRI (3 Tesla) has made diagnoses without the injection of contrast media more accessible.

Thailand’s high quality medical service offerings are well known throughout the globe: the Thai medical care industry attracts almost 2 million foreign medical tourists annually. As a result, many visitors choose to undergo surgery in the Kingdom as part of their vacation stay. In addition to top-quality medical care, Thailand is renowned for its service-minded culture. An example that demonstrates this commitment to service includes personal assistants who walk patients through hospital procedures to ensure smooth service delivery. As a result, patients are kept fully informed on policies and insurance reimbursement.

Thailand’s medical services industry has grown significantly owing to its exceptional service quality at affordable prices. The Kingdom’s value proposition has only become more attractive given shrinking coverage of foreign health care systems abroad.
The most popular treatments that are enjoyed by foreign patients in Thailand include general check-ups, dental care, hip replacement, laser eye surgery, kidney transplants and heart surgeries. Expatriates, executives of international corporations and embassy staff are frequent healthcare service customers. The price range of surgery services in Thailand compared to the US can be up to 90% less expensive.

In addition to its reputation for its excellent medical care services for patients from around the globe, Thailand has gained increasing recognition as a research and development center for clinical trials of advanced medicine and stem cell treatments.

Booming Medical Device Industry

Life expectancies throughout the Asian region are rising along with improved standards of living. Many Asian countries are seeing a greying of their societies and will face rising medical device and service needs. Thailand is well positioned to take advantage of this growth in future demand.

Although Thailand has a substantial number of medical device manufacturers, two-thirds of medical devices in the Kingdom are imported. Thus, there is an opportunity for new investment in medical device manufacturing in Thailand. Thailand is an excellent, cost-effective production location for medical devices.
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As illustrated in the above chart, the market for medical devices in 2011 was US$869 million, a growth of 9% from previous year. There is great promise in this industry – the market size of medical devices is predicted to grow 40% in the next four years to US$1.2 billion in 2015.

### Thailand’s Imports and Exports of Major Medical Devices/Disposable in 2011

<table>
<thead>
<tr>
<th>Description</th>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruments and appliances used in medical, surgical, dental or veterinary sciences</td>
<td>469,598,000</td>
<td>464,110,000</td>
</tr>
<tr>
<td>Spectacle lenses of other materials</td>
<td>211,222,000</td>
<td>807,721,000</td>
</tr>
<tr>
<td>Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory regents whether or not on a backing, other than those of heading 30.02 or 30.06: certified reference materials</td>
<td>169,346,000</td>
<td>14,086,000</td>
</tr>
<tr>
<td>Oscilloscopes, spectrum analyzers and other instruments and apparatus for measuring or checking electrical quantities, excluding meters of 9028; instruments and apparatus for measuring or detecting alpha, beta, gamma, X-ray, cosmic or other ionizing radiations</td>
<td>150,482,000</td>
<td>126,038,000</td>
</tr>
<tr>
<td>Apparatus based on the use of X-rays or of alpha, beta or gamma radiations, whether or not for medical, surgical, dental or veterinary uses</td>
<td>124,506,000</td>
<td>10,963,000</td>
</tr>
</tbody>
</table>

Source: United Nations Trade Map
Instruments and appliances used in medical, surgical, dental, or veterinary sciences have increased 30% year-on-year, the highest growth rate among imported goods within the industry in 2011. Oscilloscopes, spectrum analyzers and other instruments performed the best, enjoying 32% growth year-on-year. From the pie chart below, the largest export destinations of the Thai medical device sector in 2011 were Japan (40%) and the US (16%).

Export of Medical Tools and Devices in 2011

Source: Ministry of Commerce

Major international medical device technology manufacturers in Thailand include: 3M, Bausch & Lomb, Baxter Healthcare, Boston Scientific, Carl Zeiss, Diethelm, GE Medical Systems, Guidant, Johnson & Johnson, Medtronic, Philips Electronics (Medical Systems), Roche Diagnostics, Siemens (Medical Solutions) Surgical Instruments and Tyco Healthcare.
Pharmaceuticals

The market value for pharmaceuticals has also seen significant growth. The Ministry of Public Health of Thailand has passed a bill which mandates that pharmaceutical manufacturers in Thailand comply with the Pharmaceutical Inspection Co-operation Scheme (PIC/S), thus ensuring that pharmaceutical products within the Kingdom meet international standards.

The government has also issued a strategic plan for the pharmaceutical industry for 2012-2016, which aims to strengthen the pharmaceutical industry through research and a modernization of manufacturing practices. This strategy includes measures for strengthening and developing the competitiveness of the pharmaceutical industry through R&D and further development of an environment that is conducive for indigenous industry growth.

The government has stipulated that all manufacturing companies update their standards and quality systems to meet Good Manufacturing Practice (GMP) standards based on the International Pharmaceutical Inspection Cooperation Scheme (PIC/S).

To increase R&D in the pharmaceutical industry, Thailand’s pharmaceutical organizations have collaborated with domestic and foreign research groups. For example, BIOTECH-Novartis International Pharmaceutical Drug Discovery Partnership is identifying potential use of microorganisms and natural compounds as sources of innovative medicines. R&D in particular presents a large opportunity for foreign investment. While Thailand currently produces 25 active ingredients, including sodium chloride, camphor, and menthol, local pharmaceutical companies allocate less than 1% of their total costs to R&D. Most active ingredients are imported from manufacturers overseas, leaving sizable room for new pharmaceutical investors.
From the chart above, Thailand’s imports have grown steadily over the past six years while exports have stabilized over the past two years. At the end of 2011, imports accounted for over US$1.7 billion while exports were smaller at US$350 million.

As the pie charts above, Thailand imports its pharmaceuticals from a variety of pharmaceutical leaders. In 2011, the US was the largest importer of pharmaceuticals to Thailand accounting for 15% of total imports. Germany, Switzerland and France were the next largest importers at 9%, 8% and 8%, respectively. More than half of the kingdom’s pharmaceutical exports were destined for the ASEAN region including Myanmar (20%), Vietnam (20%), Cambodia (11%) and Malaysia (8%).
Medical Food

Medical food refers to food that is formulated to be consumed or administered under the supervision of a physician and which is intended for a specific dietary treatment of a disease or a condition with distinctive nutritional requirements.

Medical food differs from regular food as it has substantial health-promoting or disease-preventing benefits beyond the basic delivery of nutrients. It also differs from nutritional supplements in that it is not designed for use by healthy persons, but rather as a therapy for a particular medical condition under the guidance of a medical practitioner. At minimum, medical food products must be:

- Food for oral ingestion or tube feeding (Nasogastric tube);
- Labeled for the dietary management of a specific medical disorder, disease or condition for which there are distinctive nutritional requirements; and,
- Intended to be used under medical supervision.

Thailand’s Import and Export of Medical foods in 2011

<table>
<thead>
<tr>
<th>Description</th>
<th>Import</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food preparations of soybean powder - for infants allergic to milk or for Lactase deficient infants, put up for retail sale</td>
<td>757,017</td>
<td>1,681,482</td>
</tr>
<tr>
<td>Food preparations of others - for infants allergic to milk or for Lactase deficient infants, put up for retail sale</td>
<td>851,517</td>
<td>1,132,312</td>
</tr>
<tr>
<td>Food preparations of others - for infants allergic to milk or for Lactase deficient infants, not put up for retail sale</td>
<td>947,621</td>
<td>1,715,790</td>
</tr>
<tr>
<td>Food preparations - for supplements for seriously patients</td>
<td>2,392,510</td>
<td>333,197</td>
</tr>
<tr>
<td>Other food preparations - for Lactase deficient infants</td>
<td>16,489,466</td>
<td>1,597</td>
</tr>
</tbody>
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Source: Global Trade Atlas
The medical food market in Thailand continues to grow every year. Thailand has the benefit of numerous agricultural raw materials, standardized quality, advanced technology, and skilled laborers. These factors attract new investment projects to Thailand. Additionally, the government of Thailand has issued several policies to encourage investment in this sector. As a result, Thailand is an excellent base for investment in medical food processing and production.

Major suppliers of medical food in Thailand include, among others: Mead Johnson Nutrition, Abbott and Novartis. Located in Chonburi, Thailand, Mead Johnson Nutrition (Thailand) Ltd. is the largest manufacturing plant outside of the US for the company and serves as its hub for Asia Pacific operations.

“I have always been able to attract workers with the appropriate skills to support our operations in Thailand. As a science-based business that utilizes cutting-edge technology in our laboratories and production operations, we encourage the government to continue building capabilities in science and engineering. When providing nourishment for precious infants, you always have a need for chemists, microbiologists, nutritional scientists and quality experts.”

“We also see Thailand as an excellent place for conducting research and development, especially because of the deep local talent pool. In fact, most of the scientists at the company’s Bangkok and Chonburi facilities are Thai. Their breakthrough discoveries are helping to support the health and well-being of moms-to-be, moms, infants and children in Thailand and across Asia.”

- Mr. Stephen W. Golsby, President and Chief Executive Officer of Mead Johnson Nutrition -
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Quality and Safety of Services

Thailand’s hospitals are global market leaders and have achieved international standards for quality and performance. Bumrungrad International Hospital [BIH], located in Bangkok, Thailand, is the largest hospital in Southeast Asia and is the first hospital in Asia to be certified with ISO 9001, and the first one in Asia to be granted membership to the prestigious Joint Commission International Accreditation (JCIA), an international accreditation arm of the US’ Joint Commission on Accreditation of Healthcare Organizations (JCAHO). These accreditations show that Thailand’s hospitals have been focus on the quality care.

The following hospitals are also accredited by the JCIA:

- Bangkok Hospital
- Bangkok Heart Hospital
- Wattanosoth Hospital
- Bangkok Hospital Pattaya
- Bangkok Hospital Phuket
- Bangkok International Clinic
- BNH Hospital
- Samitivej Hospital Srinakarin
- Samitivej Hospital Sukhumvit
- Samitivej Hospital Sriracha
- Vejthani Hospital
- Bumrungrad Hospital
- Chiangmai Ram Hospital
- Synphaet Hospital
- Ramkhamhaeng Hospital
- Praram 9 Hospital
- Yanhee Hospital
- Nonthavej Hospital
Intellectual Property Rights

Thailand’s 7 laws pertaining to intellectual property all meet international standards:
1. Copyrights Act of 1994
3. Traditional Medicine and Practice Act of 1999
4. Trademark Act of 1991, as amended by the Trademark Act (No. 2) of 2000
7. Protection of Geographical Indication Act of 2003

Excellent Infrastructure

There are many institutions and research centers where medical technological breakthroughs and development are adequately supported:

- Thailand’s Science Park, established as a one-stop service center to assist companies engaged in scientific and technological research
- The National Center for Genetic Engineering and Biotechnology (BIOTEC)
- National Science and Technology Development Agency (NSTDA)
- Food and Drug Administration
- Ministry of Public Health (MoPH)
- Ministry of Science and Technology (MOST)
- National Innovation Agency
- Health Systems Research Institute
- Thailand Center of Excellence for Life Sciences (TCELS)

It is common among Thailand’s private hospitals to have established partnerships with top international medical schools and healthcare institutions worldwide. A number of private Thai hospitals have also achieved international standards of Hospital Accreditation (HACC) such as ISO 9002: 2000, ISO 14001, ISO 18000 and JCIA.

Thailand’s Food and Drug Administration (FDA) is in charge of:

- Pre-marketing control
- Post-marketing Control
- Surveillance Programs for Consumer Safety
- Consumer Education
- Technical Support and Cooperation with other Agencies.

The FDA oversees medical device imports of three classifications, which can be found at the organization’s website.
Wonderful Investment Opportunity and Environment

Thailand has one of the fastest-growing and foreign friendly economies in Asia. Recently, the World Bank ranked the Kingdom 16th globally and 2nd in Southeast Asia in the ease of doing business index. This ranking demonstrates the favorable climate for foreign investment in healthcare, medical devices, and pharmaceuticals. Coupled with a growing economy and growing medical device manufacturing needs, the Kingdom of Thailand has numerous investment opportunities for foreign investors.

BOI Investment Incentives

Thailand Board of Investment offers a wide range of fiscal and non-tax incentives for investments based on location. Tax-based incentives include exemption or reduction of import duties on machinery and raw materials, and corporate income tax exemptions and reductions. Non-tax incentives include permission to bring in foreign workers, own land and take or remit foreign currency abroad.

As part of its efforts to promote Thailand as a Medical Hub, several activities, including manufacture of medical food, manufacture of medical equipment and manufacture of parts for medical electronics, have been classified as high-technology businesses activities under the BOI’s policy for Sustainable Development.

As such, projects in these categories that apply for BOI promotion prior to the end of 2012 receive an eight-year corporate income tax exemption without being subject to the corporate income tax exemption cap and a fifty percent reduction of corporate income tax on the net profit generated from the investment for not more than five years from the end of the incentive period under Section 13, Paragraph 1 or 2 as the case may be or from the date of the first income derivation from the promoted activity in case the promoted person does not receive corporate income tax exemption.
In addition, these projects are exempt from import duties on machinery, double deduction for transportation, electricity and water costs for 10 years from the date of first income derivation from promoted activity, and a deduction for infrastructure installation or construction costs from net profit, in addition to normal depreciation of not more than 25% of the investment in promoted project. Such deduction can be made from the net profit in one or several years during the period of 10 years from the date of the first income derivation from promoted project. In addition, projects are eligible to receive other relevant location-based incentives.

Projects involved in the manufacture of medicine and/or active ingredients in medicine who meet certain conditions are eligible for exemption of import duty on machinery, regardless of zone, and a corporate income tax holiday based on location (5 years if located in Zone 1, 6 years if located in Zone 2, 7 years if located in an industrial estate or industrial zone in Zone 2, or 8 years if located in Zone 3). In addition, projects are eligible to receive other relevant location-based incentives.

The BOI also promoted retirement homes and care centers as well as dedicated health centers, which are facilities that can provide the processes of medical or psychotherapeutic treatment through the use of advanced technological devices and facilities. These dedicated health centers will serve only the patients who need further treatment to rehabilitate, so it helps them prevent injury and disease, recover function and strength, reduce pain and ultimately helps them return to a more independent and productive lifestyle.

Projects in retirement homes and care centers, as well as dedicated health centers are eligible for exemption or reduction of import duty on machinery, based on project location, provided they achieve standards set by relevant government agencies.

For further information:

The Thailand Board of Investment (BOI):
http://www.boi.go.th

The Food and Drug Administration:
http://www.fda.moph.go.th/eng/index.stm

Thai Medical Device Technology Industry Association (THAIMED):
http://www.thaimed.co.th/eng