



# The Porthole

Volume 21 No. 9

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The newsletter of  
the Company of Master Mariners of Australia,  
South Australian Branch  
PO Box 1, PORT ADELAIDE, SA 5015



## Branch Master's Comments

Good day to all our readers;

Another month has quietly slipped past, and though things seem to remain static due to the on-going Covid Crisis, they are not really. We have passed the Vernal Equinox and are now well and truly into Spring. We have also passed the '50% of the population vaccinated' milestone, and are on our way to the magic 80% of the population vaccinated, at which point we are promised that our freedom of movement will resume, something which can't happen soon enough for those of us with children and grandchildren interstate.

There's a footy Grand Final on as I type this (or so I am told), but as a disillusioned Crows fan, I really can't work up any enthusiasm for two Victorian teams. All that aside, I am preoccupied with an increasingly urgent search for somewhere to live after I have left my farm and my search for a permanent home in the Hills to the liking of my bride. "She who must be obeyed" is the final arbiter here.....

I received an e-mail from our Federal Secretary Stuart the other day, in which he apologised for being kept extraordinarily busy with his day job to what he feared was the detriment of his work with the Master Mariners. This is very understandable as I am sure we have all been under the pump ourselves in the past - not that much has actually happened, I hasten to add. In the meantime, we in South Australia should be thankful that we are not having to put up with the infection rates which are plaguing Victoria and NSW. This is almost entirely due to those unpopular border closures.

I add my voice to the general advice out there:- get vaccinated folks.

As seagoing people, we have all had that many vaccinations and inoculations in our time that most of us can't understand the fuss, especially as most of us are of the age that puts us firmly into the 'at risk' category.

So, until next month

I wish you all

Happy Sailing

Bob W (SABM)

**COVID-19 restrictions permitting, the next Branch meeting will be held at The Largs Pier Hotel. 198 The Esplanade, Largs Bay, on Wednesday, 29th September 2021, at 1145 for 1200. Please confirm your attendance at the lunch or register your apology before 1200 on Monday, 27th August 2021 with Bob Westley (0427 644 947) or Ian Dickson (0418 807 788)**

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The Company of Master Mariners of Australia Ltd. is a Company established to promote and further the efficiency of the Sea Service generally, and uphold the Status, Dignity and Prestige of Master Mariners in particular.

## Opportunity knocks

By Michael Grey

The United States has one of the world's longest coastlines, its landmass is penetrated by large numbers of navigable waterways, so you might think that it would be a world leader in initiatives that will move transport from congested roads to under-utilised water. Simple geography suggests that, given half a chance, the US coasts ought to be buzzing with modern marine transport moving every kind of freight around its periphery, easing the pressures on its interstate highways.

It's not that the opportunities have not been recognised. At least once during every US presidency that I can remember (that's quite a number) the US Maritime Administration has produced plans, projects and recommendations to get interstate freight afloat. A couple of presidencies past, MARAD even went as far as commissioning some first class designs for a range of ships that could be built in the US to serve as tools for this modal change. There were ro-ros and container ships, and had this ambitious "marine highway" plan been acted upon, there might have been some sort of noticeable impact upon the traffic jams and pollution on the busy interstate highways.

We have a new-ish president, and, true to form, I read in the excellent Millers' Maritime Newsletter that MARAD has this month announced six new projects which, suitably funded, might get some more freight afloat on both salt and fresh water. They are possibly rather less ambitious than earlier Marine Highway plans, involving some projects in US overseas territories, some proposals to boost traffic on the Missouri, New Jersey and Wisconsin, and an intercoastal barge service on the West Coast that will link California, Oregon and Washington. It seems modest enough, so it probably will work.

But it is sad that the US, with all its maritime skills and heritage, cannot work out how something more ambitious might revitalise coastal shipping around its long coastal seaways, other than schemes for tugs and barges, as opposed to "proper" ships. I'm sure that there are maritime people in the US who look across the Atlantic at the fleet of ships that are working around the European periphery, and wish for something better in their own back yard. Just imagine what sort of impact big and efficient ships like those run by Grimaldi, Stena, DFDS or Cobelfret could make on the US coast. This indeed was what MARAD had been hoping to achieve with their earlier initiatives.

Why did this worthwhile effort not bear fruit? It is not difficult to suggest some reasons. For a start, any sort of movement from road to other modes of transport can only be made gradually - you cannot suddenly make available a huge new ship and expect the customers, accustomed to generations of dependence on road haulage, to change their preferences and habits. Ideally, as with the European Commission and their "Motorways of the Sea", you provide some "seed money" to encourage an operator to open a route at a price the user can afford. The operator will sensibly cut his coat according to his cloth and charter a ship that isn't going to drain money away as the route gradually builds up traffic. Then larger vessels can be commissioned, when there is a fighting chance that they can pay their way. It is a system that has managed to assert itself in Europe, despite some initial scepticism.

But sadly, in the US, there is no such option available, mainly because of the Jones Act, which will expressly prohibit the import of those useful chartered or second-hand ships which could introduce people to maritime opportunities. Thus, there was very little likelihood that those half-dozen designs advertised earlier by MARAD would have found a buyer, because the capital expenditure needed to build them could never have been justified. Suppose, after such expenditure, at the far higher cost of an American-built ship, the customers hadn't turned up, or appeared in such small numbers each voyage was stupendously loss-making. It just didn't add up. And if you can't afford fine 20-knot ro-ros, or efficient and capable coastal containerships, you are reduced to tugs and barges.

Just as in every presidency, there is an attempt to revitalise coastal shipping, there is also an attempt to repeal the Jones Act, and that never gets much traction either. For whatever you might think about protectionism, it is there to protect, and, without it, there simply would not be any jobs for American citizens on US or any other ships. It would end up like Europe, with owners turning to the cheapest labour in the world to man their vessels, which is possibly fine for the users of ships, and their owners, but is not great for people like Brits, who cannot even find a ship that will give a cadet sea time. It's all a matter of balance or weighing one set of policies against another. Swings and roundabouts, really.

*Michael Grey is former editor of Lloyd's List.*

Source: *Maritime Advocate* 785

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## Sure Bet!

A fellow got up one Saturday morning with the odd feeling that something about this day was to be different.

Something unusual WAS about to happen. He glanced out the window at the thermometer: 33 degrees.

He went downstairs - the clock had stopped at 3 o'clock.

He picked up the newspaper and read the date: the 3rd of the month.

Threes - that was it! He grabbed the paper and flipped it open to the racing section.

Sure enough in the 3rd race, there was a horse named Trio!

The fellow hurried to the bank, drew out his life savings and bet it all on the horse to win.

The horse finished 3rd.

*(With thanks to Paul Dixon)*

Source: *Maritime Advocate* 786

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## THE MACHINE ODYSSEY

Sea Machines announces the world's first remotely commanded autonomous long-distance journey of discovery and demonstration.



The autonomous revolution has taken the 21st century by storm. From our roads to our skies and now the biggest frontier of them all — our seas. Sea Machines is proving that the world's waterways are primed and ready for autonomy, which will retool the world's fleets to operate more safely and seamlessly and provide our growing global society with greater access to the oceanic 70% of the planet. September 30, 2021, marks the start of The Machine Odyssey, an epic voyage to circumnavigate Denmark with a commercial vessel commanded by marine officers seated in the United States

**Meet the Tech:** Our intrepid vessel, the *Nellie Bly*, will be controlled by Sea Machines' SM300, an autonomy system leveraging cutting-edge Artificial Intelligence, giving the riding crew the ultimate confidence and comfort:

Route planning and navigation via ENC-based GUI and GNSS localizations

Dynamic situational awareness with computer vision, radar, AIS, depth transducer, IMUs, audio and streaming video

Obstacle detection and collision avoidance with dynamic path re-planning

True redundancy of remote communications with fail-over, long-distance cellular radios

**Meet the Crew:** The SM300 enables operators to remotely command and monitor multiple autonomous vessels from a shipboard or shore-based centre. Our shore-based centre is located 3,500 miles away in Boston, Massachusetts. The system is managed by the Sea Machines team, which developed and refined the SM300 to the advanced product it is today. From the remote command centre, marine officers will plan and manage the daily journey, and will monitor and oversee the autonomous operations.

Sea Machines invites you to the journey: Another Industry First Coming: Be The First To Know - Sea Machines ([sea-machines.com](http://sea-machines.com))

To RSVP to our events please contact [sales@sea-machines.com](mailto:sales@sea-machines.com).

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Source: gCaptain 210921

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## Is 'The Ocean Cleanup' a Major Fail for Partners Maersk and Coca-Cola?

Reuters September 16, 2021

*Prone to seasickness, The Ocean Cleanup's young Dutch founder Boyan Slat does not often venture out onto the open ocean and can't fully see why his project is failing, but, after 120 hours of deployment last month, his vessels burned tons of fuel to scoop up less than a single garbage truck's standard haul.*

By Gloria Dickie (Reuters)

Docked at a Canadian port, crew members returned from a test run of the Ocean Cleanup's system to rid the Pacific of plastic trash, and were thrilled by the meagre results — even as marine scientists and other ocean experts doubted the effort could succeed.



Plastic collected aboard Maersk support vessel/ Image via The Ocean Cleanup

The non-profit, launched in 2013 amid buoyant media coverage, hopes to clear 90% of floating plastic from the world's oceans by 2040. But the group's own best-case scenario — still likely years away — envisions removing 20,000 tonnes a year from the North Pacific, a small fraction of the roughly 11 million tonnes of plastic flowing annually into the oceans.

And that amount entering the ocean is expected to nearly triple to 29 million tons annually by 2040, according to the Pew Charitable Trusts.

The Ocean Cleanup, funded by cash donations and corporations including Coca-Cola, as well as in-kind donors like A.P. Moller-Maersk, had fixed assets over \$51 million (43 million euros) at the end of 2020.

During 120 hours of deployment last month, System 002 — or "Jenny" as the crew nicknamed it — scooped up 8.2 tonnes of plastic, or less than a garbage truck's standard haul. The Ocean Cleanup spokesperson Joost Dubois described the amount as "on the high end of our estimates" and emphasized that it was still just in the test phase.

"I think they're coming from a good place of wanting to help the ocean, but by far the best way to help the ocean is to prevent plastic from

getting in the ocean in the first place,” said Miriam Goldstein, director of ocean policy at the Center for American Progress think tank. “Once plastic has gotten into the open ocean, it becomes very expensive and fossil-fuel intensive to get it back out again.”

### **Pacific Garbage Gyre**

The Ocean Cleanup’s first target is the Great Pacific Garbage Patch, the world’s largest swirling mass of marine debris spanning 1.6 million square kilometres in the North Pacific between California and Hawaii. The group estimates the patch holds at least 79,000 tonnes of plastic.

If the flow of plastic into the ocean continues unabated, the seas will contain more plastic mass than fish by 2050, according to the World Economic Forum.

The Ocean Cleanup initially planned on using an autonomous floating system driven by wind, waves and currents to remove plastic. But that first system, named Wilson, bobbed ineffectively alongside the garbage until it ultimately broke. A later design, System 001B, was more efficient, but the team estimated they would need 150 such systems to clear the patch at a high cost.

With the Jenny system, two fuel-powered Maersk vessels tow the 520 metre wide horseshoe-shaped catchment system across the ocean surface. An underwater camera helps make sure marine life does not become entangled.

“Jenny has outperformed everything we’ve done so far,” Dubois said of the recent six-week trials, during which the system picked up plastics small as 1 centimetre in diameter.

The Ocean Cleanup hopes eventually to deploy 10 to 15 expanded-range Jennys — powered by 20 to 30 ships — to operate round the clock 365 days a year at the garbage patch. At that scale, organizers say, the effort could recover between 15,000 and 20,000 tonnes of plastic a year, though it would cost hundreds of millions of dollars.

The group regrets its reliance on ships that release climate-warming greenhouse emissions. The Ocean Cleanup is purchasing carbon credits to offset the heavy fuel use and noted that Maersk is experimenting with less-polluting biofuels. “Preferably we would have done something without any carbon footprint,” Dubois said.

Maersk told Reuters that, because of the patch’s harsh and remote location, large vessels were needed to assist Jenny’s operations.

“We see the value in not just the outcome of Ocean Cleanup’s programs, but also the iterative learning process,” said Robin Townley, head of special project logistics at Maersk.

### **‘What Do You Do With The Ocean Trash You Collect?’**

Prone to seasickness, the Ocean Cleanup’s founder Slat does not often venture out onto the open ocean.

“The plastic that is already in the ocean — accumulated in those garbage patches — is not going away by itself,” Slat told Reuters. “It has to be removed if we want to return to clean oceans.”

Marine scientists have long lambasted Slat’s vision. Marcus Eriksen, co-founder of the 5 Gyres Institute, a plastic pollution research organization in California, expressed frustration that “this downstream, end-of-the-line narrative (is) still (getting) a lot of attention.”

He noted the group’s funding comes from companies “that are actually making the products and packaging. They don’t really like the preventative story because it impacts their bottom line.”

Coca-Cola, ranked as the world’s largest plastic polluter by environmental groups, helps fund the Ocean Cleanup’s side initiative of using solar-powered “interceptors” to catch plastic in Asian and Caribbean riverways before it reaches the ocean.

“We’ve been clear that we want to be part of the solution in addressing the critical issue of packaging waste, rather than part of the problem,” said Ben Jordan, senior director of environmental policy for Coca-Cola. “We’re making progress, but we still have much further to go.”

Coca-Cola has committed to reducing the use of new plastic in its packaging by 20% in the next four years.

While Eriksen said river clean-up was a more worthwhile goal, he bristled at the involvement of a company that is producing 3 million tonnes of plastic packaging a year. “It’s exactly that sort of greenwashing narrative.”

The effort’s other confounding issue? “What do you do with the trash you collect?” Eriksen said.

The small plastic haul from the System 001B was used to make \$200 sunglasses, sold on the Ocean Cleanup’s website.

In the future, the Ocean Cleanup hopes to partner with consumer brands to reuse salvaged plastic, Dubois said, though “we may have to incinerate” some.

*(Reporting by Gloria Dickie; Editing by Katy Daigle and Lisa Shumaker, Reuters)*

Source: *gCaptain* 210917

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### **Japan's Last Whaling Mother Ship May Cost Too Much to Replace**

The whaling mother ship NISSHIN MARU is due for replacement, and a new vessel would cost twice the amount that the entire industry takes in each year in sales. Source : MAREX

Source: *The Pulse* 210912

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## China reveals largest ever drop in monthly steel output as struggling property developers roil markets

Sam Chambers September 17, 2021

Amid the bullish pronouncements for the cape sector, one alarming statistic has given owners pause for thought. Beijing revealed this week that Chinese steel output dropped by more than 12% in August to 83.2m tonnes, the greatest year-on-year slump since the global financial crisis, according to data from brokers Braemar ACM. In absolute terms, August's year-on-year steel output drop of 11.6m tonnes marked the greatest ever.



"Over the first half of the year, authorities failed to meet targets of flat output levels relative to 2020, but over the last couple of months capacity cuts have been far more aggressive than we expected," Braemar ACM stated in an update to clients yesterday, noting too how iron ore prices have slumped recently to lows not seen since last October.

China's restrictive policy on commodities and especially on the steel market was discussed in a recent dry bulk update from BIMCO.

### *Contagion in the property sector could cause a Chinese banking crisis*

"After strong growth in the first half of the year, the Chinese government seems keen to clamp down on the steel and other heavy industries in order to limit emissions. One big question is how strictly these measures will be enforced and whether they will start to constrain economic growth," the BIMCO report noted.

The two largest dry bulk goods imported by China in terms of volume, iron ore and coal, have both fallen year-on-year during the first seven months of the year.

Other August pointers that ought to raise concern for cape owners were highlighted by Braemar ACM yesterday.

"Economic markers such as industrial output, infrastructure investment, retail sales and floor space under construction also registered the slowest levels of growth since the pandemic hit China in early 2020. All of these have also raised question marks over China's long-term dry bulk demand prospects," Braemar ACM analysts pointed out.

Arguably the biggest concern is the enormous debts being uncovered among China's leading property developers.

Alarm bells rang this week, with the news that the world's most indebted real estate developer, Shenzhen-headquartered Evergrande, is struggling to make loan payments on its more than \$300bn in liabilities—a sum roughly equivalent to the public debt of Portugal.

While Evergrande has been making the most headlines, there is a host of other big Chinese property developers who have revealed massive debts this year. Combined, these companies – each in default or significant stress – represent over half a trillion dollars of total liabilities, leading some economists to warn that contagion in the property sector could cause a Chinese banking crisis.

"[I]nstability in the property markets presents a significant risk for the longer term," Braemar ACM warned yesterday.

Source: Splash247 210917

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## Ship repair cluster to be developed in Russia's Far East

Sam Chambers September 2, 2021

As shipments grow in volume across the Arctic from Russia to Asia, led by LNG, there are increased needs for a variety of marine services.



Sovcomflot

Yesterday, Sovcomflot, Novatek and Far Eastern Shipbuilding and Ship Repair Center, a subsidiary of Rosneft, entered into a trilateral agreement to cooperate on the development of a ship repair cluster in Russia's Far East. The repair facility will be developed at the Zvezda Shipbuilding Complex in Primorsky region, a yard that has taken on a series of ever higher tech newbuild orders in recent years.

Across Russia's northern coastline giant new infrastructure is coming into place as President Vladimir Putin is determined to make the Northern Sea Route a major maritime route, something that worries environmentalists.

In July, Dubai-based terminal operator DP World has announced it will work with Russian state nuclear energy firm Rosatom to develop pilot container shipping routes between Northwest Europe and East Asia through the Arctic.

"Transportation of goods along the Northern Sea Route should not be more expensive, but in the long term cheaper than along the Suez Canal", deputy prime minister Yury Trutnev told reporters in June.

Trutnev has asked the Ministry for the Development of the Far East, the Ministry of Transport and Rosatom to conduct an economic analysis together to work out how to make the alternate Asia-Europe waterway more competitive with the Suez.

Source: Splash247 210902

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## Sniffer Drone Hunts Ships Breaking Sulphur Limits in Strait of Gibraltar

Mike Schuler September 22, 2021

A sniffer drone has been on the prowl this summer in the busy Strait of Gibraltar in search of ships busting global sulphur emissions regulations.



File Photo: Igor Grochev/Shutterstock

The operation is being carried out by the Spanish General Directorate of Merchant Marine and marks the first time these emissions have been monitored by drone outside the special designated emission control areas in Northern Europe.

Using European Maritime Safety Agency's (EMSA) remotely piloted aircraft, the goal of the operation is to detect sulphur oxide emissions breaching limits set out in the International Convention on Maritime Pollution (MARPOL – Annex VI). The current limit for sulphur oxide in ship fuels is 0.50% by

mass.

Since mid July, the drone has been carrying out two daily flights with an average of ten inspections per day. Current figures show that of 294 vessels inspected, some 27 were found in possible breach of the limits of sulphur content in their fuel.

The measurements and records are automatically recorded, and breaches trigger an alert in the EMSA THETIS-EU database. While the measurements do not confirm non-compliance directly, the information does help port authorities target ships for inspection and proceed with the lab testing necessary for any eventual sanctions.

The drone, a CAMCOPTER® S100 to be specific, is under contract to EMSA from the consortium of Nordic Unmanned, Norce and UMS Skeldar. The vertical take-off aircraft has a flight endurance of over six hours and a range of more than 100 km. To help detect the gases generated by fuel combustion and expelled through ship funnels, the aircraft is equipped with gas sensors and cameras that cover both optical and infrared spectral ranges.

Flights take off from a base in Tarifa, Spain, and are planned to continue until the end of October.

Source: gCaptain 210923

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Image Credit: Nordic Unmanned via EMSA

## DP World eyes the Arctic as 'one of the last great trading routes in the world to be developed'

DP World will carry out a feasibility study with FESCO, Russia's largest intermodal transport operator, on developing a new container berth at Vladivostok with an eye on growing Arctic shipping volumes via the Northern Sea Route.



The study follows an earlier agreement between DP World and Rosatom to explore development on the Northern Sea Route.

Sultan Ahmed Bin Sulayem, group chairman and CEO of DP World, commented: "DP World supports President Vladimir Putin's vision for the Northern Sea Route, which is one of the last great trading routes in the world to be developed. Opening up an alternative route to the Suez Canal between east and west will increase the resilience of world trade. It has great potential to develop economic activity and prosperity in Russia's far north. It must be done sustainably to protect the pristine waters of the Arctic."

Under the plan cargo will be brought to Vladivostok by feeder ships and rail from countries in East Asia, and loaded onto Arctic-class containerships. Murmansk will be further developed as a transshipment hub in the west to connect cargo to ports in north-western Europe. DP World's feeder operations will serve both Vladivostok and Murmansk.

A record 33m tonnes of cargo was carried along the route in 2020. Putin has set a target of 80m tonnes by 2024. The project cuts some 4,000 nautical miles from voyages between East Asia and north-western Europe.

DP World's keenness to enter the Arctic trades comes at a time where many major global liners have vowed to avoid the area, citing environmental concerns.

Source: Splash247 210907

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## NYK takes stake in Australian nature-based carbon developer

Adis Ajdin September 22, 2021



Japanese shipping major Nippon Yusen Kaisha (NYK), in partnership with compatriot trading house Mitsubishi Corp, has invested in Australian Integrated Carbon (AIC), an Australian company that sells carbon credits obtained through primeval forest restoration projects.

The investment is part of NYK's move to reduce greenhouse gas (GHG) emissions from ships by utilising the carbon offset method, which involves participating in projects that reduce and absorb emissions elsewhere or by purchasing carbon credits.

"With this capital participation as a foothold, NYK will acquire knowledge of the carbon credit creation business and aim to expand its business in Australia and also expand the project to other regions such as the United States," the company said in a statement.

While the financial details of the transaction were not disclosed, earlier this year, AIC announced that Mitsubishi Corp had acquired a 40% stake.

AIC sells the credits that are obtained through CO<sub>2</sub>-sequestrations achieved in the regrowth of Australia's native forests through a process called human-induced regeneration. It employs new land-management practices to facilitate the regeneration of native woodlands that have been lost over the past few centuries due to cutting down and overgrazing.

The company aims to capture global CO<sub>2</sub> emissions by 100m tons through its portfolio in the future. The carbon credits can then be monetised through the Australian government's Carbon Farming Initiative (CFI).

Since 2015, the Australian government contributed over A\$4.5bn (\$3.25bn) to establish the country's carbon credit auction market, the size of which had reached 16m CO<sub>2</sub> tons by 2020 and is today one of the largest in the world.

Source: *Splash247 210922*

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## Japan And Australia To Build Green Hydrogen Link

Reuters September 15, 2021

by Yuka Obayashi (Reuters)



Hydrogen Tanker M/V Suiso Frontier. Photo via Kawasaki

understanding with two Australian energy infrastructure firms, Stanwell Corp and APT Management Services Pty Ltd, for the Central Queensland Hydrogen Project.

The project will produce hydrogen on a large scale using renewable energy, liquefy it at the Port of Gladstone in Queensland, Australia, and then export the liquefied hydrogen to Japan.

It aims to produce and supply low-cost hydrogen reliably over the long term, with goals of producing at least 100 tonnes of hydrogen a day around 2026, and 800 tonnes a day from 2031, they said in a statement.

The current production volume of liquefied hydrogen in Japan is up to 30 tonnes a day.

The use of the 235-hectares Aldoga site, a hydrogen production base secured by Stanwell in the Gladstone region, and a site of about 100 hectares in Fisherman's Landing to be acquired as a hydrogen liquefaction and loading base, will be considered for the project, they said.

The project will also consider supplying green hydrogen to meet local demand.

The feasibility study will focus on examinations of production technology for green hydrogen, construction of hydrogen liquefaction plants and liquefied hydrogen carriers, associated finance, and environmental assessments, and commercialization models.

(Reporting by Yuka Obayashi; Editing by Simon Cameron-Moore, Reuters)

Source: *gCaptain 210916*

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## SpaceX Crew Splashes Down In The Atlantic

Reuters September 19, 2021

By Steve Gorman (Reuters)- The quartet of newly minted citizen astronauts, comprising the SpaceX Inspiration4 mission, safely splashed down in the Atlantic off Florida's coast on Saturday, completing a three-day flight of the first all-civilian crew ever sent into Earth orbit.



The recovered Dragon capsule. Photo courtesy of SpaceX

The successful launch and return of the mission, the latest in a recent string of rocket-powered expeditions bankrolled by their billionaire passengers, marked another milestone in the fledgling industry of commercial astronautism, 60 years after the dawn of human spaceflight.

"Welcome to the second space age," Todd "Leif" Ericson, mission director for the Inspiration4 venture, told reporters on a conference call after the crew returned.

SpaceX, the private rocketry company founded by Tesla Inc electric automaker CEO Elon Musk, supplied the spacecraft, launched it, controlled its flight and handled the splashdown recovery operation.

The three-day mission ended as the SpaceX Crew Dragon capsule, dubbed Resilience, parachuted into calm seas around 7 p.m. EDT (2300 GMT), shortly

before sunset, following an automated re-entry descent, as shown during a live SpaceX webcast on its YouTube channel.

Within an hour the four smiling crew members were seen emerging one by one from the capsule's side hatch after the vehicle, visibly scorched on its exterior, was hoisted from the ocean to the deck of a SpaceX recovery vessel.

Each of the four crew members stood on the deck for a few moments in front of the capsule to wave and give thumbs-up before being escorted to a medical station on board for check-ups at sea. Afterward they were flown by helicopter back to Cape Canaveral for reunions with loved ones.

### SEARING REENTRY

The return from orbit followed a plunge through Earth's atmosphere generating frictional heat that sent temperatures surrounding the outside of the capsule soaring to 3,500 degrees Fahrenheit (1,900 degrees Celsius). The astronauts' flight suits, fitted to special ventilation systems, were designed to keep them cool if the cabin heated up.

Applause was heard from the SpaceX flight control centre in suburban Los Angeles as the first parachutes were seen deploying, slowing the capsule's descent to about 15 miles per hour (25 kph) before splashdown, with another round of cheers as the craft hit the water.

The astronauts were cheered again as they stepped onto the deck of the recovery ship.

First out was Hayley Arceneaux, 29, a physician assistant at St. Jude Children's Research Center in Tennessee, a childhood bone cancer survivor herself who became the youngest person ever reach Earth orbit on the Inspiration4 mission.

She was followed in rapid succession by geoscientist and former NASA astronaut candidate Sian Proctor, 51, aerospace data engineer and Air Force veteran Chris Sembroski, 42, and finally the crew's billionaire benefactor and "mission commander" Jared Isaacman, 38.

"That was a heck of a ride for us," Isaacman, chief executive of the e-commerce firm Shift4 Payments Inc, radioed from inside the capsule moments after splashdown. "We're just getting started."

He had paid an undisclosed sum – put by Time magazine at roughly \$200 million – to fellow billionaire Musk for all four seats aboard the Crew Dragon.

The Inspiration4 team blasted off on Wednesday from the Kennedy Space Center in Cape Canaveral atop one of SpaceX's two-stage reusable Falcon 9 rockets.

(c) Copyright Thomson Reuters 2021.

Source: gCaptain 210920

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## Shell To Launch Singapore's First Fully Electric Ferry

John Konrad September 22, 2021

Shell has ordered at least three electric ferries to transport its Singapore employees. Expected to set sail in the first half of 2023, the new 200-seater single-deck ferries will be used to transport passengers between mainland Singapore to Shell's Energy and Chemicals Park on the island of Bukom, replacing the conventional diesel-powered ferries currently used.



Shell Electric Ferry Image via Shell

"Shipping's future will involve different parts of the sector using different fuels, and electrification is a solution to decarbonise short voyages, including port operations," said Nick Potter, General Manager of Shell Shipping and Maritime, Asia Pacific & Middle East. "Switching to zero-emission, fully-electric ferries is part of Shell's ambition to help accelerate progress towards net-zero emissions in the shipping sector. I thank Penguin and the Maritime and Port Authority of Singapore in supporting this shared ambition."

“Shipping’s future will involve different parts of the sector using different fuels, and electrification is a solution to decarbonise short voyages, including port operations,” said Nick Potter, general manager of Shell Shipping and Maritime for Asia Pacific and the Middle East.

The approximately 5.5-kilometre-long ferry route off the Straits of Singapore is a busy connection which transports around 3,000 passengers a day, or an estimated 1.8 million passenger trips annually.

The fully electric ferries are powered by a lithium-ion battery system with a capacity of 1.2 MWh and run at speeds of over 20 knots with zero emissions and noise. When berthed at Shell Bukom, the ferries will be charged via a combination of fast charging during peak hours, and slow charging during off-peak hours and overnight.

Shell awarded the contract to design, build and operate the ferries to Singapore’s Penguin International.

Source: gCaptain 210923

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## Australia’s New Antarctic Research Icebreaker Sailing Home After Delivery

Mike Schuler September 7, 2021

Australia’s high-advanced new Antarctic icebreaker *‘Nuyina’* is underway on its 24,000km (13,000 nautical mile) maiden voyage home to Tasmania following delivery from Damen Vlissingen in the Netherlands.



RSV *Nuyina* during sea trials in the North Sea.  
Photo courtesy Serco

The 160-meter Antarctic Supply Research Vessel (ASRV) displaces 24,000 tonnes and is now one of the most advanced polar research vessels in the world. Operated by Serco for the Australian Antarctic Division, it will be capable of Antarctic stations and research campaigns, scientific research, icebreaking, transport, disaster relief, evacuation, and patrol duties.

The voyage to her homeport in Hobart, Tasmania is expected to take about seven weeks, with arrival scheduled in late October. The voyage will take the ship close to 60 degrees South, close to the edge of sea ice surrounding Antarctica.

*RSV Nuyina* was designed by the renowned naval architecture firm Knud E. Hansen, along with Damen’s engineering and detailed design teams in the Netherlands. Construction took place at Damen Shipyards Galati in Romania and involved around 120 Dutch companies across the vessel’s supply chain. A number of Australian companies also played important roles in the construction, such as

Taylor Bros of Tasmania, which supplied two, high powered, Antarctic landing barges.

The vessel has climate-controlled living quarters to support up to 32 crew, 116 special personnel and one doctor for up to 90 days. Its research facilities include 500 square meters of science laboratories and offices, wet well and ultra-pure seawater systems, and meteorological and air chemistry labs. *Nuyina*’s range is up to 16,000 nautical miles at 12 knots, and an ice-breaking capability of 1.65 meters at 3 knots.

Australian Antarctic Division Director, Kim Ellis, said the ‘delivery voyage’ was a good opportunity for the new Australian crew to test the ship’s capabilities on a long sea journey.

“This voyage is similar to a test run that you would do if you bought a car,” said Mr. Ellis. “It’s going to be an amazing opportunity to see this ship in action, in challenging weather, on a really extended voyage.”

*Nuyina*’s Master, Captain Gerry O’Doherty, is a veteran of previous Australian Antarctic voyages.

“I’m a bit nervous, but also very excited,” Captain O’Doherty said. “It’s a monumental occasion to take delivery of a brand new icebreaker that’s been custom designed and built for the Australian Antarctic Program. The people of Hobart will be blown away when they see the size of the ship. It’s just very imposing and very impressive.”

Upon its arrival in Hobart, *Nuyina* will undergo an intensive period of testing, commissioning and certification of various systems and capabilities, including ice trials in Antarctica.

“Over the next two years we will test and certify the different capabilities of the ship, such as the logistic capabilities, passenger carrying and fuel carrying capabilities, and the incredible array of scientific systems on board,” Ellis said. “In the ship’s 30-year lifetime, these two years of testing will set us up for a very long and secure future.”

“We are very proud that the Australian government chose to work with Damen Shipyards Group for such a complicated project,” said Roland Briene, Commercial Director at Damen Naval. “This was based not only on our long experience of building complex naval vessels, but also on our track record of working with Australian agencies and companies. Over the past twenty years we have delivered more than 75 ships to the country including three sophisticated support vessels for the Royal Australian Navy.”

Australia’s Minister for the Environment, the Honorable Sussan Ley MP, said *‘Nuyina’* will be the most advanced research platform in the Southern Ocean, representing a AUD \$1.9 billion commitment to the country’s Antarctic ambition, its pioneering Antarctic history, and also to Australia’s indigenous heritage. ‘*Nuyina*’ is a Tasmanian Aboriginal word for southern light.

The ship was officially handed over to the Australian Government during a ceremony on August 19, 2021, and constructed under the government’s Antarctic Strategy and 20 Year Action Plan.

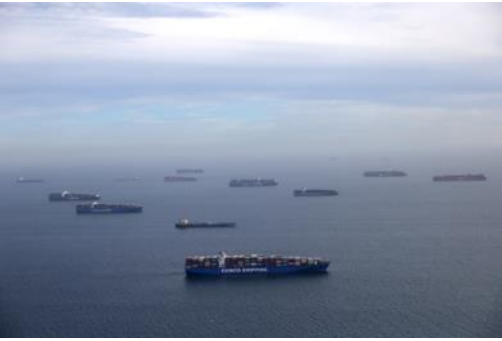
Source: gCaptain 210908

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## More Ships Coming Than Going as Ports of Los Angeles and Long Beach Continue to Set Records

Mike Schuler September 20, 2021

The Marine Exchange of Southern California (MXSOCAL) reported new records again today as ships carrying your Christmas gifts and other manufactured consumer goods continue to pour into the nation's top seaports at a rate that outpaces the number of departures.



Container ships and oil tankers wait outside the Port of Long Beach-Port of Los Angeles complex.  
REUTERS/Lucy Nicholson

On Monday, a total of 154 ships were in port at Los Angeles-Long Beach, marking a new record according to MXSOCAL. These include a record 97 containerships, of which 27 were at berth and the rest at anchor or in drift areas. A record 37 vessels were in drift areas, including 29 containerships, six tankers, and two bulk carriers.

MXSOCAL said Friday that 46 vessels were scheduled to arrive over the weekend, which is 9 more than "normal" level of 37 based on pre-COVID levels in 2018/19. Of the 46 arrivals, 19 are containerships, two more than "normal" level of 17.

The number of ships in port at Los Angeles-Long Beach has been steadily rising since the end of August as peak shipping season kicks into high-gear, with new records for ships in port being set almost daily over the last two weeks.

To handle the influx, the ports of Los Angeles and Long Beach last week announced extended night and weekend operations to alleviate congestion that has been building since last summer as the economy bounced back from COVID-19 shutdowns.

Los Angeles and Long Beach are neighbours at the San Pedro Bay Port Complex and rank as the top one and two seaports in the United States, respectively. Combined, the ports move approximately 40% of all containerized cargo entering the U.S. each year and about 30% of all containerized exports

Source: *gCaptain 210921*

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## Maersk And Buffett Invest In Waste-Fuel Startup

By Christian Wienberg (Bloomberg) September 8, 2021

A.P. Moller-Maersk has agreed to buy a minority stake in a green-fuel start-up backed by Warren Buffett, as the world's largest container line latches on to new technologies to de-carbonize its fleet.

Maersk, which didn't disclose the size of the deal, said its investment in California-based WasteFuel is part of a wider strategy to commit funds toward developing energy that doesn't pollute.

"We need green fuels from all over the world and we need them in huge quantities," Morten Bo Christiansen, the director in charge of cutting CO<sub>2</sub> emissions at the Copenhagen-based shipping firm, said in an interview. WasteFuel, which converts trash into green bio-methanol, sustainable aviation fuel, and renewable natural gas, "is at the forefront in its field and we hope that one day we can make an off-take agreement with them," he said.

Maersk consumes about 12 million tons of marine oil per year, roughly equal to all the oil produced in the world in a single day. The company needs to find green alternatives for all that fuel by 2050, when it plans to be carbon neutral.

"It's a chicken-and-egg problem," Christiansen said. "No one is making green methanol because there's no demand to consume it, but there are no vessels to consume it because there is no methanol to buy. We are trying to break the situation by helping create a market."

Christiansen said Maersk plans to buy more green fuel start-ups in the near future.

"We definitely expect to invest in more because so much needs to happen," he said. "We want to stimulate the market in all technologies and in all geographies."

Maersk expects the investment to help WasteFuel build bio-refineries, with the first fuel expected to be ready in 2024. Buffett's Berkshire Hathaway Inc. invests in WasteFuel via its private-plane unit, NetJets.

### Maersk's green fuel projects:

**Biodiesel:** Sourced from food waste such as used cooking oil. Maersk is already using it in some ships but the problem is it's becoming scarce. "The world isn't eating enough french fries," CEO Soren Skou said last month.

- **E-Methanol:** Sourced from green hydrogen and captured CO<sub>2</sub>. Maersk expects this fuel may be what turns shipping carbon neutral in the long term because it has scalability advantages. Last month Maersk signed its first contract for the fuel for a ship that will operate in 2023.

- **Bio-Methanol:** Sourced from sustainable biomass such as feedstock. This is the type that WasteFuel develops and it's cheaper than E-methanol, so Maersk sees this as a key short- and medium-term solution to cutting CO<sub>2</sub>. In the long-term, biomass shortages may pose limitations.

**Ammonia:** Maersk hasn't yet started experiments but sees it as a potential green marine fuel of the future. The advantage is that it's already being produced for other uses while the main disadvantage is that it's highly toxic.

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Source: 210909

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