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Global Port Trends 2030

The future port landscape

Deloitte Global Port Advisory, April 2020

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Disclaimer: The findings and assumptions in this document are partly based on “what if” scenarios developed over the past years by Deloitte Port Advisory. The forecast of the port industry in 2030 therefore shows a potential scenario based on the trends mentioned in this document. This report should not be used to make any investment or management decisions. It is intended as an overview for discussion purposes only indicating the necessity for policy making and strategy development.

Executive summary

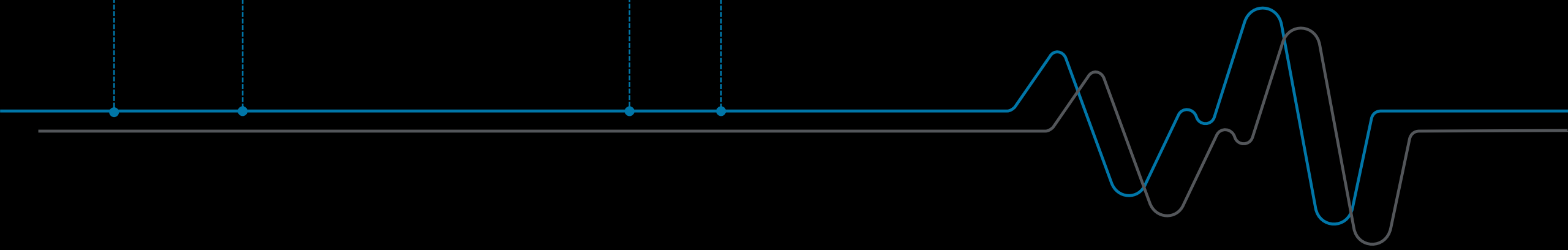
Global trends 2030's central objective is to unravel the landscape of the port industry for the next decade. And Deloitte Port Advisory' aim is to deliver support and insight to the maritime industry's executives.

The traditional port world is changing, demographical, technological, and sustainability drivers are affecting the daily business and shaping several important **trends**. As a port authority, port operator, policy developer or organization active in the port value chain it is important to know which changes will most likely occur and what the outcome will be for the maritime sector.

It is **expected** that **trade routes**, the **competitive position** of stakeholders, **ecosystems**, and the **cargo distribution will** be **different** as we know it today. Although the **exact future** of the global ports and shipping industry **is** still **uncertain**, it is **important** for the industry's stakeholders **to consider** these trends and **to prepare** with appropriate **policies** and **strategies**.

Whereas other insights often rely on scenario forecasting, we opted for a more **exhaustive overview of drivers, trends and possible outcomes**. This approach was especially selected since the port industry's diverse nature does not allow to be categorized. We are living in interesting times when it comes to ports management and infrastructure investment. We hope this document provides an anchor to steady the decision making in the coming decade.

Contents



Note on COVID-19

This report was developed right before the outbreak of COVID-19 hit the world economy at full force. As the effects of the virus are currently felt around the globe, governments and businesses' primary focus is the safety of their people. Whilst this focus will continue, the maritime industry is having to respond to a very challenging business environment.

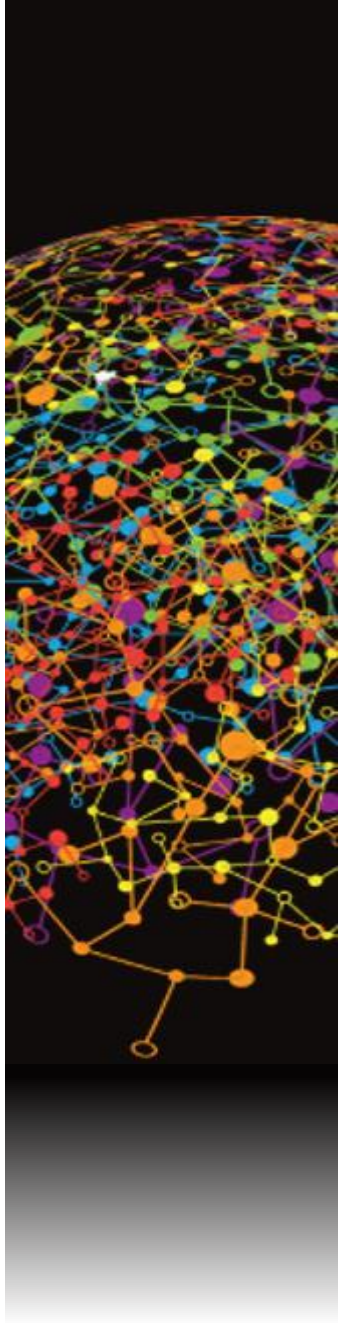
Even if the spread of the virus is contained in the short term, some companies will feel the effect for months to come. The impacts of the Coronavirus in terms of trade flows are obvious with drops up to 30%. In a sector that is already strained with low margins and increased uncertainty, the extended closure of manufacturing plants and transport networks has reduced maritime activity and lowered demand for crude oil.

Because of the high uncertainty and impact on the industry, Deloitte Port Advisory decided to include this note for two reasons. Firstly to wish all readers strength in these strange and worrying times, and second to outline any potential impact on the findings of this report.

Covid directly impacted the supply chains and ports around the world. Resilience and shorter supply chains are a logical result of disruption reinforcing the trends of protectionism, tilt in Asia, new product chains and new trade routes. This will result in a refocusing of China's (and possibly other countries') strategic foreign infrastructure investments to strengthen global connection and footholds.

Increased use of technology and increased collaboration are moving even more strongly to the forefront as dependencies on large labour forces and isolated (digital) infrastructure systems are reduced. This will still be part of larger strategies who will also be focusing increasingly on diversification for increased resilience, emphasizing spatial use strategies and niche markets. The virus showed that certain markets (container and automotive) are once again amongst the first hit in situations of global crisis. The one trend which became more uncertain due to Covid is the increased focus on sustainability. Given the large economic impact it is uncertain if sustainability will be pushed to the background in favour of basic economic growth initiatives.

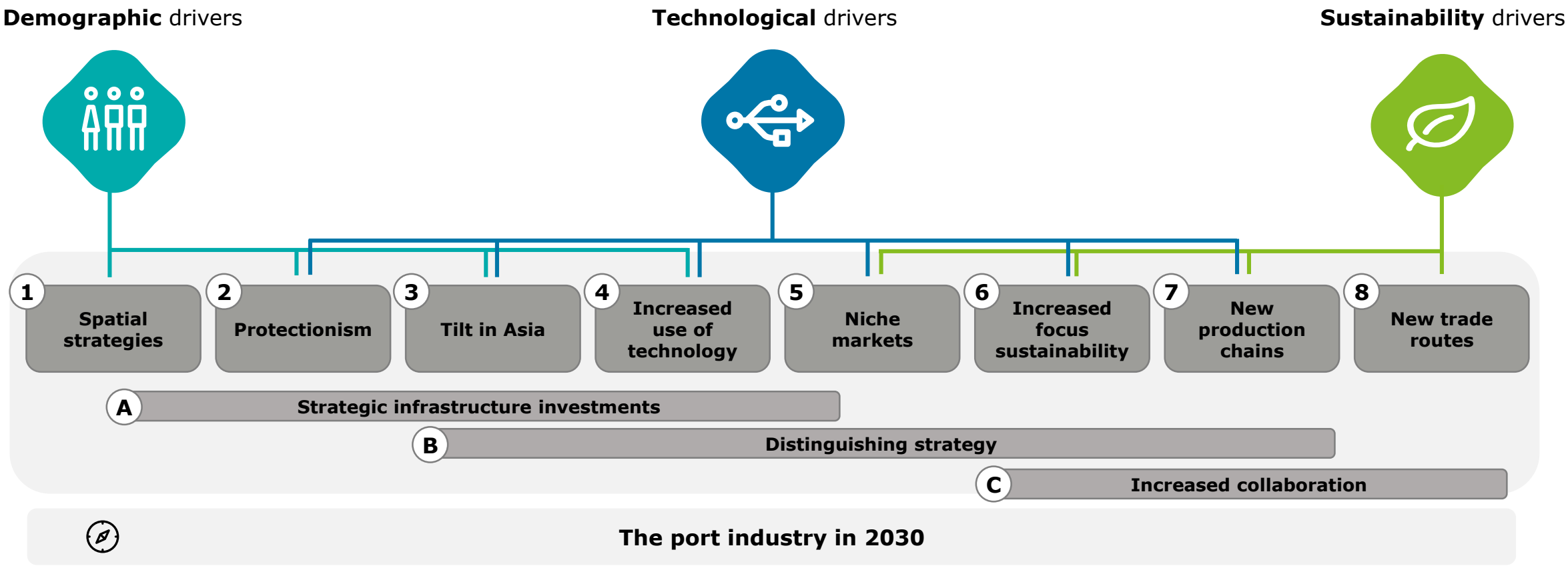
We wish you the best of luck, good health and safety,
The Deloitte Ports Advisory team



Introduction

Introduction

The port of today is not the port of tomorrow. Induced by demographic, technological, and sustainability drivers, it is expected that the maritime sector will be affected by several important trends. We have identified eight individual trends, and three following broader trends, that will jointly influence the outlook of the port industry in 2030. This report will discuss how the most important maritime trends follow from the different drivers, and what this may mean for the port industry in the future.

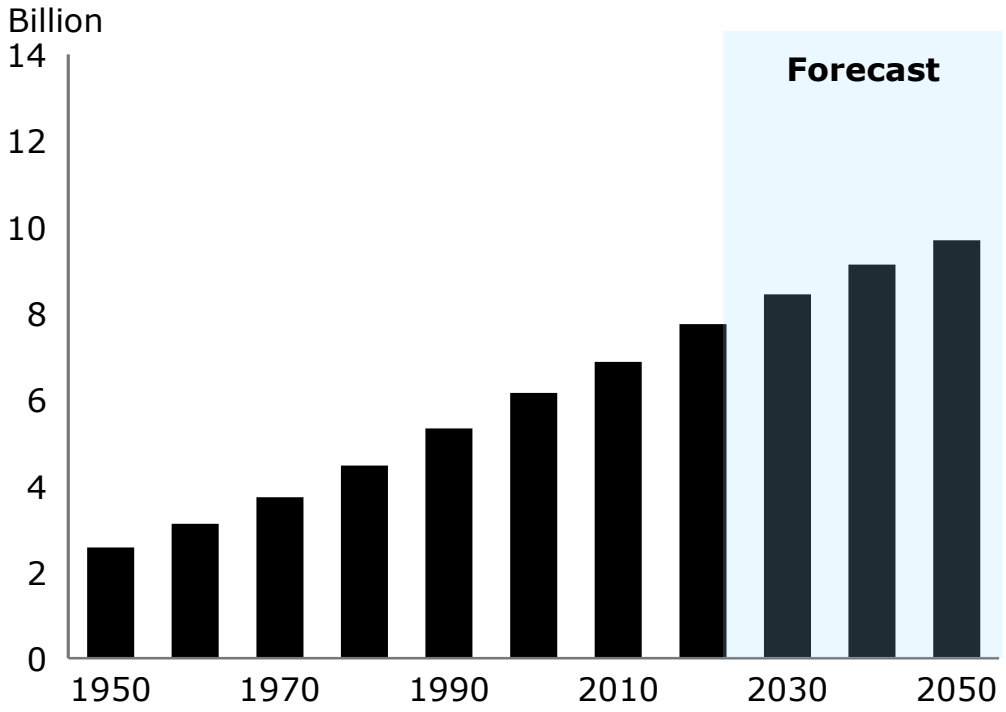


Demographic drivers

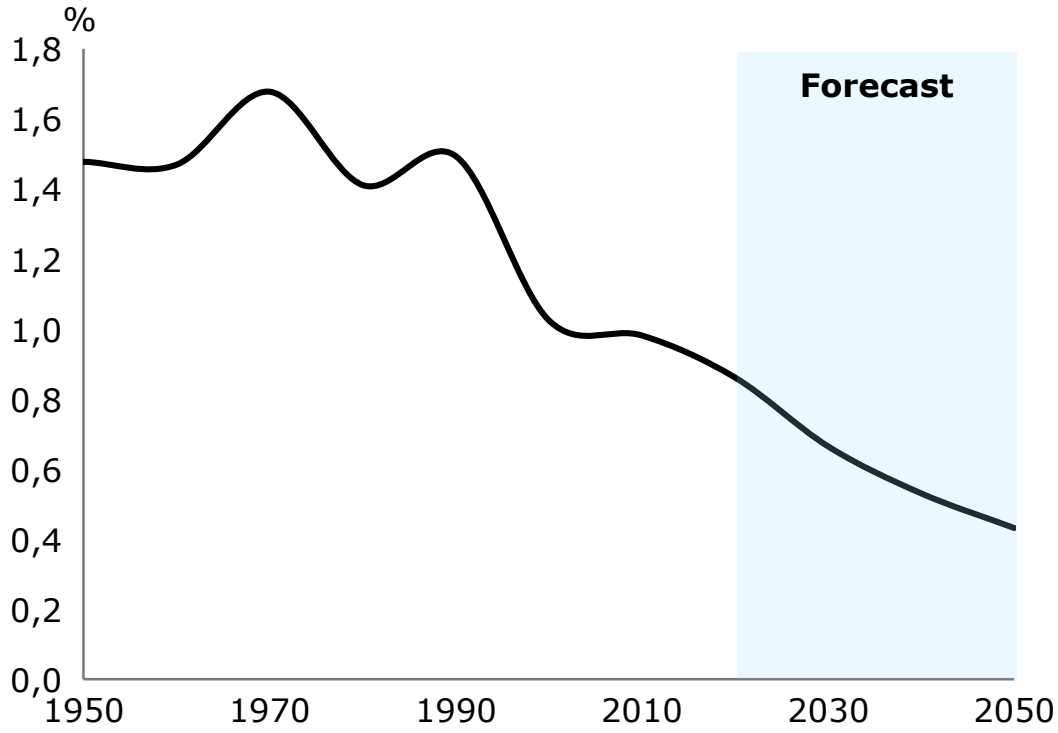
Demographic drivers | Population growth

Looking forward, global demographic trends indicate a rising population, although the growth rate is expected to decline

Total population



Population growth

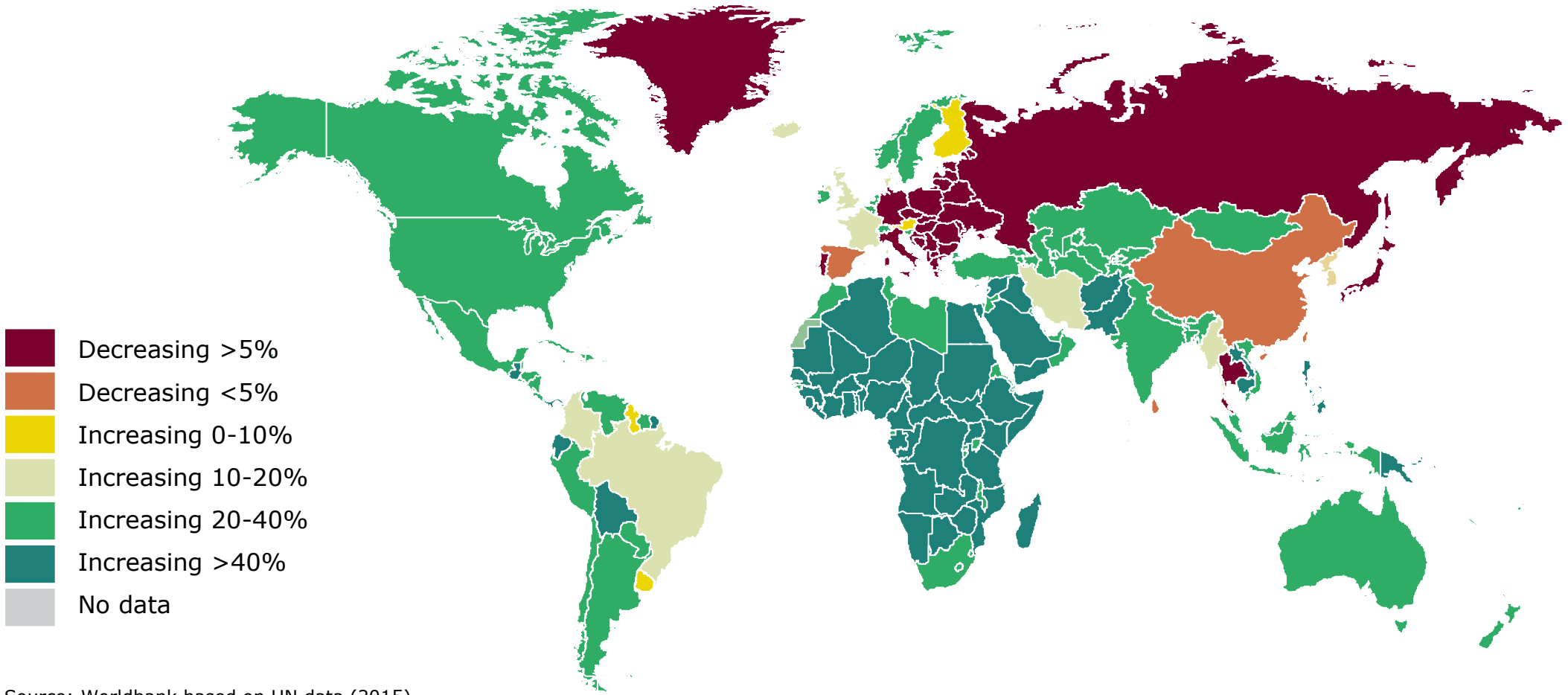


Source: Worldbank based on UN data (2015)

Demographic drivers | Population growth

Population is expected to decrease in China and large parts of Europe, the population in Africa is expected to increase significantly

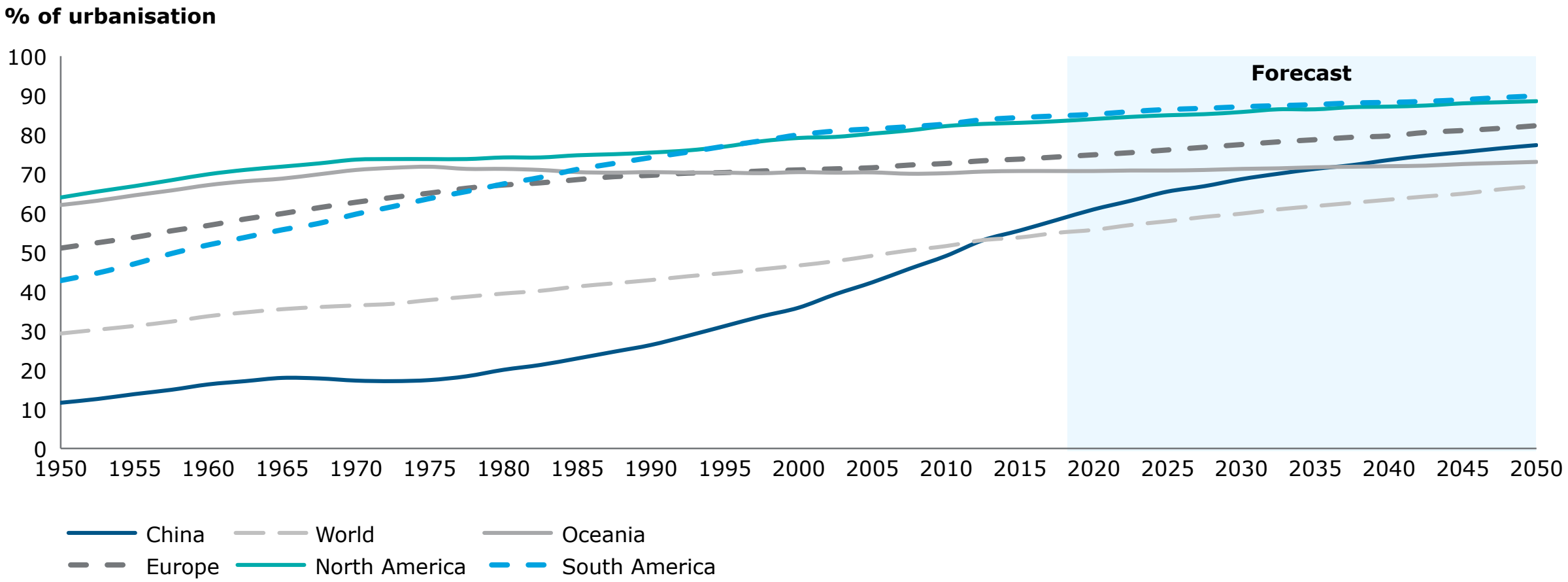
Expected population growth till 2050



Source: Worldbank based on UN data (2015)

Demographic drivers | Urbanization

Our urban centers will keep growing, resulting in an increased pressure on the, already scarce, space

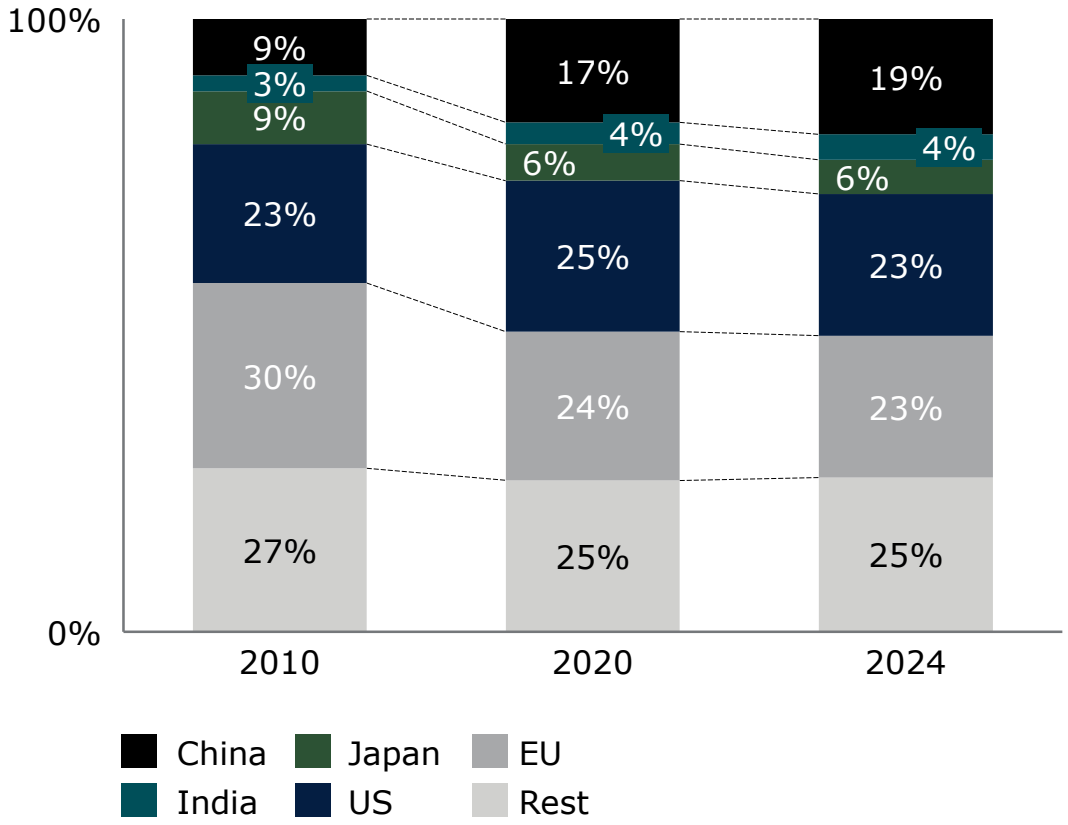


Source: Worldbank based on UN data (2015), UN The World's Cities (2018)

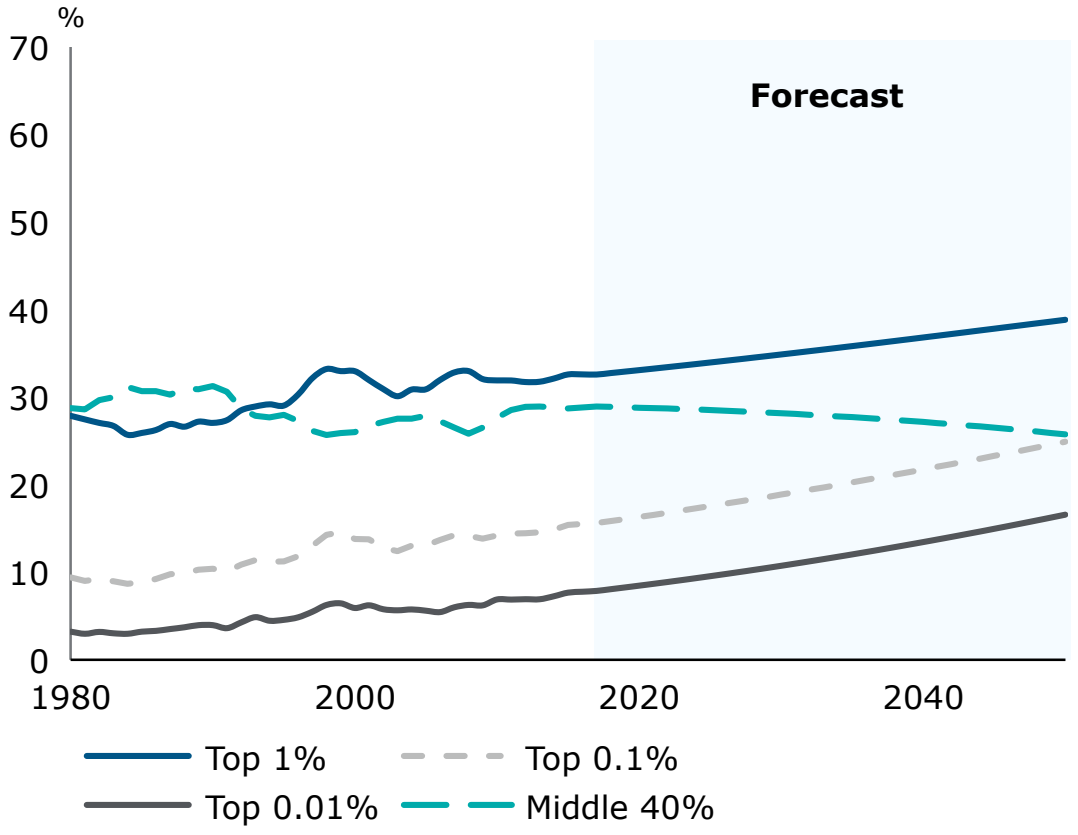
Demographic drivers | Politics

The shift in the economic balance and increased inequalities are expected to increase future politic tensions and protectionism

Contribution to world GDP



Global wealth inequality (assuming no changes)

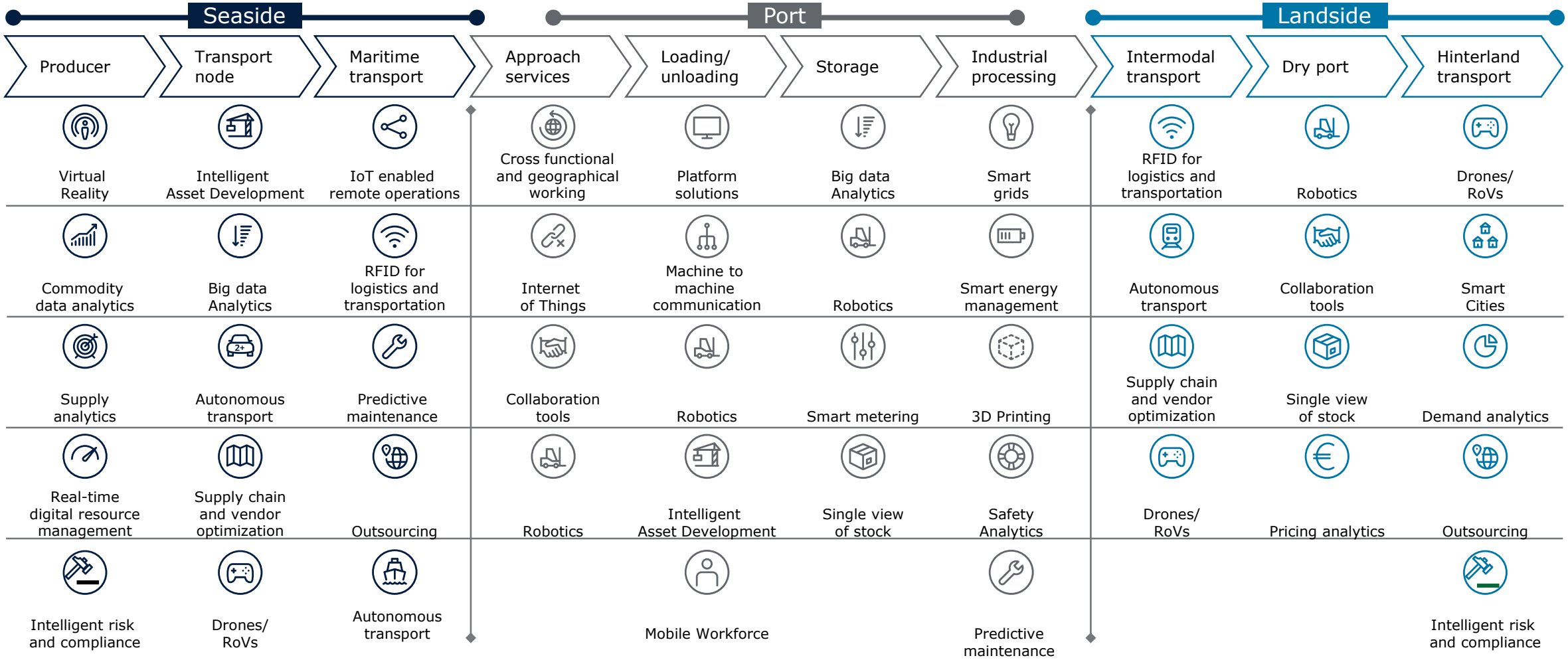


Sources: IMF(2019), WID World (2017)

Technological drivers

Technological drivers | Increase in innovations

Ports are increasingly implementing innovations in the entire value chain with a wide range of used technologies

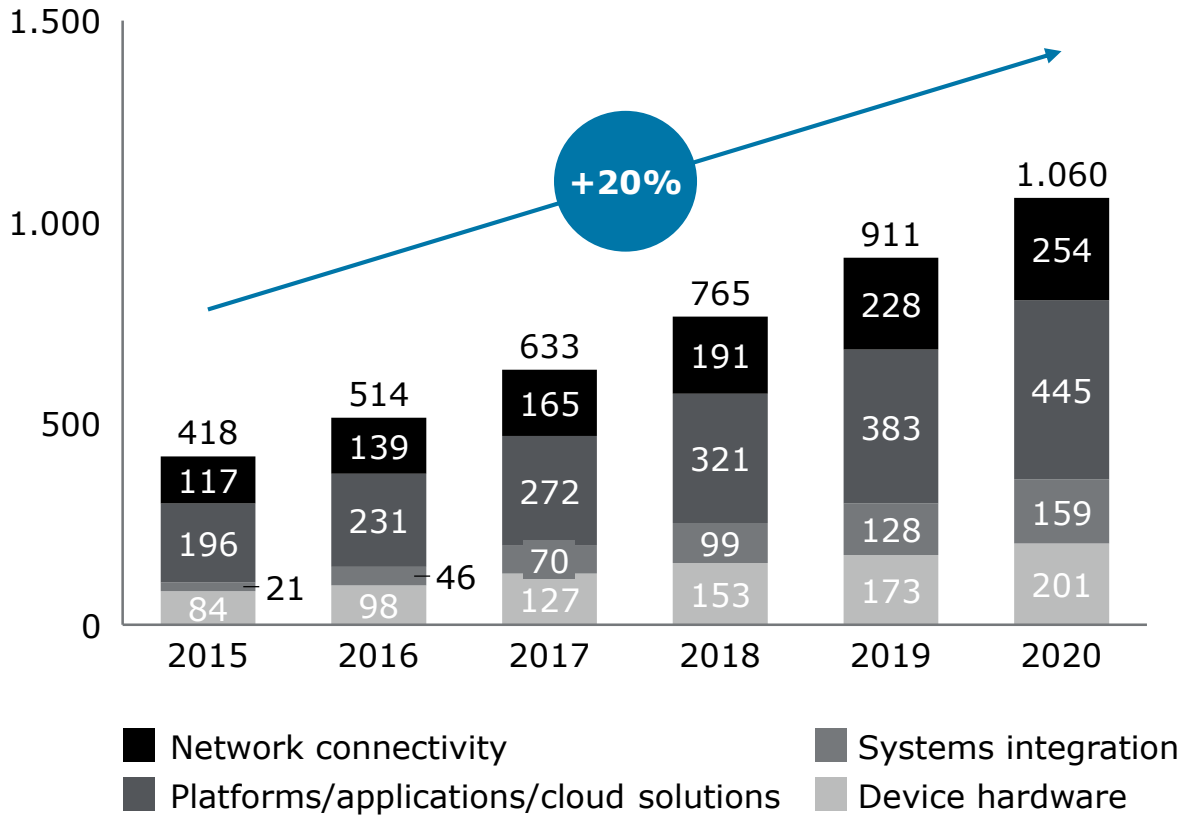


Note: Non exhaustive Source: Monitor Deloitte – Deloitte Port Advisory

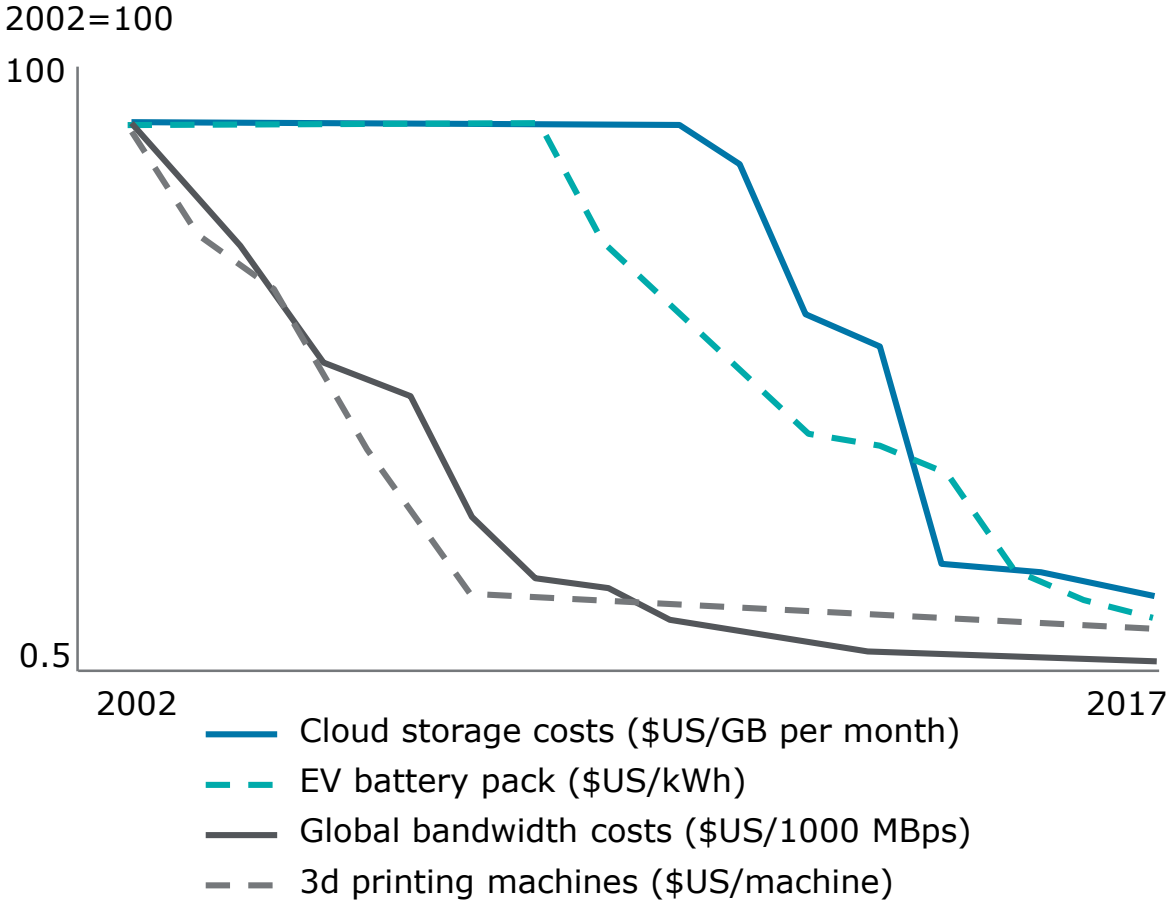
Technological drivers | Decrease cost of technology

It is expected that technological implementation in the maritime sector will keep increasing thanks to increased market investments and decreasing cost

Forecasted global IoT market spending ($ billion)



The declining cost of advanced technologies



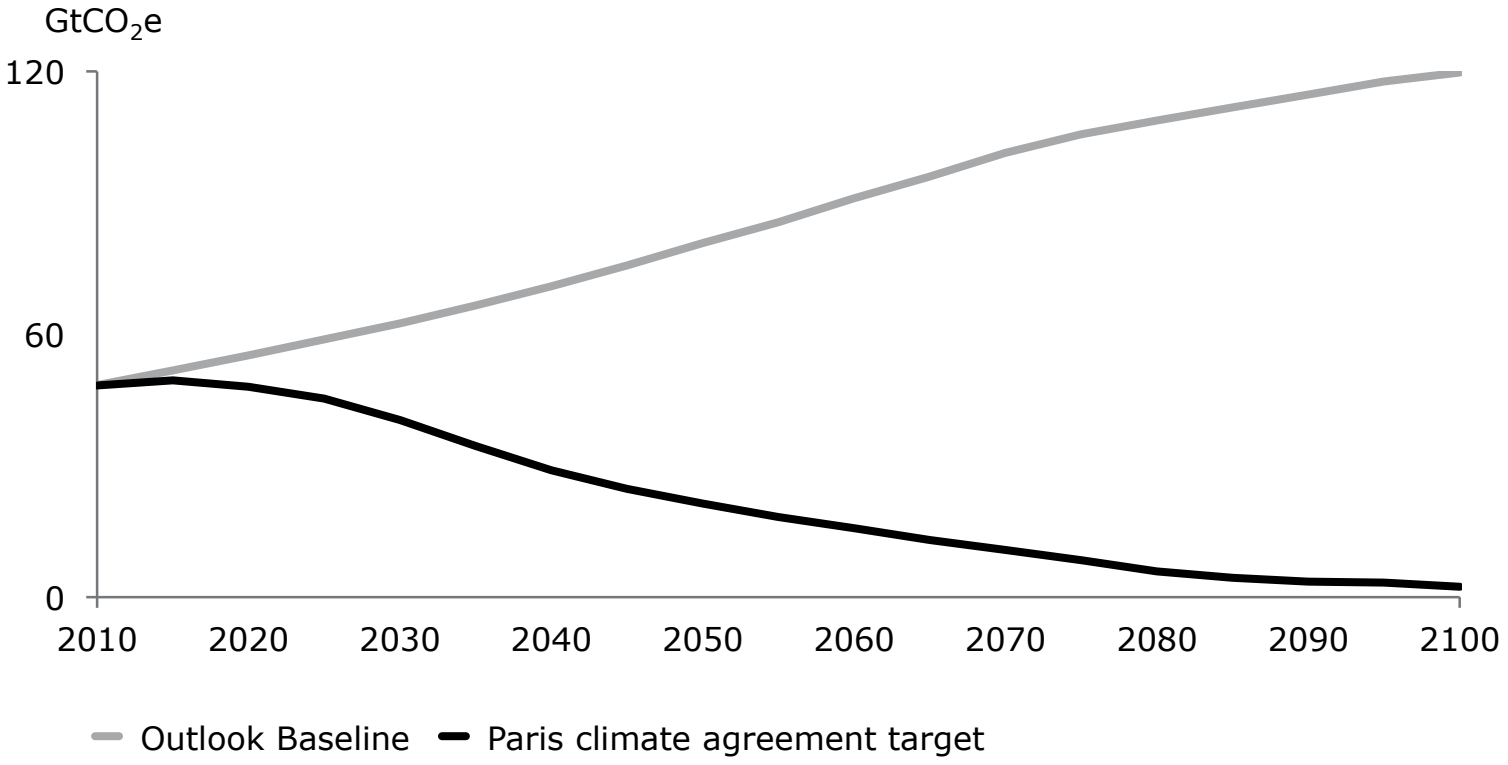
Sources: Deloitte analysis, Accenture (2017)

Environmental drivers

Environmental drivers | Global temperature

The average global temperature is expected to keep increasing due to greenhouse gas emissions

GHG emissions projection (2010-2100)



Temperature increase by 2100

3 – 6° Celsius

2° Celsius

Source: OECD (2012), OECD Environmental Outlook to 2050

Environmental drivers | Regulation

Efforts to reduce the carbon footprint and improve the environmental performance of the maritime sector remain high on the international agenda

A global **transition** to **a cleaner** and **greener maritime sector** is **underway**. **Increased** international maritime environmental **regulations** for Sulphur emissions, greenhouse gas emissions, and marine organisms and ship recycling will **affect** the **industry**.

Important recent regulatory developments

- **SDG 14** aims to sustainably manage and protect marine and coastal ecosystems from pollution, as well as address the impacts of ocean acidification.
- The new IMO 2020 regulation requires to bring the **Sulphur cap** in fuel oil for ships down from 3.50 per cent to 0.50 per cent.
- The initial IMO strategy aims to reduce **CO2 emissions** from international shipping by at least 40% by 2030, pursuing efforts towards 70% by 2050, and to reduce **GHG** by at least 50% by 2050 compared to 2008.
- The IMO energy efficiency design (**EEDI**) index sets standards for new ships and associated operational energy efficiency measures for existing ships.
- IMO requires vessels to install **ballast water treatment systems** no later than the first renewal of the International Oil Pollution Prevention (IOPP) certificate.
- Large commercial seagoing vessels flying with an EU Member State as flag state may be **recycled** only in designated ship recycling facilities included in the European List of ship recycling facilities.

Environmental drivers | Regulation

Societal pressure on environmental performance is expected to increase further

Pressure from society is likely to grow, as **younger generations** will **directly feel** the impacts of climate change. Therefore, it is likely that the upcoming years society will demand **changes from industries** towards **a more sustainable future.**

Important considerations

The Maritime Sector has not been included in the Paris Agreements, nonetheless, **policies towards more sustainable operations** are underway.

Voices to respond to climate change are amplifying throughout the world, asking political leaders and businesses to do more about climate change.

Inspired and funneled by Greta Thunberg, **younger generations in particular are uniting to put pressure** on the leaders of today. The UN Youth Climate Summit that was first held in 2019 illustrates this movement.

As young generations will be part of the electorate soon, **political leaders are likely to respond the upcoming years**.

Port trends to 2030

Trends – Increased focus on spatial strategy

Growing complexity of port operations leads to a diversification and intensification of land use, for which new synergies between port and city must be found

Space productivity

- The shortage of space in the existing urban ports demands to increase the space productivity within a port. Innovation and automation can contribute to increasing efficiency, i.e. by raising berth and terminal occupancy. It is therefore expected that technological developments will increasingly be used to tackle the challenges of space scarcity.

Waterfront redevelopment

- The space scarcity at times requires ports to move their activities from their historical center location towards locations further outside the city. In addition, due to technological developments (containerization) certain traditional, smaller terminals often located near or even in the city (centre) have lost their value as a traditional port terminal. Both developments result in an opportunity to develop the land with historically maritime land use to a more mixed type of land use.
- It is expected that waterfront redevelopment will increasingly be used to create ecosystems that combine social and economic aspects, which will create regional added value and employment, benefiting both city and port.

Case example

- The port of Amsterdam, 2nd largest port of the Netherlands, is faced with a strong pressure of urban growth. The management is proactively looking at strategies for maximization of port value for both the community and the businesses whilst balancing the need for more mixed use land use near the city border.

The port industry in 2030

- Successful ports will be the ones that **increase their spatial productivity**.
- **Unsuccessful ports** will have lost their reason to exist and be **swallowed by their respective city**.
- Future ports will build ecosystems on top of **synergies between successful existing clusters in both city and port**.
- Future ports will be **even larger drivers of innovation and revenue** for their cities.

Trends – Increased protectionism

Protectionism, driven by growing inequalities and the shift in power balance, may result in the reshoring of industries, negatively affecting trade and increasing process complexity

Reshoring of industries

- If protectionism continues, states will try to relocate the supply-side inside their borders and near to their own consumption markets.
- This would result in reshoring and nearshoring of industries, increasing the demand for raw materials, and similar to the "search for low-cost production" trend affecting ship sizes and sailing frequencies.
- Protectionism will therefore affect global trade, as well as the goods traded.

Port infrastructure

- If states increase the required administration, tariffs and other requirements of goods, ports will have to deal with an increased complex situation, and delivery time and costs are expected to increase.
- To prepare for this situation, ports will need to make investments, and develop plans how they well facilitate this new situation.

Case example

- The 2019 trade wars between China and the US directly affected throughput in the major import and export ports, as well as lowering the trade tariffs on major container routes.
- Brexit is forcing UK ports to reconsider the infrastructure in place and resilience of the entire port network for both border and trade migration but also base capacity at multiple locations throughout the country.

The port industry in 2030

- Current dominant western ports will be negatively affected most by the **trend in reshoring of industries**.
- **Smaller ports may benefit from the increase in nearshoring**, as they can accommodate the smaller and the higher frequency of sailing.
- Ports that will invest in the **improvement of their inland supply chains**, in order to prepare for this increased complexity, will improve their competitive position.

Trends – Tilt in Asia

Due to more technological driven production processes, the search for low-cost labor, and a growing Asian middle-class, trade routes, demand of ships and port locations are changing

Changes in supply and demand

- The growth of the middle-class in Asia is expected to result in a higher demand for European products, and a shift of more low-cost labor intensive supply chains towards countries where low-cost labor is available, such as the production of textile shifting from China to South East Asia. This will result in different trade routes.
- Production processes in general are expected to be less labor intensive and more technological driven (for example 3D printing). This could result in more local production of goods and change in products towards more semi-fabricates that will be finalized on (or near) the place of destination.

Impact on trade

- The search for low-cost production will result in different trade routes. On the input side, the new low-cost production destinations will demand more inputs of raw materials. On the output side, finalized products will now be exported from different origins.
- While low-cost labor becomes a less important criterium in the supply chain, other criteria such as efficiency, speed to market, visibility and control, gain in importance. Therefore, supply chains are expected to become shorter, affecting the current trade routes.
- Asian ports are becoming increasingly important for both the import and export of products. European ports are expected to react by strengthening their clusters, e.g. by improving their digital supply chains.

Case example

- With the 'Made in China' plan, China wants to make the transformation to an innovative and smart society and to be less dependent on the West. Central to this development spurt is the application of Artificial Intelligence (AI).

The port industry in 2030

- Changes in **regional growth of demand and supply will drive** the intensity of (Asian) port activity.
- The focus of transportation is expected to be **more on raw materials and semi-fabricates** than on finalized products.
- Ports will increasingly cater to **smaller ships and shorter routes due to local production processes.**

Trends – Increased use of technology

Due to the aging population, a shift towards more automation is expected, resulting in increased risks of cyber security, and the need for technological knowledge

More technological solutions

- Technological solutions like robotics and the IoT are needed to increase productivity. This would result in more automatic, digitalized and connected supply chains where less physical labor force is needed.
- It helps the port ecosystem transform from a simple logistics and transport node to an open and efficient community that can participate in the global landscape of integrated world trade.

More cyber risk

- Increased use of automatic, digitalized and connected supply chains increases the vulnerability to cyber attacks.
- Ports have always been strategic important infrastructure and therefore must be protected against cyber attacks that might shut down ports or steal data.

Less focus on physical infrastructure investments

- On the one hand investments in digitalization and automatization are needed to upgrade the port's supply chains. On the other hand, investments in cyber security are needed to protect this new supply chain.
- Investments in physical port infrastructure are expected to decline, because of a shift in focus on investment towards more technological solutions.

Case example

- Automation of terminals is happening across the globe, from the Hamburg-Le Havre range to the major Middle East hubs, from Chinese mega-terminals to South African IOT pilots, 5g networks in Antwerp, smart port platforms in Rotterdam, unique track and trace in Vancouver, etc.

Sources: IMF, The Impact of Workforce Aging on Productivity

The port industry in 2030

- Smart-ports that are secured well have a **competitive advantage.**
- Successful ports have **invested in technological advancements and their security** to keep data and operations safe.
- Successful ports **collaborate** to create supply chain **synergies** within their **ecosystem** and **cluster.**
- Increased **transparency** will **result** in stronger and more efficient **clusters competing** with each other.

Trends – Growing opportunity in niche markets

Driven by i.e. protectionism and increased use of technology, overcapacity in the container market is expected to continue in the coming years, shifting the focus towards niche markets

Overcapacity

- Demand is expected to decrease, while at the same time the available capacity is still growing. It is therefore expected that the container market will remain plagued by overcapacity for several more years.

Niche markets

- The drivers that cause a potential decrease in container transport, may put stress on land use and throughput KPIs of ports. Other commodities such as dry bulk, passengers or offshore supply might be safer investments and focus areas. Examples include:
  - The cruise market is expected to grow further in coming years, driven by growing demand from Europe and the rest of the world (especially Australia/New Zealand and Asia).
  - Since the energy demand is changing, and LNG currently seems to be the most promising alternative for the more traditional fuels, LNG is expected to show a growing uptake.
  - The changing energy demand will also drive the increase in the maritime offshore market.

Case example

- The cruise market is booming in Asia, where ports are faced with a large increase in both domestic and international demand. This is putting pressure on other port activities where growth figures are lower.
- Investment in infrastructure related to local niches like offshore decommissioning (North Sea), renewables (Europe and UK) or certain types of local produced cargo (dry bulk markets) are becoming more common.

The port industry in 2030

- It is expected that **container cargo will remain very important** in the global trade.
- **Stronger growth in other cargo** and **passenger trades** will result in **increased private investor interest** in these sectors.
- Ports will offer more **diverse activities** and **more specialization.**

Trends – Increased focus on sustainability

Due to the increased regulation – moral social license to operate and societal demand, it is expected that sustainability will become a more important competing value proposition

Shift from big, bigger, biggest to green, greener, greenest

- The race for economy of scale vessels seems to come to an end. Large-scale ship building projects are therefore unlikely to continue.
- With an abundance of capacity, the market is now focusing on finding new competitive advantages.
- Ports are still debating about the need for mega investments in the accommodation of the mega ships to deliver and to obtain financial results.

Sustainability

- Carriers seeking to service the world's largest companies will need to adapt to the increased demands for sustainability. In addition, environmentally motivated regulations are likely to become the most important cost-driver in the coming years.
- Sustainability performance will therefore become one of the differentiating and value-adding factors in the Western maritime industry. It is expected that Europe will take a leading role in this transition, followed by the US.
- For port infrastructure and service providers, greater sustainability comes down to improved economic efficiency, resilience, and environmental and social sustainability.

Case example:

- The Dutch Seaports collaborated in developing a comprehensive sustainable strategy. In 2020 this effort was recognized and the Dutch ports have been appointed as worlds most sustainable ports by the IAPH.

The port industry in 2030

- **Sustainability** is mainly **focused** on **by European ports**, and (to a lesser degree) by American ports.
- Successful ports will be recognized for their **socially and environmentally sustainable operations**
- **Sustainable ports** increase their **business climate attractiveness** compared to traditional ports

Sources: UNCTAD (2019), World Port Sustainability Program (2020)

Trends – Occurrence of new (renewable) product chains

Due to increasing demand for renewable energy sources it is expected that new product chains offer diversification benefits for ports ecosystems and increase competitiveness

Growth of renewable and circular cargo flows

- The world wide shifting perspective on traditional fuels and linear production chains results into an increasing demand for renewable fuels and circular concepts.
- Ports gain competitive advantages through the production and transshipment of hydrogen, hydrocarbon, bio- and synthetic- fuels and biomass.
- Facilitating production- and storage- clusters for circular waste-to-energy/chemicals concepts offer diversification possibilities, leading to resilient future-proof ports.

Facilitating off- & on-shore wind energy development

- Increasing demand for offshore wind energy production as a renewable energy source is leading to worldwide development of offshore wind parks.
- Ports could gain a gateway function for the production, maintenance and connection to the energy grids of offshore wind parks.

Case example

- Multiple fossil fuel terminals, both inland and in ports are seeking funding and strategies for green projects like HVO plants, hydrogen and ammonia conversions, waste-to-chemicals and others.
- The port of Antwerp and Amsterdam are actively investing in hydrogen related infrastructure to greenify the current ecosystem.
- The port of Rotterdam and Copenhagen recently opened waste-to-energy facilities to reduce CO_2 emissions and extent their green ecosystems.

The port industry in 2030

- **Transshipment** and **production** of traditional energy sources decreases while **renewable sources increases**
- Large investments in **renewable infrastructure** will give ports a **competitive advantage**
- Successful ports will **accommodate green ecosystems** to stay relevant

Sources: UNCTAD (2019), Deloitte analysis (2020), International Energy Agency (2020)

Trends – Use of alternative trade routes

Due to the global rise of temperature the Northern Sea Route and the Transpolar Passage could become viable alternatives for maritime freight

Shorter trade routes

- ITF transport expects that by using the Northern Sea Route for maritime freight between Northern Europe and Asia could reduce voyage distances relative to routing through the Suez Canal by 37% for Japan, 31% for South Korea, 23% for China and 17% for Taiwan.
- This would result in less traffic through the Cape of Good Hope route.

New resources

- Natural resources within the Arctic region are increasingly easier to access.
- It is estimated that the Arctic contains around 1,670 trillion cubic feet of natural gas, 44 billion barrels of liquid natural gas, and 90 billion barrels of oil.

Increased trade

- Increased trade is expected as new opportunities arise due to lower costs.
- New resources will lead to new business opportunities and therefore to additional trade.

Case example

- Baltic and Russian ports are expecting a growth in traffic and are therefore investing in additional capacity in the region.

Sources: ITF Transport (2019), CPB (2015), USGC (2008)

The port industry in 2030

- New ports will develop alongside the **new trade routes** leading to **heightened economic** and **geopolitical interests.**
- **Regions located directly on these routes** will experience the biggest gains in port development potential.
- **Several developed regions will be negatively affected**, such as Egypt, Singapore, more central EU ports and the South and Eastern EU members states.

Trends – Increased strategic investment programs

Due to the changing economic balance, world powers like China are taking the initiative to secure their position in the future's global trade networks, affecting current trade patterns

A physical trade platform

- The Belt Road Initiative (BRI) aims to improve China's connectivity with the world. This must be accomplished by constructing a network of railroads, roads, airports and ports in Asia, Africa and Europe. The BRI will make China the center of a physical trade platform.
- The BRI will cover over 70 countries, accounting for about 65 per cent of the world's population and around one-third of the world's Gross Domestic Product (GDP).

Impact on Maritime trade

- The BRI aims to improve cooperation on transcontinental scale. This could result in an increase of trade.
- The BRI could shift maritime trade to more transportation of cargo via land. This demands full cooperation of all countries connected to this New Silk Road. Risk of competing nations, regional conflicts or lack in investments in infrastructure could interrupt these land trade routes.
- The maritime trade is a vital part of the BRI and so the BRI can have positive effects on maritime trade as well, as especially maritime infrastructure in the developing countries will see improvements.

Case example

- Investment in the One Belt One Road project occur all across the Eurasian continent, stretching from the UK to Kenia to India. Capital project financing and risk assessments are key in making sure these projects deliver the expected value.

The port industry in 2030

- The **Belt Road Initiative** shapes opportunities for maritime trade routes, as developing countries **are improving their infrastructure.**
- The more historic trade routes may experience **a substitution effect towards rail** due to the BRI.
- **Dominant container ports** in the Western World may be affected by the BRI.

Sources: Worldbank (2019)

Trends – Increased strategizing for a new competitive advantage

The demand for more sustainability, as well as technological developments, give ports the opportunity to develop new competitive advantages, decreasing the importance of location

Technology as a competitive advantage

- Smart-ports are capitalizing on the ever-expanding universe of connected ‘things’; the Internet of Things. Smartports imply becoming data-minded; new approaches to data management, new platforms, innovative delivery models and novel governance tactics.
- Ports switch focus to smart, smarter, smartest. Data analytics and data exchange are becoming a new competitive advantage for port players. Capacity sensing, route optimization, energy management, fault detection & resolution can be done much more (cost) efficiently. Advanced data analytics allows for streamlining and optimization of existing infrastructure usage and operations by eliminating unnecessary / empty transport.

Sustainability as a competitive advantage

- It is expected that the markets for raw energy materials, such as liquid and dry energy bulk, will shrink, affecting land use, throughputs, and the financial result of ports.
- Multiple ports are already taking the first steps to prepare for this new future, increasing the urgency for other ports to respond.
- It is therefore expected that the flows of renewables, and the focus on renewable clusters will become more important.
- This involves significant investments in the supporting infrastructure.

Case example

- There are hundreds of examples of ports-realigning their strategy for either digitization, renewables, growth in strong sectors or growth in new sectors. The type of strategy depends fully on the local ecosystem and expected demand evolutions in the region.

The port industry in 2030

- **Developed ports** will use technology and sustainability as an advantage.
- **Developing ports are expected to initially focus on other challenges**, such as further developing and expanding the basic port infrastructure.
- **Regional differences** are expected **to grow** even further.

Trends – Increased collaboration

Driven by regulations, pressure on margins, and technological developments, both ports and carriers are expected to increase collaboration, resulting in a more transparent ecosystem

Collaboration between carriers

- Carriers have showed to be increasingly willing to collaborate, both horizontally and vertically.
- Horizontal collaboration is done through alliances, but also increasingly through digital ecosystems such as Tradelens. The Digital Container Shipping Association (DCSA) is an confirmation that the sector is willing and sees the need to collaborate.
- Vertical collaboration by carriers is mainly done with terminal operators in the form of designated terminals.

Collaboration at ports

- Port authorities show increased interest in horizontal collaboration, ranging from ad-hoc joint projects to mergers.
- A clear example of vertical collaboration within ports can be seen from the recent rise of Port Community Systems. These neutral and open digital platforms allow to optimize, manage, and automate seaport processes through single submissions of data, enabling intelligent and secure information exchange between all the stakeholders.

Case example

- The port of Antwerp and Zeebrugge are entering the last fase of merger.
- The port of Gent and Zeeland Seaports merged into North Sea Ports, a unique cross border cooperation
- The Italian ports merged together in 2017
- Florida ports have frequently chosen to work together to the greater advantage of their state. They know that funding is more readily available for projects that bring new business to the state.”

The port industry in 2030

- **Optimization of supply chains** and **increased transparency** will shape new ways of **collaboration.**
- **Ports** that can create **cluster synergies** are expected to **collaborate**, driven by efficiency demand.
- **Conventional players within the ecosystem**, such as ship brokers and freight forwarders, will **be affected.**
- The port market will most likely exist of value-added companies that have **successfully adapted their operational processes** to this new transparent and connected environment.

The port industry in 2030

The port industry in 2030

The maritime industry will develop over the coming years, increasing the importance for both public and private parties to develop policies and strategies to prepare for it

The future of the global ports and shipping industry is **still uncertain**, but four important aspects are expected to change: **trade routes**, the **competitive position** of ports, **ecosystems**, and **cargo distribution**. Each affected by underlying trends.

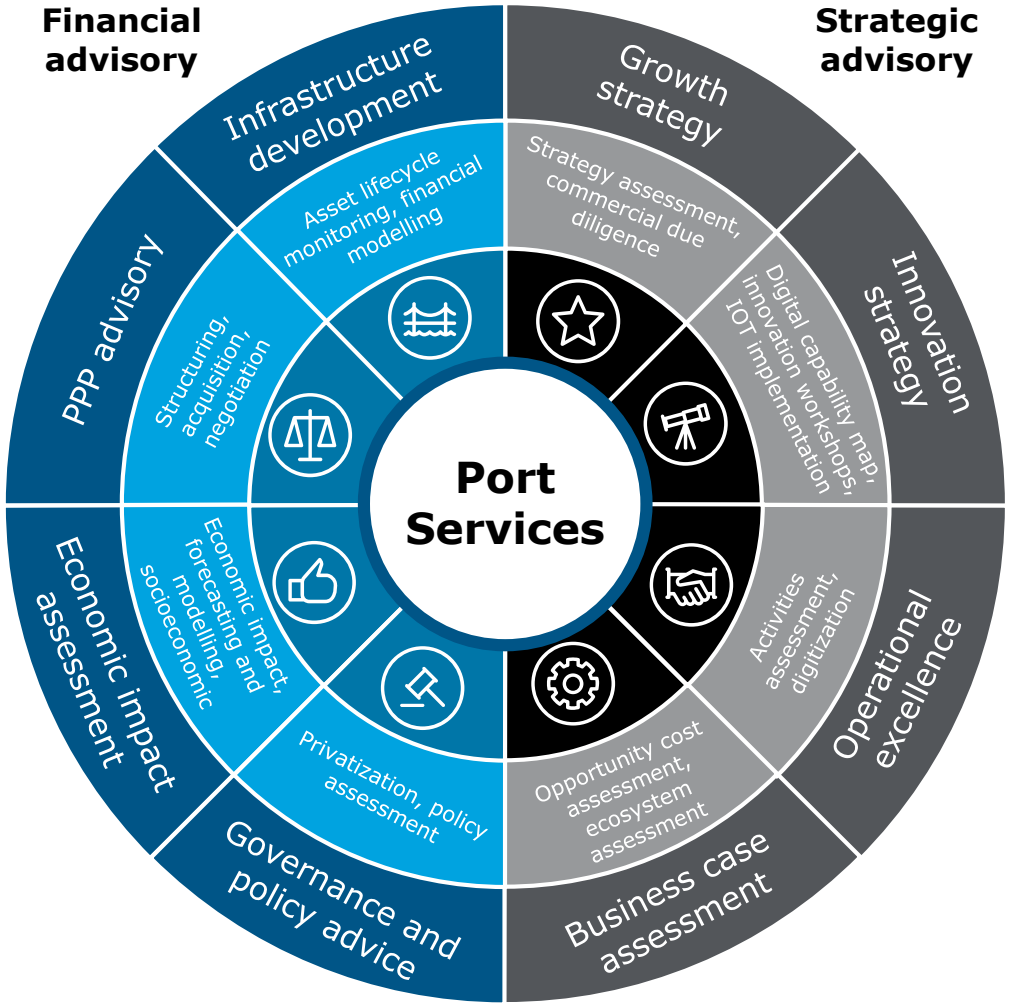
	Underlying trends	Effect on
1	• Use of alternative trade routes • Tilt in Asia • Increased protectionism • Increased strategic investment programs	**Trade routes**
2	• Increased focus on sustainability • Increased strategizing for a new competitive advantage • Increased use of technology	**Competitive position**
3	• Increased collaboration • Increased use of new business models • Increased focus on spatial strategy	**Ecosystems**
4	• Growing opportunity in niche markets • Increased focus on sustainability	**Cargo distribution**

How Deloitte can support

Deloitte Port Advisory can support the industry stakeholders to develop a clear strategy to preserve their market positions and stay relevant

Deloitte Port Advisory

- **Deloitte Port Advisory** is a cross functional **centre of excellence** operating at a Global level across Deloitte service lines.
- It **builds upon** the **experience** of **multiple experts** in the field with **both practical** and **theoretical knowledge** of the port industry.
- **Deloitte Port Advisory achieves maximum leverage** and **potential** for the client thanks to its multi-disciplinary approach. This allows it to gather the best of the best across all Deloitte member firms and develop insights and multi-functional teams, tailormade for each engagement.
- **Deloitte Port Advisory supports** a **range** of **clients** including:
  - Port authorities
  - Terminal operators
  - Shipping lines
  - Offshore
  - Dredging
  - Shipbuilding



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