Fact Sheet

4 March 2020

CONSTRUCTION AND FACILITIES MANAGEMENT

INDUSTRY DIGITAL PLAN

Background

1.   The Construction and Facilities Management (FM) sector is a key pillar of Singapore's economy, contributing 9% of the nation's Gross Domestic Product (GDP) and supported by 16,000 enterprises. The building life-cycle comprises four segments, namely: Design, Fabrication, Construction and Asset Delivery & Management.

2.   Building and construction projects often involve many different parties – developers, consultants, builders, sub-contractors, suppliers and facility managers. There is a need for timely access to information to ensure closer coordination and collaboration among the many industry stakeholders across the building life-cycle and ecosystem. Digital technology thus plays an important role in ensuring that correct and consistent information is readily available, which helps streamline processes, and reduce rework arising from mistakes and increase safety. Many of these industry stakeholders are small and medium-sized enterprises (SMEs), which would benefit from access to timely information through the adoption of digital technology.

3.   The Construction and FM Industry Digital Plan (IDP) [1] is part of the SMEs Go Digital programme that is designed to help SMEs go digital.

---

[1] www.go.gov.sg/imda-construction-idp

4. Under the IDP, we will set aside $19 million in funding (under the Productivity Solutions Grant (PSG) of the BuildSG Transformation Fund (BTF)) until January 2023 to support SMEs [2] to defray costs for adoption of pre-approved solutions that enhances productivity. SMEs can access ESG's online centralised portal, Tech Depot, to access the list of pre-approved digital solutions and to apply for funding to adopt these solutions at the Business Grants Portal. The funding will cover up to 70% of the qualifying cost. Firms can make multiple applications until January 2023, subject to a funding cap of $30,000 per firm.[3]

5. The IDP provides enterprises with a step-by-step guide on the digital solutions and necessary skills to adopt at each stage of their growth. The IDP will be updated progressively as newer technologies are introduced and are adopted by the industry.

---

[2] To qualify for the grant, the applicant must meet the following criteria: (i) the applicant must be registered in Singapore; (ii) have > 30% local shareholding ownership; and (iii) have annual sales turnover $\leq$ S$100 million or staff strength of $\leq$ 200 employees. The applicant must also have its primary and/or secondary business activity in the Construction and FM-related sub-sectors according to the Singapore Standard Industrial Classification (SSIC) code. Their purchase/subscription of the IT solution must be solely for use in Singapore (i.e. not for the use of another party or the applicant's overseas entities).

[3] Firms will not be allowed to apply for the same pre-approved solution more than once within the funding period. The list of pre-approved solutions under the IDP will be updated as newer technologies are introduced over time.

04 DIGITAL ROADMAP

This digital roadmap serves as a guide for you to follow on your digital journey.

STAGE 01	STAGE 02	STAGE 03
GETTING DIGITAL ECONOMY READY Uplifted Digital Capabilities, Optimised Operations	**GROWING IN THE DIGITAL ECONOMY** Integrated Ecosystem, Streamlined Processes	**LEAPING AHEAD** Intelligent Business, Autonomous Operations
3D Modelling, Immersive Visualisation and Analysis	**BIM for Asset Delivery/ Facilities Management**	**Blockchain for Progress Verification**
Building Information Modelling (BIM)-to-Field (Hardware/Software)	**Built Environment Digital Platform**	**Data and AI-driven Decision Support System**
Coordination Tools and Collaboration Platform		
Digital Wearables for Workers' Health and Safety	**Computational Design**	**Intelligent National Productivity and Quality Specification (iNPQS)**
e-Permit-to-work (e-PTW)		
Facilities Management Workflow Automation (e.g. Smart Access, Energy Management and Smart Metering, Mobile Inspection, Digital Signage)	**Coordinated Regulatory Approvals and Rule-based Model Checker**	**Robotics for Autonomous Construction and Facilities Management**
Quantity Surveying and Valuation		
Site/Yard Management	**Integrated and Smart Worksite Monitoring and Inspection**	

BUSINESS CAPABILITIES

Accounting Management, Human Resource Management, Customer Relationship Management, Sales Management, Inventory Management, Fleet Management and Cybersecurity

Note: This roadmap will be updated over time as digitalisation of the industry progresses and new technologies are introduced to the industry.

- **Stage 1: Getting Digital Economy Ready.** Digital solutions listed in stage 1 will enable SMEs to build their core digital competencies and optimise operations[4]. These digital solutions are important building blocks to enable enterprises to begin their Integrated Digital Delivery[5] (IDD) journey.

- **Stage 2: Growing in the Digital Economy.** The second stage emphasises the need to be part of an integrated ecosystem, so that enterprises can grow with their peers in the digital economy. This stage highlights the importance of IDD for construction enterprises to integrate and streamline key processes along the value chain.

- **Stage 3: Leaping Ahead.** The third stage enables enterprises to implement advanced digital technologies to strengthen their competitive edge, and enable them to venture into overseas markets and influence their SME partners to uplift their digital capabilities. This will also allow them to plug in to the IDD.

6. The IDP also includes a Digital Roadmap on Training to ensure that the industry's workforce is adequately prepared with the necessary skills and knowledge to adopt digital solutions and is ready for changes that come with digital transformation.

---

[4] These include digital modeling, visualisation, analysis, quantity surveying and valuation, site and yard management, asset management and facilities management for SMEs.
[5] IDD aims to connect various industry parties involved in building and construction projects over the entire building life-cycle through digital information and technology.

DIGITAL ROADMAP ON TRAINING

	STAGE 01 GETTING DIGITAL ECONOMY READY	STAGE 02 GROWING IN THE DIGITAL ECONOMY	STAGE 03 LEAPING AHEAD
TECH BASIC COURSES	• SkillsFuture for Digital Workplace • Introduction to Construction Industry Transformation Map (ITM) and Integrated Digital Delivery (IDD) • Understanding Building Information Modelling (BIM) Data and Modelling	• Overview – Integrated Digital Delivery (IDD) Concepts and Project Framework • Understanding Project Collaboration • Understanding Construction Site Management	• Understanding Digital Design for Manufacturing and Assembly (DfMA) • Understanding Virtual Construction • Basics to Smart Facilities Management (FM)
	VENDOR-SPECIFIC SOLUTIONS TRAINING		
TECH ADVANCED COURSES	• Basic Building Information Modelling • Intermediate Building Information Modelling (Coordination & Documentation) • Advanced Building Information Modelling (Computational)	• Integrated Digital Delivery (IDD) Project Planning and Execution	• Integrated Digital Delivery (IDD) Application and Development • Data Analytics and Machine Learning • Internet of Things

Please visit BCA Academy, https://bcaa.edu.sg/idd and Singapore Polytechnic, https://www.sp.edu.sg/pace/construction-and-facilities-mgt-idd-idp for details.

7. The sector-specific IDPs are central to the SMEs Go Digital programme[6], which comprises the following:

- **Consultancy Services**
  For a more comprehensive review of their business, SMEs can approach Business Advisors at their nearest **SME Centre**[7] for business diagnosis and advisory on digital solutions relevant to their operations. SMEs that require specialist consultancy on sophisticated technologies, such as data analytics and

---

[6] www.imda.gov.sg/SMEsGoDigital
[7] List of SME Centres can be found: https://www.enterprisesg.gov.sg/contact/overview
[8] www.digitaltechhub.sg

cybersecurity, will be referred to the Principal Consultants at the **SME Digital Tech Hub**[8]. These digital consultancy services are provided at no cost to SMEs.

- **Digital Project Management Services**
  SMEs can also engage **Digital Project Management Services**[8] to support them in the implementation of digital solutions. The project managers can help with business processes re-engineering and job redesign to get the maximum benefits and have more sustainable outcomes from going digital.

- **Pre-approved Solutions**
  SMEs looking to build core digital competencies and optimise operations can choose from the list of pre-approved solutions on Tech Depot and receive grant support for eligible projects. Tech Depot is a one-stop, centralised platform aimed at improving SMEs' access to technology and digital solutions. SMEs can visit www.smeportal.sg/techdepot for more information.

- **Start Digital**
  For SMEs that are just starting their business or are new to digital technology, they can take up a Start Digital Pack[9] to start their business right with foundational and competitively-priced digital solutions. New SMEs can take up any two solutions free for at least six months with a minimum 18-month contract period from five categories: Accounting, Human Resources Management & Payroll, Digital Marketing, Digital Transactions and Cybersecurity. The solutions are pre-approved by IMDA and offered by Start Digital Partners like DBS, M1, Maybank, OCBC, Singtel, StarHub and UOB.

---

[8] Digital Project Management Services can be accessed:
http://www.smfederation.org.sg/capabilitycapacity-development/project-management-services
[9] www.imda.gov.sg/StartDigital

About Infocomm Media Development Authority (IMDA)

The Infocomm Media Development Authority (IMDA) leads Singapore's digital transformation with infocomm media. To do this, IMDA will develop a dynamic digital economy and a cohesive digital society, driven by an exceptional infocomm media (ICM) ecosystem – by developing talent, strengthening business capabilities, and enhancing Singapore's ICM infrastructure. IMDA also regulates the telecommunications and media sectors to safeguard consumer interests while fostering a pro-business environment, and enhances Singapore's data protection regime through the Personal Data Protection Commission.

For more news and information, visit www.imda.gov.sg or follow IMDA on Facebook IMDAsg and Twitter @IMDAsg.

For media queries on the IDP, please contact the following:

IMDA:
Jacqueline Cai
Assistant Manager, Communications and Marketing
Tel: 6751 2766
Email: jacqueline_cai@imda.gov.sg

Aung Thi Ha (Mr)
Manager, Communications and Marketing
Tel: 9338 2594
Email: aung_thi_ha@imda.gov.sg

Chloe Choong (Ms)
Assistant Director, Communications and Marketing
Tel: 6211 0527
Email: chloe_choong@imda.gov.sg