

Why the Future of Offshore Energy Supply Depends on Data & Logistics, Not Vessels

How innovations in last mile delivery and supply chain visibility can deliver transformative, systemic improvements for offshore energy

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In our previous piece, P&O Maritime Logistics CEO, Martin Helweg, **explained why our industry is facing its greatest ever inflexion point** - and why now is the time to change the course of maritime history.

The paper covered the massive inefficiencies in our sector's supply chain business models, which, left unchecked, will kill our businesses, wreck peoples' livelihoods, and irreparably damage the world's energy security and the energy transition. It also looked at why oil majors have been using the wrong metrics to measure the efficiency of their supply chain, such as the amount of time vessels spend at sea - and as a result, heavily overpaying for services and assets they don't need.

We shared our estimates that this outdated way of operating has created a 30 per cent oversupply of shipping assets in the market and means offshore energy companies are holding 40 per cent more inventory than they need.

As well as having to order up to six months of supplies in advance - simply because the supply chain is neither visible nor efficient enough.

In response to these challenges, we proposed a new business model, which would see vessel operators evolve from simple boat companies, to become integrated offshore logistics providers.

Old model

Boat Company



Physical asset



Technical reliability

- Commoditized business model
- Leasing contract provides no control over vessel and services
- Vulnerable to market changes

New model

Integrated Offshore Logistics Provider



Supply chain management



Cost, efficiency AND reliability

- Customer and supplier sharing rewards
- Adaptable to the market and customer needs
- Use competitors' assets in our model

Of course, as the American investor and venture capitalist, John Doerr said, *"Ideas are easy. Execution is everything."*

So, in this paper, we are going to share more detail on how this evolution can be achieved, with examples from P&O Maritime Logistics' own projects, showing our latest innovations in offshore energy delivery and supply chain visibility.

Before we continue, it's worth stressing again just how vital these changes are for the survival of the offshore energy industry as a whole. Oil majors are becoming increasingly unwilling to pay for fixed rental assets and Platform and Offshore Vessel idle time.

"After all, would you be happy renting a car for a week but only using it for half an hour? Of course not – you'd get an Uber."



Plus, as vessel sharing concepts become more popular over time, the structural oversupply in the industry will only become more severe. On top of this, as the energy transition continues and the oil price will likely drop, the use of assets and drilling investments in countries with a high production cost per barrel will decrease. Yet right now, shipping oil country tubular goods (OCTG) is a major volume driver for our sector – leaving many companies highly exposed, unless they can adopt a new model.

We believe that model must be pay-as-you-go - and we are proving it can work.

What offshore energy companies care about - and what we must deliver

Clearly, not changing means facing massive risk, yet change always brings risks too, and we have a duty to our customers to manage them properly. As such, we must remain relentlessly focused on what drives real value for our customers – by helping them plan more effectively, reduce inventory levels, and save on logistics costs.

For offshore energy companies to sign up to any new operating model from maritime service providers, production must be ensured, and safety stock requirements must always be met. Customers need to know where their materials are at all times when they will arrive, and exactly how much they are paying to move them.

Achieving this requires advanced logistics expertise and technology, to deliver end-to-end supply chain visibility, from requisitioning to delivery at an offshore site, as well as reliable cargo cycle predictability and precise inventory control. Procurement and logistics spend control are just as important, as is exception management. Also, if the commercial relationship is going to keep growing stronger over time, advanced, ongoing procurement behaviour improvements, such as integrated requisitioning, must be implemented as well.

The multiple barriers to supply chain data integration and visibility

Delivering this kind of advanced logistics functionality is made significantly more difficult because the offshore supply chain is so fragmented. It is made up of a range of different organisations and equally important links that do not communicate properly with each other.

From inbound logistics to the shore base and offshore logistics, there are barriers that interrupt the flow of data at every step, and any work done to optimise how information is processed is often still carried out in silos.

This means clients are left to try and manually compile multiple data sources to achieve even partial visibility of the end-to-end supply chain - an outdated approach that leaves potentially massive, valuable new efficiencies untapped.

Last mile delivery has been a particular bottleneck for some time, because of the

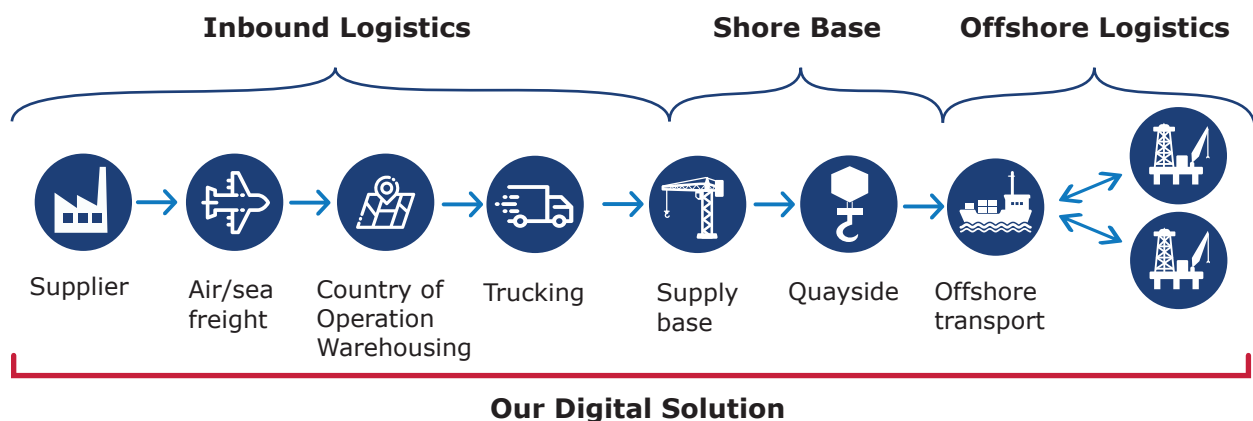
legacy model of having separate investment, ownership, contracting and sourcing for quayside, shore base and vessel operations.

As a result, across inventory management, loading, and offshore cargo ownership - everyone is forced into being more reactive because it's hard to collaborate and plan in advance with real-time data.

This is why a new tool is so urgently needed to improve offshore supply chain visibility.

It's also why P&O Maritime Logistics' increasing level of integration with our parent company, DP World - a global leader in smart logistics solutions, which moves 10 per cent of the world's cargo every day - is so important.

This shared expertise is helping drive our strategy of going beyond just the provision of vessels, but to providing integrated end-to-end logistics solutions to customers, that improve the whole supply chain.



Introducing FlexDELIVERY

FlexDELIVERY is our newest integrated offshore logistics solution that breaks down these barriers to connect shore bases, quaysides, and vessel operations.

It uses a sophisticated, bespoke IT system for gathering and sharing data, which is created for each individual client or major capital project. We feed the system with business intelligence data collected from managing yards and quaysides, the operations of large equipment, as well as

the running of offshore supply vessels.

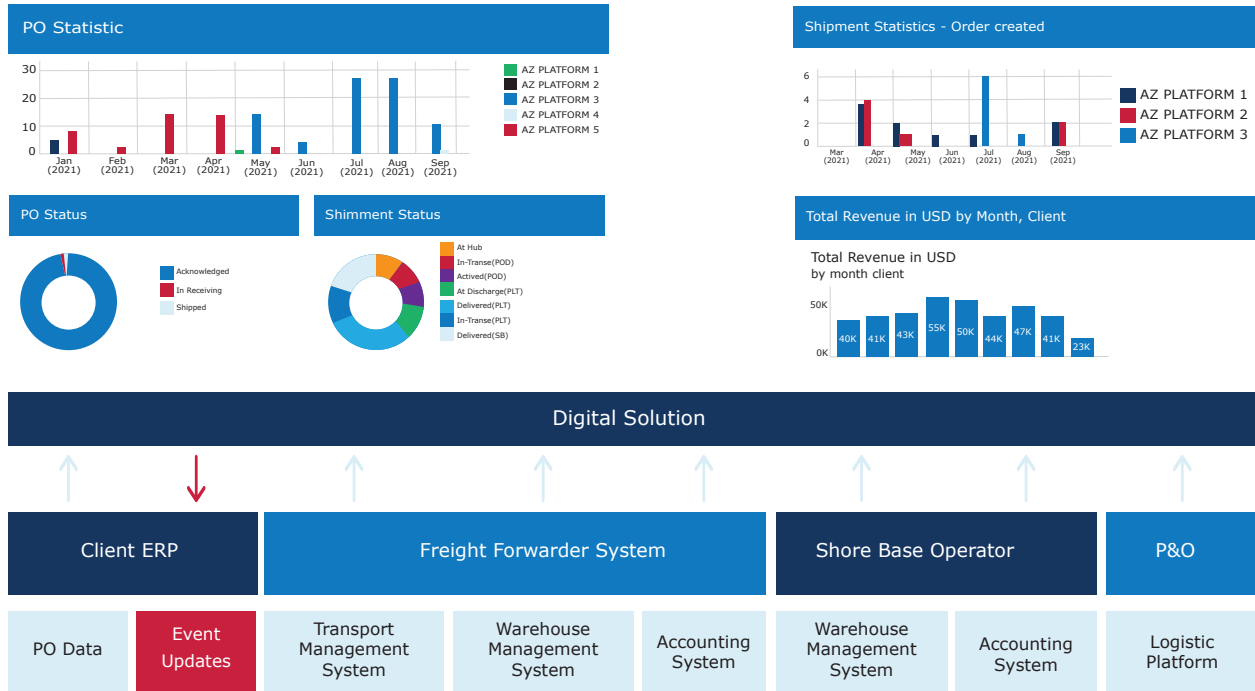
This involves collecting up to 500 different event milestones and data points, the right selection and combination of which will be different for every offshore location.

We will typically spend six months gathering information to build a big enough dataset to work with. After which, using our proprietary big data aggregator and AI algorithms, we can start to offer proposals

about how procurement and logistics can be improved, and which decision-making elements can begin being automated.

FlexDELIVERY is also a customer-facing digital solution, providing a dashboard - and a single point of contact in P&O Maritime Logistics - for all their offshore logistics project planning and execution.

In this way, it also represents a new operating model that can reduce the interface management for end clients to whatever level they are most comfortable with.



FlexDELIVERY can be understood as a direct expansion of the 'Supply on Demand' solution we discussed in our previous paper.

With Supply on Demand, if you want something within 24 hours, that will require more investment, but if you can wait a week - you can get it delivered for a lower fee. It uses route and load optimisation to offer marine services on a pay-as-you-go basis, meaning customers don't need to enter restrictive contracts with offshore cargo providers.

For FlexDELIVERY, we have expanded the scope of the tool, data and services provided to integrate the offshore supply base, so we can start to remove a lot of the inefficiencies from the transitions between energy fields, the shore, and the vessels.

While still offering customers a digital solution they can use to create bookings, track cargo, as well as monitor, analyse, and optimise the supply chain to keep reducing costs.

This means we can also now offer offshore supply base customers the choice of a transactional pay-as-you-go scope that only charges them for specific services rendered and cargo delivered. It's a more effective solution than the fixed asset or facility rental model they have been forced to use until now.

"I'm pleased to say we are the first company in the world to offer such a service to offshore locations, which is why FlexDELIVERY is the cornerstone of our efforts to drive out structural oversupply in the energy industry, by shifting focus to the cargo - instead of the assets that deliver it."

FlexDELIVERY in Nigeria: Impressive early results in a complex environment

We officially launched FlexDELIVERY in Nigeria on September 4th, 2021, partnering with the Nigerian-owned IO Materials Services (IOMS) to provide delivery services from gate-in to offshore by engaging with the local ecosystem.

IOMS was selected because it is a fully local content compliant company with a proven track record of providing logistics services for the oil & gas industry in Nigeria. It operates two shore bases in Lagos and Port Harcourt – offering wide coverage for oilfields across the Nigerian offshore energy industry.

Nigeria itself was chosen as our first real-world testbed because it is effectively a microcosm of the whole oil & gas industry. As well as being a key region for DP World investment. Bringing shared prosperity to Africa through logistics solutions that create jobs, enable trade and upgrade vital trade routes for essential cargo, is a mission we're proud to be part of.

From a production perspective, Nigeria features swamp, shallow, deep, and ultra-deep offshore locations, while from a client perspective - all the major international oil companies (IOCs) are already in-country. It's also good to see how a well-diversified Nigerian-owned oil company community has emerged over the past 10 years.

The ecosystem in Nigeria is further diversified by the presence of high-volume oil field service providers, such as Halliburton and

Schlumberger, for cement and chemical requirements.

Despite all these strengths, most offshore platforms offshore Nigeria are still relying on antiquated, manual paper-based operations that duplicate manpower, facilities, and equipment. This is costing approximately two to four times more than the global average for running an offshore supply operation.

Which is precisely why we saw such huge potential in Nigeria for a disruptive, tech-driven offshore supply solution like FlexDELIVERY.

While we were excited by this opportunity to drive positive change - we were extremely careful to properly review and respond to local content legislation while working with Nigeria's domestic service providers to create a vessel pooling agreement.

This work is essential for ensuring local communities are fairly treated within this new operating model. We have also been liaising with the governmental regulatory bodies that oversee operational practices and monitor any proposed cost savings for IOCs.

So, you can see why, all in all, this was one of the most complex operating environments we could have launched in, but we felt strongly that if we could make it work in Nigeria - we can make it work anywhere.

Early customer results from FlexDELIVERY in Nigeria

- Reduced delivery times
- Enhanced supply chain visibility
- Increased supply chain predictability
- Reduced procurement spend

- Flexible and easy cargo booking for customers through the app
- More predictable sailing schedules
- More time to plan shipping security details
- No more surprises regarding late cargo arrival

FlexDELIVERY is already reducing costs by 20-30% per good transported, as well as reducing fuel consumption by 20-30%, and helping vessels travel 40-50% less distance, compared to traditional time-charter supply contracts.

Emerging critical success factors

Overall, we are delighted with how the FlexDELIVERY in Nigeria project is going - the proof of concept has been established, clients are happy, and sailing departures are all happening on time.

We have also learned just how important it is for new vendors and the client organisation to be well trained on the new operating model.

Ongoing support with a technical and operational helpdesk is just as critical as establishing a continuous improvement tracking process. Sophisticated logistics solutions like FlexDELIVERY have huge optimisation potential, so roles and responsibilities must be assigned in this area.

Lastly, it's also worth bearing in mind that there will always be challenges to deal with, such as flooded streets preventing cargo from arriving at the shore base as planned.

However, with these key processes in place, clients will be in a strong position to handle any obstacles – and then learn from them.

"I am encouraged by the potential of FlexDELIVERY, to assist the industry to achieve more efficient logistics operations, and to deliver these with reduced cost and carbon intensity. The business case for the adoption of any new solution requires a clear value proposition. In this case, the client's internal customers such as drilling, and production must be confident that they will get an equal or improved delivery model at a reduced cost. The business case needs to be compelling, transparent, and demonstrable. It is positive to see this being a central deliverable of the FlexDELIVERY proposal. As part of a continuous improvement cycle, being able to use reliable and timely data to identify planning and execution inefficiencies - and being able to put a cost-saving opportunity around success, will ultimately drive behavioural change within organisations. The ability to directly link actions to costs will focus attention. The urgency and importance of finding new efficiencies in current and future logistics operations must not be underestimated - it is absolutely central to the goal of driving long term value, and to decarbonising global logistics."

Stephen Padley, Global Marine & Shorebases Logistics Lead for a major international energy company

The future of integrated offshore supply chains & pay-as-you-go services

FlexDELIVERY will continue to evolve as client requirements change. We envision it becoming more of an Amazon-like digital

platform that is extremely focused on the cargo and procured goods rather than the yard or vessels involved in transportation.

As per the modern, best-in-class consumer eCommerce experience - clients get complete visibility of called off materials and locations while all logistics operations are handled smoothly behind the scenes, ensuring timely offshore delivery.

We believe supply chain improvements can generate significant cost savings and automate certain procurement practices and also have a positive, transformative effect on planning schedules for offshore maintenance, drilling, and production.

Imagine a future where manual procurement is effectively eliminated, with offshore

energy facilities being automatically serviced and replenished because all parameters and material catalogues are being tracked on our system.

Call offs would determine precisely when supply cycles are launched for every single item and purchase order.

What we can say in the short to medium term is that P&O Maritime Logistics is considering the acquisition of a global shore base operator to further strengthen our competencies in this area.

Where To From Here?

Gradual build-out of capabilities and scope driving towards an integrated offshore logistics service provider, and beyond



Transformational efficiencies for a world in transition

Ultimately it's our job to help all our customers become more efficient and achieve a more reliable supply chain. Despite all the disruption and volatility of the past couple of years, we've kept on making enormous progress delivering this, addressing the overspend in inventory and equipment rental across our sector.

Crucially, as well as helping us better service our IOC customers, these logistics innovations mean we are strongly positioned to support the growing offshore renewables sector. As mentioned in our previous paper, green energy was born on

negative margins and subsidies - so it has had to be hyper-efficient since day one.

We must continue to match this culture and focus.

P&O Maritime Logistics already has a significant amount of our balance sheet invested into installing and maintaining wind farms, with vessels that were previously used in oil and gas fields. We know the shift away from coal and oil to natural gas will continue, as it must do to reduce emissions, while overall energy demand will keep increasing.

Thanks to world-leading innovations in last mile delivery and supply chain visibility, like FlexDELIVERY and Supply on Demand, we see the energy transition, not as a threat but a necessary change that presents fantastic new opportunities. Especially in offshore wind and lower-carbon fuels like Liquefied Natural Gas (LNG).

We are also going to keep sharing information about our important work because we believe collaboration is not enough. As an industry, we have a responsibility to co-create a better, greener future - something every single person on the planet has a right to.

Transformational efficiencies for a world in transition

Below is an overview of the steps we go through when assessing and rolling out FlexDELIVERY in each market. Is there a stage you may be able to help with in your region?

- Identify suitable shore base operators and locations in the region
- Assess suitability of additional local supply chain infrastructure
- Identify a fully local content compliant partner, with a proven logistics track record with the IOC community
- Identify potential offshore locations and design efficient offshore milk runs
- Develop and agree standard operating procedures
- Develop tariff matrix for transactional service proposal
- Propose new operating model to regional governmental regulatory bodies and work to secure consent
- Establish proof of concept for the first sailing
- Actively propose and sell the new service offering in the local market
- Host workshops and whiteboard sessions with partners to develop stronger shared understanding
- Review ongoing operational performance
- Establish continuous improvement processes to drive future operations

Or, if you're interested in discussing the benefits of a more sophisticated approach to the offshore supply chain more generally, please get in touch by dropping my team a line at POML.Communications@pomaritime.com. We would love to speak with you.