# Maritime Single Window System – Scope beyond Jan 2024

# Kale Logistics Solutions

Kale Logistics Solutions is a global vertical SaaS company, providing a suite of software solutions for the logistics industry.  It counts several Fortune 500 companies including large airports, and seaports as its customers. With in-depth domain knowledge and technical expertise, Kale has developed a suite of comprehensive digital enterprise solutions. Its flagship product is the Cargo Community Platform, which offer a single source of data to support operational flows, disseminating information to various stakeholders and facilitating the paperless exchange of trade-related data between stakeholders. Kale has offices in India, UAE, Kenya, Netherlands and USA.

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# Executive Summary

International shipping transports more than 90 per cent of global trade to people and communities worldwide. The global cargo shipping market was valued at $2.2 trillion in 2021 and is projected to reach $4.2 trillion by 2031, growing at a CAGR of 7 per cent from 2022 to 2031.

In the Maritime industry, one of the marked impacts of the pandemic is how the regard for technology has changed. There is now greater appetite and acceptance of digital solutions across the industry. Digital technologies and solutions are used to increase competitiveness and enhance operational efficiency. They are also being implemented to shoot the industry along the decarbonisation path to realise zero emissions from international shipping. Data streams from sensors and other sources of information can be used for decision-making and enhanced monitoring, control, quality assurance, and verification.

Leading global bodies like the International Maritime Organisation (IMO), International Association of Ports and Harbors (IAPH), Baltic and International Maritime Council (BIMCO), and International Port Community Systems Association (IPCSA) have been providing a regulatory framework for safe, secure and electronically enabled trade.

The pace of digitisation in the industry still needs to be at a level as envisaged. The primary one is the staunch resistance from stakeholders, governments, and other entities to adhere to these mandates and initiatives. The recent IMO mandate amendment calls for implementing the Maritime Single Window (MSW) System in every Port on or before January 01, 2024.

But, not many ports have taken the regulation seriously for various reasons. To understand the readiness of ports and the reasons behind non-compliance, Kale Logistics Solutions conducted the MSW Readiness survey among 200 Ports worldwide.

This pioneering study by Kale examines the technological initiatives taken forward by ports and their willingness to digitise so that critical challenges related to data harmonisation can be addressed seamlessly with 360-degree integration. The study's primary focus is to provide a forward-looking perspective on the present MSW systems.

# Need for the study

This study aims to identify the tangible benefits the Maritime industry, specifically, Maritime authorities, ports, customs, immigration, shipping lines and other regulatory agencies, can achieve with technology intervention. These benefits are quantified and qualified depending on individual processes as well as the overall functioning of the Maritime ecosystem.

The tangible benefits are subject to 100 per cent adoption by a specific stakeholder or the port complex. The importance of this study will sow the seed for a digital revolution in the Maritime industry worldwide and how digitisation can bring order to the ongoing chaotic operations in the industry and achieve significant sustainability goals in the long run.

The examples drawn are based on studies conducted among ports in Asia, North America, Africa, Europe and the Middle East. Eventually, the study emphasises the utility of a Port Community System implementation in any port worldwide that could be game-changing and help achieve the true potential of the port.

# Maritime Single Window System – evolution, types and objectives

Trade single window systems have existed and still exist in the name of Port Operating Systems, National Single Window portal, Single Window Information System, and Customs Single Window, to name a few.

Engaging all stakeholders together is vital, as is keeping up with the regulatory framework governing data-sharing practices in the Maritime industry. Countries such as Singapore, Belgium, and Germany were among the first to have implemented a single window system to automate some of the redundant and time-consuming activities.

In the next 30 years, these systems evolved with elements of next-generation technologies like Artificial Intelligence, Machine Learning, Internet of Things, Blockchain, etc. However, the scope of utilising these systems has been limited to a few countries that made the first move.

The need to standardise data to solve global supply chain issues has been a consistent theme for all international bodies. With more than 40 stakeholders in the value chain, as information passes hands, it loses accuracy. Even with the single window systems, there is a lack of communication between stakeholders. Harmonising all data information systems is crucial to solve supply chain challenges and drive future economic growth.

The myopic view of many ports fails to see the harmonisation of vessel reporting obligations possible with it and the customs process solutions. We can link the governments involved in direct trade electronically for the first time, providing tangible cost savings for businesses and the government. For governments, it is easier to check and eliminate corruption by improving methods to counter dishonest practices and reducing discretionary decisions by simply automating them.

IMO has pitched for time-bound action plans and adopting an MSW system as part of the digitisation drive. IMO's Convention on Facilitation of International Maritime Trade has made electronic data exchange mandatory since 2019. Yet only 30 per cent of the ports globally adhered to the mandate.

Most recently, a new amendment was made in May 2022 due to the FAL 46 meeting. This mandated the compulsory deployment of an MSW with effect from 01 January 2024 at all ports with the agenda of digitally exchanging information required on arrival, stay and departure of ships on or before the arrival at the destination port.

# Ideal objectives for harmonized trade

Harmonising trade is a broader term mentioned to overcome administrative challenges involved in moving cargo from source to destination. On that note, here are some ideal objectives of a single window system to harmonise trade.

### Addressing ship-shore malpractices and safety

Several dubious practices are employed by various stakeholders involved in the Maritime trade. The industry needs standardisation across all functions, and addressing malpractices in ship-shore operations is one among them. IMO's amendment to the FAL convention addresses this specifically.

### Ensuring crew and cargo safety

The safety of cargo and crew is of growing importance. Year on year, the lack of safety incidents is increasing by 20 per cent, which puts the entire global supply chain at risk. The industry and the regulators have long introduced new rules and mandates to tackle this situation.

### Combatting illicit trade

Misuse of containerised Maritime shipping in the global trade of counterfeits, narcotics, and hazardous and prohibited goods is rampant. The existing enforcement efforts may not be adequately tailored to these risks.

### Tacking an unprecedented situation

Boosting resilience within the shipping industry is seen as challenging due to the lack of alternatives and because its operations rely on many independent factors going right. While the business is returning to normal, regulatory authorities in the Maritime industry now insist on having a robust mechanism that offers a reliable and uninterrupted supply chain, even during challenging times.

# FAL mandate - historical purview

The Facilitation Convention was adopted in 1965 and contained standards and recommended practices and rules for simplifying formalities, documentary requirements and procedures prior to ships' arrival, stay and departure. The Convention has been updated continuously, embracing digitalisation and automation for operations.

The purpose of this mandate was to ensure standardised documentation across ports throughout the world for unified and seamless trade facilitation. This means the requirements and procedures will remain standard for all ports worldwide.

Before the pandemic, the FAL committee made it mandatory for ships and ports to exchange FAL data electronically. Yet only 30 per cent of the Ports adopted these procedures and realised significant synergies.

In May 2022, IMO's Facilitation Committee adopted amendments to the FAL Convention, which mandates a single window system for global data exchange in ports. Thus, marking a significant step in accelerating digitalisation in shipping in all ports worldwide.

This mandate is fully supported by other organisations like IAPH, BIMCO, IPCSA, PMAESA, IHMA, International Chamber of Shipping and many others to make ship-shore data exchange completely digital and transparent.

**IMO's Amendment to FAL Mandate in 2022**

The fresh amendments to the FAL convention were adopted at the Facilitation Committee (FAL 46) session, which met from 9 to 13 May 2022 and is expected to enter into force on 1 January 2024. The amendments update the provisions of the FAL Convention on the mandatory use and maintenance of single window systems for the electronic exchange of data in ports for ship clearance.

This exchange of information is required on the arrival, stay and departure of ships in ports. In addition, public authorities will have to combine or coordinate the electronic transmission of the data to ensure that information is submitted or provided only once and reused to the maximum extent possible.

VESSEL OPERATOR

MSW

# Maritime Single Window – the working model

# Outcome & analysis of the study

Kale Logistics Solutions conducted a study among 200 ports worldwide and identified the readiness of ports for implementing an MSW System as per the IMO framework. Large, medium and small ports in the Asia Pacific, the Middle East, Europe, Africa, North America and South America were covered in this dipstick study.

**Lack of Awareness**

Of the 200 respondents, 30 per cent cited the need for more awareness as the primary reason for non-compliance till now. 30-35 per cent of ports in Africa and South America cited that they are unaware of a regulation passed by the International Maritime Organization, aka IMO, on the FAL Convention. On the other hand, 20-25 per cent of Ports in the Middle East, the Asia Pacific, North America and Europe cited lack of awareness as the primary reason for non-compliance.
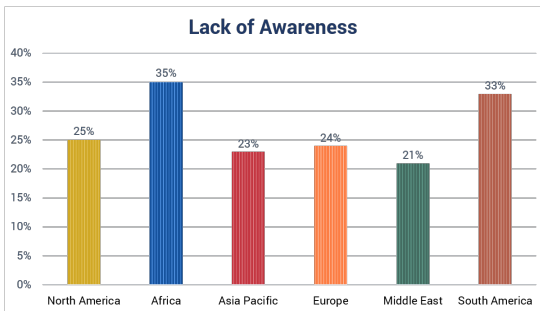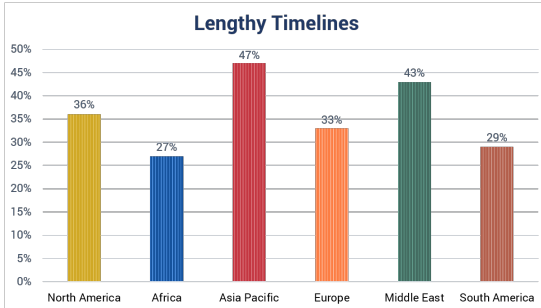


**Cost Factor**

Cost is the number one reason for non-compliance to the FAL mandate in the past and the present in North America, Europe and Asia Pacific. The respondents believe deploying software, whether enterprise or community, involves a significant investment and has little to zero effect on their current challenges.
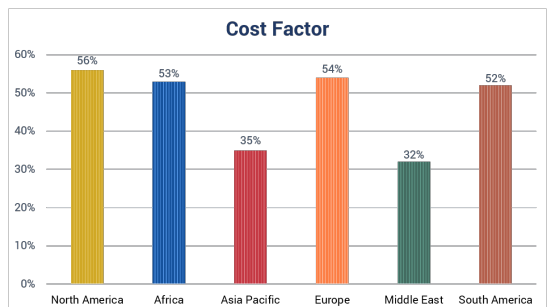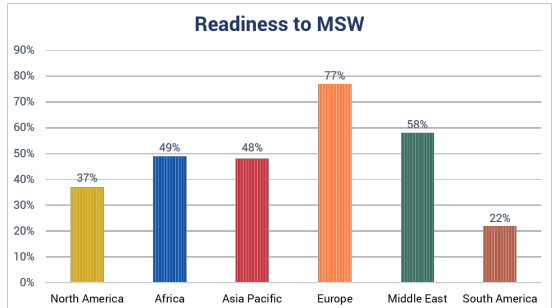
## Lengthy Timelines

Most ports in the Asia-Pacific region are aware of the FAL mandate and welcome technology adoption. However, the longer timelines involved are the major reason for their non-compliance. In contrast, Ports in Africa and South America consider longer timelines as the slightest possibility for non-compliance.

**Lengthy Timelines**

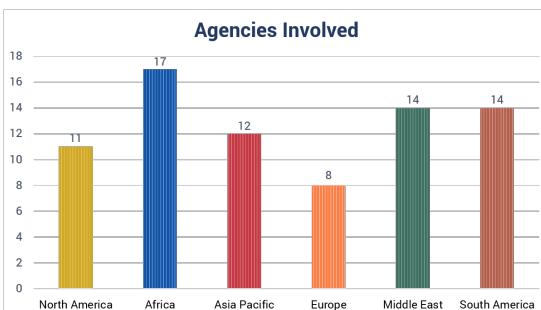| Region | Value |
|---|---|
| North America | 36% |
| Africa | 27% |
| Asia Pacific | 47% |
| Europe | 33% |
| Middle East | 43% |
| South America | 29% |

## Readiness to MSW

When asked about their readiness to implement an MSW System, a significant number of the respondents said that they have a digital infrastructure at the process level but not at a port level. Most importantly, the digital readiness of these ports is less than the required level for MSW implementation.

**Readiness to MSW**

| Region | Value |
|---|---|
| North America | 37% |
| Africa | 49% |
| Asia Pacific | 48% |
| Europe | 77% |
| Middle East | 58% |
| South America | 22% |

## Agencies Involved

On average, shipping operators need to deal with more than 12 agencies before ships can dock. These include the Maritime enforcement agencies, Immigration, Customs, Port Control, Port Health, Quarantine, Inspection Services, Ministries of Transport and Commerce, Port Authority.

**Agencies Involved**

| Region | Value |
|---|---|
| North America | 11 |
| Africa | 17 |
| Asia Pacific | 12 |
| Europe | 8 |
| Middle East | 14 |
| South America | 14 |

**Maximum impact measured**

Middle East and Africa is witnessing a significant influx of MSW implementations on the run to the 01 January 2024 mandate and ports are reporting tangible benefit realisation in terms of cost and time.

With MSW implementation, ports in this region have so far realised nearly 48 per cent time savings per vessel call.

On the other hand, 72 per cent of cost savings were realised as manual documentation were completely eliminated.

**Therefore, the study says…**

According to regulatory bodies, paperless operations in cross-border trade could potentially reduce export border compliance time from 44 per cent to 24 per cent and export cost from 31 per cent to 17 per cent.

It is believed that US$115 per sea container is incurred due to manual customs process. With a dynamic platform like MSW, the cost could be potentially eliminated.

Globally, where similar systems are deployed, the port realised the above mentioned benefits along with a 10-15 per cent improvement in operational efficiency on a monthly basis, followed by potential cost savings of US$2-12 Million across imports, exports and transhipment processes. Most important-ly, the port will also realise the capability of creating employ-ment for local citizens and make way for sustainable human resource development.

Negating all the positives, the rate of acceptance is hindered by such misconceptions such as cybersecurity concerns, high investment and siloed operations. By addressing these miscon-ceptions, the goal of ease of doing business, data harmoniza-tion and sustainable development can be achieved.
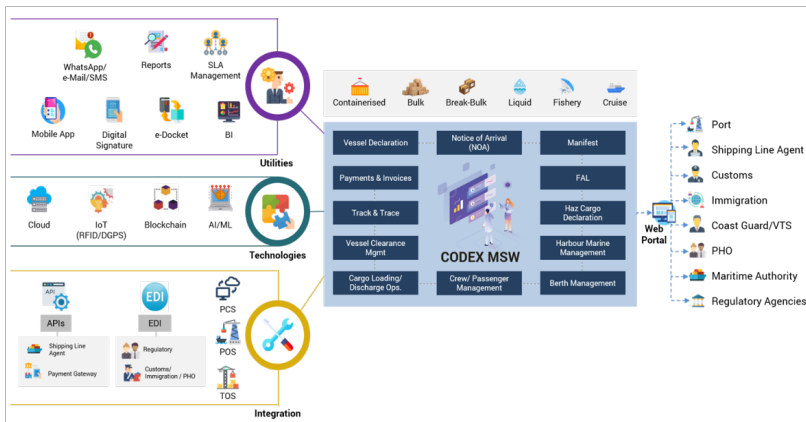
# Maritime Single Window System from Kale Logistics Solutions

Kale Logistics Solutions' Maritime Single Window (MSW) is designed and built as per the guidelines of IMO. A highly scalable system enables public and private authorities to combine or coordinate the electronic transmission of the data to ensure that information is submitted or provided only once and reused to the maximum extent possible.

The platform connects the Shipping Line/Agents, Ports, Customs, Immigration, Port Health Authorities, Coast Guards/VTS, Maritime Authorities, and other Regulatory Authorities in a single window to exchange seamless information. The platform calls for standards, recommended practices and rules for simplifying formalities, documentary requirements and procedures between all actors involved in sea-side operations.

The platform clarifies the role of government agencies involved in the single window that their data sharing obligations coupled with a highly secured network which promotes private stakeholders to share commercially sensitive data.

MSW further strengthens the authenticity and integrity of the data submitted by various users by authorised access, maintaining confidentiality by hosting on Microsoft Azure servers. The Single Window is designed to bring in harmonisation and standardisation of data with EDI messages, global formats, and API integrations.



**Maritime Single Window Context Diagram**



**US$12 Mn**
Cost savings

**48%**
Time savings

**55%**
Operational efficiency

**98%**
Data accuracy

# How are the data harmonisation objectives met with Maritime Single Window systems?

### Addressing ship-shore malpractices and safety

Use of a MSW helps in identifying malpractices taking place in the ecosystem with a transparent framework. It connects all inter-agencies like Customs, Immigration, Port Health, and other border security forces to share information prior to arrival-stay-departure of vessels and their cargo so that information discrepancy is null.

### Ensuring crew and cargo safety

With MSW, the type of cargo and amount of cargo is well defined, and the overall process is transparent for stakeholders to operate seamlessly. Therefore, cargo theft becomes difficult. Regarding crew safety, the MSW will provide all details on the crew before they depart from the source port.

### Combatting illicit trade

Use of MSW platform pro-actively identifies emerging threats with pre-arrival shipment information. The platform connects all inter-agencies to share information prior to arrival-stay-departure of vessels and their cargo so that information discrepancy is null. Moreover, it also prevents the users from tampering any data / document submitted thereby preventing malpractices in the trade.

### Tackling an unprecedented situation

Boosting resilience within shipping is seen as tough due to the lack of alternatives and because its operations rely on many independent factors going right. While the business is getting back to normal, regulatory authorities in the maritime industry are now insisting on having a robust mechanism that offers a reliable and uninterrupted supply chain even during challenging times. MSW ensures shipping can embrace the digital revolution – while ensuring safety, environmental protection as well as cyber security.

### Carbon Emissions

Digitisation goes hand in hand with decarbonisation. Now ships are laying idle due to lack of information. What you want is just-in-time arrival to bring down fuel usage.  With MSW the ships can time their arrival based in the real-time information available to for berthing and pilotage.

# Future of Maritime Single Window Systems

Digitisation is not a luxury anymore for the maritime industry as the pandemic has proved what it can do to the industry. The FAL mandate by IMO has proved viable in driving this change over the last few years. However, if the industry patrons are keen on achieving harmonised trade through digitisation, there is a long way to go. MSW as a trade facilitation platform can significantly change the information exchange process between Maritime stakeholders and the seaport business community. Implementing it as a single-entry point can harmonise and standardise the information exchange. And it can provide fast, reliable, paperless, and efficient transactions.

But, to stay afloat in a fast-transforming world, ports need to think forward and align their objectives to the greater good. MSW as a solution actively addresses data harmonisation through single source of data entry. In a long run, MSW will evolve into a holistic platform like Port Community System and eventually evolve into a universal multi-modal data exchange corridor between ports.

On the other hand, achieving sustainability goals will be far more seamless for the entire maritime ecosystem with technology adoption as apart from lower emissions, it also offers significant business synergies.

The verdict is that MSW is the future of port management and logistics; it galvanises and bullet-proofs shipping for all parties. It is ever scalable and can be reproduced over multiple ports and their terminals. And while their adoption is straightforward, stakeholders must carefully modify their business strategies to stay clinical amid the changes brought within the system. When implementing the system, care must be taken to maintain the legacy systems, information flows, and processes to create a viable trade ecosystem that benefits all parties equally.