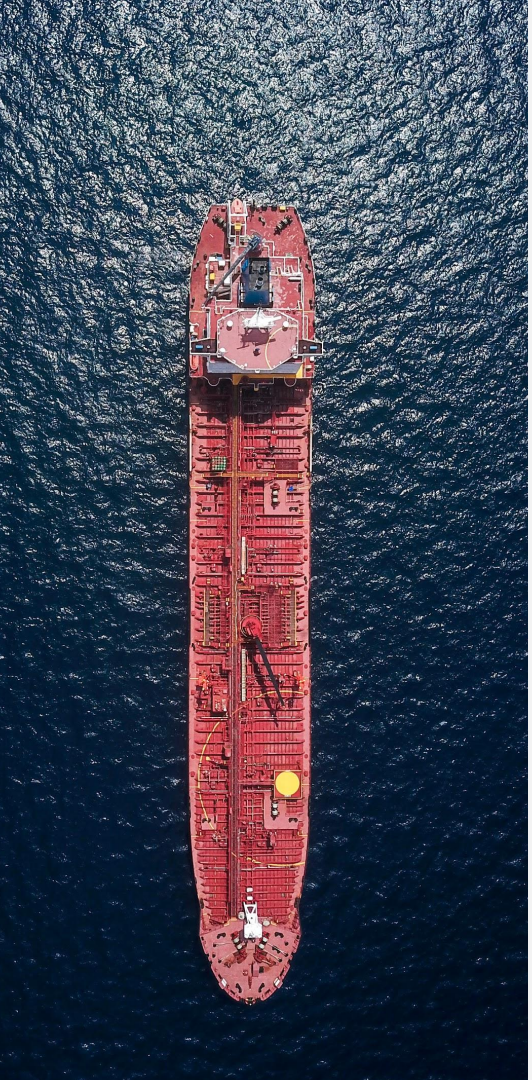

SHIPTECH 2020

The state of venture investment activity in the maritime industry.

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INTRO

From navigation to chartering, bunkers to freight forwarding, digitalisation has touched every facet of the shipping industry in the last decade. As the industry's transformation from analogue to digital steps into higher gear, it is increasingly catching the attention of entrepreneurs and investors looking for big problems to solve.

Though industry dynamics make shipping very different from other large industries, like finance, that have been disrupted by startups, there is still a great deal of impact to be had by those innovators who enter the sector.

In this report, we will explore 2019's startup activity, including an overview of venture capital funding, the notable investments made in the year, new entrants to the market, and lastly the technology trends to watch in 2020.

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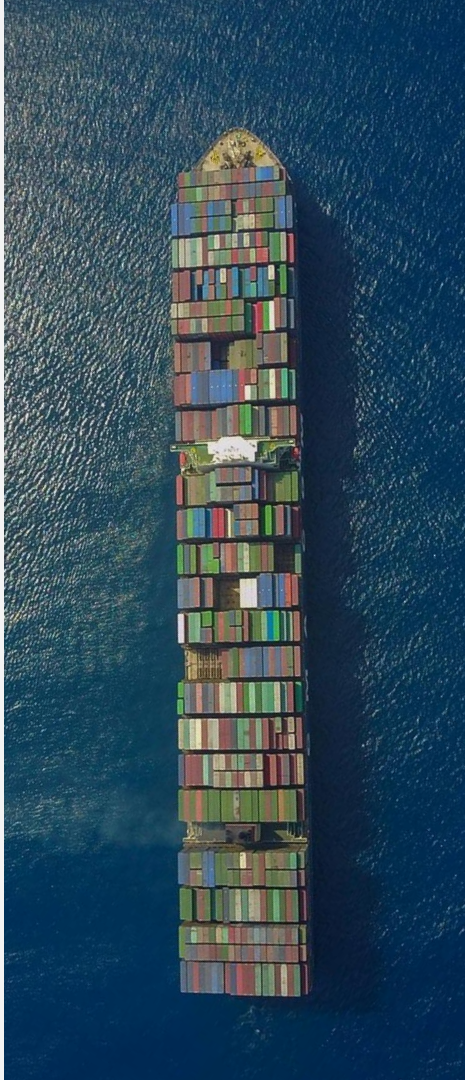
VENTURE FUNDING OVERVIEW

IN 2019



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A RECORD BREAKING YEAR FOR SHIPTECH?

On the surface, 2019 was a record breaking year for venture funding in the shipping industry with **$1.14bn raised** by startups and scaleups building technology aimed at the maritime sector.

The headline figure is distorted, however, by the massive $1bn investment in Flexport led by Softbank.

Investment activity in the industry actually declined slightly from 2018, with fewer deals completed at a higher average value.

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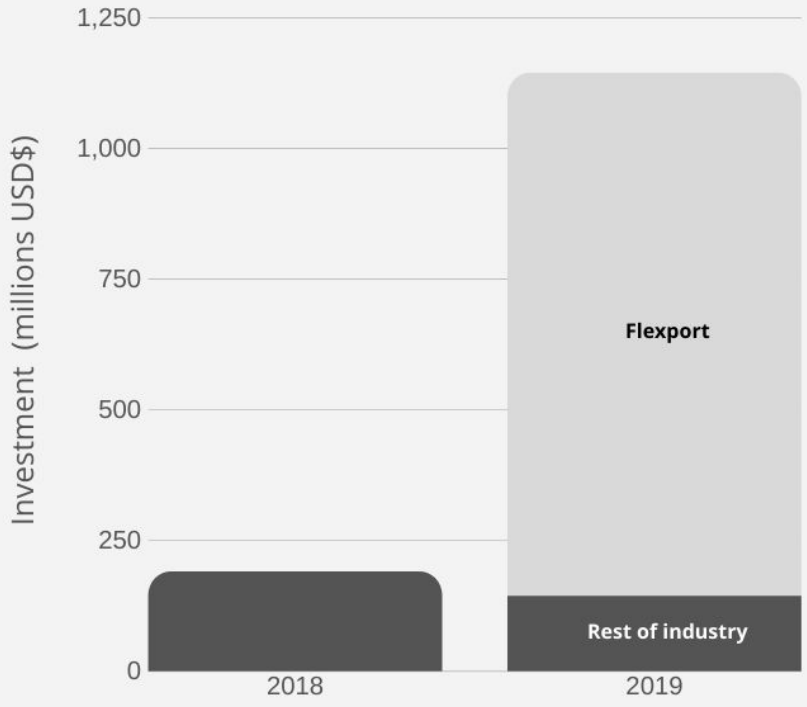
THE FLEXPORT EFFECT



If Flexport's contribution is removed from the figures, venture funding in the industry **declined by 24%**, from $190m in 2018 to $144m in 2019.

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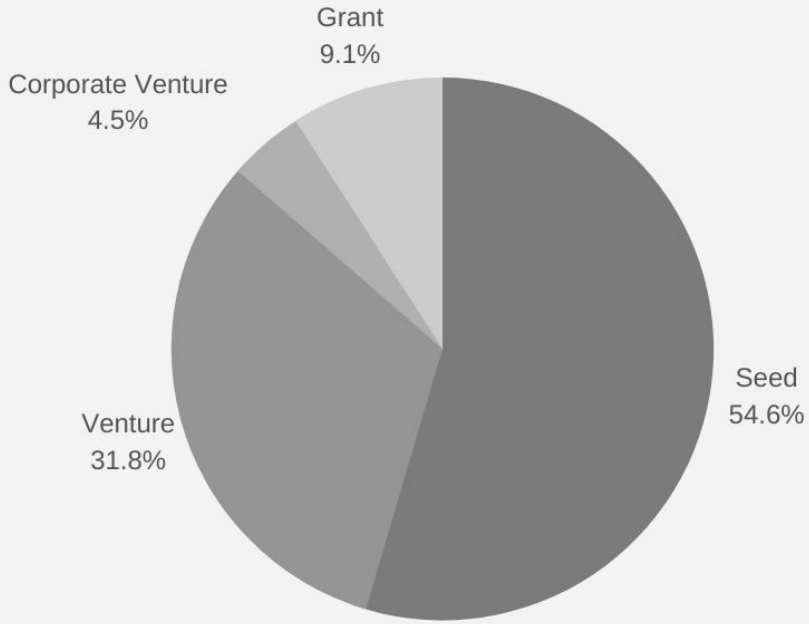
DEALFLOW BY THE NUMBERS



The number of deals completed in the year is down 8% from 2018, but the median size of each investment has increased by 18%, from £2.2m in 2018 to £2.7m 2019.

Funding rounds by number:

- **SEED** - 55% of funding rounds were seed investments, representing a total value of **$11.2m**.
- **VENTURE** - 36% of funding rounds were venture or corporate venture, representing a total value of **$1.18bn**.
- **GRANT** - 9% of funding rounds were grant money, representing a total value of **$1.6m**.

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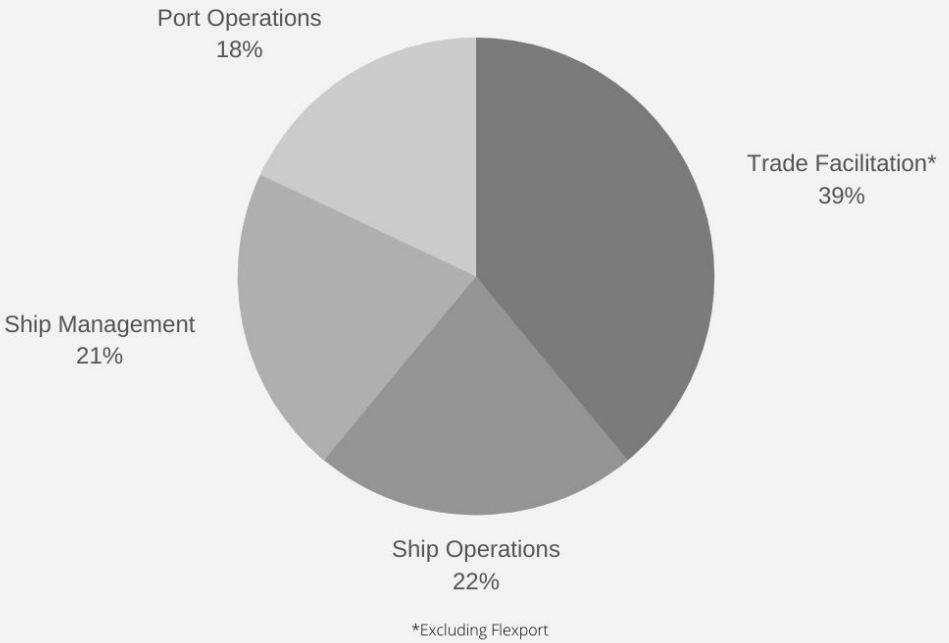
When examining application areas, **Flexport** once again creates a distorted market picture, accounting for 87% of the total venture funding in maritime this year.

Of the £144m dollars raised excluding Flexport, **39%** went to companies focused on **trade facilitation**, this includes problem areas such as freight forwarding, customs broking, and trade document management.

Ship operations, which includes applications for use onboard ships to improve safety, efficiency, or welfare accounted for **22%** of funding raised.

Ship management, which includes crewing, training, bunkering, and fleet optimisation tools secured **21%** of the total

FOLLOW THE MONEY



Lastly, **Port operations**, which includes port optimisation tools, cargo handling systems, community systems, and collaborative management platforms, saw the remaining **18%**.

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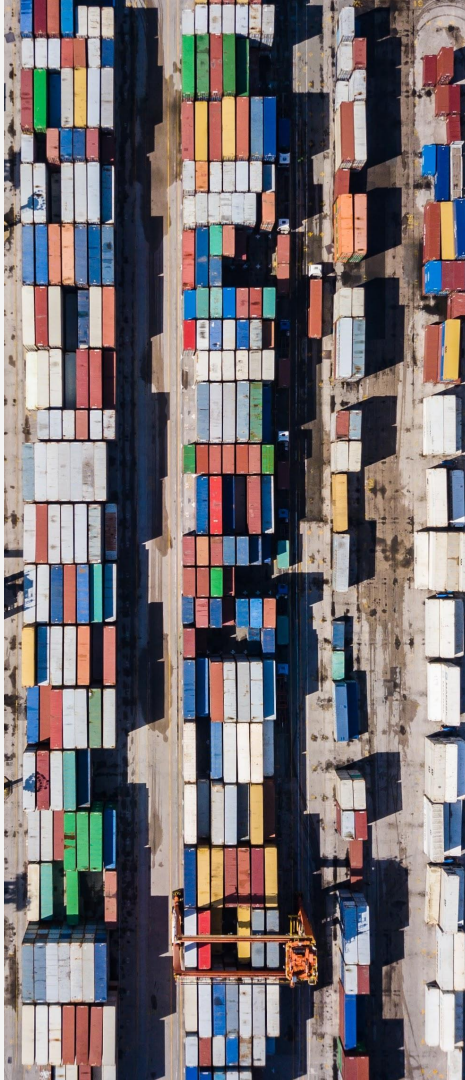
NOTABLE INVESTMENTS

The biggest deals of 2019



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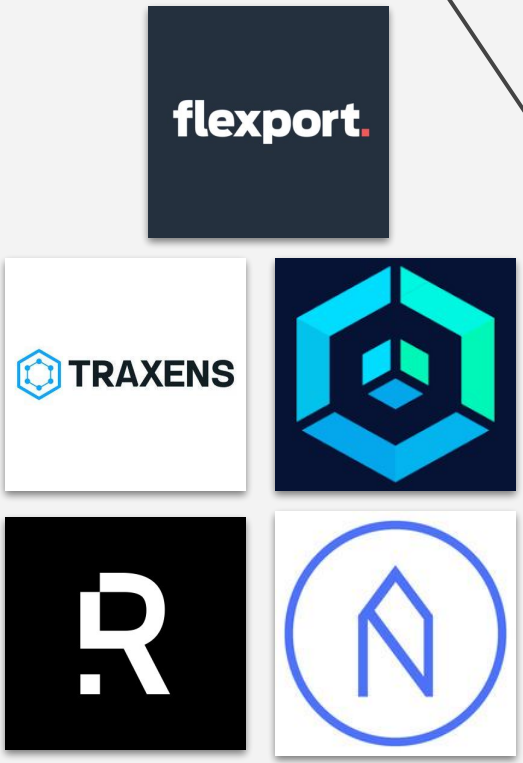
Though year on year deal activity was down in 2019, a number of large funding rounds closed and the average deal size increased.

The market is beginning to mature; after years of seed and small venture rounds dominating funding activity, a few breakout stars are beginning to scale and have enough traction to warrant taking significant amounts of venture money.

These five companies closed the maritime industry's biggest venture rounds of the year.

Though trade facilitation dominates, this list demonstrates that technology that can enhance operational efficiency, whether in ports or at sea, is being taken seriously by investors.



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It is impossible to discuss the industry's notable investments without discussing Flexport. Founded in 2013, the Silicon Valley based scaleup brings together technology, infrastructure, and expertise to deliver a superior freight forwarding experience. Flexport connects all the parties in global trade; importers, exporters, trucking companies, ocean carriers, airlines, customs agencies, and port terminals, through a single, secure cloud-based platform they call the "Operating System for Global Trade".

In addition to providing software, the company is investing cross-docking warehouses near all major global population centres, each connected by high-frequency air, ocean, truck, and rail freight line-hauls in a global hub-spoke network.

flexport.

Flexport

Raised: $1billion

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Europe's answer to Flexport is Berlin based Freighthub. The digital freight forwarder was founded in 2016 and raised £53m in May last year. Their aim is to create seamless, best-in-class freight forwarding experiences for their customers around the world by handling the entire process through a single intuitive platform.

Unlike Flexport, Freighthub has no physical assets, focusing instead on building a single user interface to cover the entire freight process chain from quotation, booking, document management, track and trace all the way to proactive exception handling and supply chain data analytics. Freighthub now has over 1,500 clients and offices in Hamburg, Hong Kong, Porto, and Cologne.

Freighthub

Raised: $53million

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The biggest innovation in world trade during the 20th century was the invention of the container. Millions of tonnes of cargo are moved in these steel boxes each year but there is no built-in way of tracking the location and condition of a dry container as it moves around the world.

Over a three year R&D programme, Traxens developed the technology required to produce cost effective, rugged, autonomous IoT devices that turn regular containers into smart containers. The scaleup, which counts Maersk, CMA CGM, and MSC as investors, is now capable of delivering exhaustive, precise, and timely information on containers to stakeholders in the supply chain. This allows clients to reduce costs, optimise their assets, and offer premium services to shippers and BCOs.

TRAXENS

Traxens

Raised: $24million

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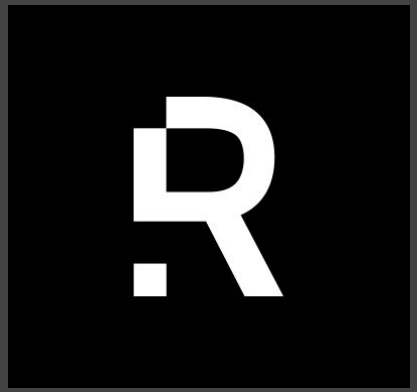
Rombit builds systems that quickly improve safety, security, and operational efficiency across maritime services providers, ports, terminals, and petrochemical plants. Their solution connects industrial IoT devices with user friendly cloud dashboards to help clients solve problems including schedule optimisation, security, worker safety, and port security.

With a slew of clients from across their home city of Antwerp including the massive MPET container terminal, chemical handling group Vopak, and pilotage services provider Brabo, the team is now focusing on scaling up by acquiring more international clients and expanding in to Industry 4.0.



Rombit

Raised: $11million

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Nautilus Labs is is attempting to solve the multi-billion dollar problem of wasted fuel in the global shipping fleet. Up to 30% of the industry's $100bn fuel spend can be saved through more efficient vessel operations according to the New York startup. Nautilus combines multiple sources of operational and contextual data in real time, and leverages machine learning and collaborative tools to help clients to assess fleet performance and continuously improve voyage economics.

With backers including the venture arm of Microsoft and partnerships in place with industry leaders including Inmarsat and Teekay LNG, Nautilus is poised to rapidly scale at a time when the industry desperately needs new efficiency solutions.

Nautilus Labs

Raised: $11million

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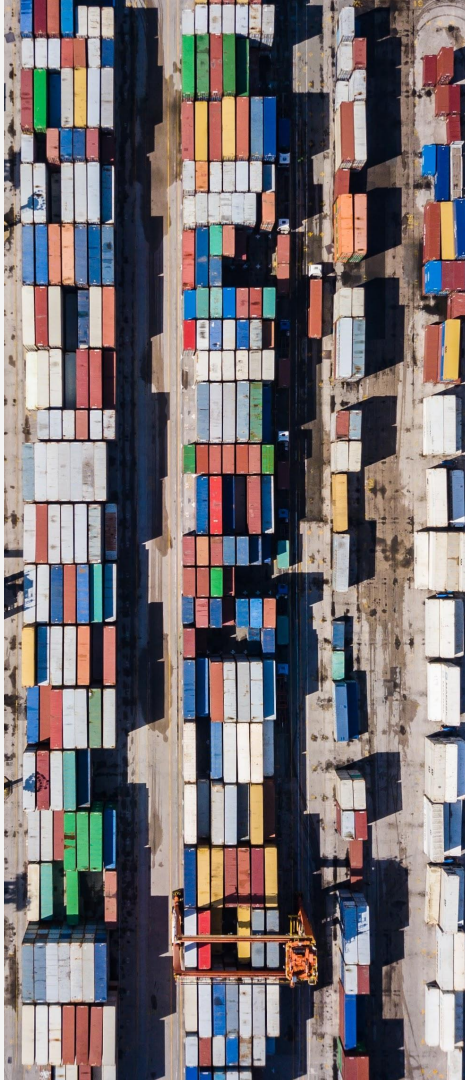
NEW KIDS ON THE BLOCK

The startups founded in 2019 who are ones to watch.



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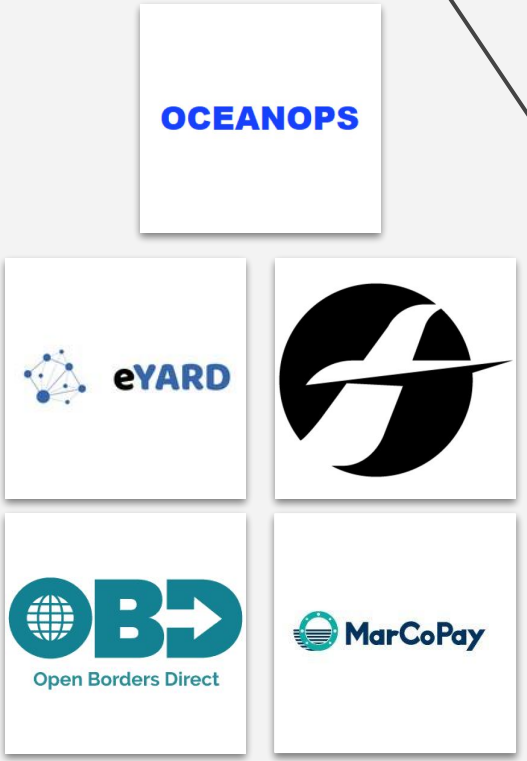
People often overestimate what they can achieve in a year and underestimate what they can achieve in a decade.

While many are drawn to startups on the promise of a fast exit, the truth is that it takes an average of 9 years for a SaaS startup, and 11 years for a hardware startup to exit.

While it may take a decade for a startup to make it, they are emitting signals of success or failure from day one.

We spend our days tracking those signals (so you don't have to). Here, we have outlined the five maritime startups founded in 2019 that we believe are ones to watch.

This list is testament to having the right support system in place for a young company; three of the startups featured have graduated from an accelerator, and one is a corporate venture.



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30% of containers arrive late due to operational delays and overbooking. Bad weather, rolled cargo, or delays in terminals can leave shippers scrabbling to find alternative routing in the face of a long delay for their cargo.

OceanOps is SaaS platform that helps shippers to mitigate container delays by dynamically rerouting their cargo. The platform presents a shipper with all of the rerouting options available, combining land and ocean legs, to make it as easy and cost effective as possible to mitigate delayed cargo. The Rotterdam based company is alumni of leading startup accelerator Antler and boasts a founding team with a wealth of experience at major container carriers.

OCEANOPS

OceanOps

Dynamic rerouting of ocean freight

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Millions of containers are stored in terminals worldwide each year, waiting to be loaded onto a ship or their next mode of transport. Each time a container is moved it costs the terminal money, making optimising the positioning and movement of containers an important factor in the profitability of a terminal.

eYard, a graduate of Next Logistics Accelerator, has developed an AI-driven algorithm for optimizing container positions and reducing the number of unproductive moves in the terminal. The algorithm is trained with real container transactions from the terminal. The results are displayed in a cloud based interface that gives management the tools and information they need to make better optimisation decisions.

eYard

The new standard for container operations

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Currently, if a ship needs spare parts or supplies it has three options; go in to port and load supplies from the quayside, anchor offshore and wait for a supply boat, or have supplies flown out to the ship by helicopter. All of those options are expensive, with the latter being so expensive that it is not viable except in the case of emergencies. In the offshore industry, helicopters are the only way to move supplies and parts out to rigs.

With backing from Entrepreneur First, Singapore based F-Drones is building the world's first transition drone for marine logistics. The autonomous drone takes off and lands vertically, but transitions to fixed wing flying. It can carry a 100kg load 100 km offshore and saves 80% of the cost, time and manpower of traditional offshore logistics.

F-drones

Drones for marine logistics

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Incoterms are the set of rules by which trillions of dollars of trade is facilitated each year. They are standard definitions which dictate the legal responsibilities of parties in international trade. Published by the International Chamber of Commerce, these terms are updated once every ten years, but are only released in print or as an eBook.

Open Borders Direct, is exclusively licensed to fully digitalise incoterms. By integrating incoterms into a cloud platform, Open Borders Direct are enabling importers and exporters to create and sign trading contracts, share trade documents, and access additional services like insurance in one place. This significantly reduces administration time, cost, and risk, particularly for SMEs who don't have dedicated trade teams.

Open Borders Direct

Making importing and exporting fast, easy and safe.

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Currently, the majority of the world's 1.6million seafarers are paid in US dollars, meaning they incur high transaction fees when sending money to their families at home. Millions of dollars is carried in cash on board the world's shipping fleet, this carries a risk of piracy and theft, but also takes a lot of the captain's time to manage.

MarCoPay, a startup jointly owned by NYK Line in Japan and Philippines business conglomerate Transnational Diversified Group, is building a fintech platform that will enable seafarers to manage, receive, spend and remit their salaries in the form of e-money. This minimises the use of cash on board and makes it possible for crew to send money home to their families quickly and cheaply, even while they are at sea.

MarCoPay

A cashless app for seafarers

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TRENDS TO WATCH IN 2020

The technology areas that will have the biggest impact on the industry this year.

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API TECHNOLOGY

The most important technology trend to watch in 2020 will be the rise application programming interfaces (APIs) in shipping.

An API is a communication protocol that allows two applications to talk to each other automatically. The majority of cloud applications that exist today rely on API technology in some way, but maritime has been relatively slow to adopt the technology.

Though unlikely to completely kill off traditional data transfer methods such as email and EDI, those operators who embrace APIs will be able to open themselves up to a dizzying array of new ways to securely integrate their systems and services with clients, suppliers, and partners.

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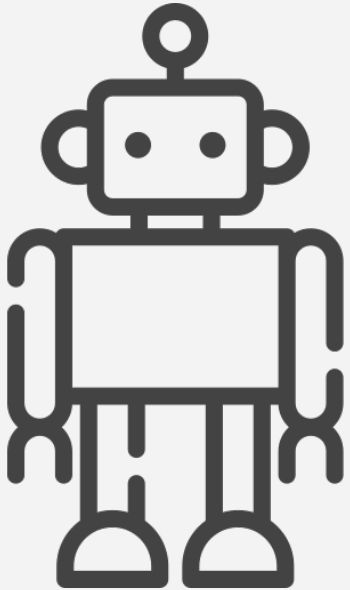
As the industry improves its ability to handle and share data, opportunities to embrace artificial intelligence and robotic process automation grow exponentially.

Outside of shipping, AI is being hailed as a disruptive force that will change how we live and work, and it is attracting serious investor attention. Robotic process automation (RPA) is a method for automating repetitive tasks like administration or document handling using software “bots”.

While AI can help improve decision making at sea and ashore, RPA makes it possible to scale an operation without increasing the man hours required.

AI AND RPA



Anything from updating vessel position lists to handling insurance claims could be handled using RPA, giving humans time to focus on high-value work.

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GREENTECH

Starting with the IMO committing to a 50% greenhouse gas reduction target, 2019 saw a slew of announcements in support of funding green technology.

While there is no doubt that the number of vessel and port performance optimisation startups will increase, we will also undoubtedly see those tackling the long term problem of alternative fuel and propulsion methods attracting the interest of investors.

The size and immediacy of the problem, coupled with the level of risk involved in finding and scaling a solution makes the net-zero ambition a perfect target for venture capital.

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CONCLUSION

As we have shown, it is impossible to ignore the scale of Softbank's investment in Flexport. Beyond distorting our figures, that single funding round has carried what would otherwise have been a relatively unremarkable year of venture activity in maritime. The question that has not yet been answered is whether the scale of the Flexport investment sparked a genuine wave of venture interest in the industry, or just created a lot of hype? Though there was less deal activity, 2019 saw deal sizes that proved that a number of shiptech entrepreneurs are graduating from startup school, and entering the big wide world of scaling up.

While these larger players are blazing a trail, there are plenty following on behind. In the last 18 months, we have recorded a 60% increase in the number of venture funds dedicated to maritime, logistics, and trade operating around the world. It stands to reason therefore that there is a lot more to come in 2020 and beyond.

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Thetius is a leading source of intelligence, analysis, and research on emerging technologies within the ocean supply chain, helping industry leaders to understand and prepare for the future.

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