Management Discussion and Analysis Yearly Ending 31 December 2021 (Annual Review 2021)

BDI Developments:

- Please watch this beautiful video by BIMCO & ITN on the role of ships and the 1.7 million seafarers who serve on them.
- The dry bulk market will have the same macro issues of supply/demand balance dominating its narrative. Please see the 'Differences in 2003-2009, 2010-2020, 2021, and the future' section for a comprehensive explanation.
- Average quarterly time charter rates for Capes (180K DWT) were $ 17,126 per day in Q1, $ 31,120 in Q2, $ 42,379 in Q3, and $ 42,645 in Q4. Capes started the year at $ 16,656 on 04 January, reached a peak of $ 86,953 on 07 October, a trough of $ 10,304 on 12 February, and then closed out the year at $ 19,176 on 24 December with the average for 2021 being $ 33,333. Average quarterly time charter rates for Panamaxes (82K DWT) were $ 18,493 in Q1, $ 26,052 in Q2, $ 33,629 in Q3, and $ 29,253 in Q4. Panamaxes started the year at $ 12,272, reached a peak of $ 38,952 on 25 October, a trough of $ 12,272 on 04 January, and then closed out the year at $ 23,158, with the average for 2021 being $ 26,898. Keep in mind that Capes spend 74% of their time on iron ore and 21% of their time on coal. When you have that much of concentration risk of the type of cargoes carried and with a single dominant customer, China, accounting for over 60% of all iron ore imports, you are setting yourself up for volatility.
- Average quarterly time charter rates for Supras (58K DWT) were $ 16,633 in Q1, $ 25,538 in Q2, $ 34,269 in Q3, and $ 30,472 in Q4. Supras started the year at $ 11,305, reached a peak of $ 39,860 on 21 October, a trough of $ 11,242 on 05 January, and then closed out the year at $ 25,188, with the average for 2021 being $ 26,768. Average quarterly time charter rates for Handies (38K DWT) were $ 16,610 in Q1, $ 22,507 in Q2, $ 32,194 in Q3, and $ 31,370 in Q4. Handies started the year at $ 12,040, reached a peak of $ 37,109 on 25 October, a trough of $ 11,695 on 12 January, and then closed out the year at $ 26,384, with the average for 2021 being $ 25,702. Against the larger Capes/Panamaxes, the smaller sizes with real diversification in terms of cargoes carried and ports visited have had a less spectacular though, more stable ride, on the roller coaster of the current dry bulk freight market!
- In our Annual Report for 2020, we wrote that the 'pundits proclaimed that the dry bulk market was condemned to perdition. But just as the pundits were murmuring

our last rites, China and its USD 667 billion stimulus plan announced in May (2020), brought the dry bulk market and demand roaring back into life!' The roar let out by the dry bulk freight market in 2021, with average rates earned by our fleet for the year at $ 20,338, was heard by all. The index ships had annual averages of $ 33,333 (Capes), $ 26,898 (Panamaxes), $ 26,768 (Supras), and $ 25,702 (Handy sizes).

- In 2020 we wrote that when '4 times as much DWT is delivered (2012 and 2016) as is ordered in any year then the BDI has increased in the subsequent year by 31% and 70% (2013 and 2017)'. In 2020 48.66 MDWT was delivered, while 13.86 MDWT was ordered (or 4 times), and the average BDI for 2021 at 2,943 points was 176% higher than the average BDI in 2020 at 1,066 points. In 2021 37.62 MDWT was delivered, while 37.65 MDWT was ordered, so the 4X rule should not apply. Let us see what happens to this rule as the pundits believe that we will have an equally strong year in 2022 as we had for 2021.
- In 2020 we wrote 'Covid-19 induced congestion delays, deviations for crew changes adding to ton-miles, and delays due to 14-day quarantine of ships have all tightened supply of ships' and that proved accurate in 2021. We expect more fleet inefficiencies for 2022 as we do not see Covid-19 fading away anytime soon. This factor will tighten net effective supply of ships, aided by the very low ordering activity in 2021, to easily counteract the increased supply generated from the faster speeds that ships are expected to sail at in stronger markets.
- Due to geopolitical tensions between China and Australia, coal normally shipped in larger gearless ships, increasingly moved on Supras/Ultras from other alternate suppliers, resulting in increased ton-mile demand for alternate coal supplies to China and from alternate customers for Aussie coal.
- Increased ton-mile growth in demand for grain, helped the smaller size ships, as did the moving out of cargoes from containers to Handies, to reach heights not seen even in the 2003/2009 boom.
- 2021 was, therefore, a story of a demand side recovery aided by supply tightness due to Covid-19 related inefficiencies despite increased speeds (2 knots) which failed to spoil the dry bulk party. This leads us to believe that demand supply is in perfect balance and freight markets will be characterized by extreme volatility and sharp rate movements in both directions as we have seen in all of 2021. We expect more of the same in 2022.
- In 2022, according to Clarksons, ton-mile demand is expected to grow by 2.2% while net increase in supply is expected to grow by 2%. With the inbuilt inefficiencies in the net supply of ships due to Covid-19 related disruptions, this gap between demand and supply in 2022 should widen in favor of the ship owners and we should see a similar year as we had in 2021.

- Shipments of specialized ores required for renewable energy and battery production will provide additional ton-mile demand for the smaller size ships.
- Coal fired power plants in Southeast Asia currently stand at 90 Giga Watts (GW) with capacity expected to grow by 80% to 162 GW by 2030. Coal imports in this region are therefore expected to almost double over the next 8 years, once again giving credence to the famous quip by Mark Twain, duly paraphrased, that the rumors of the demise of King Coal have, therefore, been greatly exaggerated.
- Australia exported a total of 882.5 MMT of iron ore, for a -0.4% drop y-o-y. Brazil's iron ore exports rose by +4.1% y-o-y to 347.9 MMT. As longer ton-mile replaced shorter ton-mile, it positively affected the Cape sector in 2021.
- Ton-mile demand growth, estimated by Clarksons at +4.2%, during 2021 was higher than net supply growth of +3.55%.
- India's rice exports rose by 45% from a year ago to 21.4 MMT in 2021.
- World steel production reached 1.9 BMT in 2021, up 4.5% from 2020.China's hog population is surging after eradication of African Swine Fever requiring larger imports of Soybeans and corn.
- American consumers have paid down debt dramatically during Covid-19 as compared to the GFC so could be on a spending spree once infection rates start to slow down. Consumer spending accounts for 70% of USA GDP!
- China imported 96.6 MMT of Soybean down 3.77% in 2021 compared to 2020.
- China imported 28.35 MMT of corn up 152% in 2021 compared to 2020.
- China imported 9.77 MMT of wheat up 16.6% in 2021 compared to 2020.
- China imported 1,126 MMT of iron ore down -3.82% in 2021 compared to 2020.
- China imported 324 MMT of coal up +6.4% in 2021 compared to 2020.
- China produced 1,031 MMT of Steel down -2.2% in 2021 compared to 2020.
- China exported 66.9 MMT of Steel up +24.6% in 2021 compared to 2020.
- China imported 14.3 MMT of Steel down -29.5% in 2021 compared to 2020.
- China's PMI index was 50.5 during 2021 due to various stimulus measures by the Chinese government.
- China's 2021 GDP growth was 8.1%. The Chinese government have certainly stimulated economic activity and increased demand for dry bulk commodities.
- In Jan 2022, IMF calculated world GDP grew by 5.9% in 2021. IMF revised 2022 world GDP growth to +4.4% and +3.8% for 2023. The latest January IMF forecast for 2022 GDP growth rates, revised from the last reported outlook in October 2021, was Australia +4.1%, Canada +4.1%, China +4.8%, France +3.5%, Germany +3.8%, India +9.0%, Indonesia +5.6%, Italy +3.8%, Japan +3.3%, Netherlands +3.3%, Saudi Arabia +4.8%, South Korea +3.0%, Spain +5.8%, Thailand +4.1%, United Kingdom +4.7% and United States +4.0%. There were no changes to forecast for 2022 GDP growth rates for Denmark +3.0%, Greece +4.6%, New Zealand +3.3%, Norway +4.1%, Sweden +3.4%, Switzerland +3.0%, Taiwan +3.3% and United Arab Emirates +3.0%.

- Containerships ordered in 2021, were the most since 1996, at 4.2m-teu, taking the total orderbook to 5.7m TEU. The orderbook to fleet ratio for Container ships at the start of 2022 is 23% compared to start of 2021 figure at just 11%.
- The current orderbook to fleet ratio, at the start of 2022, for the dry-bulk sector is 6.88% (for the geared sector 5.76% and for the gearless sector 7.5%) or the lowest annual reading for over 20 years!
- Recycling of dry-bulk vessels has gone down from 15.1 MDWT in 2020 to 5.47 MDWT (-64%) in 2021.
- PSL's exposure to the smaller geared segments means that it will be exposed to low growth in net supply of 2.54% in 2022, according to Clarksons.
- Ships 20 years or older, comprising about 68.17 MDWT or 7.26% of the existing fleet (36.47 MDWT of the geared fleet or 11.05% and 31.7 MDWT of the gearless fleet or 5.21%) at the end of 2021 would be ideal candidates for recycling.
- Net supply growth in 2021 of 3.55% was less than ton-mile demand growth of +4.2% according to Clarksons. The expectations for 2022 and 2023 is that ton-mile demand will exceed net supply growth in each of these two years.
- Another way to look at market prospects would be to compare the current forward orderbook of 66.66 MDWT (till end of 2024) as a percentage (6.88%) of the existing fleet at the end of 2021 and see that it was never as low in the last two or more decades!
- Growth in supply by end of 2022 and 2023 of 2.11% and 1.77% (939.15 MDWT to 958.94 MDWT by end 2022 and then to 975.89 MDWT by end 2023), conservatively assumes recycling of just 8 MDWT/year and slippage of just 5% per year in 2022 and 2023.
- If our reading of net supply growth pans out, then 2022 and 2023 should be good years considering the world GDP growth rates of 4.4% and 3.8% projected by the IMF.
- Healthier recycling is expected during 2023 due to the large number of 20+ year old ships in the world fleet, pressures from BWTS/IMO2020, Special Survey costs on these older ships, and additional regulatory pressure from adoption of EEXI & CII regulations on 1st January 2023, that will force some of them to early recycling.

Key Supply Side Developments:

We started 2021 with 906.99 MDWT and have increased to 939.15 MDWT (+3.55%) at the start of 2022. If we were to apply slippage of 5% (it was actually 2.11% for 2021) to the scheduled deliveries in 2022 and 2023 and assume scrapping reaches 8 MDWT (it was actually 5.47 MDWT during 2021) we would be left with a net fleet growth of 2.11% (939.15 MDWT to 958.94 MDWT of which 330.10 MDWT to 336.94 MDWT for the geared sector, 609.05 MDWT to 622 MDWT for the gearless sector) by end of 2022 and 1.77% by end of 2023 (958.94 MDWT to 975.89 MDWT of which 336.94 MDWT to 340.42 MDWT for the geared sector, 622 MDWT to 635.47 MDWT for the gearless sector.) Congestion, ballasting ships, slowing speeds in 2023 especially due to EEXI/CII regulations, and Covid-19 quarantine delays, will further assist in supply side tightening.

Key Economic Developments:

China

China has been hit economically by the following: Delta and the Omicron variant clashing with its Covid-zero policy; lockdowns; greening industrial policy; strict enforcement of emission targets; power cuts from shortages/high coal prices; blue skies policy till the end of the winter Olympics; and getting to grips with the real estate sectors out-of-control debt. Going after the Tech companies, laudable though the goals might have been, the implementation has left a lot to be desired creating short term unemployment and a large wipe out of the gains within the stock market, further pressuring the Chinese economy. China has a history of letting weaker companies collapse to ringfence and make the system safer. During the 1997 Asian Crisis the turmoil in the Guangdong housing market resulted in even big state-owned enterprises, that were active in real estate, defaulting. Therefore, when Chinese authorities decided to let the chips fall where they may, in the Evergrande unwinding, it should not have come as a surprise. China's boom in real estate and infrastructure development, as can be seen by the handling of Evergrande, is coming to an end, with investment moving into higher-end manufacturing and green projects. A downturn in the real estate sector may result in a slowing of demand for steel, cement, home appliances, furnishings, and other allied industries. In the first week of January the authorities ordered Evergrande to demolish 39 buildings in Hainan province that were built illegally. During January 2022, the Chinese real estate sector required $197 billion to cover maturing indebtedness with potentially defaulting investment-grade Shimao missing a loan payment deadline on 6 January and Yuzhou Group in the week that followed. If the real estate balloon is to deflate in an orderly manner, and not to explode, then this must be managed adroitly by the authorities. On the other hand, China needs affordable housing on a massive scale. Pushing the real estate sector via policy directives towards affordable housing, like the recently lowered bank reserve requirement ratios, the first interest rate cut in two years, and lowered mortgage lending benchmark interest rates, could reverse the current inherent ills and satisfy real demand for affordable housing. Chinese households are the biggest savers in the world and invest 70% of their savings in real estate. With the current ills of the real estate sector, such savings are now being diverted into the stock markets where daily traded volumes, since July 2021, have doubled to $155 billion compared to 2019/2020 and have held steady at that doubled level since then. The middle class continues to expand, making consumption a bigger story for China's future. However, the yield on Chinese junk-bonds remain sky high, indicating stress despite the PBOC reducing reserve requirement ratios for banks. The 20th National Party Congress takes place in November 2022, the Chinese government will want the economy to perform smoothly in the runup to this event as President Xi Jinping stands for an unprecedented 3rd term in office. Therefore, the prospects for the Chinese government to go into economic growth mode in 2022 is expected, soon after the winter Olympics, and would be a boon for the dry bulk markets.

Americas

USA Inflation: During 2021 USA saw more jobs created at higher rates, and lower unemployment. However, the whiplash from pandemic and lockdowns resulted in massive delays at ports with the number of ships waiting outside LA/LB, to discharge containers full of cargoes, reached unheard of records. The ultimate outcome, of booming demand with inventories disappearing into thin air, can only result in prices going up. Result: inflation in USA, according to the Economist, by the 3rd week of December at 6.8% was at a 39 year high; supply chains were under duress; higher interest rates could destabilize over-leveraged borrowers, and sharply correct sky-high asset prices. But please keep in mind that you are comparing inflation in 2021 versus 2020 when USA was going through a particularly challenging period with Covid-19 destroying all modes of travel resulting in very low gas prices. If you compare 2021 gas prices with 2020, they have certainly gone up, but that is because of a low base effect. But keep in mind that underinvestment in fossil fuels will lead to higher energy prices in the medium term till such time as renewables are able to take up a larger portion of energy production. Big pharma in USA is out to 'kill' you with their exorbitant pricing. Take the Covid-19 cure from Merck, costs $ 17 to make, but sold to the government at $ 742!! If you do not have inflation with this type of price gouging, then what were you expecting, and consider this: Merck was given a rather large subsidy to discover this cure by Uncle Sam! And finally, the tariff barriers put in place for all the imports that come from China is aiding and abetting the inflation story. If this was removed, it would certainly help lower inflation. And, yet stock markets in the USA are at all-time highs, making a mockery of conventional economic wisdom which has been stood on its proverbial head. To fight this persistent inflation the Fed and several other Central Banks, are terminating their QE programs, and are signaling higher interest rates as early as March 2022. If we look at oil, it has a big element of geopolitical risk embedded in it, raising its price. If USA and NATO would only start listening to Russia and understand their own reaction if Russia were to arm the Mexican border with nuclear missiles aimed at America, then this silly standoff at the Ukrainian border would be history. The second element of high CPI in the developed world is linked to secondhand car prices skyrocketing. This is a result of not enough new cars coming off the assembly line due to lack of chips due to supply chain disruptions. When combined with Covid-19 pushing those who can afford a car to buy one and shun public transport, secondhand car prices behaving in this irrational manner is easily understood. This can be resolved when there are more new cars rolling off the assembly line or when Covid-19 becomes endemic. And food prices going up are a direct result of climate change hurting crop yields with either too much or too little rainfall. Combined with fear from Covid-19 impacting countries ability to feed their populations, restocking of food grains has increased significantly and that has fed into higher prices. Once again, all these three factors will NOT be corrected by higher interest rates and, in fact, may make their prices, and inflation, escalate further. If higher interest rates do not do the trick to combat inflation, then financial markets will get hurt, and Central Banks will walk back QE tapering and rate hikes.

USA Infrastructure: In terms of infrastructure repairs and refurbishment, the Water Works Association (WWA) needed $ 60b to replace all lead pipes so that drinking water becomes safe for all children anywhere in the USA. But thanks to the divisions within the Democratic party and partisan politics, this was watered down to just $ 15b. Now the WWA must

decide which children will get safe water to drink and those that will continue to drink lead tainted poisonous water in the richest country in the world! If USA is serious about its infrastructure refurbishment, it will be a real shot in the arm for the dry bulk markets with demand for cement, steel, and log cargoes!

Indonesia

Indonesia's announcement on 1st January of the ban of coal exports for the month of January is a double-edged sword. On one edge we will have a shortage of cargoes in the immediate future from Indonesia to their major customers China, India, South Korea, and Japan, all relatively short sailing distances. On the other edge, that same coal demand will have to be replaced via longer ton-mile sailings from South Africa or Colombia or North American continent, increasing ton-mile demand for ships. Meetings that were scheduled for the 5 January to resolve this issue between the coal miners and the Indonesian authorities, failed to take place. In the meantime, about 100 fully/partially loaded ships were awaiting news anxiously if they could complete their planned voyages and another 40+ ships headed to load coal in Indonesia were in a similar quandary. However, latest news on 28th January indicates that 759 Indonesian miners have been allowed to continue coal exports. We expected that this ban would be overturned quickly as the Indonesian government could ill afford to lose a lot of tax dollars from this stoppage of coal exports! As we have repeatedly emphasized, any disruption to normal trade flows is positive for ton-mile demand.

Differences in 2003-2009, 2010-2020, 2021, and the future

Daily average Time Charter rate	2003 –2009	2010 –2020	2021
Capesize	67,101*	14,924***	33,333**
Panamax	32,793*	10,965***	27,898**
Supramax	28,013^^	10,765***	26,768**
Handysize	18,753^^	8,789***	25,702**
Demand Billion Ton-miles per year	+5.4%	+4.2%	+4.2%
Chinese Stimulus	China enters WTO 2001	USD 578 bn (2009)	$667 bn (mid year 2020) (ROW $20 tn+)
Orderbook/Fleet ratio per year	+36.02%	+26.23%	+7.03%
Annual average % of 20-year-old (start of each year)	+18.38%	+11.27%	+6.25%
Annual average net supply growth	+6.8%	+6.4%	+3.55%

The Future

- **Order book to fleet ratio at start of 2022 = 6.88% of existing fleet compared to 78.14% at start of 2009.**
- **5.47 MDWT recycled in 2021 versus 5.56 MDWT recycled in 2008.**
- **1.57 MDWT recycled in 2021 in the geared sector versus 2.28 MDWT recycled in the geared sector in 2008.**

*Note: *BCI 172K (4TC), BPI 74K (4TC), BSI 52K (6TC), BHSI 28K (6TC).*
***BCI 180K (5TC), BPI 82K (5TC), BSI 58K (10TC), BHSI 38K (7TC)*
*. ***Combine of above two classification*
^^1 Yr. TC 32K, 1 Yr. TC 52K used for years where there was no BHSI (2003 -2006) or no BSI (2003 -2005).

Source: Clarksons

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If you look at the time charter rates for the period 2003-2009 it was the highest for the Capes compared to the other two periods. For the Panamax and Supras, during 2003-2009, rates were almost 3X higher than in the 2010-2020 period but almost equal to rates in 2021. For the Handy size, 2021 was 3X higher than in 2010-2020 and almost 1.5X higher than in 2003-2009. However, demand growth rate in ton-miles in the three periods was not significantly different. What was different was, of course, the average orderbook to fleet ratio being highest in 2003-2009 dropping by 27% in 2010-2020 and by 80% in 2021! The other significant difference was that orderbook to fleet ratio was 2X the 20-year-old fleet in 2003-2009, 2.3X in 2010-2020 and just 1.1X in 2021 with the figure dropping at the start of 2022 to just 0.95X. This indicates weak supply growth in the future and indicates strong markets could continue for quite a few years.

Rates started out in 2021 at a low level and then accelerated to a peak on 7th October with the BDI hitting a 13 year high at 5,650 points, and since then, has fallen consistently. Why did rates accelerate in this fashion and then fall so quickly? Demand/supply for dry bulk at the start of 2021 was in perfect balance, and as ton-mile estimated demand by Clarksons grew at 4.2% compared to net fleet growth at 3.55%, rates skyrocketed! But when China decided to reign in their out-of-control real estate sector by letting Evergrande and its brethren collapse, imposed strict anti-pollution controls on coal fired power plants post

COP26, curtailed steel production, and insisted on blue skies during the winter Olympics, ton-mile demand, of necessity, took a hit and rates fell for the opposite reasons that they skyrocketed to a peak on 5th October. This was not helped by the central bankers of the ROW tapering QE and indicating 3 to 7 interest rate hikes starting in March of 2022 to combat inflation. With demand/supply being in balance, volatility will be the name of the game for the dry bulk freight markets!

The geared sector, Supras and Handy sizes, had lower volatility in rates due to the reasons expressed here but also because they had the slowest net growth rate in DWT in supply of ships in 2021 at 2.84% (Supras), 2.03% (Handy) versus 4.22% (Capes), and 3.82% (Panamax).

China still needs affordable housing in a big way but not the type of luxury houses being built by Evergrande and their compatriots in which everyone invests, makes paper profits, but no one lives in. By letting the big real estate developers suffer, China may have finally controlled this sector and got them to focus on affordable housing that the common man needs, would love to own, and live in, via policy means like the recently lowered reserve requirement ratio for banks, the first interest rate cut in two years, and lowered mortgage lending benchmark interest rates. A win-win solution for all, with the real estate developers likely pushing up steel requirements back to the levels before the Evergrande debacle. That would be a big win for the dry bulk sector.

The winter Olympics starts on 4th February and ends on the 20th of the month, with the Chinese government signaling, that the measures put in place that slowed down the economy starting in November 2021, will be reversed before the end of Q1 2022. When that happens, rates will start to climb, and we may, once again, visit the highs reached in 2021.

The other important event in China is the CCP meeting scheduled in November 2022 when President Xi Jinping would be up for an unprecedented 3rd term in office. For a leader wanting such a tenure, the economy moving forward at a high growth rate is a must, hence no stone will be left unturned to ensure a growth-oriented economy before the congress meets.

As can be seen, all the reasons for the slowdown in Q4 2021 and into Q1 2022 are due to decisions made by governments, be it in China (dry bulk is very dependent on China) or in the free world (Fed Reserve raising interest rates between 3 and 7 times in 2022). These decisions have curtailed demand, but when reversed, they will allow demand to flourish once again, and we could be back at the same pint we were at the start of 2021!

Financial Highlights (Thai Baht Terms) and Review of the Year:

In terms of operations, during the year under review, the total revenues of the Company were Baht 8,814.29 million (2020: Baht 3,751.06 million) and the Company reported a 13-year high net profit figure of Baht 4,474.93 million (2020: net loss of Baht 1,294.85 million, including a one-time loss of Baht 868.72 million in relation to the settlement agreement with Sainty Shipyard). The shareholders' equity of the Company is Baht 14,365.02 million (2020:

Baht 10,134.29 million) while the total assets of the Company increased during the year to Baht 23,530.50 million (2020: Baht 21,396.85 million). The increase in total assets is mainly due to an increase in cash and cash equivalents although the depreciation of the Thai Baht against the US Dollar was also a contributing factor. The Company operated 36 vessels in both 2020 and 2021.

In 2021, the dry-bulk freight markets continued their uptrend driven by further economic expansion in major economies and supported by benign vessel supply. The Company's vessels achieved an average time charter equivalent rate of USD 20,338 per day per vessel in 2021, 2.4X higher than the average time charter equivalent rate of USD 8,332 per day per vessel achieved in 2020. The net vessel operating income (net of voyage disbursements and bunker consumption) was 153% higher than the previous year. The average vessel running cost per day per vessel (average Opex per Day) increased from USD 4,705 in the previous year to USD 5,090 in 2021, mainly on account of higher crew expenses related to covid-19 restrictions and store/spares expenses. Absolute vessel running expenses (Opex) in Thai Baht terms, increased by about 14%. The average technical downtime was 7 days per vessel (average vessel age of 10.3 years in 2021), as 8 vessels underwent dry-docking and special survey during the year.

We conducted an "in-house" exercise again this year to determine total return to shareholders, which was calculated for the 28 years that we have been operating as a listed entity. Based on the closing share price of Baht 22.70 per share on 16 September 2021 (our first day of trading on the SET was 16 September 1993) and assuming you had subscribed at the IPO, at the end of 28 years you would have obtained a 16.82% IRR on your initial investment. This return does not assume any re-investment of the dividends into shares or any interest on the dividends received.

To keep things in perspective with regards to PSL, we would like to highlight the annual net profit/loss over the past few years.

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Av. BDI	6,390	2,617	2,758	1,549	920	1,206	1,105	719	673	1,145	1,353	1,353	1,066	2,943
Net Profit (loss) $m	148.1	88.1	35.5	23.6	4.5	17.5	(2.5)	(69.41)	(75.61)	(3.76)	14.1	(7.25)	(40.80)	136.96
Av. No. of Ships	44.12	32.79	21.39	21.91	30.44	38.93	41.66	45.46	40.29	36.02	36	36	36	36
Profit (loss) / Ship $m	3.36	2.69	1.66	1.08	0.15	0.45	(0.06)	(1.53)	(1.88)	(0.10)	0.39	(0.20)	(1.13)	3.80

During the abysmally low market period of 2015 and 2016, we managed to keep costs under tight control; raised about USD 65 million from our shareholders via a rights offering in early 2015; raised USD 100 million from a 5 year unsecured bond in January 2016; raised USD 55 million from a 3.5 year unsecured bond in December 2016; pre-paid a lot of our secured loans coming due in 2018 and 2019; and sold our older and inefficient ships to raise further cash (15 ships recycled in 2015 - 2016 and 2 older ships sold in 2016 - 2017 for further trading). In 2018, we fully prepaid one loan facility, thereby releasing 3

vessels from their mortgages. In 2019, we fully prepaid another loan facility and released 2 more vessels from their mortgages. To mitigate the deleterious impact of Covid-19 in 2020, we extended USD 124 million of indebtedness on our two outstanding bonds by 1.5 years, received USD 40.5 million through a settlement agreement with Sainty Shipyard, and received ~USD 26.55 million of gross proceeds through a 12-month advance charter-hire agreement with a customer. During the year 2021, we made an early redemption of our two outstanding bonds that were extended last year and raised USD 133.45 Million through the signing of three new loan facilities.

Our Fleet: At the end of 2021, our fleet comprised of 36 ships on the water (8 Ultramax, 9 Supramax and 19 Handysize) with an aggregate capacity of 1,585,805 DWT. This works out to an average of 44,050 DWT per ship, with an average age of about 10.3 years. In a highly capital-intensive business characterized by high leverage and unpredictable and volatile cycles, the timing of the purchase of ships is possibly the single most important decision that must be made.

The average Time Charter Equivalent (TCE) earning of our Fleet in 2021 was USD 20,338 per day per ship. Our average daily Operating Expense (Opex) for 2021 was higher than our target of USD 4,750 per day per ship reaching a figure of USD 5,090 per day per ship. This was mainly due to the extraordinary circumstances surrounding crew changes being hampered by nonavailability of flights; Covid-19 tests pre/post flights; 14-day quarantine impositions in expensive hotels; chartered flights costing an arm and a leg; deviating ships at tremendous cost, where practical, to complete crew changes together with the increase in store/ spares expenses.

Market Segmentation for 2021: During 2021 the Baltic Handy Size Index (BHSI) averaged 1,428 points, as derived from an average Time Charter (TC) rate of 25,702 per day. In comparison, our Handy size fleet earned USD 18,804 and underperformed the BHSI TC rate by 26.84%. During 2021 the Baltic Supramax Index (BSI) averaged 2,434 points, as derived from an average TC rate of USD 26,768 per day. In comparison, our Supra/Ultra fleet average earnings were USD 22,053 per day and underperformed the BSI TC rate by 17.61%. Our target has been to outperform both the indices.

Type of Vessel	2021 Avg Index Time Charter Rate in $ (A)	PSL average Time charter Rate in 2021 in $ (B)	PSL Ship difference from Index Ship in % (C)	PSL long Term Time Charter Ship Adj (D)	A*(C+D) = (E) in $	PSL True Time charter rate in $ (B+E)	PSL True performance VS Index ship in %
Handy	25,702	18,804	25%	9.67%	8,912	27,716	+7.8%
Supra	26,768	22,284*	10%	2.93%	3,462	25,746	-3.8%

** PSL average time charter rate in 2021 for Supramax ships includes Q4 earning of 16 ships because one ship was detained in Nigeria during Q4.*

The two reasons for our underperformance in 2021 are: Firstly, our ships are 'different' from the index ships. On an apples-to-apples comparison, our Handy ships are ranked 25% below and the Supras are 10% below the index ship TC rates. Secondly, the 7 handy ships, out of our fleet of 19, on long term charter were fixed at $16,809 per day and the one Supra, out of our fleet of 17, at $13,421 per day, both well below the average TC rate for the index ships (BHSI $25,702 and BSI $26,768). If we had applied these two adjustment factors to our result, our 'true' performance would have beaten the handy index by 7.8%, and underperformed the supra index by just 3.8%, as shown in the above table.

Long Term versus short term Charters: The long-term charters, over 1 year, are shown in the chart below. As can be seen, our forward four-year rolling book is currently at the 16% level with a visible revenue stream of USD 139 million.

Year	2022	2023	2024	2025
Total Available Days	13,140	13,140	13,176	13,140
Fixed T/C Days*	2,936	1,866	1,830	1,825
%age Fixed T/C Days	22%	14%	14%	14%
Av. T/C Rate/Day in**	18,385	15,560	15,316	15,316
Contract value in	53.98	29.03	28.03	27.95

**This comprises charters on 5 ships on fixed rate charter and 4 ships on variable rate charters*
***Average T/C Rate/Day for the variable rate charters is estimated based on rates prevailing in January 2022 for future earnings and actual earnings for past earnings.*

It is our intention to continue to charter out our ships on long term period contracts whenever practical and economically viable.

Update on the Chayanee Naree drug smuggling incident:

- On 5 August 2021, Precious Visions Pte. Ltd. which is a subsidiary of the Company and the owner of M.V. Chayanee Naree (the "Vessel") signed a voyage charter contract to load 46,000 metric tons of bulk sugar from Santos, Brazil for discharge in Lagos, Nigeria.
- On 18 September 2021, drugs were found inside one of the cargo holds of the Vessel while she was at the loading port in Santos, Brazil. The Brazilian authorities conducted a thorough investigation at the time after which they were satisfied that none of our crew members were involved in or assisted in the smuggling of drugs. The Brazilian authorities permitted the Vessel to sail out of Brazil on 19 September 2021 without pressing any charges on any crew members, and/or the ship, or the owning company.
- Upon arriving at the discharge berth in Lagos on 9 October 2021, the Nigerian authorities conducted an extensive search of the Vessel; however, no suspicious

objects were uncovered. The Vessel then commenced discharge of her cargo on the same day (9 October 2021).

- On 13 October 2021, drugs were found in a hold of the Vessel.
- On 29 October 2021, discharge was completed, and the National Drug Law Enforcement Agency (NDLEA) obtained an ex-parte order from a Nigerian court for an interim attachment of the Vessel and a remand of the 22 crew members for 14 days. On the same day, we received a claim of about USD 3.9 million from the cargo receivers. We are working with our lawyers to defend this claim.
- On 8 December 2021, the NDLEA filed a charge in the Federal High Court of Nigeria against the Vessel and 3 crew members (and 9 unrelated persons who are not working for the Company) for alleged unlawful transport of drugs. There are no charges against the other 19 crew members on board the Vessel.
- The insurers of the Company have issued two Letters of Undertaking ("LOU") to the NDLEA, as security for the release of the Vessel and the 19 crew members that have not been charged. Subsequently, on 13 January 2022, the Federal High Court of Nigeria ordered the release of the Vessel and the 19 crew members on board the Vessel.
- The three crew members who have been charged, are required to remain in Nigeria until legal proceedings are completed. They have been granted administrative bail against security provided by the Company and have been allowed to move from an NDLEA detention facility to a hotel.
- On 31 January 2022, we were informed that NDLEA filed an amended Charge to include another 7 crew members of the Vessel, making a total of 10 crew members who are being charged, and are required to remain in Nigeria until legal proceedings are completed. The Company is required to provide additional security for moving these 7 crew members from the Vessel to a hotel.
- The Company is in the process of obtaining departure clearances from the Nigerian Navy and other government agencies. The Company is also arranging to send certain crew replacements on board the Vessel. The Company expects that the Vessel should be able to sail out of Nigeria soon thereafter.
- The Company is working closely with its insurance company and legal counsel to ensure that the case is fully resolved as early as possible.

Annual Benchmarking:

Marine Money's 2020 annual benchmarking issue showed that among 22 globally listed peers in the dry-bulk sector, we had the second-highest total return to shareholders of 0.0% compared to a sector average of -25.4%. Our overall performance ranking came in at the middle of the pack among dry-bulk companies.

The Ever Given:

The Ever Given is the infamous ship that got stuck in the Suez Canal, disrupting the smooth flow of ships between East and West for a week in March 2021. It brought Shipping into the mainstream news headlines for more than a couple of weeks displacing everything, including the dreaded pandemic, into second place in our 24-hour news cycle. It also highlighted that the world is more inter-connected than what the mainstream media and our politicians can either grasp or would like us to understand. It confirmed, once and for all, that shipping is the glue of Globalization that binds us all together. It also brought into sharp relief that supply chain disruptions can be caused by things that we take for granted, like the smooth sailing of ships through narrow waterways like the Suez Canal, that can go horribly wrong, as happened in this case. And, finally, it showed the world just how important the maritime industry is in our consumer-driven world.

Supply Chain Disruptions:

The maritime industry is one of the most efficient links in the supply chain system, so when it gets disrupted, it creates inefficiencies that result in an immediate increase in ton-mile demand. Covid-19 has disrupted supply chain systems, as well as all aspects of life and business. Port congestion is seeing no letup as China's covid-zero policy combined with omicron, the most transmissible variant, is creating more, not less congestion in Chinese ports. Global ports are caught up in the ripple effects flowing from Chinese ports. Demand for goods is the pull creating congestion, while congested ports are the push driving congestion. Lack of investments in existing port facilities and a paucity of modern, automated ports has exacerbated the supply chain disruption flowing back and forth around the globe. Productivity has been the first victim of omicron, reducing the number of covid impacted port workers from their jobs. Pilots, the critical element that starts port productivity, are in short supply due to infections and quarantine. Ships that arrive from omicron hit countries, sit at quarantine anchorages, disrupting ports. Ship staff, the glue that binds globalization, face Covid tests, delays, isolation, and longer stays on board. Truckers hit by the pandemic, add to this lack of productivity, with cargoes stuck at ports. Assessing resilience, dependability, diversity, digitalization, productivity, risk mitigation, and inventory levels at all links in the supply chain has become critical for businesses and governments. Inventory levels at businesses and countries remain woefully inadequate to account for current disruptions, despite inventory restocking being at all-time highs. The new mantra is 'just-in-case' versus 'just-in-time' from the past.

Climate change and GHG emissions:

Heat waves, fires, drought, out of control hurricanes and tornadoes, floods, and massive 100 feet waves will be the norm in 2022 and beyond. Climate change is here, not in another decade, or two, or four, but right now. Bloomberg states that '21 of the hottest 22 years since 1880' have occurred since the start of 2000, and the ocean subsurface in 2021 broke the annual heat record set in 2020. This will make storms, hurricanes, tornadoes, and ocean waves, ever more powerful. Climate change will lead to weather related disruptions with heightened congestion at ports, slower speeds at sea due to stronger/bigger waves, and loss of containers from ships, a regular occurrence. Oceans absorb almost a 3rd of all CO2 emitted by mankind. This has made oceans extremely acidic, will result in the death of coral reefs, and a corresponding reduction in the fish population. GHG emissions

will continue to rise as the climate change impact will result in greater demand for electricity with fossil fuel burning, CO2 belching power plants, increasing the amount of CO2 that we put into the atmosphere. This will start a vicious cycle with greater power demand from factories, warehouses, transport/delivery organizations, to cool homes, workplaces, theatres, stadiums etcetera, demanding more power from fossil fuel burning power plants releasing even more CO2 into the atmosphere creating ever more climate change, heat, fires, droughts, floods, storms….and the cycle goes on-and-on. Food production will be hit hard by climate change, and we may find ourselves facing food insecurity no matter how wealthy the nation we live in. This will focus governments on building up buffer stocks of food grains to avoid sharp price increases in food staples with the resultant inflation that it would bring. Larger grain movements, coupled with weather related inefficiencies in reducing net ship-supply, will be ton-mile demand positive for the dry bulk freight market.

The World Inequality Lab published the World Inequality Report 2022 (in December 2021). Three things stand out in this report. First, from 1995 to 2021, the top 1% wealthiest people took 38% of the growth in global wealth, while the bottom 50% got just 2%. The richest 10% accounted for 52% of global income, while the bottom 50% earned just 8.5%. Second, in 1820, the wealth inequality between nations was just 11% while the maximum inequality was within the people of each country. By 1980, due to colonization and the industrial revolution, the Developed world had the highest ever concentration of global wealth at 57%. Global wealth distribution between countries narrowed by 2020, following the economic ascent of China and India, but wealth inequality within each country climbed to 68% as Developing countries allowed their wealth to be monopolized by their rich, even as the wealth gap, between Developed and Developing world, narrowed. And, finally, in the period 1850 to 2020, 49% of CO2 emissions was between North America (27%) and Europe (22%.) A recent IMF study stated “the richest countries represent 16% of the world population but about 40% of CO2 emissions. The poorest countries, about 60% of the world’s population, account for less than 15% of emissions.” Ergo, increasing wealth disparity and increased CO2 emissions go hand in hand!

Regulatory Developments:

The Economist came out with a beautiful film entitled “How chemical pollution is suffocating the seas” and is a must-watch 18 minutes that will change the way you view the business-as-usual world that we live in. Please click here to see this film.

Decarbonization is the new buzz word and made its first appearance in TradeWinds in December 2015. It appeared in just 27 articles from then until April 2018. And has since appeared in TradeWinds more than 1,300 times! So, before you get lost in the details, let me remind you that Shipping carries around 90% of all cargoes in the world and is responsible for less than 2.5% of greenhouse-gas (GHG) emissions. The Economist stated in their issue dated 29th September 2021 that ‘according to the UN’s Food and Agriculture Organization, raising animals for meat, eggs and milk accounts for 14.5% of global GHG emissions.’ And the Economist of 5th October asks a very valid question, ‘if beef emits 31 times more CO_2 per calorie of food than tofu does, and coal emits 24 times more CO_2 per unit of energy output than hydropower, then why are we phasing out coal

but not beef?' The EU has included shipping in its Emissions Trading Scheme (ETS) while giving a free pass to the livestock industry and has proposed exempting Private Jets from their planned jet fuel tax even though private jets are the most polluting of all aircraft on a passenger-mile basis. And here we are, grappling with Zero Emission Vessels (ZEVs), while no one is talking about curtailing the emissions from the livestock business or penalizing private jets? Personally, I have become a vegetarian since the start of 2020, and that represents my effort to save the planet from global warming by not supporting the livestock industry. Our office executive lunch, served every weekday, has become fully vegetarian since the start of 2020, representing our collective effort at reducing GHG emissions during our mid-day meal.

The IMO adopted the Energy Efficiency Existing Ship Index (EEXI) as amendments to Marpol Annex VI that will enter into force on 1 January 2023. EEXI describes the CO2 emissions per cargo ton-mile, by determining the standardized CO2 emissions related to installed engine power, transport capacity and ship speed. Statistics suggest a bulker (30k to 60k) built pre-EEDI (Energy Efficiency Design Index) i.e., ships built pre-2013 may require a 30% to 40% power reduction (2.5K – 3.5K speed reduction from today's speeds) but ships built post-EEDI may require just 4% power reduction (0.2K speed reduction) to comply with EEXI. Implementation of engine power limitation and energy-saving device technologies will be used by owners to choose the solution best suited for their ships and will be very positive for increasing rates in the dry bulk markets. We will be getting all our ships rated for EEXI and Carbon Intensity Indicator so that we will be in full compliance prior to the new laws coming into force.

The IMO has agreed to debate and arrive at a solution on market-based mechanisms (MBMs) to reduce the CO2 footprint from shipping. This could be via a carbon levy on each tonne of fuel. The Solomon Islands and Marshall Islands have suggested a $100-per-tonne levy of CO2 released, which is a $300-per-tonne levy on fuel oil. The idea of any MBMs is to make current bunker fuel as expensive as, say, ammonia. So, the price of fuel oil must reach $1,500 per tonne, the current price is about $600 per tonne, to match the cost of future fuels for zero-emission vessels. It is hoped that pressure from the EU's ETS will help prod and push the IMO into taking a strong stand on MBMs via a carbon-based levy. The funds collected from any IMO MBMs via a fuel-based levy could be used in many ways to make a level playing field for greener fuels, from subsidies to research and development. These include:

- To subsidize the difference between a ton of fuel oil and two tons of ammonia (that is when their energy output equivalence is reached) for the first movers in ZEVs.
- To make the cost of fuel for transporting goods on IC engine ships identical to ZEVs for the end-user.
- To fund research and development to produce ZEVs, their designs, their regulations, and their infrastructure.
- To develop green well-to-wake ZEV fuels and their land-based support infrastructure.
- To allow the IMO to put a deadline for prohibiting the physical delivery of IC engine ships from 2030, or some earlier agreed date.

- To allow the IMO to mandate recycling of IC engine ships that are older than 20 years of age from 2030, or some earlier agreed date.
- To make shipyards produce ZEVs at a scale that newbuild ZEVs would cost roughly the same as an IC engine ship.
- To make it a level playing field for charterers to select ships purely based on GHG emissions and no other economic factor.

And if you thought that such MBM price increases, eventually borne by the end consumer, would cost a small fortune, you could be forgiven. According to Boston Consulting Group's calculations, it would add just $600 to the price of a car, $3 to the price of a smartphone or $1 to a pair of jeans. That is a small price to pay for preventing climate catastrophe.

Covid-19:

Covid-19 has become synonymous with delays; supply chain disruptions; lockdowns; higher inflation due to the massive government-led stimuli creating demand that far outstrips supply. Economic recovery from the pandemic has been very uneven for 3 reasons. Countries were hit by Covid-19 and went into lockdowns, hurting their economies, at different times; uneven rates of vaccinations in rich and poor countries; and high levels of stimuli in rich countries and lack of it in poor countries, has made the recovery patchy. In 2022 we will get to grips with the labor market; the impact of work-from-home; fear of working in office with infected people; prioritizing a better work-life balance; and demand for better wages and working conditions. For the Maritime Industry, the impact of Omicron will be to make crew change even more difficult and that is a challenge that we will have to face head-on in 2022.

Omicron has been designated a virus of concern due to the large number of mutations to its spike protein, which makes it 70 times more transmissible than the Delta variant, according to various news articles. The good news on this variant is that though caseloads are spiking, hospitalizations and death rates have not yet risen, and the bad news is that it is so infectious that the sheer number of cases can overload the health care system of any country. In response, several countries have halved isolation periods and so far, it appears that this decision has been justified. If the UK Prime Minister, Harold Macmillan was alive, and was asked today what the greatest challenge was for a statesman, he would have probably replied: 'Jabs in arms, dear boy, jabs in arms.' The problem is that we have too many craven politicians but not a single statesman who can make such a simple mantra of 'jabs in arms' a worldwide reality. The good news from South Africa's announcement on 1st January 2022 was that it was past the peak of the Omicron wave. The bad news was American Omicron cases crashing through 1.35 million cases on 10th January; Europe reporting that at current infection rates more than 50% of their population could be infected by Omicron within weeks. All this could portend that we are at the beginning-of-the-end of the pandemic, perhaps?

Omicron, and other yet to be discovered variants, will make 'only work from office' impractical. Only 'working from home' will suffer from the lack of networking, human contact, and sparks created when working together, with creativity being compromised. As a result, the future of work will be some sort of a hybrid between only working from

home or only from office. Each business and industry will develop norms that work best for them, while keeping diversity and equality in mind, and business leaders will be guided by such industry wide best practices.

For those who have lost loved ones or those that have lost their livelihoods due to Covid-19, 2021 has been a devastating year, with higher prices and inflation eating into their meagre savings. Climate change has ripped apart communities and created a new wave of climate-refugees. While others have prospered via spiking stock prices, elevated profits, higher home prices, increased asset values, and skyrocketing commodity prices with Elon Musk, the richest man on earth, named as Times 'Man of the Year 2021.' Shame on Time magazine for genuflecting to wealth during a pandemic that has crippled the poor.

The Industry Outlook:

A truncated supply of new ships is expected for the next few years. The fleet stood at 906.99 MDWT at the start of 2021 and by the end of the year had grown to 939.15 MDWT. During the year, 5.47 MDWT was recycled, and 37.62 MDWT was delivered, thus making net fleet growth of 3.55%. The existing orderbook stood at 64.66 MDWT (deliveries up to end of 2024), or 6.88% of the world fleet at the start of 2022. Specifically, in the geared segment, net fleet growth was 2.56% in 2021 in the Handy/Supra/Ultra segment and the existing orderbook for the geared fleet stood at 19 MDWT (deliveries up to end of 2024), or 5.76% of the geared world fleet at the start of 2022. This will help reduce the pressure from the Supply side of the equation.

While the supply side looks appealing on the surface, it does not factor in upcoming regulatory impacts or the current age profile of the fleet. At the start of 2022, 7.26% (68.17 MDWT) of the world dry bulk fleet (11.05% or 36.47 MDWT of the geared dry bulk fleet) was over the age of 20, and 11.9% (111.58 MDWT) of the world dry bulk fleet (15.8% or 52.32 MDWT of the geared dry bulk fleet) will be over 20 by the end of 2024 if none of these ships have been recycled by then. The first conclusion to draw from this is that the current orderbook is, at best, replacement capacity and will not increase capacity. Secondly, vessels over the age of 20 were designed, built, and delivered at a time when the average price of oil was $19.7/barrel with a low of $10/barrel during the peak of the Asian Crisis during 1998/2000, hence were designed for power and not for fuel economy. Ships that are 20 years old or older will find it difficult to compete against younger more fuel-efficient vessels. It is our opinion that going into 2022, recycling should pick up, and new orders should slow as new regulations like EEXI, and CII will come into force on 1st January 2023. Ships 20 years or older, comprising 68.17 MDWT or 7.26% of the existing fleet (36.47 MDWT of geared ships or 11.05% and 31.7 MDWT of the gearless fleet or 5.21%) at the start of 2022 would be ideal candidates for recycling as they would have to invest in ballast water treatment systems, IMO 2020, expensive special surveys, and face regulatory-led recycling in 2023 due to EEXI, and CII.

The Cape sector (90,000+ DWT: 2,236 ships of 407.12 MDWT at the start of 2022): 143 ships of 27.62 MDWT or 6.78% of the existing DWT are scheduled for delivery up to end of 2024. In this sector, 145 ships of 23.72 MDWT or 5.8% will be over 20 years of age by end of 2024 and some or all of them are likely to be recycled during 2022 to 2024.

The Panamax sector (70,000 – 90,000 DWT: 2,540 ships of 201.93 MDWT at the start of 2022): 218 ships of 18.04 MDWT or 8.93% of the existing DWT are scheduled for delivery up to end of 2024. In this sector, 474 ships of 35.54 MDWT or 17.60% will be over 20 years of age by end of 2024 and some or all of them are likely to be recycled during 2022 to 2024.

The Supra/Ultramax sector (40,000 – 70,000 DWT: 3,879 ships of 218.25 MDWT at the start of 2022): 263 ships of 15.25 MDWT or 6.99% of the existing DWT are scheduled for delivery up to end of 2024. In this sector, 640 ships of 32.12 MDWT or 14.72% will be over 20 years of age by end of 2024 and some or all of them are likely to be recycled during 2022 to 2024.

The Handysize sector (10 – 40,000 DWT: 4,129 ships of 111.86 MDWT at the start of 2022): 137 ships of 3.75 MDWT or 3.35% of the existing DWT are scheduled for delivery up to end of 2024. In this sector, 813 ships of 20.20 MDWT or 18.06% will be over 20 years of age by end of 2024 and some or all of them are likely to be recycled during 2022 to 2024.

When reading the above numbers please keep in mind that Slippage was 2.11% and recycling accounted for 5.47 MDWT in 2021. Slippage has averaged 14.99% over the last 5 years (2017 to 2021) and recycling accounted for 9.842 MDWT annually over the last 5 years (2017 to 2021). Both slippage and recycling fluctuate inversely with the BDI and availability of finance.

On a net basis, the global fleet increased by 3.55% in 2021. According to Clarksons, the fleet is forecast to grow at 2.0% while ton-mile demand (for dry bulk seaborne trade) will grow at 2.2% in 2022. This gap between expected demand growth and expected supply growth in 2022 should make for an increasingly strong but volatile market. As supply and demand came into perfect balance at the start of 2021, the market would be characterized by extreme volatility as any small change in demand or small change in supply would have a disproportionate impact on the BDI.

Recycling of ships: The freight market is the prime mover that drives ships to the recycling yards. The lower the freight market the greater the number of ships ending up at the recycling yards. Deliveries in 2021 at 37.62 MDWT were muted when compared to average annual deliveries for the decade of 50.43 MDWT per year (2012 to 2021) of new capacity delivered.

Regulatory impacts should see many more ships heading for the recycling yard in 2023 and beyond. IMO 2020 has resulted in more expensive but ‘cleaner’ LSFO being burnt by ships from 1st January 2020. As a result, the level of pollutants reaching the air that we breathe, as well as the ‘acid’ rain that results from such emissions, has been reduced.

International Maritime Organization (IMO) conventions:

International Maritime Organization (IMO) conventions are constantly updated to match demands for enhanced steps to protect the environment. 'IMO 2020' as the regulation on the global cap on sulphur levels is referred to colloquially, entered into force on 1 January 2020. The regulation mandated that sulphur levels in fuel oils consumed by ships outside emission control areas not to exceed 0.5% by mass (referred to as Very Low Sulphur Fuel Oil or VLSFO). While there were concerns initially in the industry regarding world-wide availability of VLSFO, the oil industry stood up to the challenge and ensured that the product was made available all over the world. There remain some concerns regarding the quality of VLSFO being supplied at several ports and suitability for use on ship's equipment that were designed primarily for use with fuels with higher sulphur levels which contributed towards lubricity as well as optimum viscosity.

The alternative to VLSFO was installing Exhaust Gas Cleaning Systems - also referred to as exhaust gas scrubbers or simply scrubbers – in which case vessels could continue using high sulphur fuel oils (HSFO; Sulphur content of up to 3.5%) and the scrubbers would then be expected to wash down and 'scrub' the exhaust gases to reduce the sulphur content to below 0.5% levels. The inherent drawback with such a system was that the wash water which would have to be discharged at sea would contain all the additional sulphur in the form of sulphuric and sulphurous acids; thereby polluting the seas instead! Several countries the world over have already banned discharging of wash water in their territorial waters; thereby requiring owners going with the scrubber option to carry on board adequate reserves of VLSFO in addition to HSFO. In addition to the high costs involved in purchasing scrubber units, a downtime of about two to three months for installing the equipment, there remain technical challenges in designing fail-safe scrubbing systems; a fact that became evident when several scrubber units installed on vessels failed in service; some within a few months after installation requiring expensive repairs, towage to nearest port on account of the main engine breaking down because of scrubber failure etc.

Ships need to take ballast - basically sea water - in dedicated ballast tanks on board, so that the ship remains stable when there is no cargo on board and so that the ship's propeller is kept well submerged in the water. Administrations of most countries in the world insist on stringent ballast water management practices on board ships so that potentially invasive aquatic life forms from one part of the world do not get deposited in their waters, thereby affecting the local eco-system. Hence the need for regulations that require ships to treat the ballast water taken in the ballast tanks by means of approved Ballast Water Treatment Systems (BWTS) which need to be installed on board. The IMO Ballast Water Management Convention entered into force on 8 September 2017, 12 months after ratification by 30 States, representing 35% of world merchant shipping tonnage. All vessels are required to carry a Ballast Water Management certificate. New vessels built (date of keel laying) after the above date are required to be fitted with IMO approved ballast treatment plants and existing vessels are required to retrofit such plants in a phased manner along with surveys associated with first renewal of IOPP (International Oil Pollution Prevention) certificate after 8 September 2019. There are a few IMO approved treatment plants presently in the market have not yet met the more stringent USCG approval requirements. There is also a separate schedule provided by the USCG for

installation of BWTS defined mainly by the number of USCG approved BWTS that were available in the market. USCG as well as IMO approved BWTS have already been fitted on 28 vessels in PSL's fleet. Of the remaining 8 vessels, which currently are required to exchange the ballast water taken at ports with ballast taken at over 200 nautical miles from any coast so that they may be permitted to discharge the ballast water at the next port, 7 vessels will be fitted with such approved BWTS in 2022 and one in early 2023.

As a result of initiatives from the International Labor Organization (ILO), working and living conditions of crewmembers on board are receiving increased importance. To formalize this and ensure uniform compliance, ILO has adopted the Maritime Labour Convention 2006 (MLC 2006). A Maritime Labour Certificate (MLC) and a Declaration of Maritime Labour Compliance (DMLC) is required on board to ensure compliance with the Convention for all ships above 500 tons in international trade. These certificates are to be obtained from the Flag state and their recognized organizations after verification and surveys on board each vessel. The MLC 2006 has attained the required number of member state ratifications in August 2012. All ships were required to meet the compliance requirement and have valid certificate for compliance with MLC 2006 before 20 August 2013. In April 2014, the ILO agreed to make several amendments to the MLC to implement the principles agreed back in 2009 by the joint IMO/ILO financial security working group. These amendments have entered into force on 18 January 2017. Thailand ratified MLC 2006 on 7 June 2016 and as a result MLC 2006 entered into force for Thai flagged vessels from 7 June 2017. The Statement of Compliance (SOC) with MLC 2006 which was being issued till date on our Thai flagged vessels has now been replaced with a Marine Labour Certificate. This is a welcome development and facilitates smooth trading of Thai flagged vessels worldwide, as it eliminates the risk of the SOC not being acceptable in some countries. Singapore had ratified MLC 2006 earlier. Hence the Company's vessels that are registered in Singapore have already been compliant all along. Ships that are subject to MLC 2006 are now required to display certificates issued by an insurer or other financial security provider confirming that insurance or other financial security is in place for the cost and expense of crew repatriation, as well as up to four months contractually entitled arrears of wages and entitlements in case a vessel is abandoned (Regulation 2.5). A further certificate will be required for liabilities for contractual claims arising from seafarer personal injury, disability, or death (Regulation 4.2). P+I Clubs of the respective vessels have provided such certificates for all ships in our fleet.

Focus on the environment is becoming even more important. It is no longer just fashionable to say we are "Going Green"; organizations world-over are being pushed by their stakeholders to become more environment-conscious, guided by compliance with the newer regulations. IMO, along with the ICS have put in place regulations which will apply to shipping globally. One of these is the mandatory reporting of CO2 emissions (measured in grammes/tonne-mile) on voyages, like the European Union MRV rules (Monitoring, Reporting, Verification of CO2 emissions), which has been implemented from January 2018 for all vessels operating in the EU region. IMO also requires all vessels to implement a fuel consumption data collection system (DCS) from January 2019. This requires vessels to report annual fuel oil consumption worldwide to IMO through the flag administration.

The regulation also requires the existing SEEMP plans to be updated and certified by the flag authority or a RO.

In April 2018, the IMO adopted a resolution on the strategy of a 50% reduction of total GHG emissions by 2050, as compared to the levels of the year 2008. These regulations will in turn phase out older, less efficient vessels. We have taken the initiative to prepare in advance for these regulations by monitoring and collecting CO2 emissions data on all vessels in the fleet. The company has arranged for all vessels to report such fuel consumption data to a RO approved by the flag, from 1st January 2019 onwards. The vessels are always operated with clean hulls by using efficient anti fouling paints and by hull cleaning, when necessary, as this increases efficiency thereby reducing carbon emission. The new acquisitions for the fleet have been selected primarily on their 'Eco' operational characteristics. 'Eco' operation will be possible with larger cargo hauls on vessels with very fuel-efficient engines, and through optimized use of waste heat from the engines (even the exhaust gases from the auxiliary engines are diverted through the boiler to use the available heat). These new Ultramax vessels with larger cargo carrying capacity operate with substantially lower CO2 emissions.

The 'Getting to Zero Coalition':

The Getting to Zero Coalition is a partnership between the Global Maritime Forum, the Friends of Ocean Action, and the World Economic Forum. It builds on the Call to Action in Support of Decarbonization launched in October 2018 and signed by more than 70 leaders from across the maritime industry, financial institutions, and other stakeholders, as well as on the Poseidon Principles – a global framework for climate-aligned ship financing – launched on 18 June 2019. PSL is a member of the Getting to Zero Coalition and will help design the GHG reduced future of the maritime transportation industry. A key starting point to reach this goal is to have commercially viable zero-emission vessels (ZEVs) operating along deep-sea trade routes by 2030. This will require both developing vessels as well as the future fuel supply chain, which can only be done through close collaboration and deliberate collective action between the maritime industry, the energy sector, the financial sector, Governments and IGOs. Research presented at the working session shows that the short term-ambition – adopted by members states of the IMO in April 2018 – of reducing international shipping's emissions per transport work by at least 40% by 2030, will not be enough to prevent shipping's adverse impact on the climate. This revealed the need to develop policies, demand drivers and funding mechanisms to motivate and de-risk first-mover investments; adopt policy instruments and market-based measures to close the competitiveness gap between conventional and zero-emission fuels and associated infrastructure; explore and narrow down technologies, fuel options and transition pathways; identify and grasp global opportunities for green energy projects that can propel maritime shipping's decarbonization and contribute to sustainable and inclusive growth in developing economies – while making sure no countries are left behind. Coalition members are now prepared to move ahead of regulators to develop the technologies and business models needed to meet decarbonization targets. The maritime industry's first movers stand steadfast to take the steps needed to develop, test, and scale the technologies required to decarbonize international shipping. The sector focuses on how to eliminate emissions and is leaning its efforts into the advance of fuel and technology

offerings that avoid emissions altogether. New marine fuels, derived from abundant untapped renewable resources, could bring substantial development gains, but will require significant changes to ships, ports, and operations.

Global Warming and Green House Gases (GHG):

Shipping may be the cleanest, environmentally friendly, and most fuel-efficient mode of transportation, but a major source of carbon dioxide and GHGs. When it comes to decarbonization, the maritime sector must play an even larger role in addressing climate change as the sector is a key stakeholder when it comes to both the causes and solutions related to the issue.

Awareness of the detrimental effects of Global Warming, GHGs, and Sulphur dioxide pollution has become widespread and focus on the environment has come under the spotlight. Organizations world-over have become more conscious about the environment than ever before, and shipping is no exception.

As per the 'Fourth IMO GHG study' that was published in early 2021, as of 2018, total CO2 emitted by international shipping was to the tune of 2.5% of the global CO2 emissions. Besides CO2, ships also release a handful of other global warming pollutants like Black Carbon (BC) and Nitrous Oxide (N2O), which exacerbate global climate change and ocean acidification. These pollutants contribute to global climate change either directly, by acting as agents that trap heat in the atmosphere, or indirectly by aiding in the creation of additional greenhouse gases. To put that in perspective though, livestock, on the other hand, is responsible for 9.9% of GHG according to the United States Environmental Protection Agency.

On a positive note, through the years 2008 to 2018, the carbon intensity of international shipping improved roughly by 30%, and the total GHG emissions from shipping dropped by 7%, despite a 40% growth in maritime trade. However, during the years 2012 to 2018, the total GHG emissions from maritime shipping rose from 977 MMT to 1,076 MMT, while short-lived climate pollutants like black carbon and methane emissions rose by 12% and 150% respectively.

The year 2020, had seen an unprecedented decline in global emissions by 7%, which was a result of temporary behavioral changes in response to the massive economic disruption caused by the coronavirus pandemic and measures taken to contain it. Carbon intensity in shipping also improved by 11% in the year 2020, relative to 2018.

To formalize PSL's commitment towards preserving and conserving the environment and reducing our carbon footprint, we are ISO 14001: 2015 certified.

The IMO has used 2008 as a Baseline to plan and develop a roadmap for the comprehensive strategy on reducing GHGs from ships.

Likewise, PSL has used 2008 as its baseline to monitor the average decline of CO2 emissions over its entire fleet.

A clear understanding of established goals and targets over the years has led to a steady decline in the overall CO2 emissions and an improvement of the ship's operational carbon intensity.

Since 2014, the Company has been maintaining and evaluating emission records for the entire fleet, a credible baseline to evaluate progress. Over the years, the older vessels were phased out and additional fuel efficient "ECO" vessels were acquired. In the year 2014, the average carbon intensity per transport work was estimated at 12.884 Grams CO2 per Tonne – Nautical Mile.

IMO's latest regulations on Green House Gas Emissions and the introduction of EEXI and CII- the game-changer:

In line with IMO's initial strategy of achieving a reduction in the intensity of CO2 emissions of up to 40% per transport work by 2030 and up to 70% by 2050, to reduce GHG emissions from ships, in June 2021, the IMO introduced two measures a) The Energy Efficiency Design Index for Existing ships (EEXI) and b) Carbon Intensity Indicator (CII) and corresponding regulations that will affect 80% of the global fleet. The regulations will enter into force on 1 January 2023. Introduction of these new regulations will have a very major effect on the shipping industry as a whole and will challenge ship owners like never before. Below we explain briefly what these two terms -EEXI and CII- mean and how the regulations have impacted the shipping industry.

EEXI – Expressed in Grams of CO2 emitted per tonne-mile of transport work, EEXI is dependent solely on the design parameters of the main and auxiliary engines such as designed power, cargo carrying capacity and speed. There are upper limits imposed by IMO on the maximum EEXI values permitted on all vessels- referred to as 'required EEXI'. The required levels are pre-determined based on the type and size of the vessel. The calculated EEXI figure for each vessel is referred to as 'attained EEXI'. If the 'attained EEXI' is higher than 'required EEXI', corrective measures will need to be adopted. One such corrective measure would be to install Energy Saving Devices (e.g., Mewis Duct). The reduction in the 'attained EEXI' by installing ESDs however is very marginal. To continue operating, most of the vessels in the global merchant fleet, except for some of the newer vessels built after 2013, will need to limit the maximum power developed by the main engine. This is referred to as EPL (engine power limitation), whereby the MCR (maximum continuous rating) – which is the maximum power that the main engines were originally designed for is limited either mechanically (on the mechanical engines) or electronically.
Older vessels will typically need to limit the maximum power of the main engine between as much as 20 and 50%! This basically implies that the 80% of the global fleet will need to reduce the speeds at which they usually operate up to as much as 20% if not more.

CII- is also expressed in Grams of CO2 emitted per tonne-mile. CII however is an operational measure and is calculated based on the actual quantity of CO2 emitted over a period of one year, the cargo carrying capacity of the vessel and the actual distance steamed by each vessel during the period.

As with the EEXI, reference (or required) values of CII for 2019 are calculated for each type of ship by means of a mathematical formula agreed upon by the IMO and represents the required CII for each type of vessel. The attained CII, over a period of 1 year, is then calculated. Vessel's will then be awarded a 'rating' on a scale of A to E- with A representing a very good (low CII with attained CII less than required CII) rating and E representing a poor (high CII) rating. After 2023, an 'E' rating can be maintained for a maximum of 1 year after which the rating would have to be reduced to at least a 'D'. A 'D' rating can be maintained for a maximum period of 3 years after which the rating (i.e., CII levels) would have to drop to 'C'. In each case a corrective action plan must be implemented and approved by the RO. Further, the required CII level would be reduced by 1% for each year between 2019 and 2023 and thereafter by 2% each year until 2026.

PSL's fleet is well on course to achieving the required targets. Of the 36 vessels in PSL's fleet, EPL will be installed, and the maximum power of the main engine will be limited, on 23 vessels by the first periodic survey in 2023. After the survey in 2023, these vessels will operate at speeds which would be lower than the speeds that are currently described in our commercial contracts by around 1.5 to 2 knots. The remaining 13 vessels, of which 4 are cement carriers to which the regulations do not apply, one a general cargo vessel to which the requirements apply less stringently, and the remaining are of the newer generation eco-optimized vessels which already comply with the regulations, will remain unaffected by the EEXI regulation.

The IMO has now standardized the method for calculating the Carbon Intensity Index (CII) for ships. In line with the prescribed method for calculating the CII and after the figures for total fuel consumed and distances sailed by each vessel were verified by the Recognized Organization (NKK for PSL's fleet), we have calculated the CII for the past three years for all the vessels in PSL's fleet. The average CII figures for each type of vessel in PSL's fleet are as indicated in the table below.

Vessel Types	2019			2020			2021		
	No. of Vessels	CO2 emitted (MT)	Average CII (grams/ tonne-mile)	No. of Vessels	CO2 emitted (MT)	Average CII (grams/ tonne-mile)	No. of Vessels	CO2 emitted (MT)	Average CII (grams/ tonne-mile)
Cement Carriers	4	40738.42	14.36	4	38764.85	12.95	4	42030.55	13.65
Handysize	15	210168.71	7.99	15	185053.74	7.72	15	198769.11	7.89
Supramaxes	9	148624.32	6.4	9	137970.40	6.11	9	149800.48	6.42
Ultramaxes	8	130489.14	4.61	8	118974.06	4.53	8	131048.50	4.55
Total	**36**	**530020.59**	**7.55**	**36**	**480763.05**	**7.19**	**36**	**521648.64**	**7.42**

As can be noted from the table, the average CII for PSL's fleet of vessels in the year 2021 was 7.42 grams of CO2 emitted per tonne-mile.

New technology/concepts:

There are already conceptual designs on small crafts that try to eliminate or minimize the human effort onboard ships. Some experts in automation visualize that in the next twenty years or so, ships may be totally un-manned with automated equipment using sensors, smart digital systems, and other technologies, which can be monitored and controlled from shore-based stations, completely removing the element of "Human Error" on board. Although the concept of such autonomous vessels appeared unrealistic initially, bold steps were made in this direction in 2017, both in the industry and by regulators. In May 2017, Yara and Kongsberg, introduced the concept of the autonomous, zero emission 120 TEU container vessel Yara Birkeland. The vessel is an 80 metres long container feeder. She completed her maiden voyage from Oslo to Porsgrunn in Norway, around 110 nautical miles, in mid- November 2021. The vessel's engines are powered by high energy Lithium ion 'Leclanche' batteries which are recharged by green hydro-electric power. Trials on autonomous mode are apparently still ongoing.

In October of 2017 Rolls-Royce partnered with Google and introduced Augmented Reality software as part of their remote operation solutions for autonomous vessels. Simultaneously with these developments in autonomous shipping, IMO's Maritime Safety Committee agreed to map out a new international legal framework for the safe operation of autonomous ships, as operating a completely unmanned vessel brings a host of legal issues into focus. Stakeholders in shipping need to keep abreast of these developments to ensure the most beneficial application of the technology. Stakeholders would do well to keep in mind that while there is little doubt that most accidents occur primarily because of human error, the number of such accidents that are prevented solely because of human intervention cannot be downplayed.

Unavoidable Increase in Operating Expenses:

Costs for supplies, spare parts, lubricants, paints, and consumable stores have increased substantially over the past one year; as also the costs for moving spare parts both by air or sea freight. Further, expenses for crew change have increased disproportionately since the last quarter of 2020 and has been high since then. Crew changes which were invariably carried out in Asia during the pre-covid days are now not possible with most of the countries in the Far east as well as Southeast Asia not permitting crew travel both in and out of their countries. As a result, we have had to carry out crew changes at ports in Western Europe, USA, and a handful of countries in South America, which has increased our transportation costs. In addition, we have had to incur costs for accommodating crew members at designated quarantine centres on their arrival back to their home countries. These increased expenses for crew changes are likely to continue into 2022 and until the situation worldwide returns to the pre Covid-19 levels. Insurance costs were under control, because of our favorable claims record and because of our long-standing, mutually beneficial relationship with the insurers and brokers. Daily operating expenses for year 2021 were around 8% higher than our daily figure for 2020.

Other regulations and conventions:

There are specific IMO Conventions, and regulations mandated by individual countries, to control the emission of Nitrogen oxides, Halons and CFCs from ships. These regulations are expected to become more stringent in the coming years. Certain states in the USA are likely to require ships calling their ports to use shore power which is greener than the power generated on board ships. 'Bonnet' technology is another concept, presently available only in certain ports, which can receive the exhaust gas from ships for treatment before discharging into the atmosphere.

To formalize the Company's commitment towards preserving and conserving environment and to reduce carbon footprint, the Company completed the transition audit for ISO 14001 on 30 August 2017 and received the new ISO 14001:2015 certification from Class NK of Japan. Prior to this transition, the Company was holding the ISO 14001:2004 certification which was issued on 18 December 2009. The ISO 14001:2015 provides a framework for a holistic and strategic approach to the Company's environmental policy, plans and actions and will demonstrate that the Company is an environmentally responsible organization. PSL vessels have implemented the SEEMP as required by MARPOL Annex VI regulations from January 2013. Vessels have also fully implemented the more stringent garbage disposal regulations required by MARPOL Annex V which came into force from January 2013.

With effect from 31 December 2020, EU Regulation on Ship Recycling have been applicable to foreign ships in EU waters. Ships comply by having an 'Inventory of Hazardous Materials (IHM)' certificate issued by a Recognized Organization. The certificate basically lists both the quantity as well as all the locations on board vessels where materials considered to be potentially harmful to humans and the environment are present. Although both time consuming as well as expensive, the company prepared for compliance with the regulation well in advance. The company's senior technical superintendents were trained by Classification Societies to acquire the necessary competencies to complete the procedures to obtain IHM compliance for all vessels. All PSL's vessels are in full compliance and were certified well before the EU deadline of 31 December 2020.

The Safety of Life at Sea (SOLAS) convention may have amendments in the future. This is driven by one of the worst maritime disasters in US history - the loss of the US-flagged ro-ro vessel El Faro and its 33 crew, which sank in the Bahamas in October 2015 while trying to navigate through Hurricane Joaquin. The detailed USCG investigation report, published in September 2017, highlighted several errors, mainly by the Master, and includes 36 recommendations on safety and seeks several amendments in the SOLAS convention.

With the melting of the polar ice cap due to global warming, and the consequent increase in navigability through the northern route, on 1 January 2017, the IMO has adopted the Polar Code and related amendments in 2014 - 2015 to make it mandatory under both SOLAS and the International Convention for the Prevention of Pollution from Ships (MARPOL). The code's focus is on the safety of ships, seafarers and passengers who are

on board in the harsh polar environment and the regulations to prevent discharge of Oil, Noxious liquid substances in bulk, Sewage and Garbage. IMO's sub-committee on Pollution prevention and response agreed in principle in 2020 to draft amendments requiring vessels navigating through Arctic waters to not carry any grade of Heavy Fuel oil. The regulation is expected to enter into force on 1 July 2024.

Technologies currently available for improving Energy Efficiency:

The shipping industry is concerned with reducing fuel consumption and carbon emissions. Technological advancement and design modification are being used extensively to address these concerns. At PSL, the management understood its business implications, evaluated the efficiency of potential designs, and took a leap forward. As part of the strategy, it was decided to retrofit some of the vessels with Hydrodynamic Energy Saving Devices (ESDs), such as THE MEWIS DUCT, a fin system which provides a pre-swirl to the ship wake which reduces losses in the propeller stream, PRE-SHROUDED VANES, a device which reduces the rotational energy loss of the propeller slipstream by generating pre-swirl flow for energy-saving and HUB VORTEX ABSORBED FINS, a set of fins fitted on the cap of a propeller to reduce energy losses by propeller hub vortex. Analysis indicates energy savings in the range of 3 to 6%. Older vessel's, which were considered less-fuel efficient were replaced with 'Eco' vessels between the years 2013 and 2017. The "Eco" vessels have offered more economical machinery, very efficient electronically controlled engines, lower lightship, better hull-form, and optimized use of waste heat from the engines.

PSL is committed to further reducing its carbon footprint and is monitoring the progress being made on the following fronts.

Air lubrication systems uses "Bubble technology" to decrease the resistance between the ship's hull and the water by supplying air to the ship's underside creating a carpet of microbubbles that coat the entire flat bottom of the vessel. The technology works in all maritime conditions, is not weather dependent, and does not constrain or negatively impact the normal operational profile of the vessel. With the optimum ship hull design, the air lubrication system is expected to achieve between a 10 to 15% reduction of CO2 emissions, along with significant fuel savings. Air lubrication is an EEDI-approved technology and for some sectors of the merchant fleet struggling to achieve the requisite efficiency score, it could offer a potential solution.

Nanotechnology fuel treatment uses a multi-functional fuel additive that contains a molecular catalyst that ensures maximum fuel efficiency. The additive can also reduce engine wear, meaning the time between maintenance can be extended: particles work on existing carbon build-up within the engine to effectively blast away residue. NanOx™ from Martek Marine is one of the most exciting nanotechnology fuel treatments to hit the market. Nanoclusters improve viscosity by more than 30% for an improved fuel/air mix, boosting engine power by more than 10%. Enhanced fuel atomization in the tank & injectors offers over 7% fuel savings and micro-explosions in the cylinders enable more complete combustion, lowering emissions by 25% and enabling savings on CO2 too. Nano-catalysts

remove carbon deposits and prevent future build-up, diminishing engine wear to reduce maintenance and spares costs.

New Bulbous bow designs reduce wave-making resistance by producing its own wave system that is out of phase with the bow wave from the hull, creating a reduction in resistance made by the waves. Volume, vertical extension of the center of volume, longitudinal extension, and shape, are all elements considered in the design. The characteristics of the bow must be carefully balanced with the shape of the entrance and the transition towards the forward shoulder and bilge. Bulbs are most effective at a specific speed-length ratio and draft. Changes in speed and draft significantly change the wave created, meaning that reductions in draft or speed can lead to increases in resistance and this being the case, compromises in the bulb design are often needed to provide good performance over the expected range of operating drafts and speeds.

Onboard DC Grid A power distribution system introduced by ABB helps vessels reduce their fuel consumption, cut noise, and trim their environmental impact, by matching the power that the engine needs. By ensuring the engine runs at varying speeds for ultimate fuel efficiency at each load level, fuel consumption can be dramatically reduced. Recent tests using DC Grid power distribution on a platform supply vessel showed reduced fuel consumption of up to 27%, in addition to 30% engine room noise reduction, leading to improved working conditions aboard the vessel.

Low Loss Hybrid Energy System (LLH) by Wartsila is an innovative technology that utilizes different power sources in combination with energy storage devices to operate the prime movers closest to their optimum performance. A key feature of the system is its ability to reduce transient engine loads that cause increased fuel consumption and added emissions. By increasing the power redundancy, the system allows the engine to operate closer to its optimum design point where it has the highest efficiency and least emissions. Reduced maintenance and increased system performance through rapid response from the energy storage system are also among the benefits offered. The overall hybrid control system is the key element in the total control and stability of the ship's electrical system and the energy flows. In addition to annual fuel savings of up to 15%, depending on the type and configuration of the engine and mission profile, the LLH ensures a substantial reduction in exhaust gas emissions.

Fuel Oil Emulsion (FOE) technology (FOE) allows blended fuels to burn more completely than unmodified fuels and so uses less fuel, lowers emissions, and the engines run cooler and so would require less maintenance. This would reduce the use of fuel and the level of emissions giving a significant financial saving.

Solar and wind power technologies are being experimented with and are showing some promise.

Most of the above technologies however are still at a nascent stage. The effectiveness and viability can only be assessed after they have been in service for a reasonably long period of time and after reliable data on the performance is available.

PSL is committed to further reducing its carbon footprint by continuing to upgrade systems on existing vessels, analyze its operating profiles by considering shorter ballast passages, larger cargo hauls and slow steaming. Additionally, we are currently exploring the possibility of installing solar panels on our vessels to supplement the electrical power generated by the ships' auxiliary engines. The technology involved currently is relatively new and there is very little data available in the public domain. If this proves to be viable, it will result in a reduction in CO2 emissions per vessel of around 5 to 6 tons per day. We also intend to replace all the conventional light bulbs on board our vessels with LED lamps to reduce power consumption and thereby the quantity of CO2 emitted.

Future Fuels:

Biofuels could play a valuable role in reducing CO_2 emissions from the marine sector over the next few years. From a technological perspective they are the easiest to adopt, as they can be blended with existing marine fuels and utilized by existing vessels. Biofuels would also not require significant delivery infrastructure investment. However, Biofuels are likely to be the preferred fuel for the aviation and road sectors, given the high energy density relative to alternative clean fuels and therefore there simply may not be adequate volumes available to the marine sector over the long-term. That said, Biofuel blends are likely to gain traction in the coming years, as this is the easiest short-term solution to reducing carbon emissions in the marine sector.

Hydrogen as a fuel is attractive because it emits no carbon or other pollutants when used. Existing hydrogen manufactures can produce 'blue' or low-carbon hydrogen by capturing and storing the carbon emitted during the production process. However, research is underway to develop energy-efficient processes for producing 'green' hydrogen from water via thermochemical processes using renewable energy. Another potential approach to produce carbon-neutral fuels involves chemically processing green hydrogen together with carbon or nitrogen to produce gaseous or liquid fuel. The energy density of hydrogen gas is relatively low, and it would need to be liquefied and stored under pressure to be viable as fuel, creating a transportation and storage challenge. A unit of cooled liquid hydrogen has less than half the energy of diesel and requires more than double the space to store it. Furthermore, significant infrastructure investments will be necessary to store and transport the cryogenic liquid which has a -253˚C boiling point. Given these limitations, Hydrogen is unlikely to gain the kind of traction that we have seen with Ammonia.

Ammonia: While it could be several years before it is adopted at scale, Ammonia does enjoy the privilege of having the largest share of zero-emission vessel prototype projects worldwide. Its molecular makeup (NH3) allows for a carbon and sulphur-free combustion. Today, most commercially available Ammonia is derived from fossil fuels, which makes its green credentials less than pristine. That will change once Ammonia is produced at scale through a renewable energy powered electrolysis process, a development that is expected to take place in the latter half of this decade. Early adopters of Ammonia as a fuel are likely to be, Niche vessels operating in regions with strict emission controls and on fixed routes, Ammonia Tankers and LPG Tankers capable of transporting Ammonia. This will likely be followed by energy guzzlers such as large Cruise and Container carriers on routes

where Ammonia as fuel is easily available. Bulk carriers, which consume about 5% of total marine fuel consumed globally will unlikely be early adopters because of their varied trade routes. The key to the adoption of Ammonia-powered vessels would be the establishment of safety and training standards which could take several years given the more complex nature of the fuel.

Methanol is a safe, cost-effective, and globally available marine fuel with global production of 110 MMT. The main feedstock in production is natural gas. However, it could be 100% renewable, as it can be produced from a variety of renewable feedstocks or as an electro-fuel. Methanol fuel produces no sulphur emissions, very low levels of nitrogen oxide emissions, and is biodegradable. It can also be blended into existing fossil fuels. Current dual fuel Methanol engines have performed well, and upcoming technologies will further improve on this performance. Methanol is a liquid at ambient temperature. However, since the flash point of Methanol is very low (around 9 to 10 deg C), carriage as well handling of methanol can be hazardous, would require specially designed storage tanks and would need an inert atmosphere to be maintained in the tanks all the time.

Liquefied natural gas (LNG) is the other choice open to maritime operators being both a proven and commercially available solution. At present, there are around 120 ships already operating on dual-fuel gas engines. LNG is mostly comprised of Methane, a highly potent GHG and far more harmful to the environment than CO2. Methane traps 86 times more heat in the atmosphere than the same amount of CO2 over a 20-year period. LNG fell in stature after many members of the scientific community began to publish studies that examined the “well-to-wake” emissions of methane, referred to as ‘Methane slip’. Methane slip takes place mainly during flaring (burn off at the point of production), but also at the point of consumption.

Liquefied petroleum gas (LPG) is a combination of Propane (C3H8) and Butane (C4H10). The fuel is readily available globally and is lauded as a clean, energy-efficient, and portable fuel with an affordable price tag. It is currently sourced mainly from natural gas and oil production activities. However, in the wake of new technologies and techniques, LPG can also be produced from renewable sources. There are more than 1,000 LPG storage facilities around the world that can be used for LPG bunkering, and more than 700 small size LPG carriers, that can be used for ship-to-ship bunkering. LPG is at least as attractive an energy source as LNG, with shorter payback periods, lower investment costs, and lower sensitivity to fuel price scenarios. So far, LPG as a marine fuel has only been tried on LPG carriers. It is unlikely that owners in sectors other than LPG will adopt the fuel widely, given the increased capital cost and complexity relative to ships burning existing fuels.

Carbon Capture and Storage – A complex method, that involves trapping carbon dioxide emissions at its source of production or directly from the air and transporting it to a storage location usually in coal seams, aquifers, depleted oil and gas reservoirs, and other spaces deep under the surface of the Earth. Commercial viability is a major challenge at the present time. Several oil majors as well as Shipping companies are researching solutions

to lower costs. If they are successful in doing so, this technology has the potential to become dominant as it would imply that existing fuels can continue to be used.

Electrification Semi-Electric and Electric vessels are gaining momentum, energy storage in batteries and optimized power control can provide significant reductions in fuel consumption, maintenance, and emissions. While improved battery technology has helped the new generation of electric European ventures get afloat, Electric and hybrid ships need more efficient and lighter batteries for a breakthrough. Energy density has increased considerably over the last 30 years, however, it is not yet enough to supply large ships with energy for long distances. The development of charging infrastructure and technologies for faster charging of the batteries are also crucial and hence ocean-going vessels are unlikely to become completely electrified soon.

Crew training at PSL's Maritime Training Center:

As previously reported, the Company set up a full-fledged Maritime Training Center at its Head Office in Bangkok in March 2008. The PSL Training Center includes a state-of-the-art Bridge Navigation Simulator for training of maritime personnel. Vessel-type specific Simulator recreates the actual maneuvering characteristics of the ship and its bridge controls as it enters a specific major port and provides ideal conditions in which Officers get hands-on experience for effective bridge teamwork and competence in ship-handling and navigation. This is a significant step taken to train and equip our Officers and Crew to take better care of themselves and their ships, all with a view to ensuring safety of the crew, cargo, and the ship by preventing accidents, thus helping to preserve the environment. In the current scenario of a worldwide shortage of trained personnel, and the rapid promotions that is a natural result of such a shortage, this is a major step to provide specialized training that would otherwise have been acquired 'on the job'. In February 2020, the Bridge Navigation Simulator was upgraded to the latest design. This involved a total renewal of all projectors, panels, consoles, and the software updated as per the requirements of our fleet.

The International Convention on Standards of Training, Certification and Watch-keeping for Seafarers 1978, which establishes the basic requirements for seafarers was revised in 1995 and again in June 2010 in a conference in Manila, known as the Manila amendments, brought about more stringent requirements for global standards of competency for seafarers. The Manila amendments have entered into force on 1 January 2017. The PSL training and fleet department had been preparing in advance so that, by the date of enforcement, all vessels had seafarers with the required training and certificates on board our ships.

Maritime Resource Management (MRM):

MRM is a training program for ship's officers, engineers, pilots, and shore-based personnel. The aim is to increase knowledge about human capabilities and limitations and to reinforce positive attitudes towards safety and teamwork. MRM is generally accepted to be one of the most efficient means of improving crew cooperation and minimizing the risk of accidents caused by human errors as well as failures in effective teamwork and resource management. The MRM course is authorized and licensed by The Swedish Club,

a member of the International Group of P&I Clubs, and one of the few insurers providing Hull as well as P&I insurance covers. Apart from the MRM courses, the PSL Training Center has classrooms, Video-Based Training (VBT) and Computer based training (CBT) for the ship staff. Courses include MRM, Bridge Team Management (BTM), Bridge Team Competency (BTC), Officer Of the Watch (OOW), Chief Mate Course (CMC), Command Course (Command), Shipboard Safety Course (SSC), Maritime Professional Briefing (MPB), Maritime English training (divided into 5 course levels) programs for safety and efficient ship operations of deck and engine departments. The Training Center also conducts lectures on VTS (Vessel Traffic Separation) & SMCP (Standard Marine Communication Phrases) within the BTM and MRM courses, with the aim of developing our officers' communication skills in communicating with a VTS officer using standard maritime phrases in various simulations. The courses are upgraded regularly and provide a solid foundation to the Company's training activities and enable our Officers and Engineers to keep abreast of the latest developments in ship operations.

To meet the needs of trained engineers to serve on vessels fitted with new generation Main Engines from MAN Diesel & Turbo and Wartsila, the PSL Training Center liaises very closely with the Technical Department and the engine manufacturers to continuously upgrade the training courses which were first introduced even before the vessels were delivered. Other training courses which the engineers go through before joining the ships are "Engine Room Management and Competency Enhancement" - "EMC" for Senior Engineers, "Engineer on Watch" - "EOW" for Junior Engineers, courses on "stern tube sealing systems" and "ships' cargo gears with special focus on hydraulics", and "Shipboard Safety." The PSL Training Center also augments classroom theoretical courses with practical training, wherever possible. Because the new vessels acquired are fitted with more fuel-efficient modern engines using advanced electronic controls and technology, the Company's senior engineers, Electrical Officers and shore-based Technical Superintendents are put through the engine-maker's specific training courses designed to better understand the operation and for effective troubleshooting. Junior engineers are in turn trained at the Company's Training Center and by trickle-down methods on board ships. New courses are also being introduced to prepare the ships' staff for the challenges expected in the coming years on account of the low Sulphur cap, carbon dioxide emissions and ballast water treatment regulations. To equip the officers with knowledge of new developments, the company has taken the step of organizing specialized courses conducted by experienced and proficient guest teachers.

The use of "Electronic Chart Display and Information System" (ECDIS) has become mandatory for new ships built from July 2013. All the vessels in the fleet are equipped with ECDIS with the onboard software updated to the latest version. Officers are required to complete specialized ECDIS l generic training as part of their competency certificates.

PSL is committed to ensure that navigating officers are fully conversant with ECDIS equipment prior joining the vessel. Officers are given generic ECDIS training at approved institutes. Realizing the fact that certification alone does not make an officer fully familiar and confident to use ECDIS, PSL Training Centre has equipped itself and developed ECDIS training/familiarization courses. After attending the approved ECDIS generic

training course, officers are required to undergo further ECDIS familiarization course at our in-house facility.

The training department also keeps abreast of imparting awareness to Officers on the risks due to increased incidents of the liquefaction of cargoes, such as iron ore fines, coal, manganese ore fines, and nickel ore. More than a hundred seafarers have lost their lives over the past eight years on vessels which have capsized due to the liquefaction of such cargoes. The latest cargo entry in the list of solid bulk cargoes susceptible to liquefaction that can cause catastrophic results is “bauxite”. When subjected to sufficient dynamic loading, very wet fine-grained bauxites go through a process of slumping and dynamic separation, with the upward expulsion of water/slurry. This may result in free surface effect of liquid sloshing about which could significantly affect the vessel’s stability, leading to the risk of the ship capsizing. In response, the IMO’s Sub-Committee on Carriage of Cargoes and Containers issued new guidance on the carriage of bauxite, requesting adequate safety precautions to be taken when carrying this cargo.

During the year 2021 with the Covid-19 pandemic showing little signs of relenting, we continued to train our officers online. A total of 1,444 sea going officers and crew members attended a total of 16 courses that were conducted during the year, which is a testament to the company’s commitment towards training our crew members and the high premium that we place on the same.

We provide below a summary of the courses conducted during the year and the number of crew members who were trained.

- Number of courses conducted at the Training facility in 2021: 4 Courses

1) Bridge Team Competency I
2) Bridge Team Competency II
3) Bridge Team Management
4) ECDIS – Electronic Chart Display & Information System

- Number of courses conducted On-Line in 2021: 16 Courses

1) Maritime Resource Management	9) ME Basic
2) Maritime Professional Briefing	10) ME Advance
3) Chief Mate Course	11) Basic English
4) Command course	12) Elementary Maritime English
5) EOW	13) Intermediate English
6) OOW	14) Upper Intermediate English
7) RT-Flex Basic	15) Shipboard Safety for Rating
8) RT-Flex Advance	16) Maritime cyber-security awareness

- Number of seafarers trained in 2021: 1,444 (Online)

- Total Man-days for training in 2021: 4,168.4 man-hours

- Additional course on Maritime Cyber Security Awareness for Seafarers was conducted online for the whole year in 2021, with total number of 527 seafarers were trained on the topic of Maritime Cyber Security Awareness (Officers and Engineers: 437, Ratings: 90)

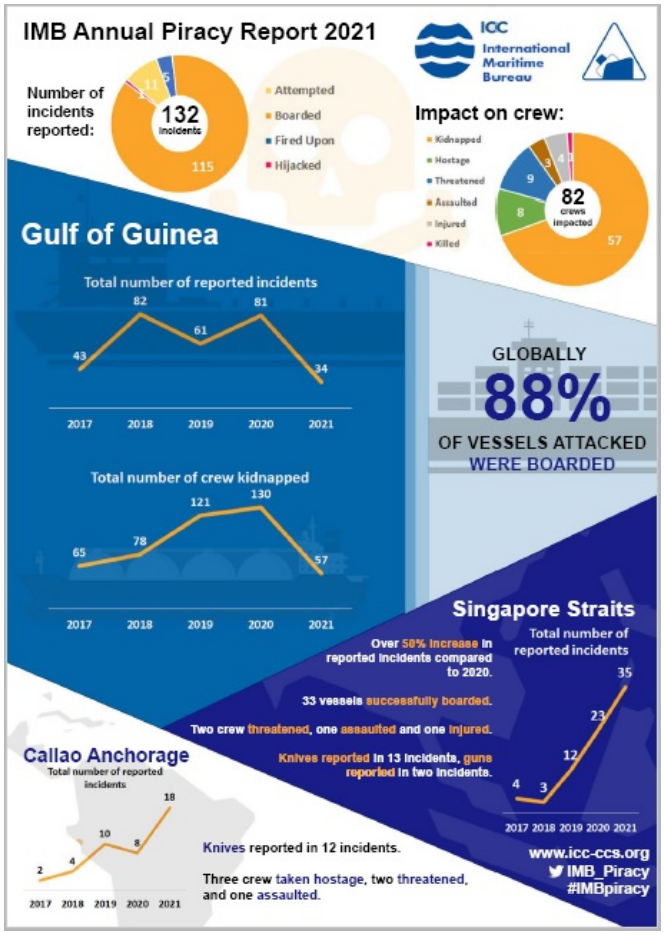
- Additional course on Port State Control inspections was combined with the MPB course, and was conducted online during 2021

- Additional course on EEXI and CII introduced. Will commence by end Jan 2022.

The Scourge of Piracy:

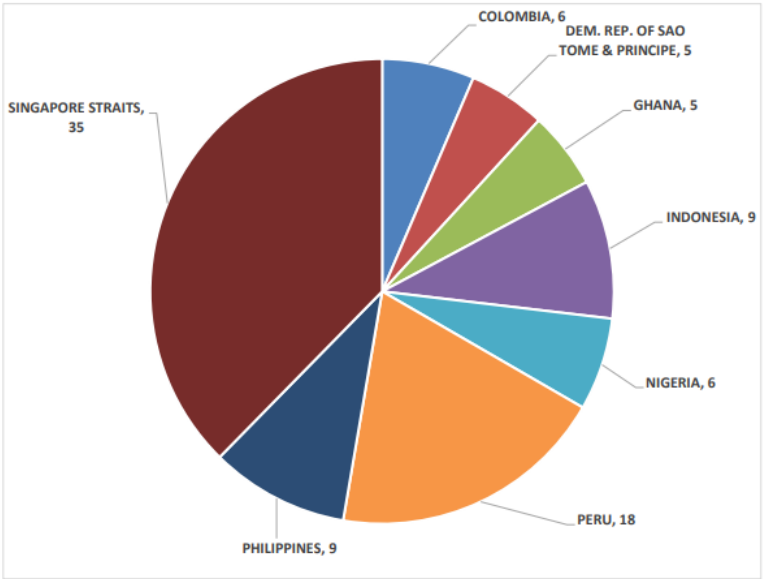
The Scourge of Piracy continues to be a serious concern to all the stake holders in the shipping industry, especially ship owners, the crewmembers on board, and their families. To help visualize, imagine being marooned on a small island from where there is no possibility of running away or escaping, no protection available from any kind of law enforcement agencies, absolutely nothing to defend oneself with and being attacked by a group of thugs, trained, and armed with military grade firearms!

The International Chamber of Commerce's International Maritime Bureau (IMB)'s annual piracy report for 2021, revealed that the maritime piracy and armed robbery attacks reached the lowest recorded level since 1994. In 2021, the IMB Piracy Reporting Centre received 132 incidents of piracy and armed robbery against ships as against 195 incidents reported in 2020. Incidents comprise 115 vessels boarded, 11 attempted attacks, five vessels fired upon, and one vessel hijacked. The chart below reveals the number of incidents region-wise. The overall reduction in reported incidents in 2021 is attributed to a decline of activity reported within the Gulf of Guinea region which has seen a decrease from 81 reported incidents in 2020 to 34 in 2021.



The following eight locations contributed to 71% of the total of 132 incidents reported during the year.

CHART A: The following eight locations contributed to 71% of the total of 132 incidents reported in the period January – December 2021



Country-wise piracy incidents were reported as indicated in the table below-

TABLE 2: ACTUAL and ATTEMPTED incidents by location, January – December 2021

		Actual attacks		Attempted attacks	
Location		**Boarded**	**Hijacked**	**Attempted**	**Fired Upon**
SE ASIA	Indonesia	8		1	
	Malacca Straits	1			
	Malaysia	2			
	Philippines	9			
	Singapore Straits	33		2	
EAST ASIA	Vietnam	1			
INDIAN SUB-CONT	India	2			
AMERICAS	Brazil	3			
	Colombia	6			
	Ecuador	1		1	2
	Haiti	4			
	Mexico			1	
	Peru	17		1	
AFRICA	Angola	4			
	Benin	2			
	Cameroon	1			
	Dem. Rep. of Congo	1			
	Dem. Rep. of Sao Tome & Principe	4			1
	Equatorial Guinea	1			1
	Gabon	2	1	1	
	Ghana	3		2	
	Guinea	3			
	Gulf of Aden			1	
	Liberia	1			

All our vessels trading in the region observe all the BMP guidelines to deter piracy along with armed escort vessels arranged by the company as necessary and where possible.

PSL has taken an active role in reporting to the IFC (Information Fusion Centre), a centre for monitoring the movement of all vessels in Southeast Asian waters. The IFC is based in the Singapore Naval Base and relays information to all regional Marine Coastguard units and has been effective in tackling piracy in the region.

Cybersecurity:

As modern and technologically advanced newer ships become increasingly connected and software-dependent on their day-to-day systems, cyber security continues to be a key area requiring increased attention to control operational and safety risks on these ships, while remaining a major issue to be tackled by shipping companies during their board

meetings worldwide. We continue assessing this threat to increase our overall security posture and to nurture a secure environment within which the organization can work and minimize the risk of any security breach.

Cyber risk is seen as an area where the threads in the global risk environment come together, and the scale and sophistication of risks keeps growing. This is also fueled in part by geopolitical trends, more state sponsored attacks could add to those cyber-attacks that are financially motivated. Cyber exposure is growing in companies due to the rapid increase of interconnected devices, due to emerging technologies use onboard ships, and the use of artificial Intelligence. The prime focus of our industry will now be our ability to respond to these ever-increasing Cyber-attacks.

The IMO resolution MSC.428(98) on Maritime Cyber Risk Management in SMS has already come into effect from 1st of January 2021. The Resolution states that an approved SMS should consider cyber risk management in accordance with the objectives and functional requirements of the ISM Code. It encourages administrations to ensure that proper risk assessments and measures to protect ships from cyber incidents are included in the SMS. It also requires that these measures be implemented no later than the first annual verification of the company's DOC after 1st January 2021. We have already completed this on all our vessels.

Though we have not had any cybercrime incidents till date, at PSL we constantly review and maintain our findings that:

- Our present systems incorporated in Office environment and onboard ships are "robust" enough with the understanding that both IT and OT systems may be involved in cyber security incidents.
- During 2020, we have undergone a Vulnerability Assessment and Penetration Testing in the office IT infrastructure by Nettitude, a subsidiary of Lloyds Register and a member of CREST which is recognized globally as the cyber assurance body for the technical security industry. A vulnerability assessment was also done on a sample vessel in the fleet. Based on the gap analysis report, we have acted and completed all the recommended measures both in the office and on board our ships, to increase our cybersecurity posture.
- Additionally, the integrity and vulnerability of our financial and accounting related database is audited by EY once a year.
- In 2021, we have started upgrading all the switches connecting to our servers with the latest secured versions (will be completed by Q1/2022).
- Although most ships are now connected to the internet, only permitted whitelisted websites can be accessed, minimizing the risk of malware and phishing. The OT systems in machinery spaces and the vital navigation equipment are segregated and not connected to the internet. That minimizes, if not eliminates, the risk due to Cyber-attacks onboard ships.
- AIS, ECDIS and Vessel Data Recorders (VDR) etc. are part of the Integrated Bridge System (IBS). Our system setup on-board ensures that such equipment is not directly connected to the internet at any time and hence, no data from such equipment is available or transmitted directly online.

Nevertheless, to reduce vulnerability to both cyber accidents and cyber-attacks, and to ensure safe and efficient operations of our fleet:

- at all levels of the company, from senior management ashore to the crew on-board, are involved in the safety and security culture onboard each vessel;
- in company policies, by considering how to align cyber risks with the existing security and safety risk management requirements contained in the ISPS and ISM Codes; and
- in relevant onboard procedures, by including new related requirements in in-house training programs, day to day operations of the vessel and maintenance of critical cyber systems, if any, that may exist onboard.

Digitalization:

During 2021, due to the Covid-19 pandemic, most employees continued to work remotely from home as was found necessary. There were no problems in continuing the business operations in a normal way without any disruptions. This was possible because the Management at PSL has always been fully committed to support digitalization and we had been regularly going through the process of identifying and transforming the working procedures at PSL, which we are committed to continue. At PSL continuous training is the key to keep staff and seafarers up to speed with new technology which we take very seriously. After our dedicated Training Center was forced to go into remote-operation mode in mid-2020 due to the Covid pandemic, the training of our crew continued normally on online platforms throughout 2021, with good feedback from the trainers and crew.

Joint Venture:

International Seaports (Haldia) Pvt Ltd: This is now our only investment in Ports in the Haldia Dock Complex (about 22.4% of the total capital) under our port projects investments. This JV continues to operate very well, and we have to-date received total dividends of USD 5.15 million, which works out to about 253% of our original Investment made in years 2002-2003.

In Conclusion:

Demand:

The environment for 2022 is going to be characterized by extreme volatility, as it was for 2021, for the same reason that demand/supply came into perfect balance at the start of 2021. Downside risks for 2022 will include, amongst others, Geopolitical tension hot spots like Ukraine; China importing lower quantities of Coal and Iron Ore; real estate, steel production, cement/aluminum manufacturing slowing down and negatively impacting GDP rates in China in Q4 2021, and likely, in Q1 2022 to reduce pollution and have blue skies during the winter Olympics (4 – 20 February 2022); QE tapering in USA; interest rate hikes in USA and other major economies; higher oil prices negatively impacting world economic growth rates; and Protectionism increasing. But it is not all doom and gloom. The upside potential for 2022 consists of, amongst others, fiscal and monetary stimulus by some governments; China lowering interest rates, lowering reserve ratio requirements of their

banks, lowering mortgage rates, and promising more stimulus; China importing more high-grade iron ore as they combat pollution and shift to higher grades of steel production; China importing more coal to reduce pollution, to reduce the terrifyingly high annual death toll at coal mines invariably accompanied by protests from the relatives of those that have perished; slower ordering of new ships due to challenging regulations covering fuels of the future, lack of traditional finance sources for 'new fuel burning ships' that would become obsolete well before their retirement age, higher recycling rates due to regulatory pressure; the US economy continuing to outperform expectations; and weaker currencies in the Euro zone and Japan helping them to export their economies out of trouble. Most importantly, with geopolitical tensions increasing centered around the war rhetoric over Ukraine, China 'banning' coal imports from Australia, and the Chinese government adding as much stimulus as needed to keep their economy chugging along at a brisk pace, should all assist the demand side of the equation at a time when the supply side shows no signs of growing at anything but the slowest pace on records this century.

Supply:

Under the current conditions, approximately 11.90% (111.58 MDWT) of the existing world fleet would be over 20 years of age between 2022-2024 if no ships are recycled till the end of 2024. These ships would come under tremendous financial pressure due to the upcoming regulatory requirements. Depending on how challenging the freight markets turn out to be and the increasing regulatory pressure on older ships in the period 2022 to 2024 many of these ships would be forced to take the decision to head to the recycling yards in Asia.

With respect to the 6.88% of new ships (64.66 MDWT) scheduled to be delivered to the end of 2024, the lack of funding for fuel burning ships coupled with slippage in deliveries at shipyards would help slow down their arrivals into the freight market

Financing:

Unlike the horror show of 2020, which will be remembered as the year in which financial markets capitulated as global shutdowns hit trade, 2021 will be remembered as the year of the V-shaped recovery and the return of confidence to financial markets. The pendulum had swung, and how!

Dry-bulk vessel earnings reached levels not seen since 2008 and perhaps, more importantly, it was felt that freight market would remain resilient for several years to come.

Banks were open for business again, as were debt capital markets although curiously this didn't result in increased financing volumes as cash-rich container and dry-bulk owners chose to pay down debt rather than take on new debt. Bank financing continued to be challenging for small private ship-owners, although medium and large publicly listed owners were able to access bank debt.

Decarbonization remained at the top of the agenda in the year of COP 26. A significant number of zero-carbon fuel pilot projects were announced during the year and many of these, we believe, will prove to be technically viable. That said, the commercial viability of

these new projects remains a big question mark and large-scale adoption can only take place if meaningful market-based measures are adopted by the IMO.

In 2021, we closed a USD 85m sustainability linked financing with International Finance Corporation (IFC), EXIM Bank of Thailand and TMBThanachart Bank. As part of the financing, we amended several of our internal processes to conform to IFC's very progressive performance standards, which we believe will make us a better and more resilient organization.

This year, we also rekindled our relationship with Credit Agricole, who provided us with a USD 38.35m financing package secured by six vessels. Credit Agricole CIB was the very first lender to have ever given us a ship-mortgage-backed loan way back in 1988.

According to Clarksons, the Shipping Industry (excluding offshore) as a whole, raised USD 30.46 Billion from capital markets in 2021 compared to USD 36.30 Billion in 2020. USD 20.19 Billion came in from Bonds and USD 9.51 Billion from Public Equity. USD 768 Million of public equity was raised through primary offerings (IPOs), a very similar figure to the USD 766 Million raised through IPO's in 2020 although much higher than the USD 15 Million raised through primary offerings in 2019. The container shipping Company Zim line had the largest IPO in 2021 raising USD 217.5 Million through a listing on the NYSE while the second largest IPO was that of the dry-bulk Company Taylor Maritime, which raised USD 160 Million on the London Stock Exchange. Like in 2020, the debt capital market was dominated by issuances by Container companies with issuances by dry-bulk companies largely absent.

Concluding Remark:

Considering all the above, we are taking advantage of the opportunities that are present in the market. We hope to deliver to all our stakeholders the promise of this potential. This will in no small measure be due to the very dedicated and hardworking professionals that make up the office, as well as the floating staff at PSL.