THAILAND SOFTWARE INDUSTRY
June 2013

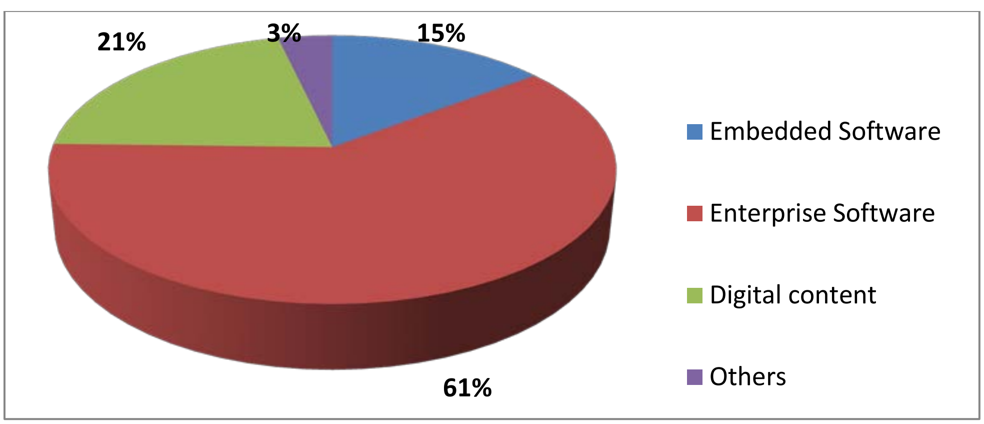
OVERVIEW

Thailand offers many benefits for firms engaged in software development both enterprise and embedded software and the production of digital content including animation and games. Most notably, Thailand offers investors competitive salary, an educated workforce, a central location in Southeast Asia, and a domestic market with high growth potential.

SOFTWARE MARKET

Thailand's software market continues to grow and is projected to grow at 10% over 2011-2015. In 2011, the consumption value of software was US$929 million. Meanwhile, production value of software market expanded 10.1% from 2010 to reach US$981 million. Enterprise software is leading this sector, accounting for 61% of the total production value, followed by digital content at 21% and embedded software at 15%. Thailand's export value of software was US$114 million in 2011. The major exports were embedded system software at US$49 million followed by enterprise software at US$43 million. Major export markets were Japan, Vietnam and the Philippines.

Production Value of Software Components 2011



Source: *The Software Industry Promotion Agency (SIPA)*

Embedded Software

In 2011, Thailand produced US$144 million of embedded software, a 50.8% increase from 2010.

The major markets for embedded software are electronic systems for automotive and prepaid systems in mobile phones. The automotive sector is a key driver of the embedded software market with 61% share of total market.

Thai Embedded Systems Association (TESA) has cooperated with universities and software firms to promote and develop embedded software as well as provided many training programs to develop a skilled work force to support the embedded software sector.

Enterprise Software

Enterprise software is the largest sector in Thailand's software market. The enterprise software sector has grown along with the contribution of small and medium-sized enterprises (SMEs). The production value of enterprise software in 2011 was US$596 million.

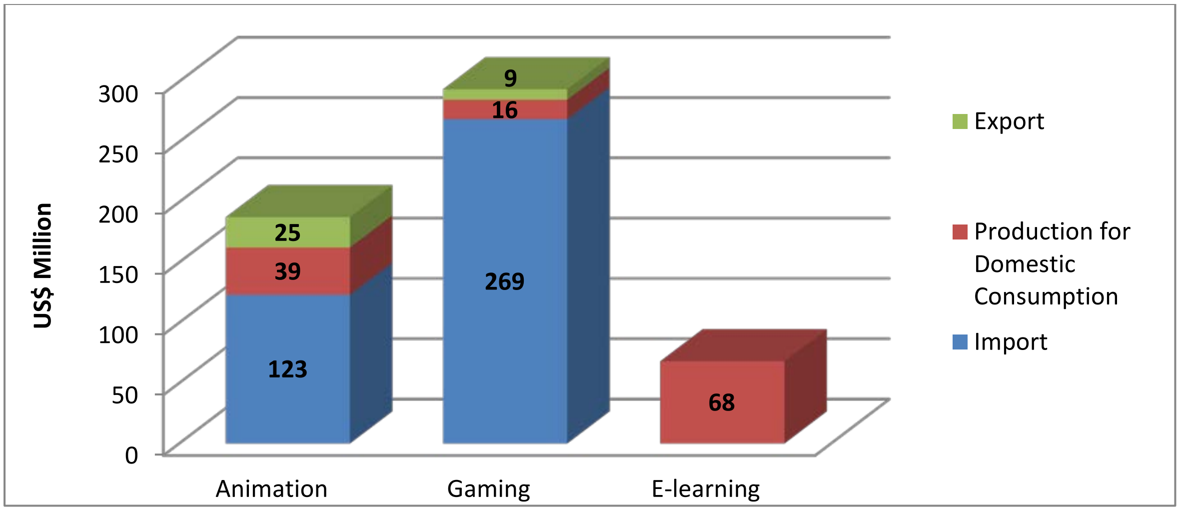
Compared to emerging countries in ASEAN, Thailand is the third largest market for enterprise applications software after Singapore and Malaysia. Thailand is one of the fastest growing emerging nations in the enterprise software market. The leading vendors in enterprise software in Thailand include IBM Corp., Microsoft Corp., Oracle Corp., and SAP AG.

Digital Content

Thailand's digital content production value in 2011 was US$206 million while the market value was US$549 million. Digital content in Thailand was dominated by the gaming sector at US$294 million, 53% of total market value. This was followed by the animation sector at US$187 million (a 34% market share) and E-learning at US$68 million (12% market share). Most of the digital content in Thailand was imported; the import value was US$392 million in 2011.

To promote the development of the digital content industry in Thailand, SIPA has established a Digital Content Center (TDCC) in Bangkok with an investment of US$667 million and an area of 1,000 square meters comprising meeting rooms, sound and editing studios, motion capture technology, and all the latest software. This space will serve as an incubator for the growing Thai digital content industry.

Digital Content Market Value 2011



Note: *E-learning value includes value of import and production for domestic consumption*
Source: *The Software Industry Promotion Agency (SIPA)*

> *"I believe that Thailand is one of the digital content hubs that is ready to serve your needs in very professional ways. We offer a good quality to price ratio. And, there are many companies that have worked with major players in the industry before. Thai companies have gained experience to communicate and deliver quality assured products to international partners. Our skilled workforce has been well prepared by our educational institutions. And now, our government is more supportive than ever of digital industry. We have seen increasing support from them every year."*
>
> - Mr. Kamon Jirapong, an advisor for digital content projects – the Creative Collaboration 2011 under Digital Media Asia 2010 (DMA) by Software Industry Promotion Agency (SIPA)-

Animation sector

The animation market in Thailand is divided into seven subsectors: TV animation, animation character license fees, VCD/DVD animation, film animation, mobile animation, visual effects for television commercials (VFX for TVC), and VFX & post production. In 2011, TV animation accounted for 40% and had a market value of US$75 million. Animation character license fees accounted for 29% with a value of US$54 million while animation on VCD/DVD accounted for 13% at US$24 million. The other four subcomponents are film animation, mobile animation, visual effects for television commercial (VFX for TVC) and VFX & post production.

Gaming sector

Gaming markets consists of six subsectors: online games, mobile/tablet games, handheld games, PC games, arcade games and game character licenses. In 2011, online gaming had the largest share at 48%

market share with a value of US$140 million. Meanwhile, the market value of games on mobiles/tablets was US$67 million calculated at 23% of market share and the value of console or handheld games was US$42 million or 14% market share. The other 3 subsectors are PC games, arcade games and game character license fees.

E-learning sector

The E-learning market consists of learning management systems, content and operation & services. In 2011, the content market was the largest sub-sector with a value of US$52 million accounting for 77% of the total market. While the market value of learning management systems was US$14 million and operation & services was US$2 million.

STRATEGIC INDUSTRY FOR THAILAND DEVELOPMENT

Ministry of Information and Communication Technology (MICT) developed Thailand's Information and Communication Technology (ICT) Master Plan 2009-2013. To ensure continuity at the policy level, MICT has developed the ICT Policy Framework 2020 for the next 10 years (2011-2020). The development of the policy framework aims to develop the ICT sector in three dimensions: social, economic and environmental in both quantity and quality to ensure sustainable and stable development. This framework has considered the technological changes that will occur in this period, in order to assess the impacts of these technological changes on individuals, the economy, industry and social transformation in the kingdom.

OPPORTUNITIES FOR INVESTMENT

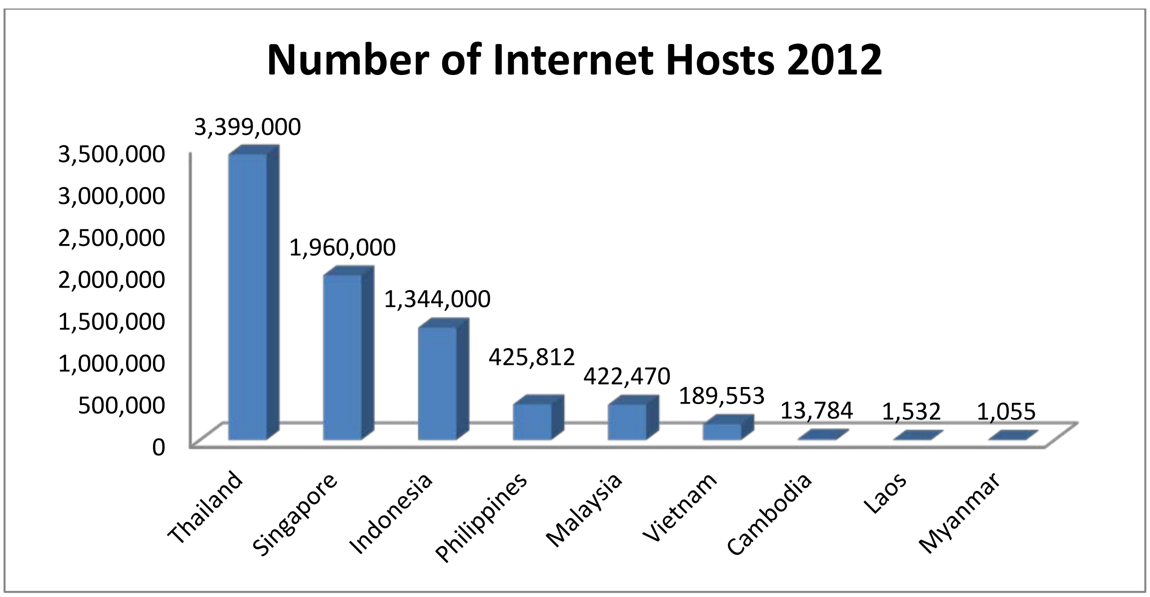
There is ample room for investment in embedded software and enterprise software including digital content in Thailand due to strong government and private sector support. These opportunities include:

- Enterprise Software
- Animation, cartoon & character
- Computer-Generated Imagery (CGI)
- Web-based applications and cloud computing
- Interactive Application
- Games such as Windows-based, mobile platform, console, PDA, online games, massive multi-player online games(MMOG)
- Wireless location-based service content

- Visual effects
- Multimedia video conferencing application
- E-learning content via broadband and multimedia
- Embeddedsoftware

WHY THAILAND?

Developed Infrastructure: There were over 20 million internet users in Thailand in 2012, the country ranks 9th in Asia for number of internet users. There are more internet hosts in the country than in any other economy in Southeast Asia. Thailand had 3.34 million internet hosts in 2012. Thailand also provides the most reliable electricity supply in Southeast Asia, with comparatively low rates of power blackout, and offers fiber optic, ADSL broadband and leased line access with speeds beyond 1 gigabit per second. Thailand has just expanded its 3G network, and is planning to launch its 4G network in the near future, to enhance connectivity. Additionally, SIPA's digital resource center was unveiled for animators to access crucial professional equipment, while Software Park Thailand also opens Infrastructure-as-a-Service (IaaS) to programmers who wish to access cutting-edge technology.



Source: *The US Central Intelligence Agency World Factbook, 2012*

Availability of Technical Workforce: In 2012, over 50,000 people were employed in the software industry, and 3,000 employees were in the animation and game industry. Thailand has 17,000 new graduates in software related programs each year from 81 universities and 8 colleges and institutes across the country. Employees in Thailand's IT sectors are supported by ongoing skill trainings given by Software Park Thailand.

Competitive Cost of Technical Workforce: According to the Adecco Thailand Salary Guide 2013, the monthly salary of a Thai employee in the IT business with 0-5 years of experience ranges between US$500- US$2,666.

Business-Friendly Environment: Ranked 18th in World Bank Ease of Doing Business 2013 report.

Strong Government Support: Thailand offers strong government support to promoting the software and digital content sectors. Software sector is classified by BOI as a priority activity that receives incentives for foreign investment both tax and non-tax. The government also supports many software startups, professional training for developers and engineers, and flexible loan programs, which allow digital content firms to expand without capital constraints.

> *"The tax benefits in particular are an advantage as the money saved is put into R&D efforts, so we can push our software's capability to stay at the leading edge."*
>
> \- Carl Rubin, vice president, JCMR Co. Ltd.-

> *"Thailand is ready for its software industry to grow given its good infrastructure, and the availability and quality of software designers and producers. Moreover, the Thailand BOI provides robust support and many incentives to increase the competitiveness of the country. "*
>
> \- Mr. Sebastian Justus Schmidt, CEO, SPB Software House -

For further information:

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

Software Park Thailand: www.swpark.or.th

Thailand Knowledge Park (TK Park): www.tkpark.or.th

The Association of Thai ICT Industry (ATCI): www.atci.or.th

The Association of Thai Software Industry (ATSI): www.atsi.or.th

The Software Industry Promotion Agency (SIPA): www.sipa.or.th

The Office of Computer Clustering Promotion (CCP): www.ccp.or.th

National Electronics and Computer Technology Center (NECTEC): www.nectec.or.th

The Ministry of Information and Communication Technology (MICT): www.mict.go.th

Thailand Software Process Improvement Network (Thailand SPIN): www.thailandspin.com

Thai Embedded Systems Association (TESA): www.tesa.or.th