

Hutchison Ports ETC Rotterdam

PORTS AND RELATED SERVICES

SERVING SOCIETY

The global ports network is well recognised as the backbone of international trade and globalisation. Ports act as catalysts for economic development as they facilitate trade, support supply chains and serve as important sources of employment. Operating 10% of containerised marine cargo globally, the Ports division ("Hutchison Ports"), has a network of ports strategically located along the most important trade lanes in the world today.

During the COVID-19 crisis, it has been more important than ever to keep supply chains open and to allow trade and cross-border transport to continue. Together with the global maritime transport industry, Hutchison Ports has been playing a critical role in the response in maintaining the vital movement of food, medical supplies and energy around the world.

The pandemic has spotlighted how important a role the division plays in ensuring the healthy functioning of society as well as the significance of its aim to be – The preferred partner for a sustainable supply chain.



Hutchison Ports Thailand

Material topics, goals and progress

The following table highlights the material topics identified for Hutchison Ports, as well as the relevant UN Sustainable Development Goals ("SDG"), division goals and progress made.

Material topics & SDGs	Goals	Highlights		
Pioneering in smart port technology	 Promote a culture of technological innovation. Invest in digitalisation and automation across the network in building the smart port network of the future. Embed sustainability considerations in new ventures, projects and developments. 	 Developed the Smart Network Strategy including proprietary systems and tools to enable port transformation, e.g. the Next Generation Terminal Management System and ubi, the customer-facing app developed to drive maximum efficiencies. Over US\$210 million committed and planned CAPEX investment in electric and hybrid-electric port infrastructure for 2021 and 2022. Innovating in remote-control connectivity and electric autonomous truck integration. Bringing 5G to Hutchison Ports Port of Felixstowe in collaboration with the Telecommunications division. Re-tooling and training employees in latest technologies. 		
Taking action on climate change 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <th> Set global reduction targets in greenhouse gas ("GHG") emissions from port related activities. Develop a net-zero transition plan. Convert equipment and infrastructure to electric alternatives, with a priority to reduce diesel consumption. From 2024, all internal tractors purchased must be zero-emission vehicles and all diesel-powered yard cranes must be phased out. Increase renewable energy production and green electricity uptake. Be at the forefront of hydrogen-fuelled technology in port operations. Build climate resiliency into terminal developments and redesign. </th> <th> New 2021 GHG emissions reduction targets set: Reduce diesel consumption per Twenty-foot Equivalent Unit ("TEU") by 30% by 2030 versus a 2020 baseline; and Reduce GHG emissions intensity (kgCO₂e per TEU) by 20% by 2030, versus a 2020 baseline. Hutchison Ports ECT commits to be a net-zero port operator by 2035. Working with third party to develop a net-zero transition plan. Reduced scope 1 and 2 emissions by 11% in 2021 versus 2018. Continued large-scale replacement of low-carbon equipment and infrastructure. 696.35 MWh of renewable energy generated onsite. To be increased to 124.43 MWh in 2022. Hutchison Ports BEST commits to sourcing 100% renewable electricity from 2022. Collaborating to make Freeport East a green hydrogen hub and centre for excellence in sustainability in the UK. Conducted a global climate risk assessment of all ports in 2021 highlighting a short list of ports for further examination of exposure to long-term physical climate risks. </th>	 Set global reduction targets in greenhouse gas ("GHG") emissions from port related activities. Develop a net-zero transition plan. Convert equipment and infrastructure to electric alternatives, with a priority to reduce diesel consumption. From 2024, all internal tractors purchased must be zero-emission vehicles and all diesel-powered yard cranes must be phased out. Increase renewable energy production and green electricity uptake. Be at the forefront of hydrogen-fuelled technology in port operations. Build climate resiliency into terminal developments and redesign. 	 New 2021 GHG emissions reduction targets set: Reduce diesel consumption per Twenty-foot Equivalent Unit ("TEU") by 30% by 2030 versus a 2020 baseline; and Reduce GHG emissions intensity (kgCO₂e per TEU) by 20% by 2030, versus a 2020 baseline. Hutchison Ports ECT commits to be a net-zero port operator by 2035. Working with third party to develop a net-zero transition plan. Reduced scope 1 and 2 emissions by 11% in 2021 versus 2018. Continued large-scale replacement of low-carbon equipment and infrastructure. 696.35 MWh of renewable energy generated onsite. To be increased to 124.43 MWh in 2022. Hutchison Ports BEST commits to sourcing 100% renewable electricity from 2022. Collaborating to make Freeport East a green hydrogen hub and centre for excellence in sustainability in the UK. Conducted a global climate risk assessment of all ports in 2021 highlighting a short list of ports for further examination of exposure to long-term physical climate risks. 		

Material topics & SDGs	Goals	Highlights
Creating a great place to work	 Attract, develop and retain highperforming talent. Create an inclusive and diverse culture. Work to level the ratio of male/female port personnel. Develop gender-neutral hiring practices. Improve health and safety awareness of employees through training and communication. Promote healthcare and wellbeing initiatives in the workplace. 	 Employee engagement surveys in place to encourage two-way feedback. Supports leadership development at all levels through the Regional Development Programme and the MYPORT Programme. Formalised inclusion and diversity as a global focus area in 2020 and collecting a new set of KPIs to track and monitor progress. Rolled out a three-year safety training programme focusing on high impact safety areas. New global wellness programme, BEWELL, rolled out in 2021. Employee safety measures in light of the pandemic implemented as the highest priority.
Investing in local community development and environmental protection	 Be active members of the community. Work with local schools and universities, to promote sponsorships and port visits. 	 Ongoing Hutchison Ports' Dock School Programme since the 1990s sponsoring scholarships, school materials and equipment and other educational initiatives. Established "Start Your Journey @ Port Programme" at Hutchison Ports HIT to encourage the younger generation to pursue opportunities in the ports industry. Supported local community hospitals with PPE and hospital equipment during the pandemic. Environmental protection initiatives (such as the "GO GREEN" campaign) underway through volunteer programmes and biodiversity conservation initiatives.
Ensuring responsible business practices	 Grow responsibly through ethical and sustainable business practices. Implement sustainable procurement standards. 	 All employees receive training on anti-corruption on new-joiner orientation, with refresher training provided annually. All employees must declare compliance with the Code of Conduct. Whistleblowing mechanisms and hotlines in place. Cyber-attack security plans, programmes and drills carried out. Contractor evaluations underway at Hutchison Ports UK.
17 PARTNERSHPS FOR THE GOALS	SDG 17 "Dartnerships for the goals" under a	ns action on all material tonics and enables the best

17 PARTNERSHIPS FOR THE GOALS

SDG 17, "Partnerships for the goals", underpins action on all material topics and enables the best possible impacts through collaboration and working with relevant partners.

Pioneering in smart port technology

Hutchison Ports stands at the forefront of technological advancement in the ports industry. Through its Smart Port Strategy, continuous investment and exploration, and promoting a culture of innovation, the division has developed cutting-edge solutions that contribute to greater efficiency across every aspect of port operations.

Digitalisation

Digitalisation brings many benefits environmentally, socially and economically. Advances in automation and new innovative technologies, such as big data and artificial intelligence, enable a new smart port era, offering significant opportunities to Hutchison Ports. Further, the COVID-19 pandemic has highlighted just how critical digitalisation is to keeping supply chains moving, enabling the continued smooth operations of transportation networks, shipping and ports, and reducing human-to-human contact to lower the risk of virus transmission. With disrupted sailing schedules and port congestion likely to continue in the medium term, technology-enabled flexibility and adaptability in a post-COVID world is essential.

Being in the volume business, Hutchison Ports looks to big data for a wide spectrum of its business decisions including investments and operations. Hutchison Ports is also increasingly using artificial intelligence and big data to analyse terminal traffic to optimise and maximise terminal productivity. Hutchison Ports' proprietary operating system, Next Generation Terminal Management System ("nGen"), collects container and ship data and puts together plans using algorithms and artificial intelligence for the most optimal and efficient use of terminals. These plans will then be used in the execution of shipside and landside operations.

"ubi" is another crucial proprietary operating system developed by the division to enhance the customer experience and enable maximum efficiency. It is powered by nGen and integrates waterside, yard and landside operations, allowing customers to receive the latest updates and information on their smart phones and devices at any time enhancing port-level productivity, efficiency and safety. For example, the Truck Appointment function allows for streamlined collaboration between the terminal and the customer leading to reduced terminal traffic congestion and idling time, and the Safety Alert for remote-controlled rubbertyred gantry cranes ("RTGC") function alerts drivers from gate-in to gate-out by detecting the truck's location and provide warning notifications.

Paperless port operations are also now becoming the norm through migration to digital cloud platforms to enable processes such as online goods registration, invoicing, payment, and assigning pickup points through QR code notification.



Remote-controlled centre at Hutchison Ports Thailand

SETTING THE BENCHMARK IN PORT AUTOMATION, EFFICIENCY, AND SUSTAINABILITY

When Hutchison Ports took over the Barcelona container terminal in 2006, it was a manual operation with little electrification.

Now spanning 80 hectares, including 1,500 metres of berth, Hutchison Ports BEST ("BEST") is the first semi-automated terminal in the Group and the most technologically advanced port development project in Spain.

BEST's productivity and carbon footprint have improved the original terminal metrics by over 50% thanks to its automated technology and mostly electrified equipment. For example, the digitalisation of a large part of BEST's processes through a 100% digital, automatic gate system reduces waiting times, vehicle idling and consequently, fuel consumption and GHG emissions.

Electrification has become the procurement standard for berth, yard and rail equipment, with only fossil-fuel based equipment needed for discrete equipment without viable electric alternatives. However, a 100% electrified port is the aim and the terminal will keep abreast of all feasible options.

Another essential element in the reduction of GHG emissions is the installation of the largest network of electrical connection points for refrigerated containers with more than 2,500 points. BEST is also working with the Barcelona Port Authority to have the first electrified quay in southern Europe for connecting container vessels in the terminal by 2023. This means that rather than burning fossil fuels during unloading, port vessel calls can connect to shoreside electricity powered by renewable energy.

BEST is also installing more rooftop solar panels on its buildings, charging points for electrical cars in the car park and it will begin utilising 100% renewable electricity in 2022.

In 2021, in recognition of this dedication and excellence in terminal efficiency and sustainability, BEST was awarded the "Best Container Terminal in Europe" by Asia Cargo News. BEST was recognised for maintaining high standards in reliability and quality of service during the complex times of the pandemic through which its productivity was unaffected and maintained as one of the highest in the world.

BEST is the first semiautomated terminal in the Group and the most technologically advanced port development project in Spain



Hutchison Ports BEST

Remote-controlled connectivity

Advancing technology in equipment electrification, automation and remote-controlled connectivity offers significant benefits in port efficiency. In a remote-controlled environment, equipment can be deployed dynamically to meet peaks in demand while locating operators, vessel controllers and supervisors in close proximity contributes to operational and fuel efficiencies.

To date, Hutchison Ports has deployed 42 remote-control quay crane units worldwide, with an additional seven units in progress. 68 remote-controlled RTGCs have also been deployed globally and an additional 55 units will be commissioned in 2022-2023. While digitalisation and automation may change the nature of some jobs, they also create new job opportunities for equipment operators to be trained on the latest technologies as well as offering better workplace safety and wellbeing. To date, 431 new drivers have been trained across eight autonomous remotecontrolled crane centres globally. Further, in a traditional crane operation, operators may experience physical stress to their back, neck and shoulders. From the comfort of the remote-controlled crane centres, drivers can have a better quality of workplace wellbeing. This less physically demanding work environment also opens up opportunity to a more diverse talent pool.

AUTONOMOUS TRUCK TECHNOLOGY AT HUTCHISON PORTS THAILAND

In 2021, Hutchison Ports Thailand transitioned from pilot to successful integration of six autonomous trucks into its normal operations making it the first port operator globally to achieve true mixed-traffic-mode terminal operations. With numerous trial runs and safety test results verified by risk assessment experts during 2020 and 2021, Hutchison Ports has successfully adapted the autonomous truck from a concept vehicle to a pragmatic workhorse that has enhanced and improved productivity and safety levels at Terminal D.

Equipped with advanced artificial intelligence machine learning technology, the autonomous trucks have learned the necessary driving skills such as self-organising intelligence, lane-keeping,



Electric autonomous truck at Hutchison Ports Thailand

overtaking, obstacle avoidance and intersection turning in structured and unstructured roads. GPS further enables the trucks to navigate around the terminal and perform specific tasks assigned by the Fleet Management System, which coordinates and plans the routing for each autonomous truck. The system receives job order messages from the terminal management system and then disseminates path planning from the autonomous truck's current location to the destination. Both manned and unmanned trucks follow the same traffic rules to create a dynamic operating environment to achieve maximum efficiency, flexibility and safety.

The new terminal operating ecosystem is resulting in an optimised workflow, which results in a higher level of efficiency to shipping lines and port users.

The autonomous trucks use the latest technology and innovation and is part of our ongoing plan to transform Terminal D into the most technologically advanced and efficient container terminal in the region.

//

- Stephen Ashworth, Managing Director, South East Asia, Hutchison Ports

5G

The advent of 5G and Internet of Things ("IoT") technology will bring the technological and smart capabilities of a port to a new level. In 2021, as part of the UK Government's 5G Testbeds and Trials Programme Hutchison Ports Port of Felixstowe was granted funding to test two use cases, which are being rolled out in partnership with the Telecommunications division.

The first is enabling remote-controlled RTGCs via the transmission of CCTV images over 5G technology enabling operators to work from remote-control centres. The second use case is the deployment of IoT sensors and machine learning to better predict maintenance requirements of the Port's quayside cranes. Limiting unplanned downtime on this critical port infrastructure saves the ports significant cost and helps improve customer satisfaction.

The 5G equipment that is needed to test both of these use cases has recently moved from the lab environment and is now live at the Port of Felixstowe with successful transitioning and no impact to operations. These trials will be completed in 2022 and positive results suggest that these test cases will be fully transitioned to live services in 2023.

Collaboration to accelerate the digital transformation

In 2020, Hutchison Ports joined eight leading ocean carriers and terminal operators to form a consortium to develop the Global Shipping Business Network, an industry body seeking to drive and accelerate the adoption of digital operations within the shipping industry. The Group also seconded one of its leading data scientists to lead the Network. Its unique combination of carriers and terminal operators provides a balanced perspective, generating new ideas to transform the industry by going beyond the conventional carrier-centric business model to create value for all stakeholders in the supply chain.



During 2021, the consortium rolled out its first blockchain-enabled application, Cargo Release. Leveraging blockchain, Cargo Release offers a paperless, transparent solution connecting port import actors, including shipping lines, consignees, their agents, and terminals. By eliminating the need for paper, it simplifies data exchange and shortens operation time among parties with realtime updates, cutting the time for cargo to be ready for release from days to a matter of hours. The rollout was particularly timely given the intense demand and pressure on supply chains throughout 2021.

Taking action on climate change

The shipping industry accounts for roughly 3% of global GHG emissions, a figure expected to triple by 2050 without significant reduction measures. The majority of this however relates to shipping liners and the fuel used to transport marine trade across vast distances. While accounting for a small fraction of the total, port terminals can however play an important role in mitigating ship GHG emissions while shipping liners are docked at port and to ensuring the cargo is transited with the lowest impact.

GHG emissions reduction targets

In 2021, the Ports division updated its GHG emissions reductions targets to:

- Reduce diesel consumption per Twenty-foot Equivalent Unit ("TEU") by 30% by 2030, versus a 2020 baseline.
- Reduce GHG emissions intensity (kgCO₂e per TEU) by 20% by 2030, versus a 2020 baseline.

While the nearer term target falls short of the guidance by the IPCC of needing to halve GHG emissions by 2030, the Ports division is confident of a net-zero future. In the short-term, a relatively immature renewable energy supply chain and green equipment availability in various geographic locations to enable full-scale conversion does remain a barrier to large scale decarbonisation. While significant progress has still been made, further leaps in technology are required, as well as a consideration to lead-times and depreciation cycles. Additionally, there is further work to do to review scope 2 opportunities, particularly in the sourcing of renewable electricity, which may enable further acceleration of decarbonisation. The Ports division is currently working with a third party sustainability expert to review its GHG emissions reductions opportunities in the short and medium-term as well as further develop its long-term net-zero transition strategy.

Several ports have however been identified as leaders in sustainability within the Hutchison Ports network, acting as those that can forge the path for others to follow. Hutchison Ports ECT ("ECT"), responsible for 19% of Hutchison Ports' scope 1 and 2 emissions, has committed to net-zero in its own operations by 2035.

With the state-of-the-art quay cranes and straddle carriers, loading, discharging and restowing of containers are handled efficiently and expediently through the utilisation of the Terminal Operating System (TOS)

CK Hutchison Holdings Lin

AST-OOS

1

X

ZERO-EMISSION TERMINALS BY 2035

Hutchison Ports ECT Rotterdam took the step in 2021 to commit to having zero-emission terminals by 2035. Crucial to this ambition is the achievement of converting 100% of its fossil-fuel based equipment from diesel to electric as well as leveraging digital and automated technologies. This transformation does not happen overnight; indeed ECT developed the world's first automated terminal using Automated Guided Vehicles in the 1990s. Through continuous investment, and a wealth of advanced expertise and technology built over time, ECT Delta is still leading the way today in Europe. Other meaningful initiatives to help ECT achieve net-zero will include refurbishing terminal buildings to be more energy efficient, facilitating onshore power and investigating the potential for hydrogen.

524,971

GHG emissions performance

Hutchison Ports' scope 1 and 2 emissions relate to:

- Scope 1: on-site fossil fuel combustion from equipment operation and in-house power generation in the terminals; and
- Scope 2: GHG emissions associated with the purchase of electricity, steam, heat, or cooling.

Scope 1 and 2 GHG emissions increased by 23,724 tonnes CO₃e in 2021 versus 2020, representing a 5.4% increase in GHG emissions which is due to a sharp increase in business traffic as a result of supply chain pressures during 2021 as the business units recover from the pandemic disruption. Comparing to 2018 data, GHG emissions have decreased by 11%.

While the supply chain pressures are expected to stabilise in 2022, the issue still remains in needing to reduce absolute GHG emissions and decoupling business growth from GHG emissions. Ultimately, for scope 1 and 2 emissions, this will require a combination of electrification as well as ensuring the electricity that powers this equipment is also from renewable sources.

Scope 3 GHG emissions

The Ports division has yet to calculate its scope 3 emissions but commits to beginning reporting from 2023. Developing a scope 3 footprint is currently part of its wider piece of work to study its GHG emissions profile with the help of third party expert assistance.

Net-zero transition opportunities

Hutchison Ports has already positively assessed the opportunities to transition to a zero-emissions port network by 2050. The work being undertaken during 2021 and 2022 with the help of a third party expert will further flesh out the short, medium and long-term pathways for achieving this ambition.

513,316 466,132 442,408 301,818 302.521 290,126 272,475 223.153 210,795 176,006 169.933

Figure 16: Scope 1 and 2 GHG emissions performance (tonne CO₂e)



1. Zero and low-emission infrastructure

Over 80% of a ports' energy consumption relates to the fuel and electricity consumed by container handling equipment (forklifts, rubber-tyred gantry cranes, quayside container cranes, and internal tractors, for example) and terminal vehicles (shuttle buses and passenger vehicles, for example).

Advancements in the electrification and adoption of hybrid alternatives of existing equipment have allowed Hutchison Ports to transition away from traditional diesel combustion. While there has been significant conversion in equipment types where viable alternatives already exist, there are still gaps for particularly electric alternatives in the market for certain port equipment where they have yet to be developed or even tested. However, the Group's technology teams remain positive that new developments are underway, and are actively keeping connected with suppliers to encourage supply of these models.

While electric vehicles are the Group's preference, and certainly will be the general standard for any new terminals, hybrid vehicles often remain the interim option. On average, a hybrid RTGC can reduce GHG emissions by 35-45% versus a pure diesel alternative. Table 17 illustrates the progress in converting the Group's main port equipment globally from diesel to electric and hybrid. It also outlines the CAPEX investments planned for 2021 and 2022 highlighting the significant investments required to transition this equipment.



RTGCs are the primary method for moving containers in terminal yards. As large, energy-intensive structures, RTGCs represent more than 40% of the total fuel consumption at a typical port. The conversion from diesel to electric delivers energy savings of nearly 50%.

Table 17: Hutchison Port's short-term sustainable transportation rollout

Equipment	Total units	Total electric	Total hybrid units	Capital expenditure ("CAPEX") committed and planned for 2021 & 2022
Rubber-tyred gantry cranes (RTGC)	1,083	382	178	Thailand: 8 electric RTGCs Pakistan: 11 electric RTGCs UK: 17 electric RTGCs Egypt: 12 hybrid RTGCs Mexico: conversion of 20 diesel to electric RTGCs; 3 new electric RTGCs; 3 hybrid RTGCs Poland: conversion of 4 diesel to electric RTGCs Panama: conversion of 15 diesel to electric RTGCs = US\$110 million of CAPEX investment
Straddle Carriers (SC)	226	0	8	Netherlands: 20 hybrid SCs Bahamas: 10 hybrid SCs Spain: 6 hybrid SCs = US\$37 million of CAPEX investment
Automated Guided Vehicles (AGV)	362	0	85	Netherlands: 77 hybrid AGV = US\$49 million of CAPEX investment
Reach-stackers (RS) and Empty Container Handlers (ECH)	418	0	0	Hutchison Ports is scanning the market for options. More recently some electric and hybrid versions have been launched and the Group is evaluating these products.
Internal tractors	1,639	6	0	Until recently there were no viable alternative options other than diesel for port-appropriate tractors. However, with recent market launches, a large-scale global rollout of electric tractors is underway, including the following short-term plans: UK: 48 electric trucks. Thailand: 9 manual electric trucks & 9 autonomous electric trucks. Oman: 14 electric autonomous trucks. Mexico: 18 electric trucks. = US\$14 million of CAPEX investment

Climate change is one of the greatest challenges of our time and Hutchison Ports is committed to playing its part by minimising the impact of port operations on the environment. Promoting a culture of technological innovation and adoption of alternative fuels is a key strand of our strategy. To move forward in our aim to decarbonise our operations, we are investing in new equipment and have now placed an order for 48 battery-powered terminal tractors and 17 zeroemission remote controlled electric automated rubber-tyred gantry cranes. This investment takes us another step nearer to our goal.

- Clemence Cheng, Executive Director, Hutchison Ports, Managing Director, Europe and co-chair of the Hutchison Ports Group Sustainability Committee

2. Renewable electricity

Another area of opportunity is in renewable electricity where only 8% of total electricity is sourced through long-term power purchase agreements and energy attribute certificates. BEST has committed to a new agreement to source 100% renewable electricity in 2022, which will increase the division's overall procurement of renewable electricity by another 10%, as the 4th largest consumer of electricity in the Hutchison Ports portfolio. The Group will continue to seek further opportunities in this area.

Aside from renewable electricity, since 2012, Hutchison Ports has progressively been installing solar infrastructure. In 2021, 696MWh of renewable energy was generated onsite with expansion plans in place to generate an additional 124MWh in 2022. For example, BEST is also expanding the number of solar panels for self-consumption with a total surface area of 4,763 m², which will help to reduce CO_2 emissions by 250 tonnes.

3. Energy efficiencies

Scope 2 GHG emissions account for 38% of operational GHG emissions, a figure that is set to grow in proportion as port infrastructure transitions from consuming petrol and diesel (scope 1) to electricity (scope 2). Electricity is also consumed onsite to power port facilities and offices through which efficiencies are being created through behaviour changes, the procurement of energy efficient HVAC and other energy-consuming systems, and the adoption of LED lighting.

4. Mobile shore power

Mobile shore power provides the opportunity for shipping lines to connect to landside electricity rather than burning fossil fuels in port, thereby reducing the direct carbon footprints of shippers and improving local air quality.

In 2020, the International Maritime Organization enforced a new limit on the sulphur content in fuel oil used on board ships. As a result, more vessels may look to switch to use shore electric power while at berth.

Current progress and future plans in mobile shore power include:

- Hutchison Ports in China including terminals in Shanghai, Ningbo and Xiamen, have shore power connectivity on their berths.
- ECT is collaborating with the Port of Rotterdam to achieve the Port Authority's ambition to supply 90% of the ships visiting public quays in the urban area with shore power by 2030.
- As part of the Port of Barcelona's aims to achieve 50% CO₂ emissions reduction by 2030, BEST is working with the Port Authority on the installation of six mobile shore connection points to begin construction in 2023.

5. Supporting the shift to rail and efficiency in outbound logistics

The European Commission's Sustainable and Smart Mobility Strategy, published in December 2020, calls for "decisive action to shift more activity towards more sustainable transport modes", aiming to increase rail freight transport by 50% by 2030, among other goals.

The favourable geographical location of the division's terminals means that Hutchison Ports is well placed to develop multi-modal feeder hubs and railway networks connecting containers to and from its seaports to more inland destinations.

A key part of Hutchison Port's strategy when taking over and transforming the BEST terminal in Barcelona, has been to make it one of the gateways to the European market by leveraging train lines and building its surrounding hinterland. It has an 8-track railway facility, the biggest on-dock railway terminal of any port in the Mediterranean. Rail traffic at BEST has increased significantly in recent years, going from 3% of full import and export container traffic to 21% in 2021, saving an estimated 37,614 tons of CO₂ emissions versus road transport.

Synergy, the logistics operator of Hutchison Ports, has also consolidated its intermodal service between BEST and the southwest of France. Customers benefit from up to 11 days of savings in transit time with the new services through the Port of Barcelona and lower carbon emissions. Synergy's increased rail offer has enabled a saving of 13,000 tons of CO₂ emissions in 2021.

Hutchison Ports ECT has also significantly invested in becoming an established starting point and terminus for rail transport in Europe. ECT directly connects the deepsea traffic at the Maasvlakte with the rest of Europe through its 16-track rail terminal. Due to Rotterdam's location at the mouth of the river Rhine and the river Meuse, it also enables inland barges to directly connect to ECT's deepsea terminals.



Rail terminal at Hutchison Port BEST

PARIS - OPTIMISING A GREENER INLAND SUPPLY CHAIN

Acquired in 2000, PARIS C is a wholly owned subsidiary of Hutchison Ports, which seeks to address the challenge of inherent inefficiencies created through manual planning of inbound and outbound logistics. Instead, PARIS uses advanced algorithms and parallel processing to provide optimised transport planning and features to effectively manage transport exceptions, reduce empty mileage and improve service performance. The software plans and optimises collection and delivery bookings in real-time using available rail, barge and truck transport options for the most efficient journey. Trips are also measured in terms of CO₂, SOX, NOX and PM10.

PARIS is able to save between 5% and 8% of a typical GBP20 million transport budget, including in excess of 1,000,000 kilometres of reduced empty distance travelled by truck resulting in approximately 1,000 tonnes of CO₂ emissions.



In 2021, PARIS extended its customer base to include ONE (Ocean Network Express), one of the largest shipping liners in the world. Together, PARIS is expected to reduce ONE's CO₂ emissions by 5% from increased efficiency in trucking reload/triangulation as well as through the increased multi-modal shift to also include rail and barge to its usual truck transport.

PARIS is expected to reduce ONE's CO₂ emissions by 5% from increased efficiency in trucking reload/triangulation

6. Next generation technologies and fuels

There are many winds of change influencing the maritime sector, with both multinationals concerned about their shipping carbon footprint and shipping liners looking to see zero-carbon shipping services delivered. The technology to a large extent, however, is still in the R&D phase with much trialling and testing ahead. Hydrogen is an area the Group believes can play a hugely impactful and innovative role in a port environment. While there are still technical and operational issues to overcome, the Port of Felixstowe already has an ambitious plan to be a net-zero port and green hydrogen hub for the UK.



Hutchison Ports Port of Felixstowe

FREEPORT EAST HYDROGEN HUB

Freeport East, centred upon the Port of Felixstowe and Harwich International Port (both owned and operated by Hutchison Ports), will be one of the eight new Freeports in the UK. Working closely with a consortium of partners, Hutchison Ports is helping to position Freeport East as a world-leading green hydrogen hub and centre for excellence in sustainability over the next two years. At its peak, it is expected to produce 1GW of hydrogen, 20% of the 5GW target in the UK's Ten Point Plan for a Green Industrial Revolution. Among many other uses, the hydrogen produced will be used to power port infrastructure and equipment.



Hydrogen will also be produced via renewable energy from nearby offshore windfarms, with the extra demand bolstering investment and accelerating progress to the 40GW target of annual production.

In 2021, the Port of Felixstowe was also announced as one of the beneficiaries of the Department for Transport's Clean Maritime Demonstration Competition which will include a study detailing how Freeport East can become both a net-zero port and a net-zero energy hub for third parties and adjacent region.

It is predicted that Freeport East will generate 13,500 new jobs and provide a GBP5.5 billion economic boost over a 10-year period.

Climate risk and resilience

Cyclones, hurricanes and storm surges coupled with rising sea levels are increasingly realistic threats to port infrastructure, security and operational efficiency. The impacts of higher ambient operating temperatures for ports may impact operating parameters and working conditions. For example, higher temperatures may require more frequent equipment calibration as well as the possibility of heat-related illness amongst the workforce.

Given the critical role of ports in the global trading system and their potential exposure to climate related damage, disruptions and delays, enhancing their climate resilience is a matter of strategic socio-economic importance for the global economy and society as a whole, as outlined by the <u>United Nations (UN)</u>

In 2017, the UN Conference on Trade and Development conducted research on the impact of climate change on the operations and financial performance of 44 ports in 29 countries around the world. The research identified the following top five climate risks that may impact on future profits and assets of ports over the long-term:

1. Sea level rise causing changes in routes;

2. Increased temperature causing health hazards and additional operating costs;

- 3. Storms and waves causing liner delays and asset impairment;
- 4. Windy weather causing navigation routes to change; and
- 5. Flood and drought resulting in course changes and coastal erosion.

The potential impact and severity of these issues will vary from port to port through the 26 countries in which Hutchison Ports operates. In recent years, only one extreme weather event, namely Hurricane Dorian, the category 5 Atlantic hurricane that hit Hutchison Ports FCP in the Bahamas in September 2019, has caused damage to port infrastructure and the cessation of port operations. Aside from this event, extreme weather events have not caused major damage to Hutchison Ports' network. However, Hutchison Ports is aware that once in a hundred year events are becoming more frequent and that it needs to be prepared for a more extreme weather future.

To further assess the physical impacts of climate change, acute and chronic, Hutchison Ports commissioned a global climate risk assessment of its ports by a third party expert. Each port was assessed against the above-mentioned climate risks in relation to severity and likelihood of the event occurring. The assessment resulted in a hierarchy of most exposed ports in the long-term by climate risk type. A shortlist of ports have been identified for further detailed assessment. Diversity and inclusion at Hutchison Ports UK

6

Creating a great place to work

Hutchison Ports recognises the success of the ports business is inherently linked with the hard work and dedication of its workforce.



Safety inspection at Hutchison Ports HIT

Occupational health and safety

Hutchison Ports works to ensure a safe environment for all Hutchison Ports employees and external users of its terminals and port facilities. In accordance with its Safety Policy in place, Hutchison Ports is committed to:

- Providing a safe working environment;
- Preventing accidents in the workplace; and
- Adopting preventive measures to eliminate hazards and safety risks.

Further procedures for hazard identification, risk assessment and emergency preparedness are in place relating to the safety of all employees and contractors. The Hutchison Ports Group Safety Committee ("SAFCOM") was established in 2011, with the headline remit to promote safe working and reduce accidents across the global network through the development of policies and procedures and the sharing of best practices.

SAFCOM is composed of the SAFCOM chairman, the secretariat (the Hutchison Ports Group Safety, Security & Environment team), six regional coordinators, as well as Hutchison Ports' head of Human Resources, head of Risk Management and the head of Engineering. The regional coordinators are the focal points for communicating decisions and recommendations made by SAFCOM within their respective regions. Every port is required to have its own Safety Committee to oversee performance management, monitoring and measurement of employees and contractors, and is responsible for liaison with the regional coordinators. Local Health and Safety teams are the teams on the ground and responsible for:

- Identifying occupational hazards employees may potentially be exposed to;
- Undertaking risk assessments; and
- Creating safe operating procedures to remove or reduce potential harm in all areas, in compliance with local legislations as a minimum standard.

SAFCOM has established a safety audit programme in which safety specialists conduct on-site audits to monitor port safety performance and compliance. The safety audit team uses assessment templates based on leading international safety standards and Group internal audit requirements. Safety audit reports, including the findings and the safety improvement actions, are submitted to SAFCOM and port management for review. During the pandemic, SAFCOM's normal programme of port visits and auditing was temporarily adjusted to use virtual audit instead.



Figure 18: Employee profile as at 31 December 2021

In 2021, Hutchison Ports continued its safety training programme with a further 1,157 participants receiving new training on electrical safety and lifting operation and lifting equipment safety management. During the year, Hutchison Ports also organised a safety leadership training and workshop for all the heads of business units to further align their safety leadership role and engagement.

Hutchison Ports employees also take part in employee health screening programmes. Focus areas include the prevention of work-related illness and occupational diseases, ergonomics in the workplace, stretching exercises for frontline staff, environmental health and noise protection.

In addition to Hutchison Ports division-wide coordinated programmes, every port also has its own tailored programme of initiatives and ways to communicate and enforce safety measures.

As part of the division's ongoing response to the impact of COVID-19, Hutchison Ports has introduced stringent safety precautions to ensure that its terminals are safe places for employees to work.

Every port has developed business continuity plans to ensure that Hutchison Ports can continue to provide port services safely for its employees, contractors and customers. Response plans include protocols for temperature checking, on-site testing and vaccination services for employees and family members, amended working practices, restricted travel, workplace access, social distancing and internal track and trace systems.

Tragically, three fatal incidents resulted in the deaths of two contractors and one employee in 2021 in relation to two

container-handling equipment incidents and one traffic collision incident. Accident investigation has been carried out for each individual case and actions were taken to further enforce the operational safety procedures on the terminal.

Health and wellbeing

Hutchison Ports' global health and wellbeing aims are to: cultivate a productive and healthy organisational culture; promote a positive and supportive work environment; foster employees' sense of belonging; and build employee wellness and engagement.

Health and wellbeing initiatives are part of daily life across the division with initiatives at the port-level such as annual medical check-ups, onsite gyms, sports teams, healthy food options in employee canteens, seasonal flu jabs, and wellbeing training specific to job requirements such as stretching exercises for truck driving relief.



Hutchison Ports Gdynia hosts 5km run competition in the terminal

BEWELL

In 2021, Hutchison Ports launched BEWELL, a global campaign dedicated to addressing a "whole-self" approach to wellbeing focusing on physical, emotional, spiritual, social, and intellectual health. The programme kicked off in October 2021 with a global awareness raising campaign followed by a series of webinars and e-learning.

The 2-year programme will serve to impact its three core pillars:

- *Care:* recognising the need to take care of the wellbeing of ourselves and co-workers:
- YOUR WELLNESS JOURNEY
- *Contribute:* acknowledging both the importance of personal contributions being recognised and rewarded to engendering workplace engagement and wellbeing, together with the satisfaction that comes from giving back collectively as an organisation to the local community; and
- *Collaborate:* showing that as a large global port network, together huge achievements can be made, and together a positive and healthy work environment can be co-created.

Attraction, retention and development

Hutchison Ports is committed to ensuring fair working practices, promoting an inclusive working environment, providing competitive remuneration and employee benefits, and offering rewarding learning and development opportunities.

Creating an open feedback culture and ensuring two-way communications are enabled through port-level employee engagement surveys. Results are reviewed by top management, communicated to employees and often supplemented with other support structures such as focus group discussions.

Globally a comprehensive succession plan is carried out at the managerial and leadership levels to identify successors and topperforming talent, as well as identify interventions to accelerate their development and career advancement in the organisation.



Leadership workshop at Hutchison Ports HIT

Learning and development

Hutchison Ports' Regional Development Programme is the flagship development programme designed for middle management leaders from across Asia Pacific, Europe, Latin America and the Middle East. With the third and fourth cohort programmes underway, the recently revamped virtual learning approach engages participants through bite-size leadership practices and business project presentations under the guidance of crossregional leadership. Following the completion of the project, graduates join the expanding group of alumni that continues to provide a support network and opportunities for cross-port collaboration. The MyPORT global programme is aimed at emerging talent and building the next generation of leaders. Participants complete three modules of virtual sessions, including actionable assignments, dedicated coaching and guidance along the way from business managers.



MYPORT leadership programme in action

Inclusion and diversity

With a large and diverse team globally, Hutchison Ports aims for all employees to feel accepted, included and that they belong to a large family of diverse cultures and backgrounds.

In 2020 and 2021, inclusion and diversity has been given added focus through new KPI setting to better monitor progress and identify opportunity areas for the global Ports Sustainability Committee to spearhead action.

The ports industry is traditionally male-dominated due often to the physically demanding nature of cargo handling. However, with the advent of technology, equipment automation and remotecontrolled environments port opportunities are now more inclusive than ever. Nevertheless, Hutchison Ports' gender ratio currently stands at 90% male/10% female, which is typical for the industry, and there is more work for the whole industry to do to influence the broader system.

INCLUSION AND DIVERSITY AT HUTCHISON PORTS UK

Due to an increased focus on improving the diversity of its workforce, Hutchison Ports UK has begun to see the positive results of its inclusion and diversity strategy including a significant increase in the percentage of job applications from women. In 2021, 15.8% of applications received were from women, compared to 9.6% in 2020 and 8.6% in 2019. This has translated into 48 women joining the business in 2021.

Achievements during 2021:

- Expanded programme to include race, age, LGBTQ+ and disability as key new pillars;
- Launched new Equality and Diversity Policy;
- All employees in middle management roles and above completed new e-learning on the importance of creating an inclusive environment;
- Enhanced recruitment processes to be more inclusive. For example, anonymised all job applications to help eliminate biases in selection processes and increased job advertisements across a broader range of platforms to reach a wider, more diverse audience;
- Working towards the Government-recognised Disability Confident Committed Employer status for attainment in 2022; and
- Increased internal membership for internal Women's Network by 24%; hosted eight virtual events; and virtually celebrated International Women's Day.



Hutchison Ports UK's team members taking the International Women's Day pledge in 2021 to #ChooseToChallenge gender inequality



Hutchison Ports UK Women's Network visiting the Maersk rainbow container on its world tour

Investing in local community development and environmental protection

The division's ports around the world support and benefit local and regional development through their roles in creating jobs and transporting goods. They also partner with community organisations to play an active role in making their surrounding communities and environment better places to live and work.

Community support

Hutchison Ports' Dock School Programme is one of the division's most long-standing community programmes, in which each port globally partners with at least one local school to provide support such as sponsoring scholarships, equipment and other educational initiatives. For example, Hutchison Ports HIT supports the Tsuen Wan Trade Association School and the Hong Kong Institute of Vocational Education Tsing Yi with scholarships for disadvantaged students, and through facilitating school contests and opportunities for local students to learn more about Hong Kong's supply chains and the logistics industry.

Attracting new employees to the ports business and developing a future pipeline of talent is also an aim of the Dock School Programme. In 2021, Hutchison Ports HIT continued its "Start Your Journey @ Port Programme", a programme that provides a series of learning opportunities for local university students. The programme aims to increase students' knowledge and interest towards careers in the logistics industry through seminars, placements, scholarships and terminal visits.

During 2021, Hutchison Ports also prioritised supporting the rollout of COVID-19 vaccination efforts both through awareness raising campaigns of its positive benefits among employees and the community, as well as supporting the physical delivery of the vaccines and healthcare support to its local communities. For example, the division supported the storage and distribution of vaccines for the canal authority in Panama and donated medical supplies, including PPE and medical equipment, to hospitals in Myanmar. Teams in the UK, Hong Kong, Pakistan, Oman and Vietnam worked in partnership with local organisations to support local vaccination programmes as well as the donation of financial and logistics support for the distribution of medical supplies.

Hutchison Ports' volunteer teams also focus on local conservation efforts as part of the global GO GREEN campaign through planting trees and cleaning local green spaces for the community. Employees are also encouraged to adopt an eco-conscious mindset at work through landmark celebrations in the environmental calendar including Earth Hour and World Environment Day. The division's ports also engage in local biodiversity protection. For example, the terminals in Mexico collaborate with the local community to run a turtle protection programme for endangered species that visit the ports' local areas to lay their eggs.

Ensuring responsible business practices

With a global ports network spanning 26 countries and an everincreasing focus on digital technology to run its critical business processes, both anti-corruption and cyber security are among two of Hutchison Ports' highest priority business risks.

Further, ensuring a responsible supply chain is also increasingly of focus for Hutchison Ports as it continues to expand its scope of focus.

Anti-corruption

The board and executive management team at Hutchison Ports has a zero tolerance approach to bribery and corruption. Hutchison Ports' policies, guidelines and procedures are established in these areas in local languages to deliver high standards of business ethics and integrity. Every employee must adhere to the ethical standards and legal requirements set out in the Group's Anti-Fraud and Anti-Bribery ("AFAB") Policy, the Code of Conduct, and additional relevant policies and guidelines. All business partners, suppliers and third party representatives are actively encouraged to also adopt these standards.

All employees are required to go through the Code of Conduct and AFAB training as part of the new-joiner orientation, which is supplemented with refresher training. Self-declaration of compliance to the Code of Conduct is also required annually. Further, to ensure key personnel are familiar with the relevant laws and regulatory requirements, all managers and supervisors from the Human Resources, Commercial, and Procurement departments, along with other selected individuals, are required to attend online training every two years. Hutchison Ports also provides an e-learning platform for employees to have better access to the AFAB policy and to ensure the policy is communicated to all levels in the organisation. Where higher bribery risk exposure has been identified, ports also request suppliers to participate in training.

Hutchison Ports aims to create an environment where employees and contractors are encouraged to query, speak-up and report any alleged infringements of company policies and ethics standards. Throughout the division there are various confidential mechanisms for reporting. For example, at Hutchison Ports UK, the Speak Up Line was created to provide a confidential channel to employees for reporting any alleged AFAB incidents.

All reported incidents are recorded on a register and reviewed by the designated senior management team at the Hutchison Ports head office on a regular basis.

Cyber security

Being a key player in the global logistics industry, and with so many of the systems and equipment automated, Hutchison Ports invests heavily in cyber security to safeguard its operations from serious disruption.

Hutchison Ports' approach is first and foremost guided by the Group-level security policy as well as the Group's Cyber Security Working Group.

Across Hutchison Ports, cyber security frameworks are aligned to ISO 27001 with larger ports including Hutchison Ports HIT, Hutchison Ports BACTSSA and Hutchison Ports ECT achieving certification.

Hutchison Ports maintains a division-wide security programme, covering key areas in security governance and risks. While email phishing is the prominent cyber risk, regular phishing simulations and security awareness training are delivered to employees in identified high risk positions globally. Regarding IT security, Hutchison Ports performs systems vulnerability scanning for all port infrastructure and applications on a regular basis to maintain clear visibility of the vulnerabilities and deployment of security patches. To deal with emerging threats in the operational technology space, the division also reviewed the operational technology assets used in the terminals and their cyber risks.

In 2017, the division began revamping its cyber security recovery programme with the aid of leading experts in cyber security to boost operational resilience against cyber-attacks and shorten

the recovery time from possible ensuing interruptions, especially against emerging ransomware threats. The revised programme, which sets a target Recovery Time Objective of 24 hours and makes adept use of cloud technology, is now being progressively rolled out to other ports having first been piloted in a small number of terminals with diverse geographical locations and operational characteristics. The project is strongly supported by the division's senior management, and multiple training events have been held in London and Hong Kong.

All ports are required to conduct regular mock cyber-attacks based on different scenarios in order to keep their recovery programme up-to-date. For these exercises, where law enforcement officers are often invited to observe, comment and participate, the port response times are analysed and assessed, and the results are used to further enhance programmes. These drills help personnel to stay calm and collected under the stress and strains that typically accompany a real life attack. Cyber drills had been performed by most of the participating terminals to verify the recovery capabilities, recovery times and incident response procedures.

Responsible supply chain

Hutchison Ports is currently expanding it sustainable procurement guidance across its ports to assist with pre-screening business partners across a wide range of sustainability issues including: business ethics, GHG emissions management, and human rights. Expansive sustainable procurement practices are already implemented at Hutchison Ports UK with contractor evaluations in the areas of labour practices, modern slavery, environment, legal compliance and health and safety.

PREVENTION OF ILLEGAL WILDLIFE TRADE

Hutchison Ports believes that all organisations working in cargo movement have a role to play in countering the threat to animal and plant species from illegal trade.

Hutchison Ports is a signatory of the Buckingham Palace Declaration, a commitment to take substantive steps to remove opportunities for wildlife trafficking by focusing on information sharing and secure reporting to law-enforcement authorities.



Hutchison Ports has also developed a partnership with TRAFFIC, the non-governmental organisation working globally on trade in wild animals and plants, and leverages their insights to deepen knowledge and understanding in how to flag potential incidents of illegal wildlife trade.