SEA TRANSPORT SHIP AGENCY

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

An initiative by:

Sector lead:

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

Contributed 7% to Singapore’s GDP

Handled 36.6 million TEUs in container volume in 2018

Employed about 170,000 workers

INTERNATIONAL MARITIME CENTRE
Shipping & Maritime Services

GLOBAL HUB PORT
Port Operations & Services

Home to more than 5,000 Maritime establishments

¹GDP refers to Gross Domestic Product
²TEUs 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).

Source: Maritime & Port Authority of Singapore (MPA)

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.

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

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.
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.

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

**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.
### Service Booking Portal

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

**Benefits**
- 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
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

DIGITAL SOLUTION

Port Disbursement

SOLUTION DESCRIPTION

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

BENEFITS

• Reduced invoicing delay
• Improved cashflow management

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

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

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

- Enhanced management of business performance
- Facilitation of better decision making by management
STAGE 01

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

DIGITAL SOLUTION

Resource Management

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

SOLUTION DESCRIPTION

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

DIGITAL SOLUTION

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

SOLUTION DESCRIPTION

BENEFITS
• 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
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

- 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

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
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

Delivery shipping documents to vessels where physical agent’s presence is not required.

ENHANCED TIME MANAGEMENT
IMPROVED DEPLOYMENT OF HUMAN RESOURCES

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

**“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

**ADVANCED USERS**
Require higher proficiency digital skills

**“TECH ADVANCED” COURSES**
- Higher proficiency level digital skills
- Training mapped to the Skills Framework for Sea Transport and Information and Communication Technology (ICT)
DIGITAL SKILLS NEEDED
DIGITAL ROADMAP ON TRAINING – SHIP AGENCY

STAGE 01
GETTING DIGITAL ECONOMY READY

“TECH BASICS” COURSES
- Introduction to Digital Ship Agency Management
- Benefits of Using Analytics for Start-ups and SMEs
- Vendor Solution Specific Training

“TECH ADVANCED” COURSES
- Simplifying Documentation and Customer Relationship Management with Digital Technologies
- Hands-On Data Protection Officer Training
- Introduction to Data Analytics

STAGE 02
GROWING IN THE DIGITAL ECONOMY

- Optimising Customer Management and Operations with Data Analytics
- Vendor Solution Specific Training
- Enhancing Workplace Productivity through Learning Management System

STAGE 03
LEAPING AHEAD

- Application of RPA and Drones for Document Delivery
- Vendor Solution Specific Training
- 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.
This Industry Digital Plan is part of the SMEs Go Digital Programme
For programme information and feedback: https://www.imda.gov.sg/SMEsGoDigital