Stuck in the single window

P&H examines the strange anachronism of shipping's paper trail, and what is to be done to modernize it

CHARLIE BARTLETT

O ccasionally an idea from technology, unavoidably imbued with its culture, crosses over into real life. Tech professionals operate on several assumptions, which certainly serve them well within their own sphere of influence. However, when they try to apply them to big steel machines, which stubbornly refuse to operate outside of their design parameters, a clash of civilizations ensues.

Earlier this year, a company called Parallel Systems assumed, as Silicon Valley firms tend to do, that trains are old and therefore useless, and are in need of a single big magic trick to disrupt them. What they invented was a battery-powered freight cart, which, the company said, would revolutionize the way rail works, allowing 40 ft containers to be transported one at a time by two carts each. If it were actually implemented, though, it would eliminate economies of scale, halve utilization, and increase the points of failure from one per 200+ FEU, to two per 1 FEU.

To the tech brain, breaking down a collective enterprise like a single train pulling 100 containers for eight different customers into two trains moving one per customer just works. In their world, innovative thinking and individualist grit made Sergey Brin and Jeff Bezos into gods.

However, back in the world of rusty containers and spilled hydraulic oil, it is the entire systems and networks coming together, which make things work. A port, for example, is in search of incremental, trial-and-error efficiency gains — by Silicon Valley standards, agonizingly slow. This does not leave the maritime industry immune to its own silly solutions.

Absurdly, for example, people are still passing around bills of lading (B/Ls), as well as many other types of documents, on paper.

The bureaucracy is expanding

Earlier this year, a pan-maritime push to adopt electronic B/Ls (eB/Ls) gained new traction when the Digital Container Shipping Association (DCSA) teamed up with BIMCO, FIATA, the International Chamber of Commerce (ICC), and SWIFT to form the Future International Trade (FIT) Alliance. If only half the industry adopted eB/Ls, DCSA said, savings would be about US$4 billion per year.

The technology is not the problem; in fact various shipping lines have already adopted eB/Ls. The biggest concern is interoperability.

"Interoperability between all actors of the trade and transport industry is the key foundation to enable smooth data exchange and to streamline the end-to-end shipping process," said FIATA director general Dr Stephane Graber when the FIT Alliance was formed in February. "FIATA, as the owner of the only negotiable multimodal transport document, endorsed by UNCTAD and ICC, is convinced that an industry-wide effort to establish open-source, interoperable, technology-agnostic standards is essential to make digitalization of international trade a reality."

Thomas Bagge, DCSA CEO, has described the ideal outcome of his project to be something akin to email, which is based on a single universal standard, and can be exchanged freely whether the user is on a Macintosh, Windows, or Linux. "If you have a shipment that is changing hands, you need to have technical interoperability," he said to *P&H* in a recent interview.

Unfortunately, this is where tech thinking starts to get in the way of progress. "If one party is sitting on GSBN, the Chinese blockchain consortium, shipping to a US consignee who uses Tradelens, there is a lack of technical interoperability. This will require both parties to use either GSBN or TradeLens," Bagge added.

A September survey by developer CargoX uncovered the shipping industry's concern. Some 45% of respondents reported interoperability challenges, such as "difficulties collaborating with other digitally forward companies due to them running their operations on disparate digital platforms and the inability of different digital networks to speak to each other". And further, "As service providers follow their proprietary protocols and data standards, data remain siloed within organizations, even if they run digitally native workflow."

"Competition is for losers"

The problem is that in software, good-natured competition is not an option. When developing a platform – for example, a software program or web portal for transferring eB/Ls securely within parties – margins are so low that getting only some market share is just not good enough; an idea best expressed by Peter Thiel, billionaire co-founder of PayPal and Palantir, who said "competition is for losers.

> "If you want to create and capture lasting value, look to build a monopoly"
>
> **PETER THIEL**
> Co-founder, PayPal and Palantir

If you want to create and capture lasting value, look to build a monopoly."

Readers might have noticed this strategy at play when Uber suddenly replaced all their local taxi firms. Despite squeezing out the competition – and reliably jacking up prices everywhere they have managed to do so – Uber still has yet to turn a profit, instead, frantically reinvesting its earnings to snatch up more market share.

The first company to create a single-window platform for securely transferring electronic documents between stakeholders in the maritime industry and gain sufficient critical mass in the process could become the platform, spanning all world trade. However, as long as this paradigm remains, it is a waste of resources, even actively detrimental to the business model, for such developers to build in compatibility or interoperability with their competitors.

In May, the IMO set out a series of guidelines for a single window, which would bring an enormous number

mare," explained IAPH communications manager Victor Shieh. "Especially in Europe and Asia where the space between port calls is really short."

Shipping has long sought to end hurry-up-and-wait at ports, and optimize port calls with faster and more efficient turnarounds by the terminal, as well as bunker suppliers, agents, customs, inspections, surveyors, and other attending services. However, Shieh said the lack of a single window stands in the way.

"If you add to this the lack of sophistication of data exchange systems onboard a typical vessel – only a tiny fraction of them have systems that allow for automatic electronic exchange of operational data with port vessel traffic management systems as well as administrative FAL data with authorities – the idea behind optimizing a port call is far from achievable right now," he added.

Two of the biggest fish, the Ports of Singapore and Rotterdam, signed an agreement in August 2022 to set up a digital green corridor. This digital corridor will rationalize data standards between the two ports, allowing the exchange of electronic documentation and ultimately enabling port call optimizations and other benefits between the two major hub ports.

"We are pushing, together with IAPH but also other associations, shipping lines and associated industries to start committing ourselves to standardization organizations like the International Hydrographic Organization and to the IMO, for operational data, and give our input whenever we feel there is a gap or a need for additional standards," Ben Van Scherpenzeel, Rotterdam director of Nautical Developments, Policy and Plans, said to *P&H*. "As a minimum, we have to be on the same non-technical standards. If we do not have these, then we may exchange data from one computer to another, but even then, we will not understand each other. So, we have to agree on what is a berth, what is an arrival time at the berth; if we cannot agree on such basic definitions, everything stops.

"A pitfall of shipping is that we think it is so old that all these definitions already exist. But we only recently started to identify a dataset for nautical data, a dataset for operational data, and a dataset for nautical standards. We are just about to implement those datasets as standards in between ports, such as in the digital corridor between Singapore and Rotterdam.

Although a matter primarily of terminology might seem an innocuous issue, data would need to be standardized across the industry to make the plan work – including many of the KPI metrics, which shipping lines and tech companies, use to differentiate themselves.

Once there is a standard for collecting and measuring performance data for ships and ports, and exchanging it between parties, what is to stop shipping gradually settling on a single, superior methodology for interrogating that data for insights – putting swathes of companies out of business?

The involvement of IMO in what is fundamentally a technological matter offers a clue as to the breadth of the problem. "The longer you wait to implement the international standards, the more painful it will be," Van Scherpenzeel added. ∎

of administrative processes under one roof – customs declarations, phytosanitary, container release. "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," the IMO said.

Collaboration between shipping lines, and to a wider extent the involvement of IMO, shows that preventing the forming of walled gardens is at least on the agenda. In 2021, MSC, Hapag-Lloyd, ONE, and all members of DCSA, adopted eB/Ls, signaling their intention to retain a single format.

Language barriers

Nevertheless, there is another barrier and this time it is of shipping's own making. In short, countries, ships, and ports cannot decide between them how data should be measured, recorded, organized, and presented.
"A major issue is the harmonization of data standards where one country will vary in its demands, and even individual ports in a country, or a region of country, might ask for different input, making the captain's job a night-