

MEDIA RELEASE

BCA AND IMDA LAUNCHED NEW INITIATIVE TO ENCOURAGE THE ADOPTION OF ROBOTICS & AUTOMATION TO IMPROVE PRODUCTIVITY AND REDUCE LABOUR DEPENDENCY IN THE BUILT ENVIRONMENT SECTOR

Singapore, 9 Sep 2021 – Mr Tan Kiat How, Minister of State for National Development and Communications and Information, announced a new Integrated Robotics & Automation Solutions initiative for the Built Environment sector today. He was speaking at the CEOs in Conversation on Day 3 of the International Built Environment Week (IBEW) 2021. In his keynote address, he also called for R&A solution providers to participate in the Call for Proposals (CFP) for Integrated Robotics & Automation solutions by the Building and Construction Authority (BCA) and Infocomm Media Development Authority (IMDA).

Digitalisation, Robotics and Automation as Key Enablers for Transformation

2 R&A will be a key enabler for industry transformation under the digitalisation pillar of the Construction Industry Transformation Map (ITM)¹ supported by the Construction and Facilities Management Industry Digital Plan (IDP) for broad-based SMEs digitalisation. Besides improving productivity, digitalisation can also help build up the BE sector's resiliency. The current COVID-19 pandemic has highlighted the

¹ The Construction Industry Transformation Map (ITM) was launched in October 2017 to transform the industry via three (3) main areas: Design for Manufacturing & Assembly (DfMA), Green Buildings and Integrated Digital Delivery (IDD). More information is at www1.bca.gov.sg/buildsg/construction-industry-transformation-map-ITM

need to accelerate adoption of R&A solutions to reduce dependency on low-skilled manpower.

3 Today, there are opportunities for BE firms to tap on funding schemes and incorporate R&A solutions into workstreams to transform the way we build and maintain. The latest initiative is the Integrated Robotics & Automation Solutions, funded through IMDA's Advanced Digital Solutions (ADS) support. Successful BE SMEs and larger enterprises will be provided with up to 80% funding support for qualifying costs to adopt these integrated solutions. In the same vein, BCA would like to encourage solution providers with ready R&A solutions to step forward and participate in the CFP (see Annex A for details). These R&A solutions would support BE enterprises to implement R&A solutions in a cost-efficient and scalable manner to:

- a. **Reduce reliance on low-skilled manpower and increase productivity:** The ongoing COVID-19 situation has made it even more pertinent for the need to reduce reliance on low-skilled workers. Adoption of autonomous R&A solutions by BE firms can potentially bring long-term sustainable benefits to the firms and the BE sector. Potential R&A applications could help to improve productivity by automating and speeding up various labour-intensive and trade specific tasks like painting, drilling and carrying materials on-site.
- b. **Improve safety at worksites:** The use of R&A solutions could automate trade-specific tasks and provide opportunities to improve workplace safety and health. Specifically, R&A could reduce the risk of falls from height and injuries associated with lifting and transporting heavy equipment within the worksites. Potential applications of R&A solutions include work at height such as façade maintenance and inspections.

4 Interested R&A solution providers may register their interest to participate in the CFP for the Integrated R&A for the built environment by sending their solution proposals to info@imda.gov.sg.

Ecosystem Ready for R&A Solution Providers to Testbed and Launch Solutions

5 BCA has also put in place an ecosystem to support R&A solution providers from early research and innovation stages through to downstream deployment. Some supporting initiatives include :

- a. Built Environment Living Laboratory Framework (BE LLF): The BE LLF was launched last year to facilitate test-bedding of R&A solutions in living laboratories, allowing built environment firms to trial new emerging technologies. More than 30 innovative proposals have been submitted by more than 10 companies. Examples of available test-bedding sites include Punggol Town and Jurong Lake Gardens (see Annex B for more details).
- b. Building Innovation Panel (BIP): The BIP was formed in 2011 as a multi-agency platform to facilitate in-principle acceptance (IPA) for innovative building solutions that may meet with some regulatory challenges. The scope of the BIP was expanded in 2019 to include areas like R&A, advanced and sustainable building materials, and green building technologies. To date, the BIP has helped obtain IPAs for two R&A solutions, 52 Prefabricated Prefinished Volumetric Construction (PPVC) and 46 Prefabricated Bathroom Unit (PBU) systems for adoption in local projects (see Annex C for details).
 - One of the two R&A solutions that obtained IPA was an autonomous Robo-Carrier developed by Shimizu. Construction materials (up to 1,000 kg in weight) could be transported by the robot from the loading bay to the designated location (i.e. same floor or different floor based on a predetermined route planned by builders). The Robo-Carrier is projected to improve site productivity by at least 30% and will be deployed at Mount Alvernia Hospital Extension project in Q4 2021.

Enclosed:

Annex A – IMDA Advanced Digital Solutions (ADS)

Annex B – Built Environment Living Laboratory Framework (BE LLF)

Annex C – Building Innovation Panel (BIP)

About Building and Construction Authority (BCA)

The Building and Construction Authority (BCA) champions the development and transformation of the built environment sector, in order to improve Singapore's living environment. BCA oversees areas such as safety, quality, inclusiveness, sustainability and productivity, all of which, together with our stakeholders and industry partners, help to achieve our mission to transform the built environment sector and shape a liveable and smart built environment for Singapore. For more information, visit www1.bca.gov.sg.