

## The Straits Times: SMEs Get Slice of Space Pie

Dec 01, 2014

By Chia Yan Min

TUCKED away in a nondescript Kallang industrial building is a small local firm bent on conquering the final frontier. STK Precision, which occupies a factory space barely larger than a Housing Board flat, is one of a small number of small and medium-sized enterprises (SMEs) involved in Singapore's budding space industry. The precision engineering firm, which has 10 employees, has been providing precision machining and assembly services to support the development of TeLEOS-1, Singapore's first commercial Earth observation satellite.

Developed by ST Electronics, the satellite will be launched next year to coincide with Singapore's 50th birthday. The 400kg TeLEOS-1 will orbit near the Equator, and could provide satellite imagery for urban mapping, disaster relief and maritime security and safety, among other uses.

Singapore is looking to grow its space industry to tap the lucrative global satellite market, which has grown 6.2 per cent over the last six years to reach US\$195 billion (S\$254 billion) last year. The Government set up an office last year dedicated to researching and developing the industry, in particular the manufacturing of satellites. Nanyang Technological University (NTU) launched the first two made-in-Singapore satellites in 2011 and last year, the former in partnership with DSO National Laboratories.

While no estimates are available on the number of SMEs involved in the space industry, local firms in adjacent sectors such as precision engineering and electronics have extended their capabilities to develop high value-added satellite components, said Mr Gian Yi-Hsen, director of the Office for Space Technology and Industry (OSTIn) of the Economic Development Board.

STK Precision, which also worked on the NTU satellites, is one of the firms. The company now gets about 70 per cent of its business from space-related projects, said director Tan Hian Tiong. The company, which has been in the satellite industry for three years, used to focus mainly on the semiconductor sector. "Space projects are extremely challenging and complex... We have to spend more time developing the products and it was initially tough," said Mr Tan, who took over the business from a friend during the 2008 financial crisis. Speaking in Mandarin, he added: "A high level of precision is required and there can be no mistakes." Besides exposing home-grown SMEs to a new and rapidly growing industry, local satellite projects are also a valuable springboard for businesses to expand internationally.

Ms Angeline Lee, founder of printed circuit board design firm Wizlogix, said the company has aspirations to work on aerospace projects abroad and is in the process of securing the necessary international certifications. Wizlogix has designed printed circuit boards for both the NTU and ST Electronics satellite projects. The firm has 21 employees and posted a turnover of about \$3.8 million last year. "We are constantly looking for new industries to diversify into... We hope to get aerospace and satellite projects from companies overseas and we are now preparing and training our staff for that," said Ms Lee, who founded the company as a home office in 2000.

While opportunities for growth in space-related industries abound, companies say they are being held back by the perennial shortage of skills and young engineering talent. Mr Jeremy Fong, chairman and chief executive of Fong's Engineering & Manufacturing, said it is a constant challenge to attract technically trained young people with "passion and interest" to the industry.

"Not many young people want to go into this line... We can buy all the machines, but people also must have the necessary skills," said Mr Fong, who is also chairman of the Singapore Precision Engineering and Tooling Association. Fong's Engineering & Manufacturing machined structures and components for various phases of TeLEOS-1's development.

STK Precision's Mr Tan said the company has no dearth of project opportunities but finds it "extremely tough" to hire skilled Singaporean workers. Nonetheless, the firm is going ahead with its relocation to a new factory in Woodlands, which will be ready at the end of 2017. "It will be larger than our existing premises... so that we can take on more space projects," Mr Tan said.

chiaym@sph.com.sg