

ANNEX A – ROBOT LEASING SUPPORT SCHEME

Background

1 As part of efforts to improve construction productivity, BCA has been supporting the adoption of proven BE Robotics & Automation (R&A) solutions through measures such as the Built Environment Technology and Capability (BETC) grant and the Productivity Solutions Grant (PSG).

2 There is a growing pipeline of market-ready BE R&A solutions that have been proven to offer significant productivity gains and manpower savings, such as Autoclaved Lightweight Concrete (ALC) panel installation, drilling, painting, concrete-levelling and tile-grouting robots. However, barriers such as high upfront costs continue to deter some BE firms – particularly Small and Medium Enterprises (SMEs) – from adopting them.

3 Leasing offers BE firms a more cost-effective way to benefit from these R&A solutions. Through BCA's industry engagements, many firms have expressed interest in taking up leasing options.

Robot Leasing Support Scheme (RLSS)

4 In response to the growing demand for leasing R&A solutions, BCA will be launching the RLSS to co-fund solution providers to lease proven R&A solutions to BE firms.

5 Funded through the BETC, this initiative will provide up to 50% co-funding¹ for each robot, thereby defraying the costs of scaling up leasing solutions and allowing more BE firms to benefit from R&A solutions and yield greater time, cost and manpower savings.

Funding Criteria and Quantum

¹ Small and Medium Enterprises (SMEs) will be supported for up to 50% of the qualifying costs, while non-SMEs will be supported for up to 30% of the qualifying costs. A SME is defined as a company with a group annual sales turnover not exceeding S\$100 million or a group employment size not exceeding 200 employees.

6 To qualify, applicants must meet the existing BETC grant eligibility criteria. This means they must be BE sector-related business entities operating in Singapore and be financially capable of starting and completing the proposed capability transformation initiative.

7 Applicants must also be able to sustain a viable leasing model. They should establish a fleet of at least five robots², have a local maintenance team to provide adopters with adequate technical support during the lease period, and commit to offering fixed leasing rates for up to two years.

² There is no cap on the number of robots applicants can seek co-funding for.

ANNEX B – STREAMLINING OF TOP/CSC PROCESSES THROUGH WHOLE-OF-GOVERNMENT VIRTUAL INSPECTIONS

Overview

1 Project teams are required to apply and obtain a Temporary Occupation Permit (TOP) or Certificate of Statutory Completion (CSC)³ before the building can be occupied. To obtain these, project teams must seek approvals from multiple regulatory agencies and comply with requirements for document submissions, audits, or site inspections.

2 Project teams spend substantial time and resources to coordinate their site works to ensure each regulatory agency's requirements are met and approvals secured in time. This process can be especially challenging towards the end of a project, where tight delivery timelines leave little room for delays.

WOG Virtual Inspection Process

3 As part of the government's pro-enterprise initiatives, the Whole-of-Government Virtual Inspection (WOG VI) initiative has been introduced to streamline TOP/CSC processes. The WOG VI process allows project parties to submit 360-degree virtual scans of their project sites which participating agencies will use to conduct their respective regulatory checks. The new process provides project parties with more flexibility compared to conventional physical TOP/CSC inspections, delivering productivity gains and time savings for the industry.

4 Project teams can also submit scans progressively as works in specific areas are completed, rather than wait for the entire project to be ready before initiating inspections. This gives project teams greater scheduling flexibility.

5 Firms are encouraged to consider the adoption of virtual inspections where appropriate and where doing so would bring operational benefits to their projects and

³ A Temporary Occupation Permit (TOP) or Certificate of Statutory Completion (CSC) is required to occupy a building or part thereof. A CSC is issued when a development has complied with all relevant statutory requirements and has obtained all necessary clearances from the relevant agencies. While a TOP is issued when a development has fulfilled the necessary requirements and obtained clearances from the relevant agencies to deem the development suitable for occupation but has approvals pending with other technical agencies. Read more here: <https://www1.bca.gov.sg/safety-and-standards/applications-and-licenses/application-for-top-csc/>

workflows. Project parties who meet the participating agencies' requirements may apply for virtual inspections in lieu of physical inspections. Physical inspections remain available for project parties who do not wish to apply for the WOG VI process.

Preliminary Benefits Identified during Pilot Projects

6 Preliminary findings from pilot projects indicate the following potential benefits for project parties adopting the WOG VI process:

- Up to 30% productivity improvement in terms of manpower and time savings for the overall TOP inspection process for project parties
- TOP process can start earlier due to progressive submission, allowing project teams to receive TOP approval by up to 2 months earlier
- Greater flexibility in scheduling inspections and submission of scans, and better coordination for agencies' TOP/CSC inspections

WOG VI Guidebook to Facilitate Industry Adoption

7 Participating regulatory agencies have published a WOG VI Guidebook to facilitate industry adoption of the VI process. The Guidebook provides guidance for Qualified Persons (QPs) and project teams on the WOG VI process, detailing agencies' inspection requirements and key considerations for planning virtual inspection scans.

8 Project parties who are keen to adopt WOG VI for their TOP/CSC inspections should refer to the Guidebook to assess the suitability of their projects and visit BCA's website for details on how to start the application process. More details can be found here:

<https://www1.bca.gov.sg/growth-and-transformation/productivity/ops-tech-enabled-inspections/wog-vi>

Participating Agencies

9 The following regulatory agencies have been onboarded onto the WOG VI process:

- Building and Construction Authority (BCA)
- Infocomm Media Development Authority (IMDA)
- Land Transport Authority (LTA)

- National Environment Agency (NEA)
- National Parks Board (NParks)
- Public Utilities Board (PUB)
- Singapore Civil Defence Force (SCDF)
- Urban Redevelopment Authority (URA)