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SINGAPORE – Homegrown robotics company Hope Technik, which provides high-performance engineering solutions for civilian and military uses, now counts aerospace giant Airbus among its clients.

Another local, Internet of Things (IoT) firm, Ascent Solutions, is helping companies improve logistics operations in emerging markets such as East Africa with its electronic cargo tracking systems.

Prime Minister Lee Hsien Loong highlighted the two companies in his National Day Rally speech as examples of firms that have built on their capabilities in the digital space, using technology to improve the operations of clients within and outside Singapore.

Founded in 2006, Hope Technik inked six years later a multi-million dollar deal with Airbus to build a research prototype that can go into space under the latter's civilian spacecraft programme.

"We decided to set up the company 10 years ago because we had a lot of ideas and a desire to design and build things," said Hope Technik's chief operating officer Michael Leong, one of the four founders of the company who were former National University of Singapore classmates.

Hope Technik, which was set up with only S\$10,000 with each of the founders forking out S\$2,500, now has 130 staff. The robotics engineering

Homegrown firms are leading the way in high-tech world

firm, which also makes Red Rhinos and Hazmat control vehicles for the Singapore Civil Defence Force, plans to bring more products to market and will be establishing offices overseas to expand its global presence.

"Our future plan is to commercialise a few more products and we will market internationally. We are looking to set up foreign offices, starting regionally in Taiwan and China by next year," said Mr Leong.

For Ascent Solutions, the target market has been global since day one, and 95 per cent of its business is international.

The IoT logistics firm provides solutions that help companies track items efficiently.

A container that used to take 20 days to travel from Kenya to Uganda now needs only two to three days with Ascent Solutions' tamper-proof iSpot lock that does away with the need to clear customs over and over again.

It can also be tracked via GPS from anywhere in the world.

Both Hope Technik and Ascent Solutions received support from government agencies such as enterprise development organisation Spring, trade promotion agency International Enterprise Singapore, and the Economic Development Board.

Spring supported Ascent Solutions in early-stage funding through the Spring Startup Enterprise Development Scheme, and also helped the firm deepen technological know-how with its Capability Development Grant.

The partnership with Spring helped the start-up boost its image and raise its credibility with overseas clients. Meanwhile, IE Singapore provided advice on internationalisation, reaching out to overseas markets and registering patents.

Hope Technik also obtained from Spring the Capability Development Grant to develop engineering capabilities to help it build up stronger competencies and diversify into more segments, allowing the company to move up the value chain.

The digital economy is one promising area because Singapore is well connected and Singaporeans are IT savvy, Mr Lee said, adding that the Government will continue to support companies in building their capabilities.

"Digital is virtual. It does not require large areas of land. It will save labour and we can do business with anyone, from anywhere," he said.

In the retail industry as well, disruption is taking place, with more people spending time online. This change has affected shops along Orchard Road. Given that the retail scene employs 125,000 workers in 16,000 companies, businesses and workers have to adapt.

One opportunity arising from the rise in online shopping is that more delivery vans are now needed — an area Singapore can play a major role in given its status as a transport and financial hub.

"(We) need an overall strategy to be able to spot where the changes are coming from, to respond when things are disrupted and to keep our economy growing so that our companies can be resilient, able to keep on finding new ways to do business, able to keep on employing Singaporeans in good jobs," Mr Lee said.

This is what the Committee on the Future Economy is set up for. Chaired by Finance Minister Heng Swee Keat and Minister for Trade and Industry (Industry) S Iswaran, the committee will look into helping companies build capabilities, and one promising area is the digital space.

"Digital is virtual. It doesn't require large areas of land, it will save labour and we can do business with anyone, from anywhere," said Mr Lee, adding that Singapore has small and medium enterprises (SMEs) in other sectors that can compete with the best in the world and should also receive help to scale up.

"Beyond building up capabilities, we should also promote entrepreneurship ... (Entrepreneurs) play an important role not just because they're doing business for themselves and creating jobs and prosperity, but also because they're resourceful, they're optimistic. They give our society the confidence that anything is possible," he said.

The Government launched an incubator at Block 71 Ayer Rajah five years ago to support entrepreneurs with work spaces and co-funding. Today, the initiative — now known as Launchpad — has expanded to two more blocks and even to San Francisco to help start-ups tap the US market and Silicon Valley network.

"It is still early days, but it looks promising. Our start-ups are growing, investors are paying attention, venture capitalists and some of the big tech companies are coming here. Google, PayPal, Facebook are setting up here because they see promising talent, interesting start-ups and maybe the next Google, Facebook or Alibaba may come from Singapore," Mr Lee said.



The Rotimatic flatbread-making robot uses artificial intelligence and machine-learning algorithms to roll out fresh rotis and wraps in minutes. PHOTO: MCI

Art of the possible: Chapatis made by robots

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SINGAPORE – The humble Indian flatbread — chapati accompanying lentils, vegetables or meat — now has broader international reach and appeal thanks to Singaporean entrepreneur Pranoti Nagarkar, a National University of Singapore graduate in mechanical engineering and her software engineer husband Rishi Israni.

The duo are the founders of kitchen robotics start-up Zimplistic, the company behind the Rotimatic flatbread-making robot, which uses artificial intelligence and machine-learning algorithms to roll out fresh rotis and wraps in minutes.

Within five days of launching pre-

orders in Singapore and the United States in June 2014, the first batch of Rotimatic orders worth US\$5 million (S\$6.7 million) was snapped up. The order book for Rotimatic has kept growing despite its price rising to US\$999 each from the launch price of US\$599. With a wait list of orders worth close to US\$115 million, Rotimatic is scaling up production as it plans to take another round of orders in Singapore and expand worldwide.

In July last year, to support Rotimatic's technological research and growth plans, Zimplistic raised US\$11.5 million in Series B funding from NSI Ventures and the venture investing arm of global engineering giant Robert Bosch.

Mr Israni, CEO of Zimplistic, said:

"We are working on software upgrades that will unlock ways of customising flatbreads, enable users to control Rotimatic through the app and download different recipes from the cloud. We are committed to making the kitchen not just the heart but also the brain of a home."

Zimplistic, highlighted by Prime Minister Lee Hsien Loong yesterday, is one of many successful start-ups incubated at Block 71 Ayer Rajah — the thriving entrepreneurial hotbed supported by government agencies not only with funding but also other services like go-to-market strategies.

Entrepreneurship is key to growing the economy and building society, he said. "Entrepreneurs play an important role in our society, not just by creating jobs and prosperity but also with their resourcefulness and optimism. They give our society the confidence that anything is possible. We need that mindset in Singapore. We may fail and fail again, but if we refuse to give up and keep on trying, one day we will succeed," he said.

SkillsFuture 'relevant at various career stages'

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SINGAPORE – Reiterating that a strong economy is built on a skilled workforce, Prime Minister Lee Hsien Loong said the SkillsFuture movement is not only crucial to Singapore's current phase of economic development, but enables workers to hold better jobs and earn better pay.

He urged Singaporeans to tap SkillsFuture and keep their skills relevant, citing the various ways the scheme is applicable at the different stages of one's career.

"I know everyone is concerned about their livelihood and the Government is also very concerned too," he said in his Mandarin speech. "That is the goal of SkillsFuture, to encourage everyone to excel in (his) own field, whether you are an engineer or a retail associate, you can upgrade your skills or learn new skills, via different pathways."

Before they enter the workforce, students are being prepared well for the new economy, said Mr Lee, citing how courses are opening up in up-and-coming industries or across disciplines.

For instance, there are digital media design courses at polytechnics and Institutes of Technical Education, giving students a shot at a job at renowned game and film studios such as Ubisoft, Bandai Namco, Blizzard and Lucasfilm. In addition, there are also courses to train horticulturalists, food scientists and sports scientists.

For those who are already working, there are upgrading courses available for one to "achieve deeper mastery", whether it is in nursing, precision engineering or pre-school education, noted Mr Lee.

"They provide you pathways to upgrade yourself in your job," he added.

Apart from upgrading workers in their present careers, SkillsFuture is also helping retrenched workers or those seeking a career change transition and find new jobs, said Mr Lee.

"It is tough to lose your job, especially when ... you are not so young, and have (a) family to support," he said. "But there is help available."

For instance, under the Adapt and Grow scheme — an initiative rolled out by the Ministry of Manpower in April this year — workers can go for Professional Conversion Programmes and Career Support Programmes.

"They train you, help you to pick up new skills, move to a different industry and settle into a new job," said Mr Lee.