SEA TRANSPORT SHIP AGENCY | INDUSTRY DIGITAL PLAN

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

An initiative by:
INFOCOMM MEDIA DEVELOPMENT AUTHORITY

Sector lead:
MPA SINGAPORE

Supported by:
SKILLSfuture SG
SSA SINGAPORE SHIPPING ASSOCIATION
SINGAPORE POLYTECHNIC | SP
Enterprise Singapore
wsg Workforce Singapore

CONTENTS

OUR SEA TRANSPORT INDUSTRY

Sea Transport Industry which comprises the port, port services, shipping and maritime services sub-sectors, is a key pillar of Singapore's economy.

Employed about
170,000
workers

Handled
36.6 million
TEUs[2] in container volume in 2018

Contributed
7%
to Singapore's GDP[1]

INTERNATIONAL MARITIME CENTRE
Shipping & Maritime Services

GLOBAL HUB PORT
Port Operations & Services

Home to more than
5,000
Maritime establishments

[1]GDP refers to Gross Domestic Product
[2]TEUs refers to Twenty-foot Equivalent Units

Source: Maritime & Port Authority of Singapore (MPA)

TRENDS IMPACTING SEA TRANSPORT INDUSTRY

Intensifying competition from key ports and maritime centres

Drives the need for our sea transport sub-sectors to improve operational efficiency amid expansion plans by regional ports (e.g. Klang, Tanjung Priok) and increased efforts from aspiring maritime centres (e.g. Dubai, Shanghai).
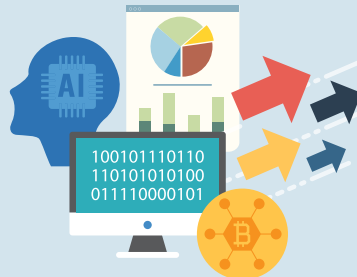
Accelerating pace of technological advancements

Disrupts existing business models and brings opportunities for greater productivity through the use of technology e.g. Data analytics, Internet-of-Things, artificial intelligence, blockchain, smart sensors, robotics process automation.

Shrinking local workforce with rising costs and more educated workforce with higher aspirations

Increases the need for better-skilled and trained manpower to leverage technology to achieve more by optimising limited resources, streamlining and simplifying business processes.

Source: Maritime & Port Authority of Singapore (MPA)

INDUSTRY TRANSFORMATION MAP (ITM)

The Sea Transport Industry Transformation Map (ITM) was launched in January 2018. Developed by the Maritime and Port Authority of Singapore (MPA) in partnership with the industry, unions and other government agencies, the Sea Transport ITM builds on MPA's strategic long term plans to develop Singapore's next-generation port and strengthen our International Maritime Centre (IMC). Specific initiatives have been laid out under the Sea Transport ITM to catalyse innovation, drive productivity improvements and enhance the skills of the maritime workforce.

Source: Sea Transport Industry Transformation Map

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.

SG:D | SMEs GO DIGITAL

3 STEPS TO GO DIGITAL

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

Support available

- Consultancy Services (SME Digital Tech Hub)
- Government Grants (e.g. Productivity Solutions Grant - PSG)
- Project Management Services
- Pre-Approved Solutions
- Start Digital Pack

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 the nearest SME Centre for support.

SMEs Go Digital comprises the following:

Industry Digital Plan (IDP)
Guide on digital solutions and training required for each stage of your business growth.

Consultancy Services (SME Digital Tech Hub)
Expert advice you can tap on, to transform your business using digital technologies.

Project Management Services
Project managers with expertise to support you in implementing the digital solutions.

Pre-Approved Solutions
Proven SME-friendly digital solutions pre-approved by IMDA to meet your business needs. Government grants such as Productivity Solutions Grant (PSG) are available for the adoption of these solutions.

Start Digital Pack
Foundational digital solutions for new SMEs, to help you get a head start in going digital.

DIGITAL ROADMAP FOR SHIP AGENCY

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

STAGE 01

GETTING DIGITAL ECONOMY READY

Streamlined Operations
Optimised Resources

Ship Agency Management

- Service Booking Portal
- Cargo Operations (for Liner Agents)
- Port Call Management
- Port Disbursement
- Accounting & Payment
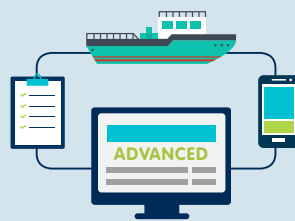- Management Reporting
- Resource Management

Collaboration & Document Management

STAGE 02

GROWING IN THE DIGITAL ECONOMY

Integrated Insights
Collaborative Ecosystem

Advanced Ship Agency Management

Ship Agent Training Management

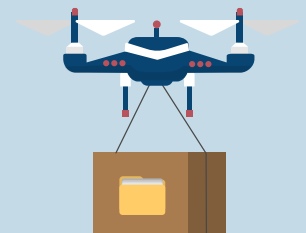## STAGE 03

LEAPING AHEAD

Autonomous Operations
Intelligent Business

Shipping Blockchain Ecosystem

Drones for Document Delivery

ROBOTIC PROCESS AUTOMATION

To automate ship agency business processes such as immigration clearances, cargo declarations and generation of shipping documentation

BUSINESS CAPABILITIES

Human Resource, Payroll, Accounting

Note: This roadmap will be updated over time as digitalisation of the industry progresses and new technologies are introduced to the industry.
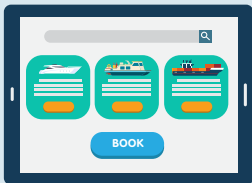
GETTING DIGITAL ECONOMY READY
Streamlined Operations, Optimised Resources
Streamline and integrate business processes to enhance productivity and efficiency

DIGITAL SOLUTION

**Service
Booking Portal**

SOLUTION DESCRIPTION

Allow online booking with streamlined booking processes for shippers, charterers and vessel owners.

Key features include:
- One-stop customer facing portal with standardised booking forms
- Electronic submission of booking-related documents
- Streamlined booking confirmation with automatic generation of proforma invoice
- Revenue management module with price optimisation and customer analytics capabilities to maximise agency revenue

BENEFITS

- Enhanced efficiency, increased completeness/accuracy of booking information and improved quotation turnaround time
- Enhanced customer service and transparency
- Maximised revenue

**Cargo Operations
(for Liner Agents)**

Enhance execution and decision-making capabilities for container cargo-handling operations.

Key features include:
- Consolidation of shipment information in an easy-to-read format
- Custom cargo-handling workflow for different cargo types with automatic task alerts
- Automatic generation of shipping documentation and streamlined review process
- Optimisation of container rollover management
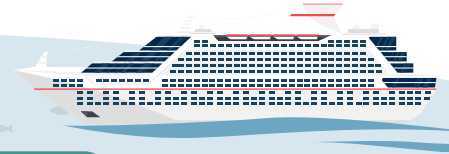- Optimisation of stowage planning

- Enhanced efficiency in decision making for cargo handling operations such as transhipment
- Ensured completeness and accuracy of cargo-related data, thereby reducing exceptions and execution delay
- Reduced manual work

GETTING DIGITAL ECONOMY READY
Streamlined Operations, Optimised Resources
Streamline and integrate business processes to enhance productivity and efficiency

DIGITAL SOLUTION

Port Call Management

SOLUTION DESCRIPTION

Execute non-cargo related operating processes such as the arrangement of ship husbandry services, crew handling and customs clearance.

Key features include:
- Automatic consolidation of relevant vessel call information
- Automatic generation of agent workflow according to call requirements with outstanding tasks alerts
- Web-based application for boarding officers

BENEFITS

- Enhanced workflow efficiency, leading to increased service delivery, speed and higher customer satisfaction
- Reduced manual work

Port Disbursement

Accelerate and streamline port disbursement processes (e.g. creation of disbursement account and statement of facts), thereby enhancing cashflow management.

Key features include:
- Consolidation of billing information
- Automatic calculation of port charges using operations data
- Invoice verification/approval function
- Disbursement tracking function

- Reduced invoicing delay
- Improved cashflow management

GETTING DIGITAL ECONOMY READY
Streamlined Operations, Optimised Resources
Streamline and integrate business processes to enhance productivity and efficiency

DIGITAL SOLUTION

SOLUTION DESCRIPTION

BENEFITS

Accounting & Payment

Support and manage budget, payments and financial reporting for increased accuracy.

Key features include:
- Automatic report generation for monthly/yearly closing, financial reporting and tax accounting purposes
- Budget and cashflow monitoring functions
- Streamlines creditor payment process

- Reduced manual effort needed for report generation
- Increased accuracy of reports
- Improved cashflow management

Management Reporting

Track Key Performance Indicators (KPIs) and identify opportunities to enhance business performance and analyse critical information.

Key features include:
- Performance analysis on integrated sales, operations and financial data
- Corporate KPI setting and tracking
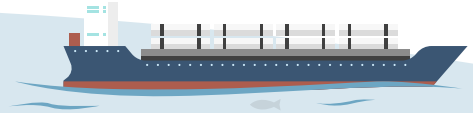- Analytics dashboard with report building and data visualisation capabilities

- Enhanced management of business performance
- Facilitation of better decision making by management

GETTING DIGITAL ECONOMY READY
Streamlined Operations, Optimised Resources
Streamline and integrate business processes to enhance productivity and efficiency

DIGITAL SOLUTION

Resource Management

SOLUTION DESCRIPTION

Dynamically re-schedule and manage resources, such as boarding officers.

Key features include:
- Automatic scheduling/assignment of resources based on availability
- Dynamic assignment of manpower to vessels
- Tracking and providing alerts on duplicate assignments or unassigned vessels

BENEFITS

- Reduced manual effort needed to deploy resources
- Minimisation of operational disruptions arising from deployment errors
- Optimised resource deployment

Collaboration & Document Management

Manage high e-mail volumes as well as consolidate, archive and search documents and files from various systems across offices and teams.

Key features include:
- E-mail filtering and indexing
- E-mail parsing
- Ability to share e-mails, documents and actions effected across teams and offices
- Image recognition to extract relevant data from documents for direct integration with in-house IT systems
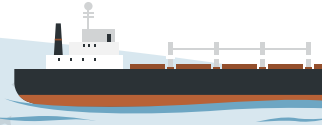
- Reduced time spent on emails
- Enhanced and seamless work processes across regional offices
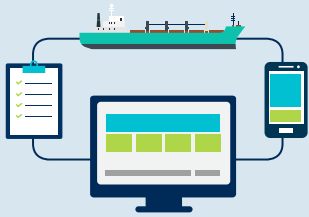- Reduced time taken to retrieve relevant e-mails for better document control and handling

GROWING IN THE DIGITAL ECONOMY

Integrated Insights, Collaborative Ecosystem

Collaborate ecosystems enables integrated insights to maximise business value

DIGITAL SOLUTION

Advanced Ship Agency Management

SOLUTION DESCRIPTION

Enhance agency operations and service transparency.

Key features include:
- Integration with external platforms (e.g. PortNet, customer systems)
- Real-time cargo and vessel visibility for ship owners, charterers, shippers and vendors
- Predictive analytics for proactive business management, enabled by integration of market intelligence and agency proprietary data

BENEFITS

- Reduced manual effort in the operations
- Enhanced operational efficiency by integrating with external sources
- Increased service transparency, leading to greater customer satisfaction and retention
- Identification of strategic business opportunities, with top-line and bottom-line impact

Ship Agent Training Management

Design and deliver custom training curriculums for agents at different career stages.

Key features include:
- Training curriculum design tool
- e-Learning platform that adapts to agent proficiency, work performance and seniority
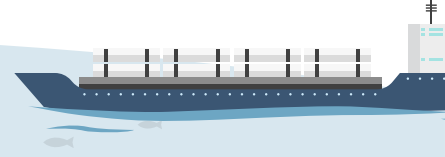- Native performance appraisal and feedback system

- Increased employee proficiency
- Increased employee job satisfaction

LEAPING AHEAD
Autonomous Operations, Intelligent Business
Exploit autonomous robotics and advanced tech to maximise business value and impact

DIGITAL SOLUTION

Shipping Blockchain Ecosystem

SOLUTION DESCRIPTION

Integrate shipping operations system through global shipping blockchain platform.

Key features include:
- Seamless sharing of shipping documents and data across all stages of shipping life cycle
- Automate transactions such as payments, document transfers
- Streamline approval processes

BENEFITS

- Increased speed of approval processes
- Increased operational efficiency by facilitating better data sharing and transaction flows

Drone for Document Delivery

Deliver shipping documents to vessels where physical agent's presence is not required.

- Enhanced time management
- Improved deployment of human resources

DIGITAL SKILLS NEEDED

Digital skills are required for all ship agency job roles, to varying levels of proficiency. All job roles may require upskilling to support your digitalisation journey.

ALL USERS
Require broad-based digital literacy and awareness

ADVANCED USERS
Require higher proficiency digital skills

"TECH BASICS" COURSES

Broad-based innovation mindset and digital literacy/awareness

SSG funded broad-based courses e.g. Skills Future for Digital Workplace

Solution-specific user level digital skills

Vendor solution-specific training

"TECH ADVANCED" COURSES

Higher proficiency level digital skills

Training mapped to the Skills Framework for Sea Transport and Information and Communication Technology (ICT)

Boarding Officer

Ship Agency Manager

Shipping Clerk

05

DIGITAL SKILLS NEEDED

DIGITAL ROADMAP ON TRAINING – SHIP AGENCY

	STAGE 01 GETTING DIGITAL ECONOMY READY	**STAGE 02** GROWING IN THE DIGITAL ECONOMY	**STAGE 03** LEAPING AHEAD
"TECH BASICS" COURSES Require broad-based digital literacy and awareness	Introduction to Digital Ship Agency Management Benefits of Using Analytics for Start-ups and SMEs	Optimising Customer Management and Operations with Data Analytics	Application of RPA and Drones for Document Delivery
	Vendor Solution Specific Training	Vendor Solution Specific Training	Vendor Solution Specific Training
"TECH ADVANCED" COURSES Require higher proficiency digital skills	Simplifying Documentation and Customer Relationship Management with Digital Technologies Hands-On Data Protection Officer Training Introduction to Data Analytics	Enhancing Workplace Productivity through Learning Management System	Leveraging of Digital Platforms for Ship Agency Intelligence

Training programmes aligned to **Skills Framework** and emerging areas under **SkillsFuture Series**
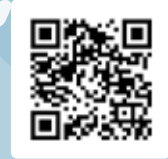
LEGEND · CLASSROOM · + BLENDED LEARNING

Course Directory: https://www.sp.edu.sg/pace/sea-transport-industry-digital-plan

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 the MPA website to contact solution providers to purchase and implement digital solutions. If funding support is required, apply for Sea Transport IDP Grant.

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 the 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 SME

DIGITAL SOLUTIONS

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

Tech Depot
https://www.smeportal.sg/content/tech-depot
/en/tech-solutions.html

MPA Website
https://www.mpa.gov.sg/web/portal/home/maritime-
companies/research-development/industry-digital-plan

Be Safe Online
https://www.csa.gov.sg/~/media/csa/documents
/publications/be_safe_online/be_safe_online_
handbook.pdf

DIGITAL PROJECT MANAGEMENT

Singapore Manufacturing Federation (SMF)
http://www.smfederation.org.sg/capability-capacity
-development/project-management-services

BUSINESS ADVISORY & DIGITAL CONSULTANCY

SME Centres managed by trade associations:
- Association of Small and Medium
  Enterprises (ASME)
- Singapore Chinese Chamber of Commerce &
  Industry (SCCCI)
- Singapore Indian Chamber of Commerce &
  Industry (SICCI)
- Singapore Malay Chamber of Commerce &
  Industry (SMCCI)
- Singapore Manufacturing Federation (SMF)

www.enterprisesg.gov.sg/contact

Enterprise Infoline: +65 6898 1800

SME Digital Tech Hub
http://www.digitaltechhub.sg

FOR INDIVIDUALS

CAPABILITY UPGRADING AND CAREER FACILITATION

Institute of Higher Learning
https://www.sp.edu.sg/pace/sea-transport-industry-
digital-plan

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

Fundamentals for Future Economy
http://www.skillsfuture.sg/digitalworkplace

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

TechSkills Accelerator (TeSA)
http://IMTalent.sg/TeSA

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

WSG PCP
http://www.wsg.gov.sg/WST_PCP

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

FOR ICM VENDORS

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

Vendor Self-Assessment Checklist
https://www.imda.gov.sg/industry-development/programmes-and-grants/small-and-medium-enterprises
/smes-go-digital/icm-vendors

This Industry Digital Plan is part of the SMEs Go Digital Programme
For programme information and feedback: https://www.imda.gov.sg/SMEsGoDigital

sgdigital.sg

twitter.com/IMDAsg

facebook.com/IMDAsg

youtube.com/IMDAsg

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