

Tag-team tack keeps Singapore businesses sustainable, fighting fit

by *Leila Lai*

ESG and IMDA working with local firms to boost tie-ups between traditional enterprises and innovative tech startups

Singapore

AS companies recognise the need to innovate and transform their businesses to remain sustainable and competitive, partnerships between traditional enterprises and innovative tech startups are proving key in achieving these goals.

Enterprise Singapore (ESG) and the Infocomm Media Development Authority (IMDA) are working with local companies to encourage more of such partnerships.

ESG does so as part of its efforts to grow and develop local small and medium-sized enterprises (SMEs), while IMDA has set up an Open Innovation Platform (OIP) that matches companies in need of technology solutions with innovative startups or SMEs.

ESG assistant chief executive officer Eunice Koh said the agency is working with companies to build internal technology capabilities by identifying gaps, developing strategies to address them and connecting them with partners who have the right solutions.

ESG also issues joint grant calls with other government bodies like the Housing Board and the Building and Construction Authority, to match solution providers to problem statements from government agencies and relevant companies.

"We are actively growing the construction technology ecosystem and facilitating connections to enable more co-innovation and cross-pollination of ideas," Ms Koh added. "We adopt a market-led innovation approach, bringing industry and solution providers together, so that the products created meet real industry or market needs."

One such partnership between construction company Koh Kock Leong Enterprise (KKL) and tech startup Hubble helped the construction company digitalise its manpower and machinery tracking systems, reducing paperwork and improving overall efficiency.

Koh Zhi Li, assistant project manager at KKL, told The Business Times the company wanted to cut paperwork on sites, especially in attendance taking – site supervisors still used pen and paper to track attendance, a process which was also prone to human error.

Now that the company has adopted Hubble's manpower module, workers sign in on their mobile phones, using facial recognition technology to validate their entries. Ideas for improving the solution came from both parties; for example, KKL used geofencing to track its truck fleets, and suggested applying it here to allow sign-ins only when a worker's phone is within the site premises.

Not only has on-site paperwork been reduced, but calculating salaries now requires just two administrative staff instead of four, and management can quickly access manpower information online for each of its 30 worksites.

The two companies later developed a machinery tracking module together, which manages requests for excavators and tipper trucks on the Hubble platform. The module also tracks the number of loads and type of soil removed from the site, helping KKL better gauge the resources and time needed to clear a certain area.

Besides tangible business benefits, the technological improvements have brought about a mindset change for KKL's employees.

"By leading by example, we encourage innovation from bottom-up, not just top-down," Mr Koh said. "My guys are realising that paperwork is not the way to go, and they

have started to think out of the box for ways to do things.”

The partnership gave Hubble the chance to tap KKL’s industry experience to deepen its knowledge of the construction sector and improve its products, said Hubble CEO Lin Shijing.

“KKL has been patient as a user, giving good feedback, putting in hard work during development and giving us a chance to test our technology in stress tests and high volume situations,” he said. “Having tried our product with all these users in a real environment gives us confidence to scale it subsequently.”

Another partnership between contractor **Boustead Projects E&C** and Airsquare, a startup specialising in image analytics for construction design, helped **Boustead** automate the task of validating construction progress scans against digital building information models (BIMs).

Previously, **Boustead** employees had to visually compare 3D scans of the projects against the BIMs at each stage of the construction timeline and update the BIMs accurately. Doing so helps the company track progress, preplan construction activities and identify any deviations from the original plans, which could lead to costly mistakes if not detected early. Updated and accurate BIMs can be later handed over to clients to aid in facilities and asset management.

Automating the process with Airsquare’s artificial intelligence (AI) solution has reduced the time involved by 30 to 40 per cent and minimised errors in the final BIMs, said Muhammad Khalil Shaiful, digital delivery manager at **Boustead Projects**.

Mr Khalil and Airsquare CEO Kyle Tan both cited the exchange of knowledge between the two companies as one of the main benefits of the partnership.

Said Mr Tan: “During working meetings with **Boustead**, ideas would flow with the exchange of industry knowledge with technology expertise. By sharing their industry workflows and best practices, **Boustead** triggered co-innovation from Airsquare.”

“Likewise, by sharing what is possible and what are constraints in the current tech space,

Airsquire is able to work more effectively to co-create features that are simple to use and feasible.”

IMDA’s OIP provides partner-matching on a larger scale, with companies signing up via an online portal to share problem statements or potential solutions. The platform focuses on problem statements that require innovative digital solutions not readily available in the market, which have the potential to disrupt current methods, and offers prize money for successful solutions.

Launched in July 2018, the OIP has held three Innovation Calls so far, and will be launching its fourth on Aug 7. It runs three calls each year with about 15 to 20 challenges each time, and has received an average of 10 to 15 solutions per challenge.

Slightly over half of the challenges have come from SMEs and local enterprises, while the remaining challenges are from MNCs and government agencies. The OIP accepts problem statements from all sectors, and has received statements from sectors like manufacturing, information and communications technology, professional services, lifestyle and pharmaceutical.

Altogether, the first three calls have hosted 54 challenges with S\$1.63 million in prize money up for grabs, and received 777 submissions from a community of 3,500 solvers. Sixteen prototypes have resulted from the OIP so far, such as a smart sticker for parcels developed in response to a challenge proposed by Internet of Things (IoT) service provider UnaBiz.

UnaBiz’s challenge was to develop low-cost IoT technologies for single-use devices, and design and prototyping house Continental Electronics responded with a sticker that, when torn or cut, emits a signal to the cloud, prompting notifications to the sender and recipient.

Howie Lau, IMDA chief industry development officer, said: “Enterprises, large and small, can benefit from tapping on open innovation to address their digitalisation needs. Through the OIP, we enable problem owners with digitalisation challenges to crowdsource solutions from a large and diverse community of tech innovators.”