LAND TRANSPORT | INDUSTRY DIGITAL PLAN
CHARTERED BUS SERVICES

A Guide for Small and Medium Enterprises (SMEs) to Assess Their Digital Readiness and Opportunities to Go Digital

Sector lead:

Land Transport Authority
We Keep Your World Moving

Co-lead:

Enterprise Singapore

In support of:

SG:DIGITAL

In collaboration with:

Other associations:

SSTA
Singapore School Transport Association

EEBA
Express & Excursion Bus Association

Supported by:

SKILLSfuture SG

REPUBLIC POLYTECHNIC
DISCOVER, TRANSFORM, ACHIEVE

CONTENTS

Land Transport Industry Overview

Land Transport industry plays a significant role in Singapore's economy.

Land Transport is a key enabler for Singapore's economy, with more than 100,000 workers[1] in the rail, public bus and point-to-point transport segments. In 2019, Singapore Land Transport industry comprised approximately 4,000 firms[2] and contributed about 0.9% of Singapore's GDP[2].

Approximately
4,000
firms[2]

More than
100,000
workers[1]

About
0.9%
of Singapore's GDP[2]

Note: Land Transport industry comprises passenger rail and land transport services (including street hail and ride hail service providers).

Trends Impacting Land Transport Industry

Cities worldwide are moving towards integrated multi-modal transportation for increased connectivity

- With increasing urbanisation around the world, the demand for public transport is growing.

- Commuters are exploring alternative transport modes (e.g. chartered buses, shared & point-to-point (P2P) services and active mobility options) to locations that are inaccessible via public transport.

New technologies are continuing to shape and disrupt land transport systems worldwide

- Global digitalisation has equipped businesses with the ability to collect dynamic transport data to develop innovative solutions such as shared and on-demand transport services.

- Use of technology has become the norm to enhance jobs, commuter experience and service reliability.

- Electric vehicles (EVs) and autonomous vehicles (AVs) will likely transform the land transport system by enabling more efficient on-demand forms of shared transport and new business models.

Environmental and public health concerns push for eco-friendly car-lite cities

- Reducing private-car ownership and increasing the use of public transport continue to be major goals for urban cities.

- Singapore is advancing towards a green and sustainable transport by 2040.

Land Transport Industry Transformation Map

The Land Transport Industry Transformation Map (ITM), launched in February 2018, was developed in consultation with the National Transport Workers' Union and industry partners, to ensure that the industry and its workers remain relevant despite long-term challenges such as an ageing population, land and fiscal constraints, as well as the advent of disruptive technologies such as autonomous vehicles, big data and artificial intelligence.

As we plan towards 2030, the land transport industry continues its ITM journey, and strives towards a vision of achieving a sustainable and cost-effective public transport service, ensuring smooth workforce transition when disruption occurs, and building a strong, diverse and vibrant land transport ecosystem. To achieve this vision, several strategies have been laid out, including the Industry Digital Plan.

Source: Land Transport Authority

03 Chartered Bus Services Sector

Overview

- 10,600 buses[3] owned by 3,500 unique bus owners[3] (i.e. both individuals and companies).
- Sector is largely served by small fleet owners (less than 5 vehicles) and one-man operators, who multi-task in different roles such as drivers, assistants, operations managers, administration and finance officers.

Challenges Faced

Operational Inefficiency

- Laborious processes
- Error prone and time consuming practices

Manpower Shortage

- Limited inflow of manpower
- Ageing workforce

Lack of Tech Adoption

- Cumbersome manual payment process
- Legacy systems and processes

Operational Disruption

- Lack of efficient communication channels
- Poor asset management practices

🚌 04 SMEs GO DIGITAL

Aligned to the ITM, the Industry Digital Plan (IDP) is part of the SMEs Go Digital programme that helps to make going digital simple for SMEs.

IM INFOCOMM MEDIA DEVELOPMENT AUTHORITY | SMEs GO DIGITAL

3 STEPS TO GO DIGITAL

For more information
Scan the QR code or visit
www.imda.gov.sg/SMEsGoDigital

Support available

- Pre-Approved Solutions
- Start Digital Pack
- Grow Digital
- Consultancy Services (SME Digital Tech Hub)
- Government Grants (e.g. Productivity Solutions Grant (PSG); SkillsFuture Enterprise Credit (SFEC))
- Digital Resilience Bonus
- Digital Project Management Services

1 **Is your business digital-ready?**
Find out using the Industry Digital Plan (IDP) for your sector.

2 **How do you get started?**
Take up pre-approved solutions with grant support.

3 **Where can you get help?**
Contact your nearest SME Centre for support.

SMEs Go Digital comprises the following:

START DIGITAL PACK
Foundational digital solutions for new SMEs, to help you get a head start in going digital.

INDUSTRY DIGITAL PLAN (IDP)
Guide on digital solutions and training required for each stage of your business growth.

PRE-APPROVED SOLUTIONS
Proven SME-friendly digital solutions pre-approved by IMDA to meet your business needs. Government grants, e.g. Productivity Solutions Grant (PSG), are available for the adoption of these solutions.

GROW DIGITAL
Business-to-Business (B2B) and Business-to-Consumer (B2C) e-commerce platforms you can leverage to go global.

DIGITAL RESILIENCE BONUS
Bonus for uplifting your digital capabilities to emerge stronger after the circuit breaker period, starting with the Food Services and Retail sectors.

CONSULTANCY SERVICES (SME DIGITAL TECH HUB)
Expert advice you can tap on, to transform your business using digital technologies.

DIGITAL PROJECT MANAGEMENT SERVICES
Project managers with expertise to support you in implementing the digital solutions.

Digital Roadmap

This digital roadmap, developed by LTA, ESG and IMDA, in collaboration with Singapore School & Private Hire Bus Owners' Association (SSPHBOA), serves as a guide for you on your digitalisation journey.

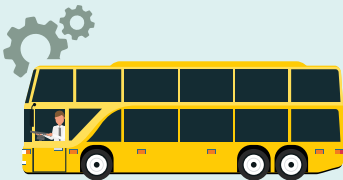## Stage 01
Getting Digital Economy Ready
Digitalised Operations
Optimised Resources

Stage 02
Growing in the Digital Economy
Integrated Insights
Connected Businesses

Stage 03
Leaping Ahead
Automation
Data-Driven Businesses

Stage 01
- Route Optimisation
- Customer Management Platform
- Driver Management Platform
- Parent Mobile App
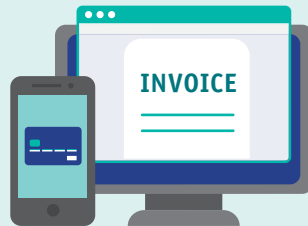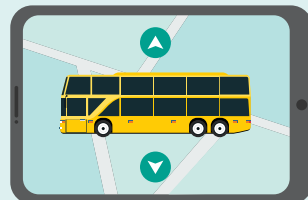
Stage 02
- Digital Payment (Digital Wallet)
- Integrated Fleet Management
- Crowdsourcing of Resources/ Jobs
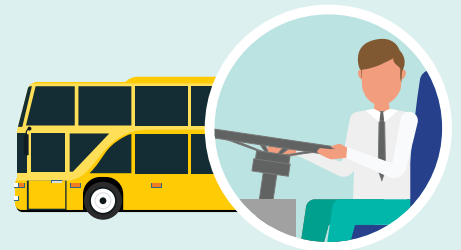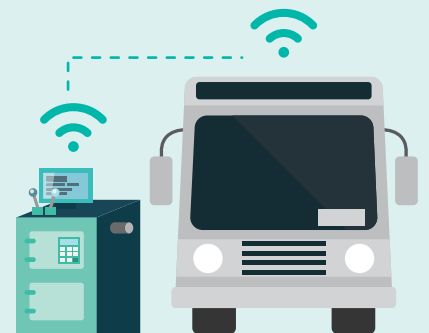
Stage 03
- Driver Behaviour Management
- Remote Vehicle Diagnostic

BUSINESS CAPABILITIES

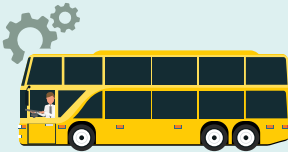Accounting Management, Human Resource Management and Payroll, Sales Management and Cybersecurity

Note: The roadmap will be progressively updated to reflect the advent of new digital tools and technologies for the industry.

GETTING DIGITAL ECONOMY READY
Digitalised Operations, Optimised Resources

Objective: To streamline operations and optimise resources to improve productivity and customer satisfaction
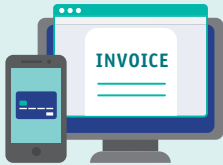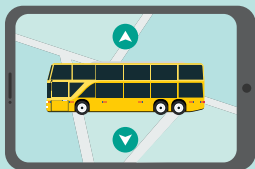
SOLUTION	DESCRIPTION	KEY BENEFITS
Route Optimisation	Maps out best-available routes based on demand and ad-hoc orders.	• Ease of adding and changing bus routes as needed • Increased transferability of tasks • Quick responses to ad-hoc job assignments
Customer Management Platform	Stores customers' records such as addresses, contact details and payment status in cloud platform.	• Higher operational efficiency by reducing manual and error-prone processes • Ease of payment monitoring
Driver Management Platform	Assigns jobs and manages drivers' schedule. Assists drivers with onboard ridership management. Provides an overview of buses – vehicles' capacity, parking location & account holder/assigned driver.	• Ease of matching jobs with drivers' schedules • Drivers can track boarding and alighting passengers through their EZ Link card (e.g. students, senior citizens) • Manage route and shift changes between drivers
Parent Mobile App	Provides real-time tracking of school buses and students.	• Real-time en-route updates (e.g. bus breakdown, change in bus/driver) for parents, allowing driver and attendant to focus on the safety of students • Location tracking of children (i.e. picked up, dropped off, on the way)

Stage 02

GROWING IN THE DIGITAL ECONOMY
Integrated Insights, Connected Businesses

Objective: Integrate insights and collaborative ecosystem to improve business profit

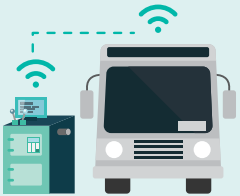| SOLUTION	DESCRIPTION	KEY BENEFITS
Digital Payment (Digital Wallet)	Facilitates cashless payment to bus operators. Allows passengers to top-up through other payment modes (e.g. credit card).	• Convenience for passengers through digital payment options • Collation of fares paid and quicker transfers to operator's bank account for better cash flow
Integrated Fleet Management	Enables real-time tracking of the location of vehicles.	• Better planning and deployment of assets
Crowdsourcing of Resources/Jobs	Enables resource and job matching by fostering collaboration between different bus service providers.	• More opportunities for smaller players to pool their resources to bid for projects via a resource sharing platform

LEAPING AHEAD
Automation, Data-Driven Businesses

Objective: Use of advanced and data-driven technology to maximise business potential

SOLUTION	DESCRIPTION	KEY BENEFITS
Driver Behaviour Management	Allows collection of data on driving patterns through sensors and video recordings.	• Enhanced road safety leading to fewer accidents and lower insurance premiums • Use of data insights to reinforce positive driving behaviour
Remote Vehicle Diagnostic	Monitor vehicle's health status with sophisticated vehicle diagnostics system.	• Easy monitoring of vehicle's health through interactive dashboard • Reduce unanticipated vehicle breakdowns, due to poor vehicle condition • Facilitate planning for timely maintenance of vehicles

Digital Skills Needed

Land Transport job roles will evolve to meet the changing needs of customers and support the growth of companies. Upskilling of workers helps companies to harness the potential of digital technologies, and remain competitive and relevant.

All Users
(Require broad-based digital literacy and awareness)

"TECH BASICS" SKILLS

Broad-based innovation mindset and digital literacy/awareness

SkillsFuture Singapore (SSG) funded broad-based courses - e.g. Staying Relevant in Digital Economy

Job Roles (examples)

Admin Officers

Finance Officers

Drivers

Bus Assistants

Transport Managers

Advanced Users
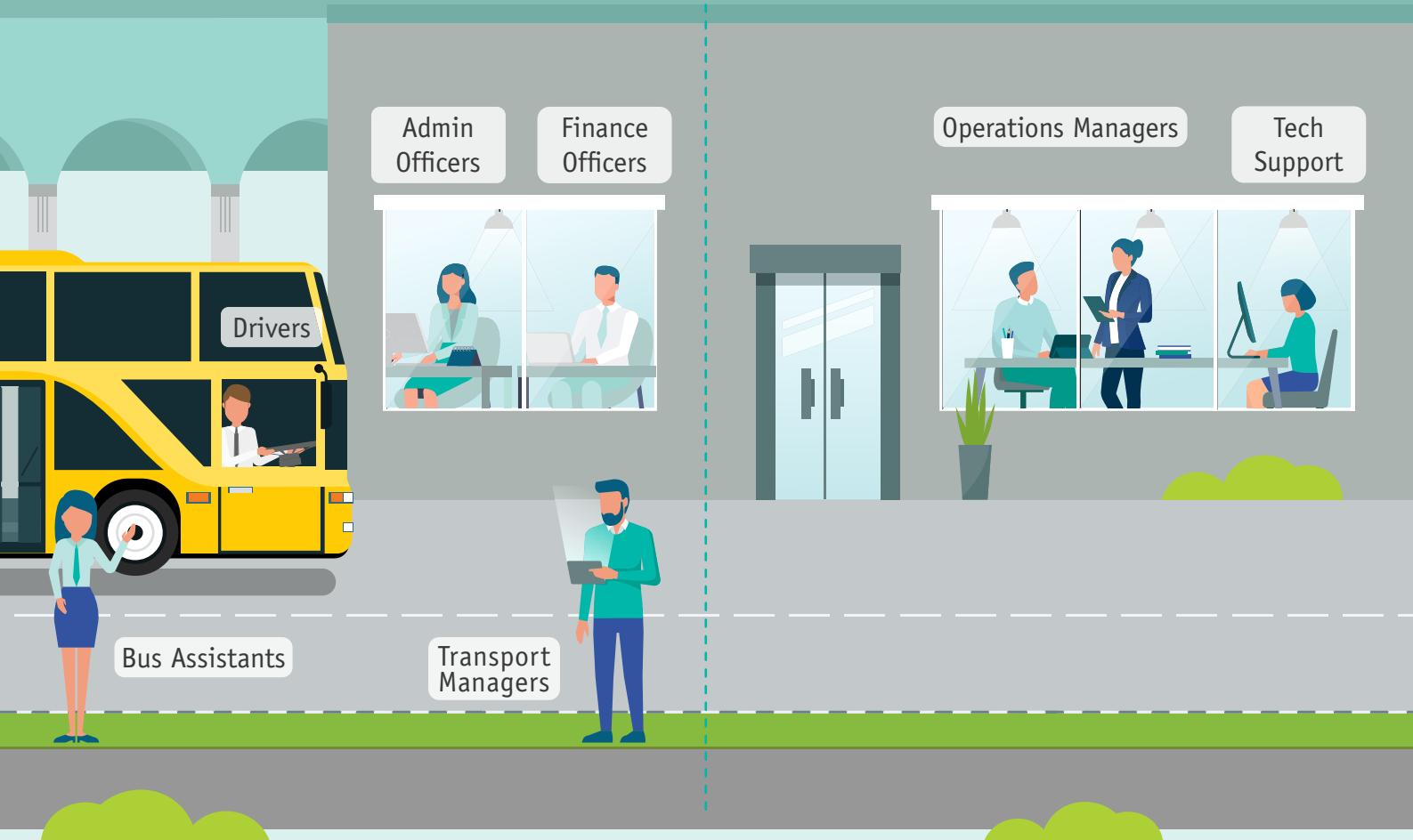### (Require higher proficiency digital skills)
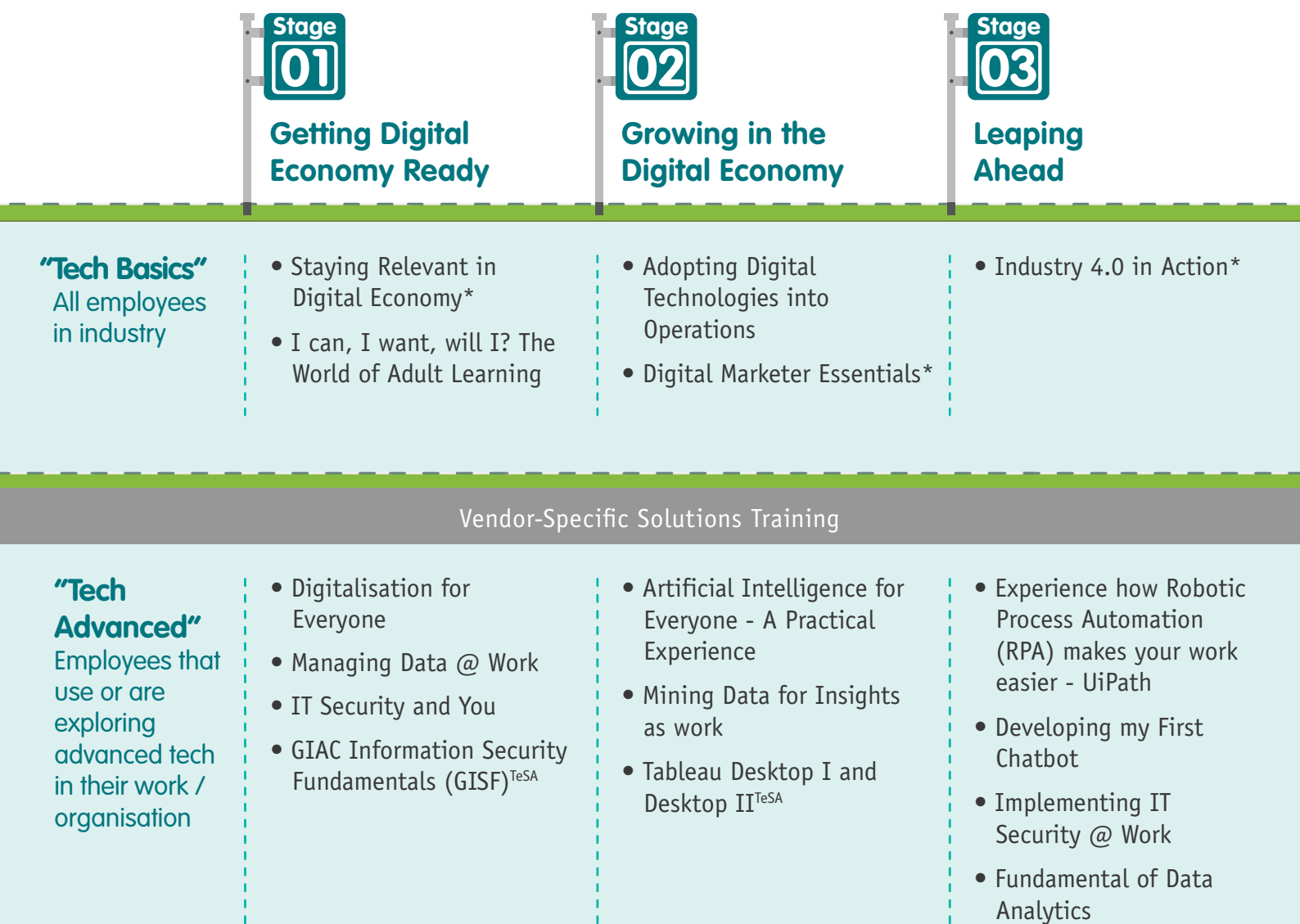
"TECH ADVANCED" SKILLS

Higher proficiency level digital skills

Training mapped to the Skills Framework for Public Transport and Infocomm Communication Technology (ICT)

Job Roles (examples)

Operations Managers

Tech Support

Digital Roadmap on Training

	Stage 01 **Getting Digital Economy Ready**	Stage 02 **Growing in the Digital Economy**	Stage 03 **Leaping Ahead**
"Tech Basics" All employees in industry	• Staying Relevant in Digital Economy* • I can, I want, will I? The World of Adult Learning	• Adopting Digital Technologies into Operations • Digital Marketer Essentials*	• Industry 4.0 in Action*

Vendor-Specific Solutions Training

"Tech Advanced" Employees that use or are exploring advanced tech in their work / organisation	• Digitalisation for Everyone • Managing Data @ Work • IT Security and You • GIAC Information Security Fundamentals (GISF)^{TeSA}	• Artificial Intelligence for Everyone - A Practical Experience • Mining Data for Insights as work • Tableau Desktop I and Desktop II^{TeSA}	• Experience how Robotic Process Automation (RPA) makes your work easier - UiPath • Developing my First Chatbot • Implementing IT Security @ Work • Fundamental of Data Analytics

Training programmes aligned to Skills Frameworks and/or emerging areas under SkillsFuture Series.

*Supported under Enhanced Training Support Package (ETSP). For more details on ETSP, please refer to SSG's website: https://www.ssg.gov.sg/ETSP_EnhancedAP.html

"Tech Basics" and "Tech Advanced" Courses Directory: https://www.rp.edu.sg/ace/news-and-events/Detail/land-transport-industry-digital-plan-(idp)

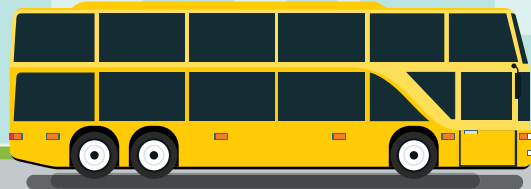TeSA Courses Directory: https://www.imda.gov.sg/imtalent/training-and-courses

Get Started Today

You will be supported at every stage of your digital journey, through three simple steps:

1 | Is your business digital-ready?

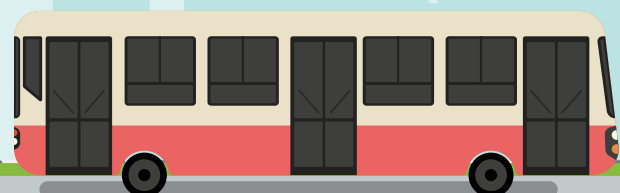Find out if you are digital-ready by using the IDP resources here or scan the QR code.

2 | How do you get started?

- Visit Singapore School and Private Hire Bus Owners' Association (SSPHBOA) or call 6741 0788 to find out more about the digital solutions available and to enrol in the pilot that is supported by Enterprise Singapore. Participants will be entitled to grant subsidies to implement the digital solutions which include hardware and software training.

- Visit GoBusiness Gov Assist for pre-approved solutions supported under the Productivity Solutions Grant (PSG).

- You can also apply for training subsidies under the SkillsFuture Enterprise Credit (SFEC).

3 | Where can you get help?

- Make an appointment with a Business Advisor at your nearest SME Centre for digital advice, or be referred to the Principal Consultants at SME Digital Tech Hub for more advanced digital needs.

- Contact Singapore Manufacturing Federation (SMF) for digital project managers who can help you implement your digital solutions.

Additional Information

For SMEs

Digital Solutions

LTA Website for LTIDP-CBS
https://go.gov.sg/land-transport-idp-cbs

ESG Website for LTIDP-CBS
https://www.enterprisesg.gov.sg/industries/type/
land-transport/industry-profile

SSPHBOA Website
https://ssphboa.com/

SMEs Go Digital
https://imda.gov.sg/SMEsGoDigital

GoBusiness Gov Assist
https://govassist.gobusiness.gov.sg/

Be Safe
https://www.csa.gov.sg/~/media/csa/documents/
publications/be_safe_online/be_safe_online_hand
book.pdf

Business Advisory & Digital Consultancy

SME Centres managed by Trade Associations:
• SME Centre@ASME
• SME Centre@SCCCI
• SME Centre@SICCI
• SME Centre@SMCCI
• SME Centre@SMF

https://www.enterprisesg.gov.sg/smecentre
Enterprise Infoline: +65 6898 1800

SME Digital Tech Hub

http://www.digitaltechhub.sg

Digital Project Management

Singapore Manufacturing Federation
https://www.smfederation.org.sg/capability-capacity
-development/project-management-services

For Individuals

Capability Upgrading and Career Facilitation

Institute of Higher Learning (IHL)
https://www.rp.edu.sg/ace/news-and-events/Detail
/land-transport-industry-digital-plan-(idp)

Course Directory
https://www.skillsfuture.sg/credit

SkillsFuture for Digital Workplace
https://www.skillsfuture.sg/digitalworkplace

Skills Framework
https://www.skillsfuture.sg/skills-framework

TechSkills Accelerator (TeSA)
https://www.imda.gov.sg/imtalent/training-and-courses

WSG's Careers Connect
http://www.wsg.gov.sg/career-services.html

e2i Centres
http://e2i.com.sg/app

For ICM Vendors

SMEs Go Digital

https://imda.gov.sg/icmvendors

**This Industry Digital Plan is part of the
SMEs Go Digital Programme**

**For programme information and feedback:
https://www.imda.gov.sg/SMEsGoDigital**

#SGDIGITAL

Singapore Digital (SG:D) is a nation-wide movement to unify Singapore's digitalisation efforts. Whether it is help for different industries to start their digitalisation journeys, or creating new ecosystems, opportunities and capabilities for the future, SG:D is set to take us ahead as a leading digital global node. The :D smiley face icon in the logo signifies the optimism of Singaporeans advancing together with digital innovation. As we progress into the digital economy, it is all about the people – the heart of all we do.

imda.gov.sg/sgdigital
lta.gov.sg
enterprisesg.gov.sg

facebook.com/IMDAsg
facebook.com/WeKeepYourWorldMoving
facebook.com/enterprisesg

twitter.com/IMDAsg
twitter.com/LTAsg

youtube.com/IMDAsg
youtube.com/LTAsingapore
youtube.com/enterprisesingapore

instagram.com/IMDAsg
instagram.com/LTAsg

linkedin.com/company/IMDAsg
linkedin.com/company/lta
linkedin.com/company/enterprisesg

t.me/LTASingapore
t.me/SMEsGoDigital

Land Transport Authority
We Keep Your World Moving

Enterprise Singapore

INFOCOMM MEDIA DEVELOPMENT AUTHORITY