



## White Paper - Shipping Information Exchange beyond 2019

*“Information is a source of learning. But unless it is organized, processed, and available to the right people in a format for decision making, it is a burden, not a benefit.”* Attributed to William Pollard, English clergyman and schoolmaster, 1828 - 1893

Icthus Marine seeks to outline through this paper, in a concise manner, the current state of information exchange in the dry and tanker sectors of international shipping, as contrasted with the container sector. Moving on from the foundation of this panorama, we outline our philosophy and some concrete proposals, by which all parties could make real gains in short and long term. It is hoped that these can re-ignite discussion on harmonisation and serve as stepping stones to effective action.

### Streams of information, old and new

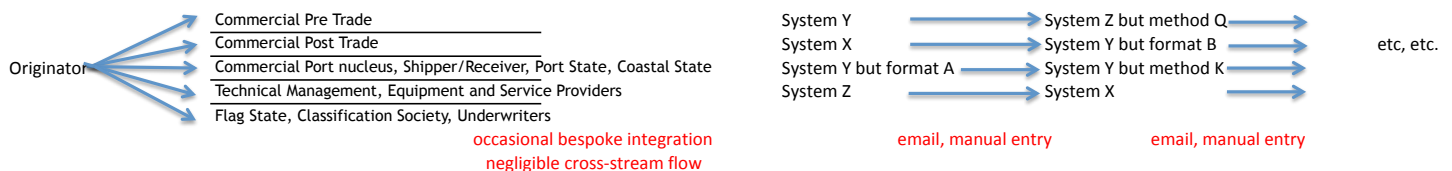
Shipping is a service industry where high-value assets are employed to effect transportation of goods. One service delivery will typically encompass several harsh environments, scores of human specialities, many jurisdictions and geographies, and hundreds or thousands of pieces of equipment, across a broad range of current science. The facts are millionfold.

When contemplating one such service delivery, at the highest level we could label information ‘streams’ under the headers below. These date from the advent of wireless and cable telegraph and are largely unchanged in their composition,

- Commercial Pre Trade (or pre-fixture)
- Commercial Post Trade (or post-fixture)
- Commercial Port nucleus, Shipper/Receiver, Port State, Coastal State
- Technical Management, Equipment and Service Providers
- Flag State, Classification Society, Underwriters

It is fair to make to two statements from empirical observation,

- nearly all information moving ‘along’ one of these ‘streams’ will cross from one Company or Site to another, and in doing so will meet a different medium or system - usually involving manual re-work;
- a very large proportion of information is required in parallel by more than one ‘stream’, yet current practice is to generate a separate transaction - or multiples - for each stream.



An excellent example is a Noon Report, which we will examine as a representative sample, and build a case for action. All the above streams want to know where the ship is; most will want to know fuels used or remaining, speed and ETA, any delays. What varies thenceforth is secondary content, level of detail, and reserved content for certain parties. This does not warrant the current 28 different message formats and media, rather the capacity to include and exclude certain information for groups of recipients.

The ubiquitous Noon Report, tanker and dry:

	Owner	Commercial Managers	Commercial Operations	Technical Managers	Equipment Providers	Charterers (often multiple)	Weather and Perf contractors (multiple)	Agents, Shippers/ Recvrs (multiple)	Flag State
Commercial Pre Trade (or pre-fixture)		Next Open; Bunker planning				Next Open; Bunker planning			
Commercial Post Trade (or post-fixture)	Performance; Issues		Perf; cargo issues; forward schedule			Perf; cargo issues; forward schedule	Speed and Consumption		
Commercial Port nucleus, Shipper/Receiver, Port State, Coastal State								ETA, forward schedule, issues	
Technical Management, Equipment and Service Providers				Perf; ROBs, Lubes; issues	Performance data* and issues				
Flag State, Classification Society, Underwriters									Long-range ID and Tracking (4x/day)

\* recent development, and growing e.g. condition-based maintenance

It is arguable that this particular information could be universal across multiple sectors of shipping such as tankers, dry, MPP and containers, if the variations were in the detail e.g. cargo-related information.

## Intersection points

### Information Holders, or Originators?

It is obvious that the Originator of a piece of information is the current Intersection Point of these information streams. The largest single point of origin is the vessel. Alas, the beleaguered Master of the vessel is most ill-equipped of all the parties to introduce efficiencies, because every party assumes the right to demand any content in any format at any time. But other points of origin have been able to equip themselves to great effect and efficiency: take for example the port nucleus. Firstly, major Agency networks created their own systems globally; then in the 90s, local port communities created information exchange platforms to include authorities, cargo interests, terminals, and service providers. In a much wider ambit, we have the example in February 2019 of the EU Maritime Single Window, which in effect formalises these initiatives into EU Regulation; definition allows safe investment in systems.

This introduces a notion that is important to this discussion: an *Information Holder* as an alternative to the *Information Generator*. If I am linked to any party in a reliably connected chain, and obtain the necessary permissions - because no-one is suggesting a free-for-all - I then don't need to link to the *origin* of the information.

Let us continue the example of the Noon Report. In a Utopia that could be implemented in a very short period, with mature (or old) technology, the vessel would upload a "rich" Noon Report to their Technical Managers' current system of choice - containing every possible piece of information - or to their trusted IT service provider. Technical Managers' system of choice would offer a webservice (a kind of internet "phone call" between computers<sup>1</sup>) in the agreed standard where they would "push", or the other party would "pull", the content for that particular party. E.g. the Charterers' weather and performance contractor can pull this information, but not that. Makers of the Main Engine would have a defined scope they could call, as would the Classification Society, in their condition-based maintenance trials.

But for this to happen, there needs to be a Standard for the information.

### Need for complementary information

Truly informed decision-making is today a distant reality in Shipping. This is because information is not only fragmented as to repositories, but also as to formats and indexing. Proof of this is that

- almost every piece of information that moves between different companies is an attachment to an email - usually requiring manipulation if to be used for anything other than human reading
- virtually every study requiring data held outside one's own system, is moved to Excel, and thence other information massaged and formatted into the Excel patchwork

This is the reason excited IT technicians get dead-pan looks from seasoned industry veterans on rolling out new Apps, promising "information at your fingertips". 'This' information would be truly exciting if it were presented *combined with other key sets* of information, which are not in the new App, nor available in 'this' stream - they reside in other information streams.

The combination of complementary sets of information would open a whole new world of decision-making, and of efficiency<sup>2</sup>.

But for that exciting combination to happen, there need to be Standards for both pieces of information.

<sup>1</sup> For example an API - Application Programmable Interface - allows a different kind of software to 'plug in', ask pre-defined questions, process the answers and vice versa, as if it were a user - if there is a standard. It is very widely employed in services you already use online.

<sup>2</sup> McKinsey states: "In an environment of increasing volatility, legacy organizations need to have one eye on high-risk, high-reward moves of their own, whether that means entering new markets or changing their business models. At the same time, they have to apply analytics to improve their core operations. [...] Organizations that pursue this two-part strategy will be ready to take advantage of opportunities and thwart potential disruptors—and they have to assume that those disruptors are right around the corner. [...] The potential uses of these technologies are remarkably broad, even for sectors that have been slow to digitize." McKinsey Global Institute - The Age of Analytics: Competing in a Data-driven World. December 2016, retrieved March 2019 from www.mckinsey.com.

## Low-hanging fruit

This paper proposes that parties with an interest in the tanker and dry sector follow the shining example of the container sector from the late 80s, with their formation of the ‘neutral’ SMDG group. That single factor has been the enabler for the highly digitalised cargo aspect of liner operation today.

The core concept is based on different players in the sector having varied system needs; and that within those needs, there will be differing preferences, which will lead to variety in solutions. So let the Standards be technology-agnostic and provider-agnostic; that is, I don’t care what software you use, so long as it can give me the information in the standard structure for use in my systems. Furthermore it is not in the long-term interest of a sector that barriers to entry be created against new solution providers, e.g. we will simply all use provider X; it is indeed against the competition laws in most countries.

In 2018, the participants of the SMDG decided to take further steps beyond the existing cargo-related scope of their standards. In the extended scope, there is will be intersections with the tanker and dry sector, e.g. vessel reporting and port movements.

The base steps proposed are

1. Convene a Post-Trade and Technical forum, Tanker and Dry
2. Identify low-hanging fruit for content standards
3. Liaise with the newly-formed SMDG Association on convergence points

### 1. Convene a Post-Trade forum, Tanker and Dry

An initial ‘neutral ground’ needs to be defined, ensuring the initiative be transparent both in terms of competition laws for all participants, and as a level playing field to IT vendors. In 2015 the Baltic Exchange had offered to house the initiative; this would still be very suitable, however is not a native environment for the Technical participants and Classification Society sector, who ideally would be participants in some areas (see next section, 2). There will be an immediate need for secretariat with sufficient capacity, and formation of initial working groups, before medium-term prospects are clear.

Ideal exploratory groups (tanker and dry) would vary across subject areas, but could include

- Cargo interests (as Charterers but also in Port nucleus e.g. Shippers and Receivers)
- Shipowners’ commercial interests
- Technical managers
- Shipbrokers
- Shipping Agencies, FONASBA, and Terminals
- Classification Societies (who would initially represent equipment makers and IoT - Internet Of Things initiatives)
- Vendors - software, SaaS, marine solutions and services

### 2. Identify low-hanging fruit for content standards

#### Vessel Reports

The case of the Noon Report has been expounded throughout this paper. The case is identical for all vessel movement or periodic reports, be they at sea or in port - Arrival, Departure, Anchorage, Berthing, Waiting, in-port Working. In the digital age, if information is excessive it is not really a problem - it can just be discarded or hidden.

For example, say a single Noon Report is sent from the ship to the systems of Technical Managers, Commercial Managers, Owner’s performance weather service (i.e. not ‘hostile’), and engine makers. The meteorologists’ system can discard or ignore the cylinder head temperatures and fuel injection data, the commercial managers’ system can discard or ignore the atmospheric pressure readings and so forth. If information is deemed sensitive, the same format is used, but content is restricted.

The proliferation of on-board data gathering, and the rush for the IoT (Internet of Things) mean that this particular item should be pressed ahead with urgency, because even today parties are committing significant capital expenditure to very diverse solutions. In practice this means that e.g. a large shipmanager will soon have an abundance of data captive in the systems of the different equipment makers, various classification societies and diverse charterers, which it is unable to combine to any practical use.

### **Invoicing, Payment Advice, Receipts and Statements**

This is an area where most of the foundational work has already been done at UN/CEFACT, regional blocs and NGOs - it just needs a version to be defined for our segments of industry<sup>3</sup>. Please Google “UBL 2.1”(Universal Business Language) and “CII 16b” (Cross-Industry Invoicing).

Freight, Hire, Demurrage, Supplier invoices and statements move along commercial chains almost universally in formats readable only to humans, such as PDF or unstructured documents attached to emails. The information will often be used in sophisticated systems at both ends, but only after it has been re-input manually by the recipient.

Taken in proportion to the productive work, an abnormally high headcount is required in this segment of the shipping operations and accounting, especially in the parcelling trades, dry and wet, as well as Technical Management and Procurement.

Internally it is then commonplace for Voyage Management systems, and Procurement systems, to require the same information yet have no interface to their own Accounts’ bookkeeping and financial reporting. If there were a common shipping Invoice, Payment Advice, Receipt and Statement standard, this would eliminate the need for bespoke interfaces even between in-house systems.

There are several foundational standards that could be defined (“restricted”) to a shipping-relevant format, for example UBL 2.1 (Universal Business Language) or CII 16b (Cross-Industry Invoicing). Alternatively, Dry Bulk and Tanker variations of the existing SMDG group’s INVOIC 1.0 could be created, however that content is so linked to Containers that there is unlikely to be any synergetic gain from working together.

### **Port Documentation**

Crewlist, Statement of Facts for Laytime calculation, Manifests, are in their great majority freeform except for structured Advance Manifests. The universal solution to bridge the gaps is for a Port Agent or Terminal to re-key all information inbound to the port, and for the recipients to re-key all information outbound from the port. Yet these are probably some of the transactions with least content variation globally, and thus the least trouble to define a general standard.

### **3. Liaise with the newly-formed SMDG Association on convergence points**

In the three initial targets outlined above, two are clearly not divergent between tanker, dry and container operations: vessel reports/data, and port documentation, wherever cargo is not the core subject. A tanker and dry forum would ideally explore with the SMDG association if any effort can be saved by unifying some of the transaction types.

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<sup>3</sup> E.g. as it implements UBL 2.1 and CII 16b, the EU states, “A key objective of the European standard on invoicing is to make it possible for sellers to send invoices to many customers by using a single invoicing format and thus not having to adjust their sending and/or receiving to connect with individual trading parties.” CEF Digital - retrieved from [www.ac.europa.eu](http://www.ac.europa.eu) in March 2019.