Three possible scenarios for the future

Rough Seas
In the world of Rough Seas, scarcity of resources is predominant. Climate change adds further stress. Cartels and bilateral agreements have overtaken free markets. Wealth is divided unequally among nations, resulting in tension. The entire logistics chain is optimised regionally and national governments control ports.

Yellow River
In Yellow River, China dominates the global arena economically, geopolitically and in shipping. China is no longer the world’s cheapest manufacturing region. Instead, labour and resource-intensive manufacturing has moved to Africa and other Asian countries. Economic growth is significantly slower in the West and climate change is tackled only on a regional level – no global agreements exist.

Open Oceans
The world of Open Oceans is a strongly globalised one. Global mega-corporations and megacities have gained power over the nation state. Governments cooperate on the governance of climate issues and free trade protocols. Climate change is perceived as an opportunity, and innovating green solutions is a lifestyle. Highly optimised and integrated large scale logistics systems support global trade.

WHY
To support our strategy work and provide a foundation for finding ways of being prepared for the future, together with the industry.

WHAT
Three challenging and different, yet plausible, scenarios about what shipping could look like in the year 2030.

HOW
By combining expert input, quality research, hard work, dedication and a bit of imagination.
For centuries, shipping has enabled collaboration around the world. Today, modern shipping business is a complex, global puzzle made out of many pieces. The past few years alone have brought about fundamental changes. The significance of East Asia has increased rapidly, spearheaded by China, and we have not yet seen the end of the financial crisis that began in 2008. We could even say that globalisation as we know it would not have happened without shipping.

Currently, shipping is rightfully said to be the most efficient and cleanest way of transporting goods over long distances. However, the whole shipping industry must contribute to reducing its environmental footprint to ensure its overall competitiveness.

The future of shipping is determined by economics, technological development, geopolitical trends, energy resources, social values, environmental aspects, as well as by the shipping industry itself. How can we prepare for the future?

We at Wärtsilä feel that in order for us to provide our customers with the best solutions in the future we need to understand this fascinating topic even better. These scenarios provide plausible alternatives for what the world might look like in the year 2030.

The scenarios help us in long-term strategic planning and better serving our customers. What the future will look like in reality depends on the decisions we all make, together and individually. Other factors shaping the future are out of our control, but we can prepare ourselves by means of scenario work. Therefore, we are sharing the scenarios with you now, in order to stretch imaginations, facilitate debate and, hopefully, generate new strategies and modes of cooperation.

I invite you to contribute, to challenge us and to prepare together for a better future for shipping!

Ole Johansson
President & CEO
Wärtsilä Corporation
One way of making sense of a complex and changing environment is by creating scenarios – stories describing alternative, plausible futures and how they might come about. But how do you go about doing that?

At Wärtsilä, we first set the year 2030 as the target year for our scenarios. It was far enough in the future to let fundamental changes take place, yet close enough to still be tangible.

The team then set out to determine what could shape the future. Understanding alternative, plausible futures is about understanding key uncertainties. That is, understanding the changes in the contextual environment that might have an impact on the shipping industry, helps us understand the way the future of shipping might turn out and what kind of effects it can have on individual industry players.

Through an intensive process of researching, interviewing and conducting workshops, the team found two certainties and six key uncertainties.

The only things we felt we could be sure of were that shipping would continue to be part of the transportation matrix and that water would become more valuable.

The next page explains how this information was turned into three different scenarios.

How do you condense a complex world into three scenarios?

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The key uncertainties were refined into five dimensions, with their respective end states or where the uncertainties can end up when tipping in one direction or the other. They are shown on the axes:

1. Trade and economic growth
2. Response to climate change and sustainability issues
3. Geopolitical issues and global leadership
4. Solutions to deal with scarcity issues
5. Control of power

Three scenarios emerge
By analysing these uncertainties, the combinations of different outcomes yielded three plausible scenarios.

Rough Seas
Rough Seas is a world of scarcity, tension and bilateralism.

Open Oceans
Open Oceans is a strongly globalised world, in which megacities and mega corporations wield power.

Yellow River
In Yellow River, China dominates the global arena, both economically and geopolitically.
In the world of Rough Seas, scarcity of energy, water and food is predominant. Climate change adds further stress.

Cartels and bilateral agreements have overtaken free markets. GDP growth is limited and unevenly distributed. Resources are scarce and have therefore become a source of power. Wealth is divided unequally among nations, resulting in tension, and indeed, some nations are under pressure not to fall apart. Consequently, geopolitics is scrambled. The key words for the Rough Seas scenario are scarcity, tension and bilateralism.

New trade routes have emerged as a result of two key developments; an increase in bilateral agreements and industries moving to resource-rich areas. The volumes of water and agricultural products being transported have increased significantly. The global tension has increased the need for armed escorts, also at sea. The Arctic routes, now mostly open due to climate warming, are a cause of friction.

The entire logistics chain is optimised regionally. Fleets are partly nationalised and the era of flags of convenience (registering a ship in a foreign country to avoid regulation) has come to an end. Oil tankers are decreasing in number and LNG carriers take on a bigger role instead. In regional trade, smaller ships optimise cargo transports. The changed pattern of goods flow has reduced container traffic and some major container terminals have closed down. In general, national governments control ports.

Climate change is perceived as a threat, not an opportunity, and only local and regional solutions are in place to cope with this challenge. Governments limit citizens’ resource use by taxation and other mechanisms, especially as acquiring key resources such as energy and water is expensive and difficult. This leads, voluntarily and involuntarily, to more sustainable and less resource-intensive lifestyles. Local renewable energy is the energy of choice and the move towards organised, self-sustained communities is a major trend. Control of population growth and balancing the age pyramid are global challenges.

September 14, 2027
The first convoy of ships carrying water sails from Russia to India, protected by Navy escorts.
Causes and effects

- Energy scarcity
- Bilateral agreements and protectionism
- Friction
- GDP growth
- Relocation of industrial activities and new trade patterns
- Water and food scarcity
- Self-sustained communities

Impact:
- Positive impact
- Negative impact
In Yellow River, China dominates the global arena, economically and geopolitically, and the renminbi is now an important foreign exchange currency. The Chinese trade in Asia is booming, as well as its trade with India, the Middle-East, Brazil and Australia.

China is no longer the world’s cheapest manufacturing region. Labour and resource-intensive manufacturing has moved to Africa and other Asian countries, and often, the finished goods are shipped to China for the affluent middle class in the coastal megacities. As the living standard rises in China, Chinese tourists are common visitors to the historical sites in Europe.

China has invested heavily in Africa, where local economies take off. Living standards rise at a rapid pace, although corruption has by no means been eradicated. These fast-developing countries have adopted Chinese-style governance models.

Economic growth is significantly slower in the West, and the Western economies have responded with massive R&D investments and protectionist measures. Manufacturing has been moved back to US and Europe. Both the United States and the EU try to strengthen their relationships with Latin America and Africa, respectively.

Climate change is tackled only on a regional level – no global agreements exist. However, China has, in part, counterbalanced the fast growth of its energy demand with efficiency and cleantech. Western societies adapt to sustainable living, and Europe specifically develops efficient buildings and energy systems.

The shipping industry, in the world of Yellow River, is dominated by China. Most of the big shipping companies are Chinese-owned, and trade routes have shifted according to Chinese trade interests. New ports are being built in Africa, Eastern Russia and India, and Chinese ports have grown into sophisticated, integrated logistics centres.

Towards 2030, the Chinese economy is becoming overheated. The income gap widens, the supply of water and food is of increasing concern and growth slows down. At the same time, China’s African allies start to become more independent economically.
Strong internal consumption and intra-Asian trade

Alliances create Chinese “satellite states” especially in Africa

Challenges in governance within the Chinese sphere of influence

Growth in Chinese economy

Shift in balance of power

Relative slowdown in Western economies

Measures to counterbalance Chinese growth

Causes and effects

- positive impact
- negative impact
The world of Open Oceans is a strongly globalised one. Global mega-corporations boost GDP growth, and governments provide favourable conditions. The centres of economic activities, regions and megacities have gained power over the nation state. These mega-corporations and megacities are the winners in this scenario.

After fighting the economic downturns for a decade from 2008 onwards, governments were forced to line up to support a liberalised global market doctrine. Governments cooperate on the governance of climate issues and free trade protocols. A number of global agreements on these topics are in place, many of them administered by a modernised, efficient UN.

In this world, logistics is king. Highly optimised and integrated large scale logistics systems have emerged, and shipping is a component within them. Ships no longer have names; they are simply tools in the process. Ultra-efficient, automated ports near the megacities process shipments at high speeds. Most goods are transported between megacities and areas rich in resources, such as clean water, food and energy.

Climate change is perceived as an opportunity, and innovating green solutions is a lifestyle. New inventions spring up everywhere, in the slums as well as in corporate R&D centres and are broadly adopted in the society. Although renewables are the top priority, oil, coal and other fuels are shipped into regions where production of renewable energy is difficult. Algae are farmed offshore for biofuel production.

Environmental challenges have led to the development of new types of vessels; desalination, waste management and recycling ships are anchored outside megacities, serving their needs. Sustainable cruise vacations are a growing trend among the growing middle classes all over the globe.
Causes and effects

- Agreements on climate and trade
- Growth of global corporations
- Growth of megacities
- Technology for efficiency and sustainability
- Protection of commercial interests
- Governments focus on corporate governance
- GDP growth

Positive impact

Negative impact
High debt and lack of substantial growth constrain the Western economies.

The EU introduces protectionist taxes for Chinese goods and services.

The U.S. presidential campaign focuses on internal issues.

Intense bilateral agreements between China and resource-rich countries.

USA starts buying energy resources bilaterally from key supplier countries.

The Economist reports on a wave of EU manufacturers pulling back from China and establishing themselves in Eastern Europe.

Emerging new balance of economic power forces countries to design a new FX currency based on a basket of currencies.

China becomes the biggest importer of Middle-Eastern oil and gas.

A significant number of Fortune 100 companies are owned by Chinese capital.

USA intensifies attempts to re-establish influence over Latin America.

Repeated clashes over gas resources in the Caspian Basin.

Chinese troops are deployed in Africa to protect China's commercial interests.

Social tensions lead to widespread unrest in China.

Economists: the EU and the USA have not yet reached sustainable economic recovery.

WHO publishes a report stressing severe water shortages.

National People's Congress increases Chinese investments in the Middle East and Africa in order to secure resources and production capacity.

Statistics show significantly increased consumer spending in China.

Income gap reaches a record high in China and its African allies.

Megacities are being dismantled in India and China.

The increase in bilateral trade leads to the dismantling of the WTO.

Water scarcity threatens economic growth in China.

Regional trade volumes are at their highest.

China and India remove all obstacles to free trade and commercial operations between their countries.

Rough Seas

WHO publishes a report stressing severe water shortages.

Post-Mexico climate talks, led by the USA and China, result in a commitment to weak, non-binding climate targets.

By 2015, 80% of the world's population lives in cities.

Gulf States announce massive investments in water production.

The EU initiates a new round of WTO talks; agrees on removing key tariffs.

50% of world’s 200 largest cities have ratified urban sustainability standards.

The price for oil and gas in the trade between China and Middle East is set in renminbi.

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Sources

These scenarios would not be the same without the valuable input of various experts. We are grateful to the various academics, economists, NGO representatives, independent researchers, business leaders, and the representatives of governments and trade organisations, as well as our own specialists, for their contributions.

Wärtsilä powers every third ship and services every second ship sailing the world’s seas. Our power plants produce roughly 1% of the world’s electricity.

Currently, shipping is the most efficient and cleanest way of transporting goods over long distances and Wärtsilä wants to contribute to ensure that this remains the case. Providing sustainable solutions is the cornerstone of Wärtsilä’s sustainability commitment.

Wärtsilä has over 18,000 professionals, manning 160 locations, in 70 countries around the world. Wärtsilä is listed on the NASDAQ OMX Helsinki, Finland.

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