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Engineering Services

Factsheet 2011

Singapore ~ Solving Tomorrow's Engineering Problems

At a Glance

The growth of Asian and Middle East economies has resulted in market demand for energy, refined products, chemicals and consumer goods. Additionally, rapid urbanisation in these emerging markets is also translating into an increased demand for infrastructure. These developments are creating a growing need for engineering services to make new investments in both process and infrastructure industries.

In view of increasing global emphasis on sustainable development, the challenge is to develop efficient and environmentally sustainable solutions for urban environments as well as the traditional process industries. As Singapore continues to build up its capabilities and niche technologies, we are poised to become the leading one-stop hub for developing new engineering solutions for the world.

Highly exportable and scalable, the engineering services industry requires specialist knowledge, process know-how and investments in human capital. This is in line with Singapore's vision to develop a knowledge-based economy.

In addition, Singapore's key industry clusters' technological upgrading and development are very much dependent on the advancement of the Engineering Services sector.

Today, Singapore has a vibrant Engineering Services industry comprising of the following sub sectors:

(i) *Engineering Design & Project Management*, which involves the provision of engineering design, consultancy, procurement, and construction management services for the building of industrial facilities and infrastructure;

(ii) *Control Automation*, for the manufacturing, assembly and integration of control systems analytics and instrumentation, automation products and sensors for industrial as well as infrastructural facilities;

(iii) *Testing & Certification Services*, which are concerned with the provision of third-party testing, certification and standards for various industries such as chemical, pharmaceutical, electronics and IT.

EDB singapore

Industry Vision

Our vision is for Singapore to be a global engineering services hub with the capabilities to solve tomorrow's engineering challenges.

Underlying this vision is our strategy to develop a pool of experienced engineering talent through manpower training. This ensures that Singapore is equipped with the right expertise to meet the needs of the industry.

Key Figures

- The Engineering Services industry currently accounts for about 1.2% of Singapore's GDP
- The industry employs about 35,000 in Singapore.
- This industry is expected to grow 5-6% annually between now and 2020.
- Nine of the world's top 10 Control & Automation companies already have significant operations in Singapore. Majority of these companies have established global business responsibilities in Singapore.

Engineering Design & Project Management - Across Borders

The engineering design and project management sector is key in supporting Singapore's process manufacturing industries, i.e. electronics, chemicals, life sciences, onshore and offshore oil and gas. At the same time, rapid population growth in urban environments has led to increased pressures on infrastructure needs, presenting new possibilities which Singapore can capitalise on to become the region's knowledge base for Urban Solutions - urban planning, transport systems and environmental solutions. This will see companies partnering Singapore to develop and test-bed innovative sustainable solutions before exporting them to the rest of the world.

Control Automation – Total Solutions

Control automation refers to the provision of products, systems and related solutions used in the automation and control operations of industrial facilities.

Singapore boasts a strong control automation base in Asia, with nine of the top 10 control firms having established significant presence here. Some of these companies manufacture, assemble and distribute all components of their flagship products and systems worldwide from Singapore. Other activities undertaken by companies include control system integration and software/hardware module customization.

Testing & Certification Services – Reliability and Quality

Testing and certification companies are integral to the spectrum of Engineering Services activities as they provide services that are critical for industry sectors to certify products, systems and processes rendered to their customers. This certification process serves as final acceptance to ensure that products or processes are safe and to the best standards.

Singapore is home to many leading testing and certification companies which provide third-party quality and reliability testing. These companies will use Singapore as a base to locate their laboratory testing facilities and export the services to customers worldwide. Their activities usually include laboratory testing analysis and in-depth study of engineering processes.

Leading Industry Players

Engineering Design & Project Management

Arup's (UK) services in Singapore span across engineering design, planning as well as corporate advisory services. Its work includes projects as diverse as Singapore Flyer, Marina Bay Sands, Gardens by the Bay, Singapore Sports Hub, and Downtown Financial Centre.

Jacobs Engineering (USA), an engineering & construction firm, is ranked fifth globally in engineering design. The company has expanded from a 20-man project office into a 160-man engineering Centre of Competence and an Asia Pacific regional HQ.

Kellogg Brown & Root (USA) is a US based leading provider of engineering services for the oil and gas, and chemicals industries. Singapore is one of KBR's four main global offices and carries out high value-added activities such as front-end engineering design.

M+W Zander Facility Engineering (Germany), a leading engineering services company, established its global HQ in Singapore for its electronics business to better reach out to the Chinese, European and US markets. In doing so, it became the first German company to have its global HQ for a major division here.

PM Group (UK) brings to Singapore world class expertise in managing biopharmaceutical projects and core competencies in project and construction management, process engineering, architectural design, consulting as well as commissioning and qualification. The size of PM Asia's operations in Singapore is expected to grow significantly over the next few years in response to growing demand for specialist engineering services providers, not only in Singapore, but throughout the Asia Pacific region.

WorleyParsons (Australia) established its regional HQ cum engineering centre in Singapore, which is to function as its command centre for its power, industrial and infrastructure as well as minerals and mining businesses for Asia and the Middle East. It is now able to better manage its business interests in the Asian region, as well as offer front-end engineering solutions to its various customer industries.

Control Automation

ABB (Switzerland), a leading power and automation technology group, designated Singapore as its global Centre of Excellence which will develop and market its Open Control System applications for the pulp and paper industry globally.

Emerson Process Management (USA) opened its global distribution centre here for its Systems and Solutions division to increase proximity to its global suppliers, support growth in the Asia-Pacific supply base and increase customer delivery flexibility.

Rockwell Automation (USA), a leading provider of industrial automation and power systems products & services, has two operating segments - control products & solutions and architecture & software. The Asia Pacific HQ of RA is located in Singapore, together with the GHQ for 5 of its Programmable Logic Controller product lines. The Singapore HQ is responsible for global manufacturing, R&D, marketing, engineering, management control and eventually IP management activities for these lines.

Yokogawa Electric Corporation (Japan) is a world leader in the provision of automation and test & measurement solutions. The company announced aggressive expansion plans in Singapore in August 2004, including the setting up of a new Singapore entity called Yokogawa Electric International that will house all engineering, R&D and manufacturing operations under one roof. Singapore is also its designated as the Global Production Centre for its Distributed Control Systems.

Testing & Certification Services

SGS (Switzerland), an inspection, verification, testing & certification company, established a Good Manufacturing Practice (GMP) quality control testing laboratory for Life Sciences that offers services to pharmaceutical, biotechnology and medical technology industries.

TUV SUD (Germany), one of the leading testing & certification company from Europe, set up its regional HQ for Asia Pacific in Singapore to manage its regional entities. TUV SUD acquired PSB Corporation and expanded into Asian market by tapping on PSB's expertise and strong base of customers.

Underwriters Laboratories (USA) is a leading based testing and certification company which develops standards and test procedures for materials, components, assemblies, tools,

equipment, and procedures chiefly dealing with product safety and utility. In Singapore, UL provides shared services for transaction centre, and conformity/safety design training. Besides serving as a sales/marketing arm, UL in Singapore is also a test centre for electronics, IT and medical devices. Its current Regional HQ is located in Singapore.

About the Singapore Economic Development Board

The Singapore Economic Development Board (EDB) is the lead government agency for planning and executing strategies to enhance Singapore's position as a global business centre. EDB dreams, designs and delivers solutions that create value for investors and companies in Singapore. Our mission is to create for Singapore, sustainable economic growth with vibrant business and good job opportunities. EDB's 'Host to Home' strategy articulates how we are positioning Singapore for the future. It is about extending Singapore's value proposition to businesses not just to help them improve their bottom line, but also to help them grow their top line through establishing and deepening strategic activities in Singapore to drive their business, innovation and talent objectives in Asia and globally.

For more information on EDB, please visit www.sedb.com

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