



DANISH
MARITIME
FORUM
2016

The New Normal



Copenhagen
26–27 October 2016

“What has become clear to me in the last couple of days is that shipping until now has been in something of a silo. People inside the shipping industry tend to spend their whole life working there and looking at shipping really almost in isolation. What is clear now is that there needs to be a wider economic evaluation of shipping, it needs to be put into a political context, into a social context, into an environmental context. Above all else the shipping industry needs to take a joined up view of its own role in the wider economy.”

Gillian Tett, US Managing Editor, The Financial Times, USA; Chair, Danish Maritime Forum 2016





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Foreword



It is with great pleasure that I present the Danish Maritime Forum 2016 report “The New Normal”.

For the third time, more than 200 international maritime leaders and stakeholders got together in Copenhagen at the Danish Maritime Forum.

This year’s Danish Maritime Forum marked the end of a three-year public-private initiative. The ambition was to set new standards for bringing together key leaders from the industry as well as maritime administrations in order to find new ways to unleash the potential of the global maritime industry. Today, this seems more important than ever.

A state of uncertainty and unpredictability is part of our new normal. The sense of crisis and forces of disruption put great demands on the sector as a whole. However, worldwide trade and distribution of goods, food and energy will still be keys to growth, prosperity and human well-being. The maritime industry will remain of paramount importance to all of us. Despite challenges and shadows, the future will therefore also continue to present new opportunities.

There are no easy fixes, but by working together, we can find better solutions to our common challenges and find ways to take a proactive stand towards innovation and collaboration across all maritime stakeholders and other industries. That is what the Danish Maritime Forum has been all about.

As this report shows, the Danish Maritime Forum has produced important outputs and experiences that can inspire the work for finding common solutions. I hope that the global maritime industry will build on these outputs and experiences for the future endeavours beyond this three-year initiative. Hopefully, the idea of having a Global Forum that facilitates collaboration and dialogue across maritime stakeholders and other industries on current and future challenges will prevail.

A handwritten signature in black ink that reads "Brian Mikkelsen".

Brian Mikkelsen
Minister for Industry, Business and Financial Affairs, Denmark





EXECUTIVE SUMMARY

A Time for Transformation

For the third consecutive year the Danish Maritime Forum convened leaders from across the global maritime industry in Copenhagen. Together they worked on unleashing the potential of the global maritime industry to increase long term economic development and human wellbeing.

The backdrop to the Forum discussions has changed dramatically over the past few years. From an expectation that the demand for seaborne transport would double by 2030 to a new normal that has seen world trade fall below global economic growth, the industry will likely face adverse conditions in the years ahead.

This year's Forum was clearly marked by the fundamental shifts in the global economy, in international trade and in technology that the global maritime industry is facing, shedding light on an industry outlook that looks more uncertain than ever. The highly collaborative format of the Danish Maritime Forum was designed to inspire and engage participants in a dialogue about the risks and opportunities that this transformation presents for the global maritime industry. A number of high-level panel

discussions and keynote presentations featuring key business leaders, top government officials and prominent experts set the context and brought attention to the most significant challenges and opportunities that lie ahead not only for the industry, but for the wider economy as well. In four Think Tanks participants explored new research, technologies, ideas and concepts and considered how they will impact the global maritime industry. Based on these discussions, participants defined the **14 burning issues** to tackle in interactive working groups, the outcomes which are summarized on pages 30 to 59.

From the discussions at this year's Danish Maritime Forum, as well as those of the previous two years, the following cross-cutting takeaways have emerged:

- The ongoing crisis - coupled with the forces of the disruption that the maritime industry is facing - is an **opportunity for transformation**. The industry should embrace emerging technologies as drivers of innovation. They are an opportunity to disrupt the existing structures and business models and to increase productivity, efficiency and value throughout global supply chains.
- The maritime industry can **learn from other industries**. For aviation and the automotive industry a deep crisis led to collaborations that allowed companies in these industries to collectively emerge stronger. The format of the Danish Maritime Forum is a first step towards cross-industry collaboration, where decision-makers from the entire maritime value chain work together, breaking down silos and allowing for a candid and creative exchange of ideas and possible ways forward.
- The **industry, regulators and other key stakeholders must work together**, whether it is to bring forward workable solutions to protecting the environment or to ensure that free trade works as a positive force for everyone.
- To fully unleash the potential of the maritime industry, it must be **proactive, agile, innovative and transparent** on how the industry contributes to the common goal – growth and prosperity for all. Navigating in the new normal of today demands an open and



“The Danish Maritime Forum has generated many new ideas and solutions to some of the most important long term challenges facing our industry. Going forward, Danish Shipowners will focus on turning some of these ideas into action. This will include ways to minimize international shipping’s carbon footprint, how to enhance digitalization and promoting the benefits of global trade.”

Anne H. Steffensen, Director General and Chief Executive Officer, Danish Shipowners’ Association, Denmark; Chairman, Danish Maritime Days



constructive dialogue across industry, with regulators and other important stakeholders.

As such the discussions at the Danish Maritime Forum 2016 were consistent with the two previous years, where participants pointed out a need to **raise public awareness** of the importance and value of shipping and that there is **still great potential to increase the role and positive impact of the global maritime industry**. In 2014, the industry’s contribution to growth and development in the emerging economies – particularly in Africa – was high on the agenda, while this was less pronounced in 2016, though this year saw a fruitful debate on the opportunities that the UN Sustainable Development Goals present for the maritime industry. The Danish Maritime Forum is an

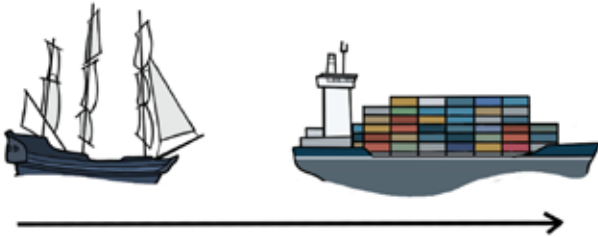
initiative of Danish Maritime Days, a not-for-profit public-private partnership between the Danish Maritime Authority, the Danish Shipowners’ Association and Danish Maritime. The Forum was initially set to be a three year project. Efforts are now being made to continue to bring key leaders from inside and outside our industry together for a Global Maritime Forum, in Copenhagen or elsewhere.



Our Journey



On arrival at the Forum venue, participants picked up a ticket for their choice of Think Tank session.



History of the Future

Looking back, looking forward – what are possible future inflection points that will have a significant impact on the global maritime industry? During an informal working lunch, participants were invited to orient themselves to the work ahead by discussing possible future events or developments with the potential to disrupt the global maritime industry. Each table was tasked to select three inflection points in five categories: political, economic, social, technological and environmental. After lunch, as participants were headed into the opening plenary, they placed their proposed inflection points on a giant timeline.

The New Normal

Gillian Tett, US Managing Editor of The Financial Times and chair of this year's Danish Maritime Forum, welcomed the 200 participants from industry, government and civil society and introduced the theme of the Forum "The New Normal: What will the future of the maritime industry look like when the fundamentals are changing". She highlighted a few key inflection points from the timeline before inviting former Danish Minister of Business and Growth **Troels Lund Poulsen** to the stage for his formal welcome remarks. Then Gillian Tett invited the panelists in the opening panel discussion to the stage and engaged them in an expansive conversation about the drivers and obstacles, risks and opportunities that lie ahead for the global maritime industry. The panelists offered each their perspectives on the future of the industry – from the impact of the current crisis to the rise in protectionism, shifting trade patterns and the disruptive forces of new technologies – raising many questions and dilemmas for participants to tackle over the day and a half to come.



Think Tanks

Following the plenary session, participants joined one of four Think Tanks, all set up in the Forum workspace area. Each Think Tank started with two or three short, inspiring presentations that offered a new perspective or idea on the topic at hand. After the presentations, participants worked together in small groups to extract key takeaways and learnings that could be relevant to the future of the global maritime industry and to map potential action points. At the end of the workshop, participants in each Think Tank came together to share their findings and join in a lively discussion that demonstrated the wide variety of perspectives that this diverse group of stakeholders had to offer. Before leaving the Think Tanks, participants were asked to write down the one burning topic or question that, if not addressed, would prevent the global maritime industry from becoming what it can and should be.

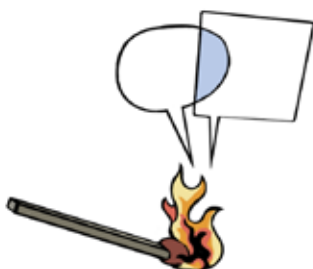


The Age of Discovery

Leading international economist and development visionary **Ian Goldin** led participants through a fascinating lecture about the risks and rewards of rapid change. Looking back in time at the factors that undid the first Renaissance – warring ideologies, fundamentalism, pandemics – he charted a pathway to how, given the will, we might balance optimism about technological advances and digitalization with realism to achieve our own golden age.



As participants arrived on day two, they were invited to browse the topics that emerged from the clustering of their burning questions and choose one topic to work on.



How to Think Like a Futurist

Futurist and game designer **Jane McGonigal** delivered a deep-dive into the power of imagination, leading participants through a few simple yet powerful exercises to ignite their creativity for the work ahead.



Group Work

Fired up by Jane McGonigal's talk, participants joined their group and started working on the challenging question they had chosen.

Define Your Work

In their first round of work, participants took some time to scope their topic and define a path to solving the challenge they had set themselves. The goal by the end of the day was for each group to outline detailed proposals that would enable real progress on the topic at hand.



Work in Teams

Participants played with bold ideas to address their challenge, exploring alternate futures and mapping out potential actions that might ignite a transformation in the industry.



The Global Marketplace

During the marketplace, participants took the opportunity to visit other groups to share their work, explore other topics and solutions, identify possible connections and collaborations, get inspired and cross-pollinate ideas.

Finalize Solutions

Based on the feedback and inspiration from other teams, participants iterated their work and put the final touches on the visual summary of their proposed solution.

From Ideas to Action



For the closing plenary debate, participants were invited to sit in concentric circles for a so-called fishbowl conversation. In two rounds, Gillian Tett welcomed representatives from each of the working group to the stage to share their proposals and discuss practical steps to take their ideas forward. After a lively and stimulating debate, Gillian Tett wrapped up the conversation by offering her own observations on how the industry might move forward. Finally, **Anne H. Steffensen**, Chairman of Danish Maritime Days and Director General of the Danish Shipowners' Association, closed the Forum by thanking participants for joining in this three year journey and inviting the global maritime community to work together to establish a global successor to the Danish Maritime Forum.

History of the Future

During an informal working lunch that marked the beginning of this year's Forum, participants were invited to discuss future trends that have the potential to profoundly impact the global maritime industry in the years to 2030. Each table chose three inflection points and placed them on a giant timeline for all participants to review.

Some of the near term trends included:

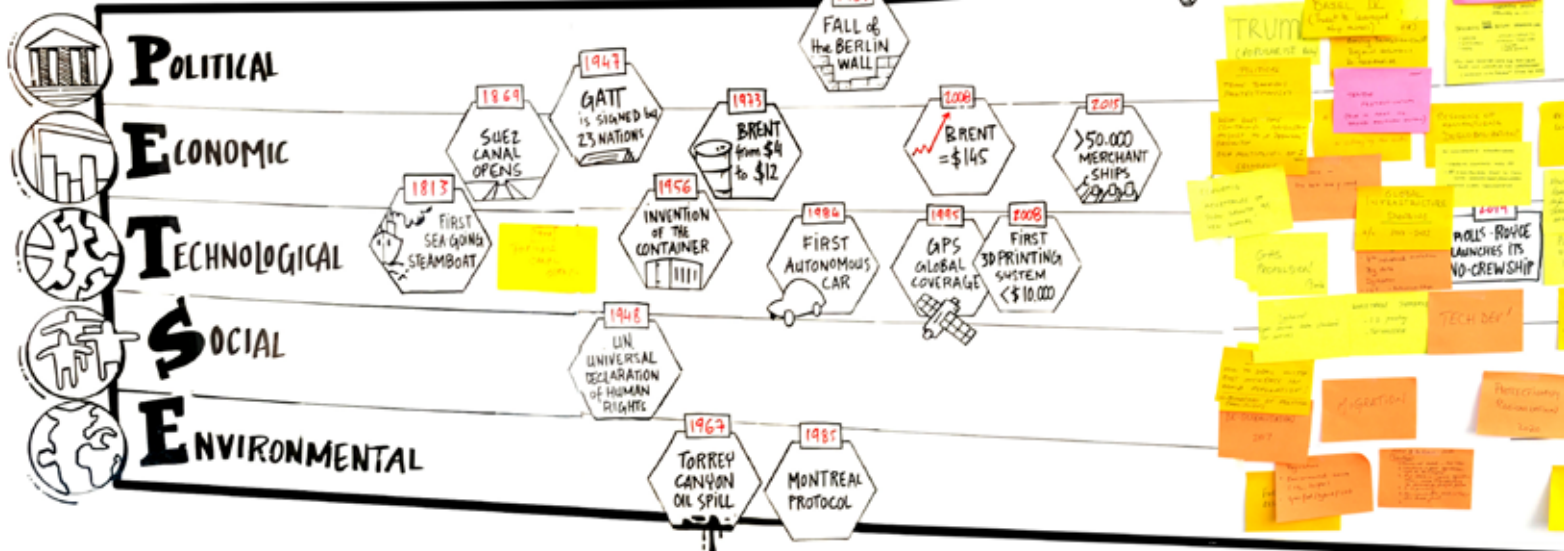
- Consolidation
- Risk of more bankruptcies
- Rise in protectionism
- Regionalization
- Deglobalization
- Migration
- Populism
- Increase in environmental regulation
- Low growth
- Global infrastructure spending

Inflection points in the long term included:

- Geopolitical disputes e.g. in the South China Sea
- Banking crisis
- Technological breakthroughs e.g. autonomous ships, robotics, predictive analytics, blockchain
- Pilotless transit through canals
- Shift to renewables and decline in oil consumption
- Social unrest
- Unemployment
- Demographic shifts

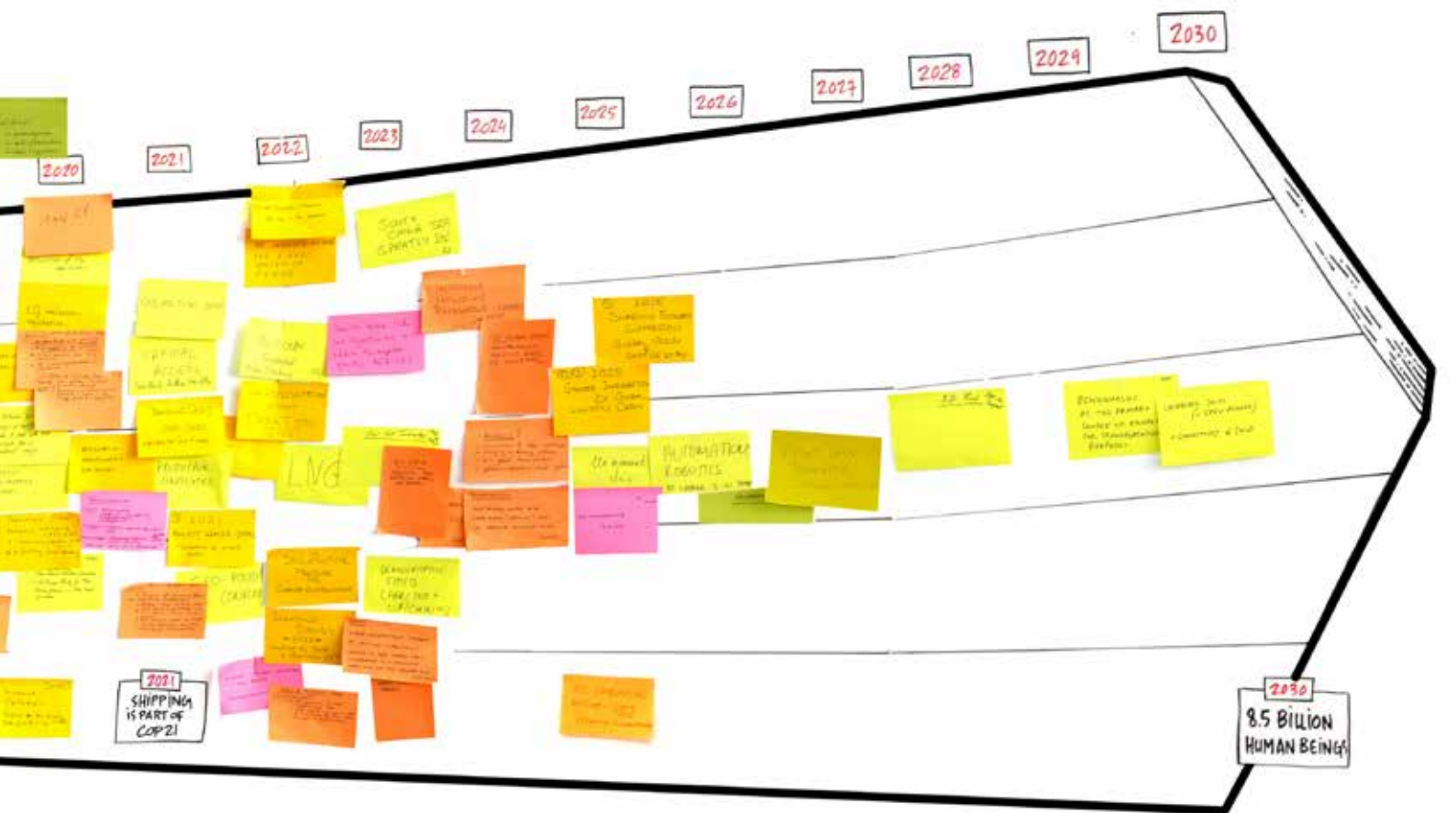


HISTORY of the FUTURE 2030



BITCOIN
FINANCE
After Trackings

No REPRESENTATION
WITHOUT
TAXATION



THE NEW NORMAL

“We live in a free world where there should be no barriers between countries [...] We believe that we should not go towards protectionism. It’s not good for the industry and it is not good for the world economy.”

Rodolphe Saadé, Vice Chairman,
CMA CGM, France

What will the future of the maritime industry look like when the fundamentals are changing? Taking the stage to kick off the opening plenary, **Gillian Tett**, US Managing Editor of The Financial Times and chair of this year’s Danish Maritime Forum, summed up the external forces set to challenge the industry’s traditional cyclical swings as the “three D’s”:

- **The Donald.** A rise in populism and protectionism, with the potentially devastating consequences for global trade.
- **Digital disruption.** Advances in digital technologies with far-reaching societal and economic consequences.
- **The dirty diesel debate.** A growing demand to reduce the industry’s environmental impact.

After a formal welcome message from former Danish Minister of Business and Growth **Troels Lund Poulsen**, Gillian Tett invited the panelists in the opening plenary debate to the stage and engaged them in an expansive conversation about the drivers and obstacles, risks and opportunities that lie ahead for the global maritime industry. The panelists offered each their perspectives on the future of the industry – from the impact of the current crisis to the rise in protectionism, shifting trade patterns and the disruptive forces of new technologies.

Rodolphe Saadé, Vice Chairman of CMA CGM pointed to the current crisis in the industry as a driver for further consolidation, and possibly more bankruptcies as

well, remaining sanguine on the role of consolidation in driving down capacity.

Boston Consulting Group’s Global Leader for Transport and Logistics **Ulrik Sanders** suggested that the maritime industry must work smarter to succeed, drawing attention to the fact that many of the industry’s customers (e.g. retailers and forwarders) are already implementing digital solutions at scale. Ulrik Sanders cautioned that new technologies would not only lead to process optimization, but could also be a source of disruption across the industry through, for example, new trading platforms. He suggested that outside players might enter with new asset-light business models, as has been the case for Uber in the taxi industry, though Rodolphe Saadé expressed doubt in the availability of finance for new entrants.

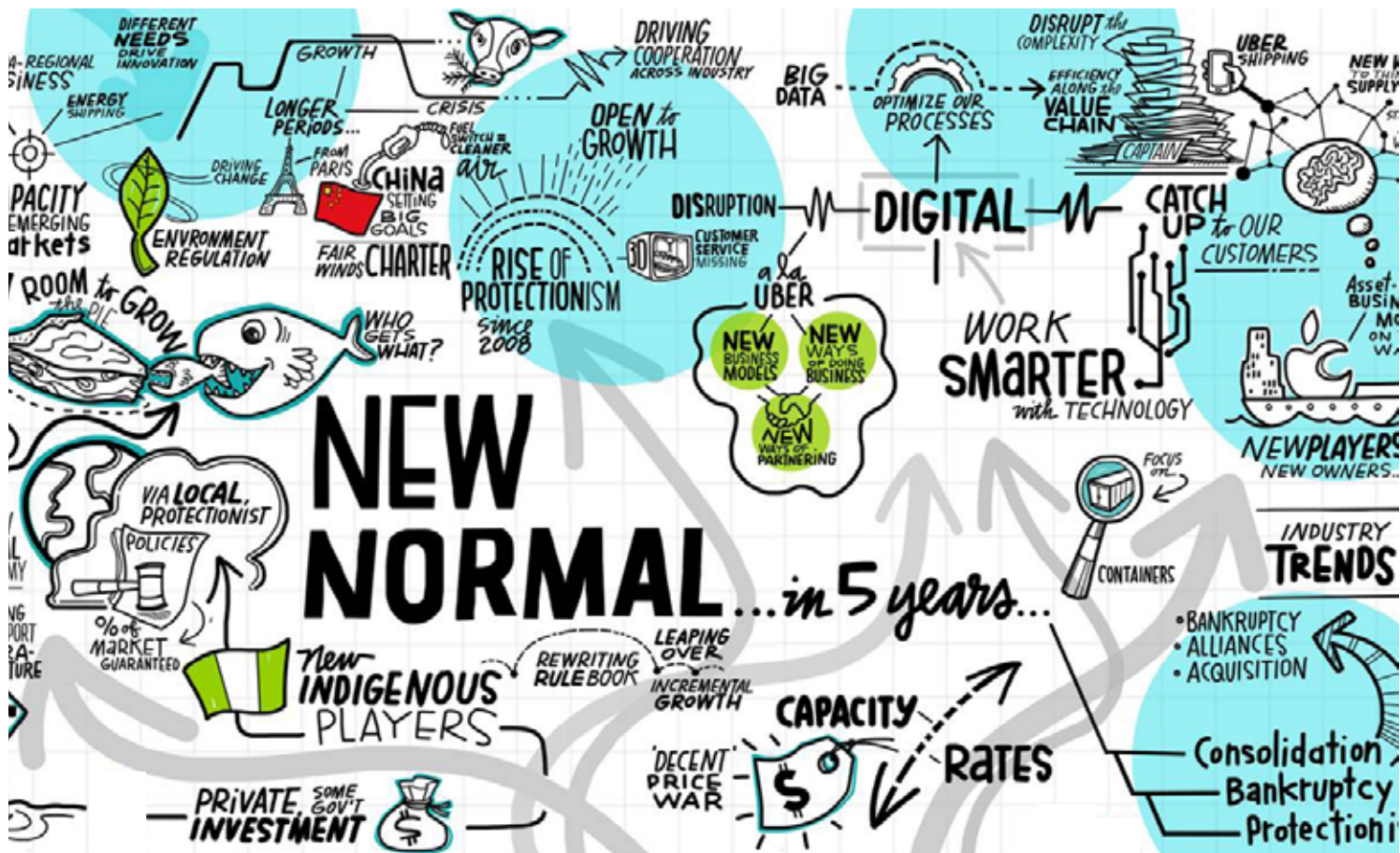
According to Managing Director of LADOL **Dr Amy Jadesimi**, growth in the logistics sector in Nigeria is driven by new, indigenous entrants. While this expansion in transportation infrastructure is indeed supported by protectionist policies, she argued that local content requirements are stimulating indigenous investments throughout West Africa, boosting local economies, growing the middle class, and increasing not only local demand but also contributing to global demand for capacity. Rodolphe Saadé supported this view, highlighting growth in intra-regional trade, in West Africa and elsewhere.

Fotis Karamitsos of the European Commission argued that open markets

would prevail as a foundational element of the EU, even in the face of opposing voices within the Union. His optimism extended to prospects for the maritime industry, pointing to the cyclical nature – and consequent resilience – of the industry. Building on Gillian Tett’s remarks about the growing demand to reduce the environmental impact of shipping, he called on the industry to match the initiative of aviation to come up with a model to become part of the Paris climate deal.

Hong Kong’s Vice Minister of the Environment **Christine Loh** expressed surprise at how little attention is paid to what is going on in China, in particular with regards to environmental regulation. She pointed to the Paris climate agreement as one example, one that the Chinese government takes very seriously. As part of the accord, countries must come up with new commitments every five years, and in China this means that already now, the government – together with industry – is exploring new ideas for the next commitment period, which may impact the maritime industry? She also highlighted a policy paper by the Chinese government on its vision for the shipping sector, the first phase of which will come into effect in 2019 with the implementation of ECAs in key parts along the Chinese coastline, wondering whether this would push other governments around Asia to do the same.

At the end of the session, Gillian Tett invited participants to delve deeper into the topics highlighted in the debate in four Think Tank sessions.



THINK TANKS

What's Next for the Global Economy

“Without stronger growth in global trade the maritime industry faces managed decline and we will only have trade recovery if we get investment recovery.”

Martin Sandbu, Columnist, The Financial Times, United Kingdom

From China's financial stability to the fragility of key emerging markets; from the impact of negative interest rates to the productivity paradox, this session explored drivers and obstacles, risks and opportunities that could affect the outlook for global growth.

Dr Martin Sandbu, author of The Financial Times economics briefing Free Lunch, highlighted three risks to the world economy:

- Sluggish economic growth and even slower growth in world trade, both due to a rise in protectionism and sluggish demand
- Historically low interest rates, primarily due to a mismatch between savings and investments
- Decline in productivity growth, in part due to a lack of innovation

Martin Sandbu argued that bold economic policies to boost demand are needed to overcome the current crisis, and in particular an increase in investments.

Dr Zhang Jun, professor of economics at Fudan University, focused on the state of the Chinese economy. He expected the Chinese economy to enter a phase of slower growth, mainly due to structural changes in the economy and the rise of the service sector. On a positive note

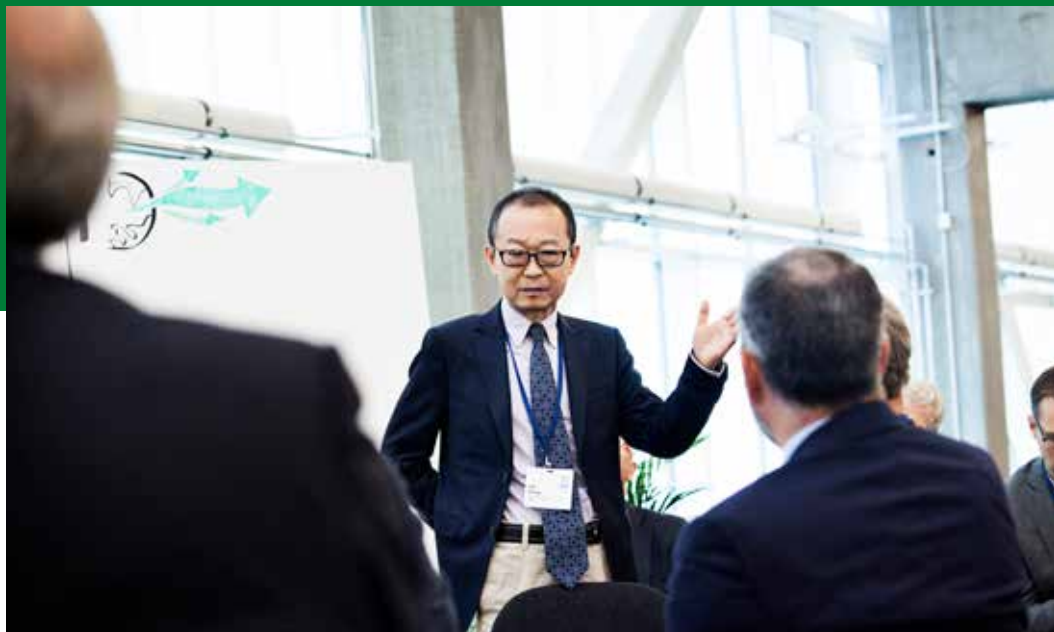
for shipping, Zhang Jun suggested that China was likely to increase its imports of consumer goods and services in the medium term.

In the subsequent discussion, participants emphasized that the ongoing changes in the world economy could have significant impacts on the maritime industry:

- Reduced transport volumes due to lower growth levels in world trade
- A shift in trade flows towards emerging markets as a result of aging populations in many high-income countries, and to population growth and increased affluence in emerging economies
- Declining oil demand and a corresponding growth in LNG and renewables
- Disaggregation of global supply chains due to the rise of robotics and 3D printing

Participants argued that despite all the challenges outlined in the discussion, the maritime industry remains resilient and adaptable and that it would overcome these challenges.





WHAT IS THE NEXT for the GLOBAL ECONOMY



THINK TANKS

New Paradigms

The current model of globalization that has sustained 60 years of uninterrupted economic growth, rising standards of living and growing international trade and cooperation is coming under increased scrutiny. New demands – from changing consumer preferences and tightening regulation to environmental and societal imperatives – indicate a tipping point towards a new model of growth and development. This session explored what risks and market opportunities this new paradigm presents for the maritime industry, as a major contributor to and beneficiary of economic globalization.

Dr Amy Jadesimi, Managing Director of LADOL and member of the Business & Sustainable Development Commission, presented the UN Sustainable Development Goals (SDGs) as a holistic framework to address global challenges that offer many opportunities for the maritime industry to respond to the call for a more sustainable future. She pointed out that the SDGs will guide international regulation and public investment decisions over the coming decade and encouraged participants to consider whether their current business strategies and practices were aligned with the SDGs and thus will remain sustainable in the future.

Citing new research by University College London, **James Mitchell** of the Carbon War Room argued that there is a risk of assets becoming obsolete before the end of their normal lifespan due to changes in regulatory or market conditions. Industries with long investment horizons, such as the maritime industry, are particularly vulnerable to this. James Mitchell highlighted that assets can rapidly lose their value, e.g. due to the transition to a low carbon economy.

In the subsequent discussion, there was a shared understanding among participants that it is highly relevant for the maritime industry to collaboratively and proactively explore how to cope with future demands and to assume more responsibility for engaging with stakeholders.

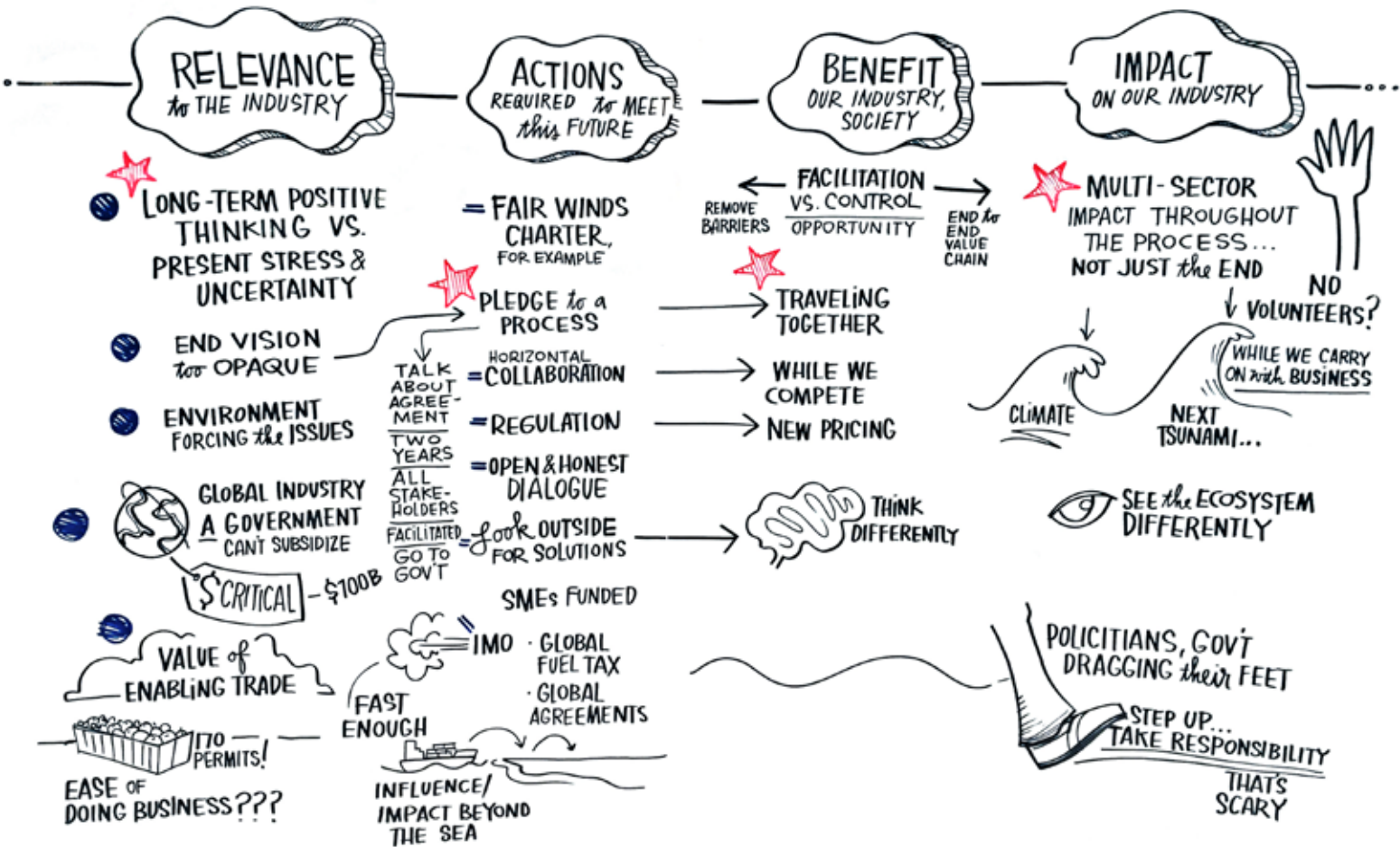
Participants pointed out that the maritime industry already plays a key role in creating a more sustainable world: it is lifting communities out of poverty and adding value to the everyday lives by bringing food, energy and goods to people all over the world. However, participants also recognized that there is room to step up the industry's contribution to global sustainable development, as well as to

be better at showcasing what is already being done.

The 17 Sustainable Development Goals were adopted by the UN in September 2015 in order to mobilize all countries to end poverty, fight inequality and deal with climate change. The goals set out 169 targets to be achieved by 2030. Among the goals are conserve and sustainably use the oceans, seas and marine resources (goal 14), ensure sustainable consumption and production patterns (goal 12) and build resilient infrastructure, promote sustainable industrialization and foster innovation (goal 9).
See more at: <http://www.un.org/sustainabledevelopment/>



NEW PARADIGMS



THINK TANKS

Disruptive Technologies

“The incentive plans in maritime companies are not aligned with taking risks. This is a real obstacle to change and to trying new solutions and technologies. There is a need for financial and human risk taking. There is a need to create a culture of innovation that rewards risk-taking even when it leads to failure.”

John Golob, Chief Executive Officer and Co-Founder, Lanetix, USA

From advanced robotics to artificial intelligence, new technologies are set to disrupt entire industries. This interactive session focused on how the maritime industry can leverage new technologies to enable transformative change.

Senior Lecturer for Bitcoin and Blockchain at MIT **Brian Forde** presented participants with an introduction to blockchain technology, suggesting that the blockchain model will exponentially increase transaction frequency by lending trust and transparency to all digital transactions that do not need a centralized intermediary. To showcase how this is already being implemented, he pointed to a partnership between Walmart and IBM to put pork “on the blockchain”, a central digital ledger that is visible to all, allowing Walmart to trace all pork products through the entire value chain.

According to **Charlotta Sund**, who leads Ericsson’s Customer Group Industry & Society, in the future, everything that would benefit from being connected will be connected, with profound implications for all industries. She argued that the maritime industry should embrace this networked society as an opportunity, both for

efficiency gains and for top-line growth, suggesting that the greatest opportunities are to be found through cross-industry collaborations, where multiple companies and stakeholders work together to develop and implement solutions that benefit all.

Erick Thürmer of Thürmer Tools shared his experience of transforming a traditional machine tool company to a 3D printing company. His most encouraging message for the maritime industry was that in his experience, the worse the company is doing, the better placed it is to transform by leveraging new technologies.

In the subsequent discussion, participants focused on the impact that these and other new technologies might have on the maritime industry. While all participants in the session suggested that digital technologies will have a significant long term impact on the industry, opinion was split on the effect this disruption might have. On the one hand they enable more efficient use of resources, on the other hand they pose a major threat of disruption to incumbents.

Some participants observed that companies face both internal and

“It took 100 years to connect 1 billion places and only 25 years to connect 5 billion people. Soon we will have connected 50 billion things.”

Charlotta Sund

Senior Vice President and Head, Customer Group Industry & Society, Ericsson, Sweden

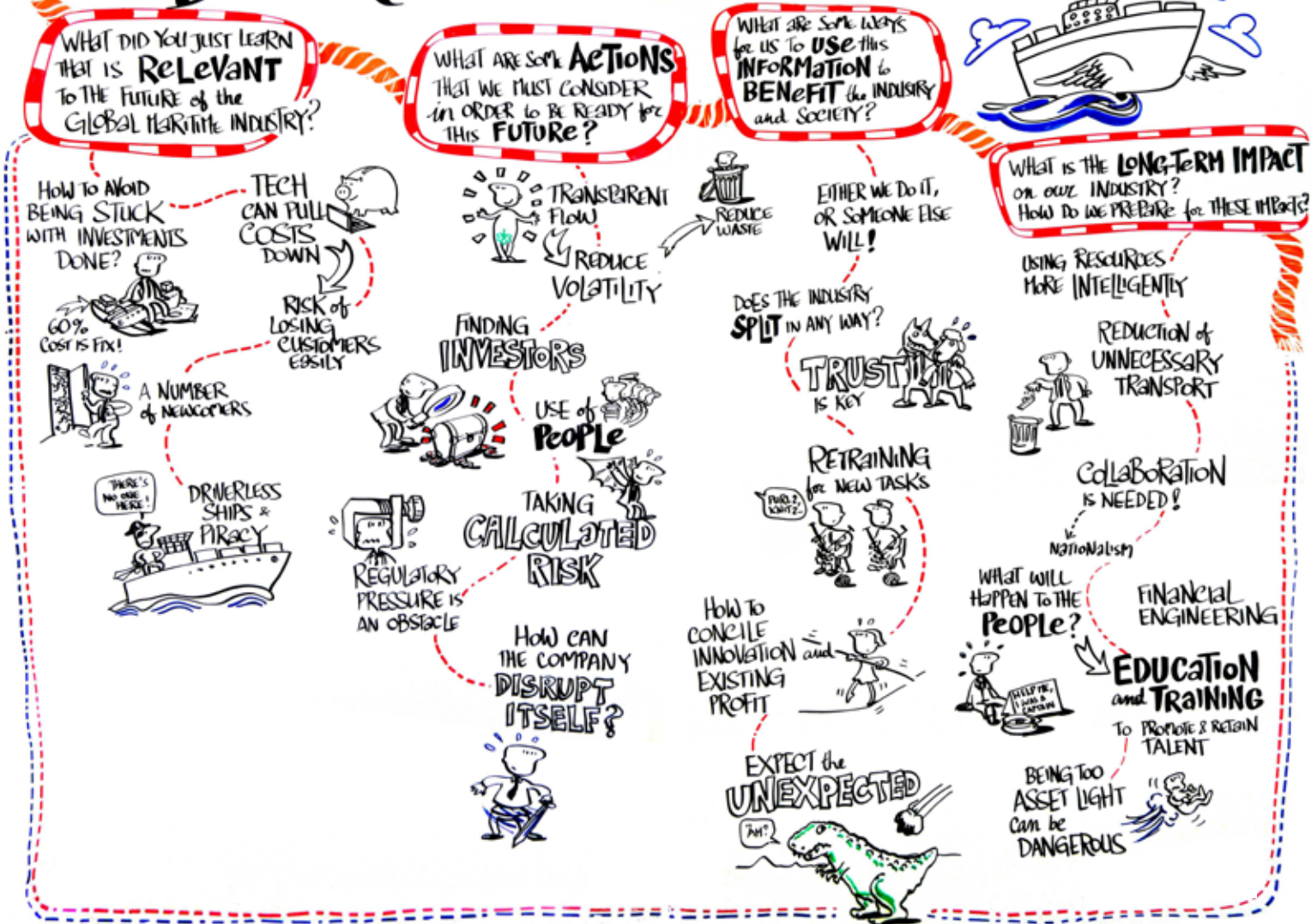
external obstacles to the adoption of new technologies. Internally, inertia and lack of incentives are impediments to taking risks, while externally banks pose a barrier to change, as they are not inclined to provide sufficient capital to enable the sector to innovate to the scale or degree required to benefit from disrupting the established business model.

Participants argued that collaboration across the whole maritime industry might be a way to grasp new opportunities and prevent disruption from outside forces. For example, by increasing efficiency through shared platforms or processes, and raising productivity, companies could focus more on those areas where they add differentiated value.

Further, participants suggested that the industry make a concerted effort to attract qualified talent – e.g. from Silicon Valley – to make the transition to a technology-driven industry. Some voiced concerns about the future of seafarers, while others suggested that they wouldn’t be displaced, but rather that their jobs would change to perform more value-adding tasks.



DISRUPTIVE TECHNOLOGIES



THINK TANKS

Global Trade at Risk

“Governments might be burying their heads in the sand on protectionism, but companies are adapting their strategies accordingly.”

Dr. Simon J. Evenett, Professor of International Trade and Economic Development, University of St. Gallen, Switzerland

Regionalism on the rise, a new wave of protectionist sentiments in key markets and a dearth of truly effective global institutions spell trouble for globalization. This session explored the impact of these developments on global trade and examined whether globalization can be salvaged or we will see further economic retrenchment in the future.

Dr Simon Evenett, professor of International Trade and Economic Development at the University of St. Gallen, warned participants that growth in global trade has come to a complete halt since 2015. He pointed to a rise in protectionist measures (e.g. import tariffs and export subsidies) since 2012 as a key barrier to trade growth, highlighting the fact that more than half of all exports experience foreign market distortions at some level. At the same time, local content requirements have become much more prevalent, particularly in public procurement.

In his presentation, Khalid Hashim, Managing Director of Precious Shipping, provided an overview of the implications of the Chinese “One Belt, One Road” strategy for the shipping industry. While OBOR is viewed by some as Chinese economic imperialism, and it has seen vehement opposition from a

variety of stakeholders, particularly in the U.S., fearing a shift in power in the multilateral development system, it has driven much-needed investments in infrastructure and connectivity. Khalid Hashim emphasized that this will fuel economic growth and prosperity through job creation and increased consumer spending as well as efficiency gains in the global supply chain. In terms of direct, near term impacts on the maritime industry, he pointed out that OBOR could provide a boost to bulk carriers due to the demand for construction material, though new pipelines could hurt crude oil carriers.

In the subsequent discussion participants suggested that an increase in protectionism will generate greater uncertainty, less innovation, less efficiency in the market, and of course a negative effect on trade volumes. In order to counteract this development, participants proposed that the maritime industry proactively engage in the global debate on the wider economic and social benefits of globalization. Some participants suggested that the most effective way to do so would be for the industry to speak with a unified voice, and that maritime industry might learn from other industries such as the automotive and airline industries about how to overcome fragmented regulatory and competitive environments.

The One Road One Belt Strategy was launched by the Chinese government in 2013. The strategy focuses on increasing connectivity and cooperation primarily between China and the rest of Eurasia. The strategy has two main components, the land-based “Silk Road Economic Belt” and the sea-based “Maritime Silk Road”. Anticipated cumulative investment in OBOR is projected at over US\$4 trillion.



Global Trade at Risk



KEYNOTE

The Risks and Rewards of Rapid Progress



Leading international economist and development visionary **Ian Goldin** led participants through a whirlwind tour of the risks and rewards of rapid change. He started his presentation by looking back to the fall of the Berlin Wall and how this event not only shaped his own life – leading to a turn as economic advisor to President Nelson Mandela – but also started a snowball of exponential advances, from longevity to physical and virtual connectivity, that are transforming our lives to this day, often in unexpected and surprising ways.

He invited participants to revisit a time in history that parallels what we're experiencing today: the Renaissance. It was a time of tremendous upheaval that strained society to, and often past, the breaking point. The Renaissance saw the first wave of globalization as well as a technological and ideas revolution. Much like today, however, globalization, economic growth and innovation had a dark side. It exposed new threats and drove up income inequality, sparking social tension, ideological extremism and finally violent pushback.

Pointing to this important lesson from history Ian Goldin cautioned participants that, as a society, we must do better at managing rapid change. He raised two

causes for concern:

- **Inequality.** While the walls have gone down between societies as a result of globalization and integration, within societies the walls have gone up. More and more people are feeling left behind, and for good reason. The benefits of globalization have not been shared by all. Similarly, as powerful new technologies are changing everything around us, there is a risk that they will widen equality gaps rather than close them.
- **Contagion.** When we connect, it is not only good things that spread. He called this “the butterfly defect of globalization”, highlighting the financial crisis as a powerful example of contagion and spreading of risks. Moreover, technology is leading to new threats: an asymmetry that empowers individuals – be they rogue bankers, pirates or terrorists – to disrupt everything from financial institutions to global supply chains.

Ian Goldin went on to express doubt that governments are up to the task, pointing to the inability of the existing global governance system to effectively address the climate challenge or manage any of our other finite natural



resources. He called on participants to consider their role as “the glue that holds this integrated system together” and challenged the maritime industry to withstand the uncertainty and to manage through it.

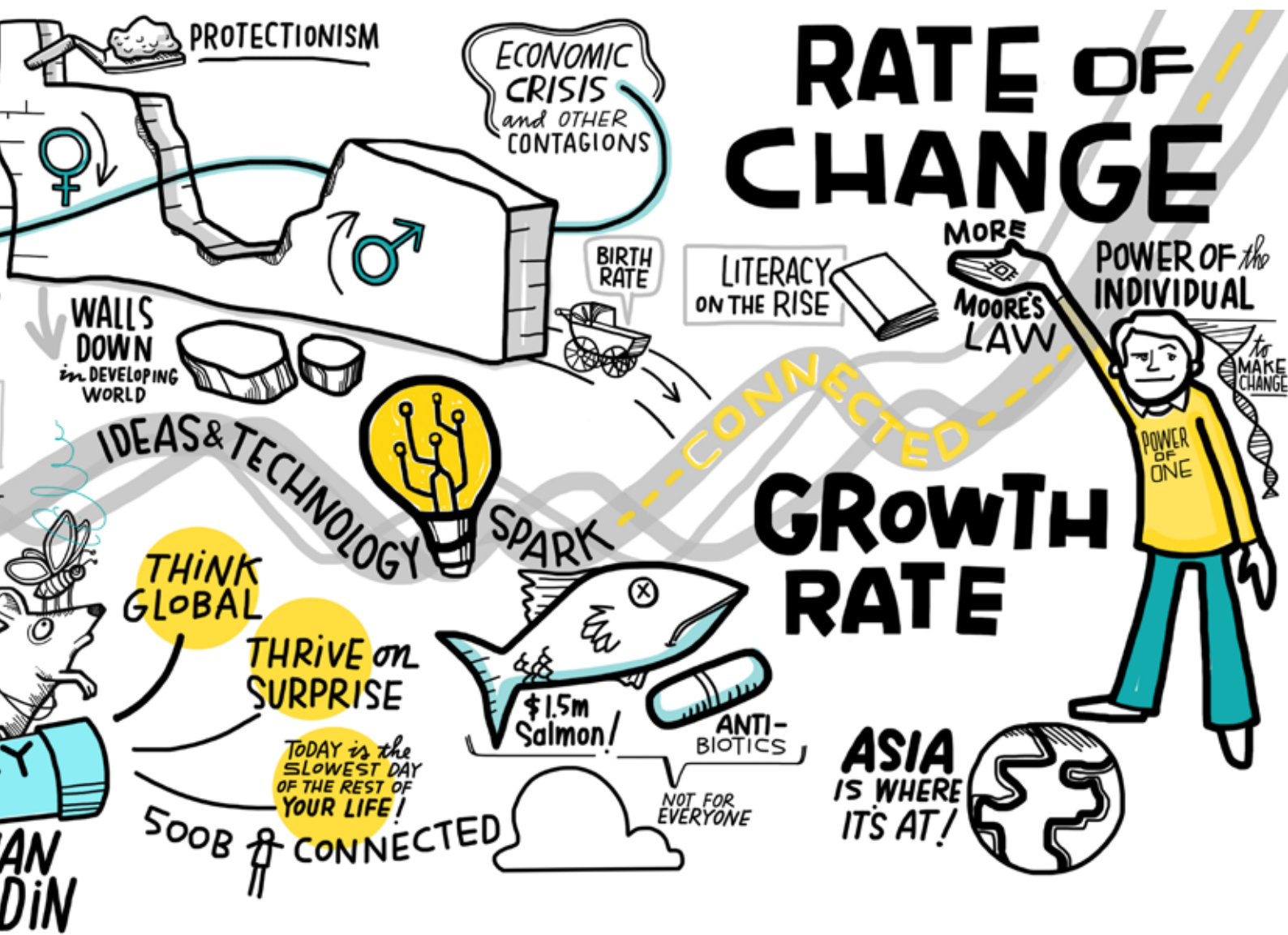
Ian Goldin closed his presentation on an optimistic note. While he conceded that in the short term we are likely to see a rise in protectionism – suggesting that until we are able to manage the downside of globalization and make it beneficial for all, it will be rejected by a significant portion of society – in his view, the long term outlook for the industry holds much promise.

“This is by far the best time in human history to be alive, for us and for everyone around the world.”

Ian Goldin, Professor of Globalization and Development, University of Oxford, United Kingdom

Long term implications for shipping:

- Good prospects for growth
- Growth is happening in different places and in different ways, a global rebalancing
- Opportunities are concentrated in emerging markets, especially Asia
- Complex, integrated system that is volatile and vulnerable
- Disruptive technologies leading to reshoring, disintermediation
- Rapid decarbonization, shift from oil to gas, decline of coal
- Dramatic impacts of climate change
- How to respond? Agility, diversification, ability to modernize assets and attitudes

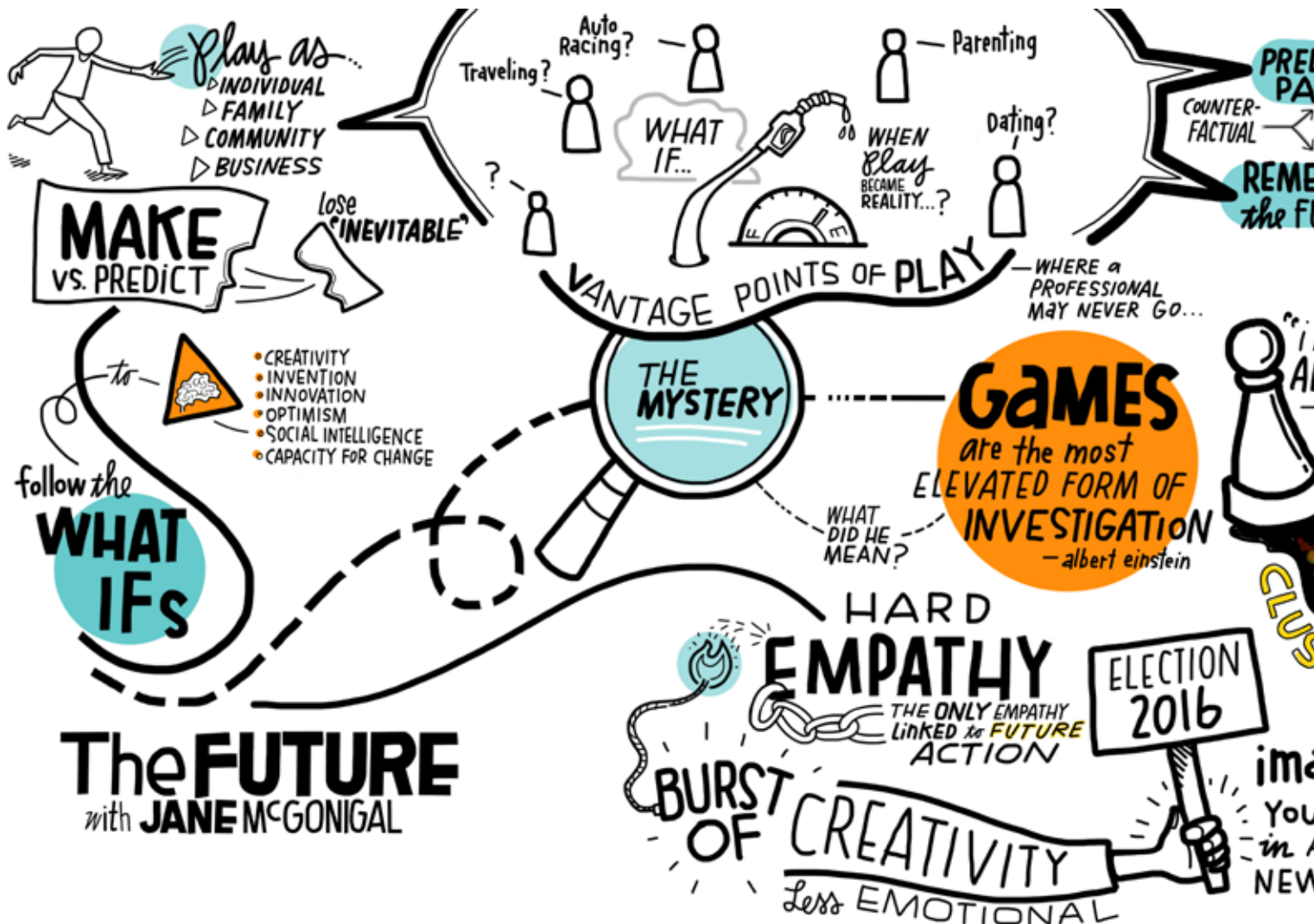






KEYNOTE

The Case for Hard Empathy



The goal of the second day of the Danish Maritime Forum 2016 was to move from challenges to solutions and to find ways that the global maritime industry can work together to make positive change happen. To kick off the day, acclaimed futurist and game designer **Jane McGonigal** delivered a deep-dive into the power of imagination, leading participants through a few simple yet powerful exercises to ignite their creativity for the work ahead.

According to **Jane McGonigal**, who is the Director of Games Research and Development at the Institute for the Future, the best simulations of the future aren't based on mathematical models or powered by supercomputers. They are based on personal predictions, and powered by collective intelligence. Asking ordinary people how an imaginary future scenario would impact

all aspects of their lives has proven to provide many more possible options than gathering a group of experts in a room and asking them for their opinions. Moreover, thinking about the far-off future isn't just an exercise in intellectual curiosity; it's a practical skill that has a direct neurological link to greater creativity, empathy, and optimism. She also noted that without considering alternatives to reality, we tend to accept the past as having been inevitable, and therefore the future will be inevitable, too. But if we can imagine our different possible pasts, it is easier for us to do the same with the future.

With this in mind, Jane McGonigal introduced participants to three exercises in counterfactual thinking to warm up the areas of their brains involved in imagining different possibilities and thus prepare them for the work ahead. She concluded by encouraging participants to practice thinking about the future, as it allows us to develop our imagination about what lies at the end of each of the many different possible roads. That way, when we get to the fork in the road, we will know which way we want to go.



“Every time you remember the future, you get better at predicting the past; every time you predict the past you get better at empathy; and every time you practice hard empathy you get better at remembering the future. And all of these skills have been linked in scientific research to creativity, invention, innovation, optimism, social intelligence and the capacity for change.”

Jane McGonigal, Director of Games Research and Development, Institute for the Future, USA

Exercise 1: Predicting the past

Creating counterfactual memory: Imagine if instead of doing X, you did Y. How would your life have turned out differently? For example, what if this morning, I had gone to the airport and gotten on a plane, instead of coming here?

Exercise 2: Remembering the future

Creating counterfactual foresight: Imagine things together that have never been linked before in a future scenario, using the “x, y, z” format. Actions you’ve previously taken are x. People you actually know are y. Places you’ve already been are z. Now imagine doing x with y in z, in a combination you’ve never done.

Exercise 3: How to practice hard empathy

Go to any news site. Look for a story about someone experiencing something you have never directly experienced. Now imagine yourself experiencing it.

OUTCOMES

Working in Groups to Tackle the Industry's Burning Issues

On the first day of the Forum, participants were asked to write down the one burning topic or question that, if not addressed, would prevent the global maritime industry from becoming what it can and should be. These topics were clustered into 17 questions. As participants arrived on the second day of the Forum, they were invited to browse these topics and choose one to work on for the rest of the day. The goal by the end of the day was for each working group to outline detailed proposals that would enable real progress on the topic at hand.

Working group topics:

- How do we develop a pathway to decarbonize shipping?
- What are new and meaningful ways of collaborating with each other and regulators and other stakeholders to chart a sustainable future? How do we bring together our fragmented industry so that we make enduring solutions that are for the greater good of the industry and of society?
- How do we rapidly transform a fragmented industry to reduce overcapacity in a sustainable way?
- How do we disrupt our industry when we are deeply invested in the current business model?
- What are tangible short-, medium-, and long-term ways to leverage technology and transform our industry?
- How do we create a "Silicon Valley" of the maritime industry?
- Protectionism: How do we help mitigate the downside of globalization and share in the gains?
- How does shipping create value in the future? How do we show that we add value every day?
- How do we adapt our industry to the changing aspiration of the workforce?
- What strategies / actions will enable us to contribute and profit from the UN Sustainable Development Goals?
- How does the maritime industry become a force to develop the "right" kinds of regulations?



“What I am really proposing here is that we take homework back. Not just take a year off and come back, but rather that we actually take some homework that we will work on for this year.”

Jorge L. Quijano, Administrator and Chief Executive Officer, Panama Canal Authority, Panama



Working Group 1

Time to Step Up How to Decarbonize Shipping

“We as a shipping industry must step up. We need to be part of the solution.”

Niels Smedegaard, Chief Executive Officer, DFDS, Denmark; President, ECSA

One of the most pressing issues for the global maritime industry is how to effectively address the climate challenge. The working group came up with a clear plan for how the industry can bring down carbon emissions from shipping, covering all ships irrespective of flag. The group emphasized that there is a clear risk of national or regional regulation if the industry does not act, regulation that will impose a significant burden on companies and undermine the global nature of shipping.

The working group expressed that one of the most pressing issues for the industry is climate change and its mitigation. The sector is commonly cited as the most environmentally friendly form of transportation, but this position will be challenged in the future if no further action is taken. As other sectors decarbonize, shipping’s share of global CO₂ emissions will continue to increase.

One of the main concerns for the industry is that shipping could be subject to national reduction targets if it does not deliver a strategy within the scope of the IMO, with specific emission reduction targets towards 2050. This will undermine the global nature of shipping and will lead to competitive

distortions and increased administrative burdens on companies.

Based on this analysis, the working group pointed to the need for a global solution that can bring down carbon emissions, and that covers all ships equally regardless of their flag.

A big effort has already been made within the IMO, but it has not yet been possible to reach a common agreement on a roadmap for the reduction of carbon emission from ships. The working group concluded that the shipping industry needs to adopt a leadership role and advance a solution if the IMO does not deliver. Possible candidates to take the lead are ICS, ECSA, EU and key NGOs. Those stakeholders should form a taskforce to bring forward a plan to decarbonize shipping that could be presented to the IMO for adoption. These following elements would be critical to a workable solution:

- **Global.** All ships irrespective of flag must be included in the scheme.
- **Hard target.** Emissions from shipping must peak in 2025. In 2050, emissions from shipping must be reduced by 50 percent compared to 2025.
- **Financial incentives.** A levy on fuel

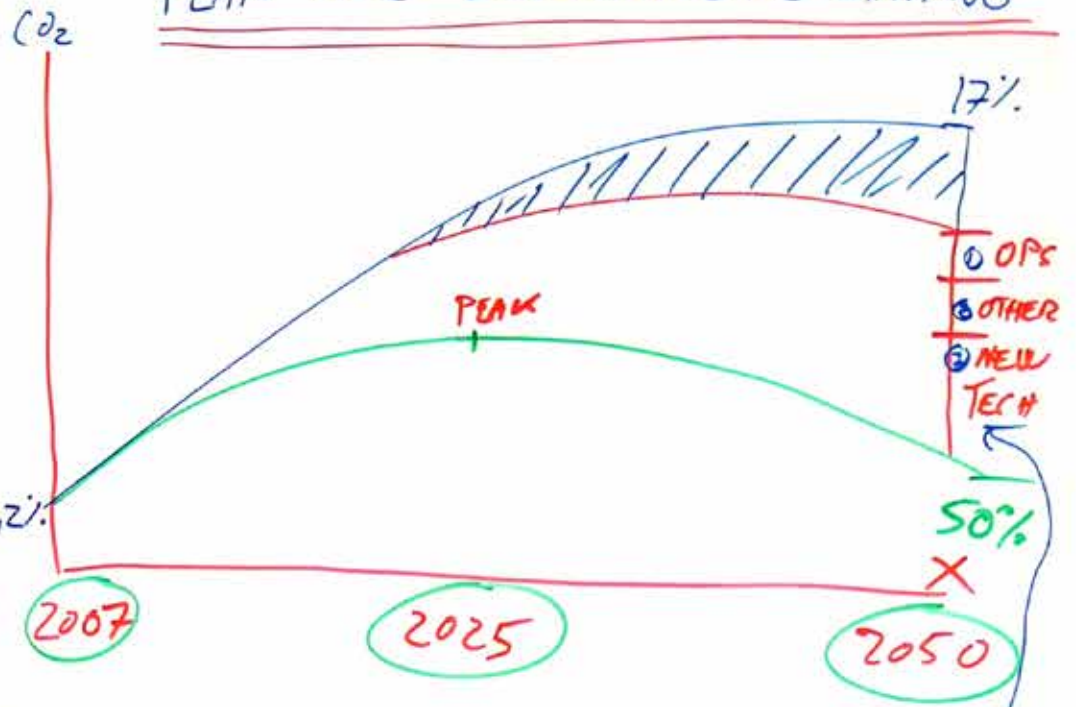
must be introduced in order to create incentives to reduce emissions

In addition to the efforts to create a global framework for reducing carbon emissions from shipping, the working group emphasized that the industry must continue to reduce emissions through technological and operational measures in line with discussions ongoing at the IMO. Much has already been achieved, but more can be done, especially through the large-scale application of transformational technologies.



PLAN FOR DECARBONIZING SHIPPING

FINAL
REMEMBER
EXPONENTIAL
DEVELOPMENT!



- (A) BE PART OF SOLUTION
- (B) REAL CHANGE / ALSO IMAGE
- (C) 2017 PLAN

TIMING
GOALS
MEASUREMENT

(4) LEVY → LEVEL
↳ INCENTIVES
- INDUSTRY SHIPPING
- 3RD WORLD SDR
- OTHER

TASK FORCE

ICS
ECSA
EU
NGO

ISSUES:

- (D) 2018 OPERATIONALIZE PLAN
- (E) 2020 APPROVED BY IMO

{ ICS/ECSA
NGO's
EU
X

- ①
- ②
- ③
- ④



Working Group 2

No Recovery in Sight How to Deal with Overcapacity in the Offshore Industry

“The offshore sector has a structural overcapacity problem from OSVs to drill ships and the problem will only be solved through scrapping.”

Carsten Mortensen, Group Chief Executive Officer, BW Group, Singapore

“Unless capital losses are actually taken and recognized, there will be no adjustment. There’s no inducement to adjust.”

Peter Stokes, Director, Lazard, United Kingdom

Overcapacity remains a serious concern within the offshore sector, compounded by persistently low oil prices. The group suggested that the only way for the industry to return to a sustainable path is to accept that there will be no short-term recovery and that write-offs, scrapping and consolidation are necessary.

The starting point for the group discussion was the dismal outlook for the offshore sector, where structural overcapacity in everything from rigs to offshore supply vessels is compounded by low oil prices. The group expressed that the starting point for dealing with this situation is to accept this reality and abandon all hope of a short-term recovery. This should be followed by creditors and stakeholders providing their share of write-offs in order to create sustainable balance sheets.

There is an urgent need for consolidation in the offshore supply vessel segment. However, in the short-term, the most likely scenario is more rationalization. The rig segment faces a structural surplus of rigs under any oil price scenario. The group found no easy or rapid solution to address this structural overcapacity, but proposed “capital destruction to create” – inspired

by the concept of creative destruction – to make way for new growth.

The group also discussed the importance of scrapping within the offshore sector, but questioned how this can be stimulated. Possible ways could be through legislation, consolidation or simply out of desperation.





Working Group 3

Aligning Book Value with Real Market Value of Assets

How to Address Overcapacity in Cargo Shipping

“We’ve got to face the facts, we’ve got to get out of this hang-over and face it in one go: bring those asset values down.”

Jeremy Nixon, Chief Executive Officer, NYK Line, Japan

Overcapacity remains the single most pressing problem for the cargo shipping industry. This situation has led to low freight rates, the erosion of asset values and made high debt burdens a matter of life-or-death for many companies. The group discussed different approaches to dealing with overcapacity in order to reach the shared long-term goal of creating a sustainable industry focused on steady rates of return, better management of risk and more transparency.

The starting point for the group’s discussions was the dire situation facing the cargo shipping industry. This part of the industry, which includes the dry bulk and container sectors, is suffering from overcapacity, low freight rates and high debt burdens, and urgent action is needed to put the industry back on a sustainable path. The group argued that two general approaches could be taken to achieve a rapid reduction of the present cargo fleet capacity: a free market approach or a more interventionist approach.

In the free market approach, the main drivers would be the industry and market forces. The first step would be to bring the book value of assets in line with their real market value by

requiring stronger enforcement of accounting rules to get a more realistic and viable depreciation trajectory of the value of individual vessels. Increased transparency regarding asset values would likely lead to more impairments by liners and shipowners.

A more realistic valuation of assets would make lay-up strategies less attractive and accelerate scrapping. At the same time, banks should be required or encouraged to require more equity finance in placing orders, thus discouraging the addition of new vessels. Moreover, governments should refrain from subsidizing shipyards. Finally, a more consistent global approach to antitrust reviews could facilitate consolidation across the industry.

In the interventionist approach, governments would have a leading role in driving the transformation process. Regulators could reduce capacity by introducing stricter environmental regulation that would make older ships obsolete, by introducing new licensing regimes that would limit supply, or by requiring the scrapping of existing vessels before the ordering of new ships would be allowed. Stricter regulation could also target the ship financing

business, thus making it more difficult to obtain loans and forcing companies out of the business.

Most of the participants in the working group were in favour of the free market approach. However, the group argued that both approaches could help achieve the long-term goal of creating a sustainable industry focused on steady rates of return, better management of risk and increased transparency.



Two approaches **INDUSTRY**

Near Term - free market

- Enforcement of accounting rules (≠ LTAV-Model)
- Transparency of asset values → more impairments by lines & shipowners
- accelerate scrapping ← — — — — — goal 1 million TEUs/yr
- encourage banks to require more equity in placing orders
- encourage lines to weed out non-operating owners
- " " " to bypass layups → direct to scrap
- facilitate consolidation of lines of non-op owners
- (more global consistency of yard reviews) of yards of lenders
- more realistic planning/ordering by lines (downside plans)
- push to remove all local government distorting subsidies (eg ship yard subsidies, tax subsidies)

Near Term Regulatory "Interventionist" Approach to over-capacity

- Stricter regulations forcing Assets out of business (environmental/financial) → 'LTAV' ↓
- Shipping Trading Rights
 - allocated to market participants
 - (Timing = challenge → "Near" Term
 - ▷ goal: Restore balance
- Scrapping 'Rights' (without new capacity)
- Tax lies on older vessels

Long Term Goal

Sustainable industry focused on steady rate of return, ~~and~~ management of risk and better information



Same LT goal...!

Working Group 4

An Effort to Rebalance the World Fleet How to Address Overcapacity Across the Industry

“By setting up a Global Sustainable Shipping Body financed by the industry, we will be able to more swiftly rebalance the world fleet and create a more positive environment for all players in the global maritime industry.”

Guy Hindley, Director, Dry Cargo Projects, Howe Robinson, United Kingdom

This working group came up with a bold and tangible proposal to deal with overcapacity: an industry-driven Global Sustainable Shipping Body to create financial incentives to accelerate scrapping and reduce the building of new vessels.

The group focused on exploring the creation of a government-backed, industry-driven initiative – the Global Sustainable Shipping Body (GSSB) – to create a more positive environment for all stakeholders and ensure a swifter rebalancing of the world fleet. The creation of the GSSB should involve a broad range of stakeholders including shipowners, cargo interests, shipyards and scrapping facilities. The idea behind this proposal is to create financial incentives to accelerate scrapping and slow the building of new vessels.

The most important element of the GSSB is the establishment of a fund, financed entirely by the industry, to subsidize scrapping of older vessels. The fund would be financed through levies:

- on new builds (paid by owners, plus a contribution from the shipyards);
- on existing fleets on a sliding scale by vessel age (paid by cargo interests);

- on the charter of vessels over 15 years of age.

In order to qualify for the scrapping subsidy it would be a requirement that only scrapping yards approved according to international standards (Hong Kong convention) can be used.



SUPPLYING OPTIMAL QUALITY SHIPPING

GLOBAL SHIPPING SUSTAINABILITY BODY (GSSB)

1. More positive environment for all players within the industry.
2. Aim to improve fleet quality to optimal standards
3. Prompt decision making with implementation 20-20 including obtaining necessary regulatory approvals?
4. To include Owners - cargo interests - shipyards - scrapping facilities
5. Levy System
 - On Owners when ordering Newbuilds
 - On Shipyards to build each vessel.
 - On cargo interests on carriage of cargo (possible sliding scale re age)
6. To provide a subsidy to incentivise Owners to scrap tonnage (at 15 years)
 - Subsidy reduced for tonnage over 15/16 years
 - Subsidy also dependent on scrapping in "approved" yards based on green and social credentials
7. Buy-in from all maritime organisations
 - Trademark supplied - "Sustainably recycled"
 - Monitored by P+I Clubs

Working Group 5

Embracing a Transparent, Customer-Driven Approach

How to Disrupt an Industry Deeply Invested in the Current Business Model

The current business model for shipping – based on asset ownership and carrying high debt while competing in a commoditized market – is at risk of being disrupted. In order for shipping companies to deliver sustainable levels of return on investment, the shipping industry must move towards a more customer-oriented business model and embrace transparency and new digital platforms.

The working group examined the current business model, one that has proven to be unsustainable in a market distorted by overcapacity. The group characterised the shipowning sector as asset- and debt-heavy, cyclical, with low barriers to entry, fragmented, inefficient and commoditized, meaning that companies are not rewarded for delivering higher-quality services. This leads to a situation where the economic benefit created by seaborne transport is not reaped by the shipping industry, but accrues instead to the customer.

To make matters worse, the group also found that all aspects of the current business model could face disruption by outsiders if the shipping industry does not act first. However, the group also saw potential for positive value creation with an increase in transparency and customer-orientation.

The first step would be a shift in investment focus. So far, the industry has pursued an “assets first” strategy, and only then gone on to consider how to fill it up with cargo. Instead, the group proposed that the industry should adopt a “cargo first” approach, which will then determine which assets are required to transport the cargo. In other words, there should be a more customer-driven investment focus rather than speculative, capital-intensive asset-focused investments.

A key element of this customer-orientation would be an increase in transparency, in particular around the service offering. This would allow customers to make real choices between low-value/low-cost shipping and high-value/higher-cost shipping.

The group suggested that this could be achieved with a new digital platform inspired by Airbnb and Uber. This platform would allow customers to rate services directly and would thus give customers the opportunity to choose and reward companies that deliver services of high quality. It could theoretically also reduce overcapacity since companies offering low-quality services would likely lose their market position.

Increased transparency was also seen as beneficial in terms of attracting capital given that healthy balance sheets and strong long-term business models are critical factors in gaining access to capital.



BUSINESS Model Disruption

HOW to COME to SUSTAINABLE LEVELS of RETURN ?

INSURANCE
BANKS
OUR STAKE HOLDERS
PORTS
CUSTOMERS

- Focus on SHIP OWNING
- HEAVY ASSETS
 - OVER CAPACITY
 - COMMODITIZED
 - LOW BARRIERS ENTRY
 - LOGISTIC UNEFFICIENCY
 - LACK of TRANSPARENCY

WE CREATE WEALTH but don't BENEFIT

TOWARD a GREATER VALUE CHAIN INTEGRATION?

TRIGGER EXTREME TRANSPARENCY



RE-CREATE "PREMIUM" SERVICE

a CONDITION to FINANCING

AIRB'NB

AUBABA

ÜBER

FROM ASSET FIRST

CLIENT

SHIFT

to CLIENT FIRST

BEST ASSET

CUSTOMER DRIVEN KPI'S



Working Group 6

No Time for Complacency How to Leverage Technology to Transform the Maritime Industry

“We can quickly take a thousand small steps that will make a really big difference.”

Hans Feringa, President and Chief Executive Officer, Team Tankers International, USA

According to this working group, new technologies could lead to efficiency gains, allow the maritime industry to respond to new customer demands, and increase the industry’s capacity to add value to global society. In order to leverage the benefits and counter the threat of tech-savvy outside entrants, the group suggested working together to explore and develop new platform-based business models.

The starting point for the working group was a shared conviction that technology is essential to the future of the maritime industry. The group found that technology can help protect companies’ bottom line, will allow the maritime industry to respond to new customer demands, and increase the industry’s capacity to meet global calls for a more sustainable future.

This working group looked at the role of technological innovation in the short, medium and long term. This was done both in a vertical perspective – i.e. looking at the full maritime value chain – and in a horizontal perspective – i.e. across and outside the industry.

From a vertical perspective, the big question was how to make companies more efficient. One obvious path is

to look at the solutions and business models that have proven successful in other industries such as aviation or retail. There are also good examples from within the maritime industry that demonstrate how investing in technology can improve efficiency, e.g. by reducing fuel consumption.

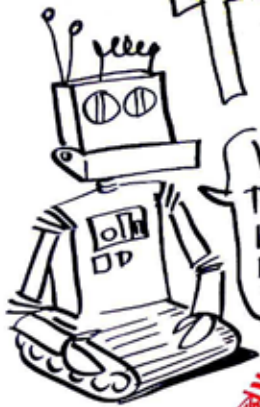
The group also identified significant potential in the increased use of emerging technologies such as predictive analytics and artificial intelligence. However, an important barrier to fully realizing the potential of these technologies is that the industry is not even effectively using the tools that are available today and furthermore does not invest adequately in research and development. The group proposed joint research ventures to enable stakeholders with similar interests to pool scarce resources as one way to overcome this barrier.

From a horizontal perspective, the key question is how new business models based on digital technologies will find their way into the industry. One new model discussed was the platform-based approach that promises better utilization of assets e.g. in the container business where different companies can partner through a shared platform to move containers for each other.

However, the group was quick to say that only a few players within the maritime industry have – or choose to invest – the resources needed to create new, innovative platforms. This, combined with the industry’s relative conservatism, could result in new asset-light platform-based approaches being introduced by outside players such as Google or Amazon, who have the necessary scale, resources and customer-centric culture. While thin margins likely insulate the maritime industry against this strategy in the current competitive environment, this could change if and when the industry again becomes sustainably profitable.



TECHNOLOGY



WHAT could TRANSFORM the INDUSTRY IN SHORT/MEDIUM TERM?



ENSURING SUSTAINABILITY

SHARING Economy

AN OPPORTUNITY IF TAKEN from THE INSIDE of THE INDUSTRY

NEW BUSINESS MODELS

ASSET LIGHT

CARGO CONTROL

INFORMATION ADVANTAGE

ASSETS - SCALE EFFICIENCY



FUEL TECHNOLOGY / - REGULATION -

FINDING LOCAL SOLUTIONS

CORE PLAYERS

EXISTING SHIPPING INDUSTRY ORGANIZATIONS

CHANGES TOWARDS

EFFICIENCY



EVALUATING FUEL EFFICIENCY

BIG IDEAS

SHARING Economy

AUTONOMOUS SHIPS

NEW FUEL



Looking at OTHER INDUSTRIES



Benefit to the Society

Working Group 7

Customers Will Drive Transformation How to Leverage Technology to Transform the Maritime Industry

“What consumers want is going to drive the ship of the future.”

Natalie Costello, Vice President Chartering and Commercial Operations, BP Shipping, United Kingdom

Do we dare to disrupt the industry and leverage technology to match new customer demands or will disruption come from companies outside the maritime industry? That was one of the key questions raised in this working group. One way forward will be for the maritime industry to learn from other industries how to use existing technologies to increase efficiency and create better processes throughout the value chain.

The working group started their discussion by emphasizing that in order to meet the demands of customers and other stakeholders the shipping industry must undergo a fundamental transformation. As one participant succinctly summed it up, our children – the next generation of consumers – will not accept things the way they work today.

However, the group was somewhat pessimistic about the maritime industry’s ability to overcome its risk-aversion to adapt to changing customer demands. This led the group to suggest that one of the key questions facing the industry today is whether we dare disrupt the shipping industry?

The group pointed to Uber and Airbnb as examples of outside

entrants who have combined a clear focus on customer needs with new technologies to rapidly and radically disrupt traditional business models. This led the group to conclude that if the maritime industry does not adapt by using technology to better meet customer and other stakeholder demands, then there is considerable risk that outside players will enter the market. For example, would automated ships make it easier for a company like IKEA to operate its own ships if the shipping industry is seen as not offering the right services at the right price?

The group also identified a number of avenues that the maritime industry could explore to leverage technology to adapt to changing demands. First, the group proposed that using existing technologies to increase efficiency and create better processes throughout the value chain represents a low-hanging fruit that can be easily implemented at the company level. The group suggested that it might be useful to look to other industries for inspiration, for example the aviation industry and the way in which it handles voyage tracking and invoicing.

Secondly, the group also suggested cross-industry collaboration to develop

and implement new technology platforms that will change the industry in the long term. Again, the shipping industry can and should draw inspiration from approaches adopted by similar industries, e.g. aviation and the like.

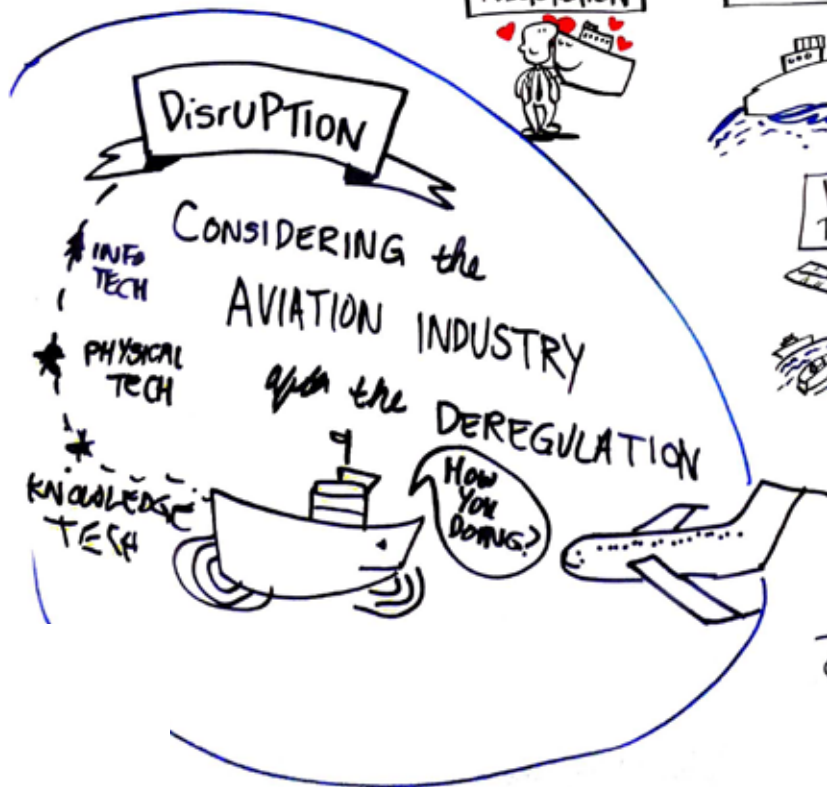
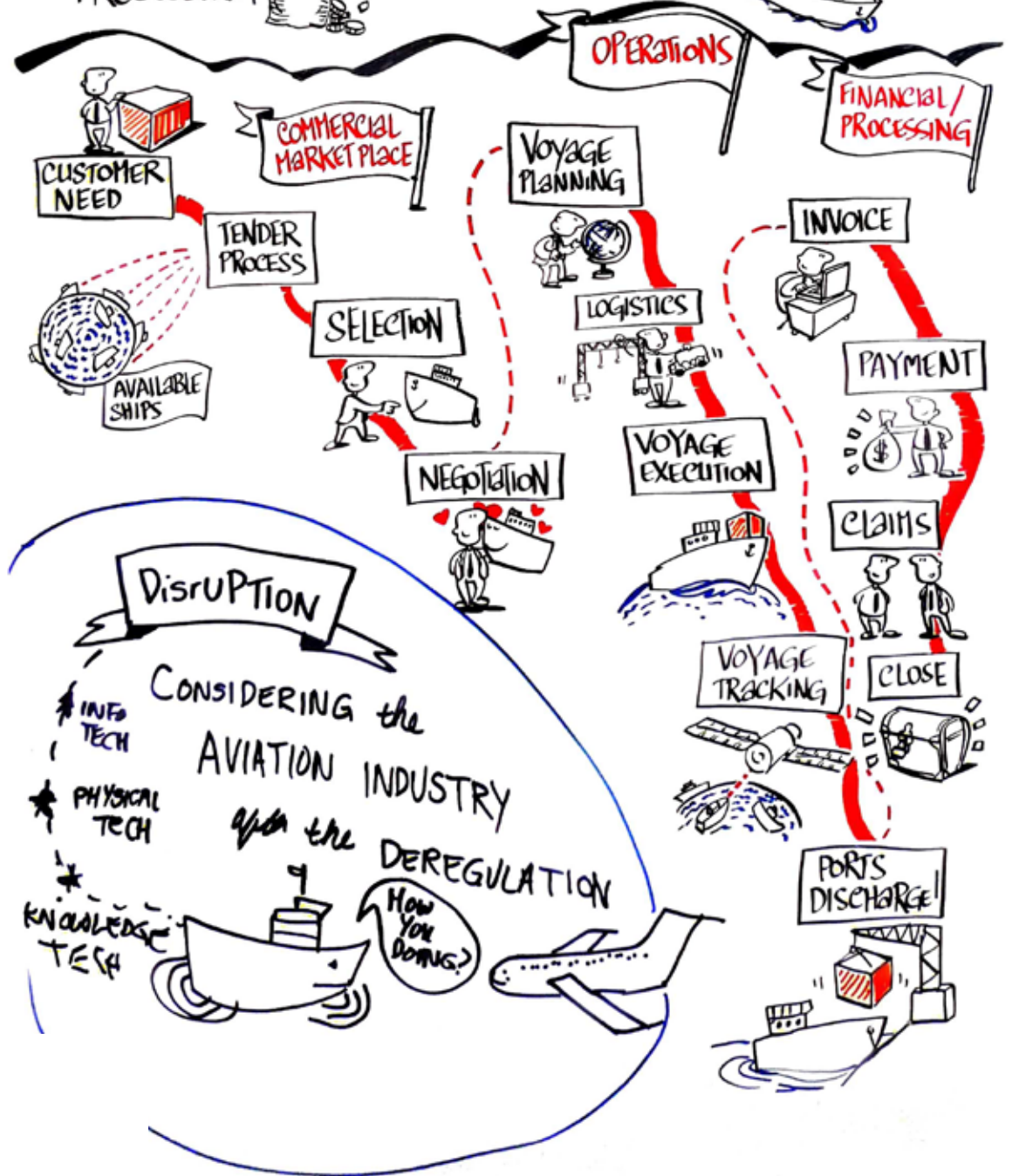


IT IS TRUE

We Believe in the FUTURE!

The WINNING Team

FRICK THURNER



Working Group 8

A Shared Platform for Innovation How to Create a “Silicon Valley” of the Maritime Industry

“Money, ideas and drive is a good recipe for creating something new.”

Anda Christescu, Global Operations Manager, Cargill Ocean Transportation, Switzerland

Despite the obvious differences between shipping and the IT industry, this working group quickly concluded that the maritime industry can learn a lot from Silicon Valley when it comes to creating a more innovative and forward thinking culture. Creating a “Maritime Valley” will require collaboration, innovation and financing and must be based on a clear governance model, offer a platform for idea generation and involve other industries.

The working group started by discussing if the maritime industry needs a “Maritime Valley” to improve innovation and risk-taking based on the Silicon Valley model. There was general agreement that a “Maritime Valley” could help the industry embrace change in the face of the threat of competition from other industries, unpredictability of the market and disruptive technologies – and that a joint focus on innovation could generate new opportunities and business models.

The group discussed that collaboration should be a founding principle of a “Maritime Valley”, since it means that participating companies can benefit from each other’s knowledge and know-how. Collaboration should go beyond the maritime industry to involve

other industries (e.g. transportation and logistics, finance etc.) as well as universities, in order to learn from frontrunners and thought leaders.

The purpose of a “Maritime Valley” would be to offer a platform that can foster innovation and challenge existing business models. This will require a culture where it is acceptable to take risks and to fail. It will also be critically important to create a platform that has the ability to attract new young talent with the right ideas and drive that can help bring new approaches to life. One tangible suggestion put forward by the group was the creation of a shared platform where people can present their ideas to potential investors.

A key prerequisite for establishing a “Maritime Valley” would be availability of funding. One idea from the group was to create a foundation designed to fund the development and deployment of new technologies, concepts and business models within the maritime industry. The group agreed that a “Maritime Valley” wouldn’t necessarily have to be a physical space so much as an approach with support from a critical mass of the maritime industry.

To take the idea forward, the group suggested that the first step would be to develop a governance model that can integrate the principles and requirements outlined above and to gather support among key players both inside and outside the maritime industry.



Radical TECHNOLOGY & INNOVATION

How To Create a SILICON VALLEY for the MARITIME INDUSTRY?

WE NEED TO LOOK AT OTHER INDUSTRIES



NO RISK, NO GAIN!

WE ARE A COMPLEX INDUSTRY...

OPENNESS

DISRUPTION - LET'S CREATE IT OURSELVES



WE WANT TO BE IN THE DRIVER'S SEAT!

INCUBATE INVOLVING ACADEMIA

THE WHOLE INDUSTRY

OTHER INDUSTRIES - VENTURE CAPITAL

CROSS COMPANIES COLLABORATION



HELLO COMPETITOR!

BUILDING A PLATFORM TO ALLOW INVESTMENT FROM OUTSIDE



A SAFE SPACE

GOVERNMENT



NOT RELY ON GOV'T FUNDING



Working Group 9

Making the Case for Meaningful Public Engagement How to Bring Together a Fragmented Industry

“The shipping industry needs to step up and make a better case for itself in the public domain.”

Claus V. Hemmingsen, Chief Executive Officer, Maersk Energy, Denmark; Chairman, Danish Shipowners' Association

Fragmentation is seen as a major obstacle to charting a sustainable future for the global maritime industry. This working group suggested that more meaningful engagement with the public on its expectations vis-à-vis the industry would make it easier to earn the political support needed to achieve framework conditions that will allow the industry to flourish while contributing to sustainable economic development.

While this working group agreed that shipping – as the backbone of international trade – is essential to a sustainable future, it also suggested that the full potential of the industry can only be reached, if the industry learns how to better engage with the global public, one that is currently questioning the advantages of free trade and economic globalization.

The group pointed to increased collaboration across the industry and with its stakeholders as an important step in promoting and advancing its role as an enabler of a sustainable future. The group emphasized that the point of this is not only to raise awareness about the maritime industry, but also to become better at understanding and delivering on the expectations of global

society. The group pointed to the UN Sustainable Development Goals as an opportunity to engage with the global community in a meaningful way.

The challenging business conditions that the industry is currently facing served to underscore that the industry needs to be healthy, if it is to contribute to a sustainable future. This requires global, smart and enforceable regulation to be adopted through the IMO. The working group pointed to the lack of channels to facilitate discussions between industry and governments at the international level to identify and implement win-win solutions. An important first step for collective action would be to secure universal endorsement of the IMO as the appropriate venue for global shipping regulation rather than opting for national or regional initiatives that risk distorting free trade and place increased and unequal burdens on the industry. A key point made in the discussion was that engaging with the public, who are also voters, would make it easier for the maritime industry to make this case to governments.

As a concrete action point the group suggested that the industry work together to increase the resources used for branding the industry as well

as to engage with and understand the expectations of the global public. This will help build support for the industry and allow it to focus its efforts on the issues that matter the most to this broader group of stakeholders.





Working Group 10

Addressing the Downsides of Globalisation How to Mitigate the Downside of Globalisation and Share in the Gains

“The issue of inequality is the Achilles’ Heel of globalization.”

Danish Maritime Forum Participant

Economic globalization stimulates wealth creation and prosperity around the globe and shipping plays an important part in this. However, support for free trade has been eroding in many parts of the world and calls for protectionist measures to protect local industries and jobs have increased. This working group suggested that the maritime industry could help overcome this opposition by working together with other key stakeholders to address the negative impacts of globalization.

The working group wrestled with the apparent dilemma that economic globalization based on expanding international trade has contributed to wealth creation around the world and helped bring millions of people out of poverty, yet it is facing increasing pushback, especially in the industrialized world.

The group concluded that the problem was not globalization itself but rather a failure to address the negative aspects of globalization, including the unequal distribution of the overwhelming share of economic gains. Since the well-being of the shipping industry is so closely linked to world trade, the group found that shipping needs to acknowledge and address the negative effects of

globalization and work alongside politicians and NGOs to address inequality. It was also noted that the shipping industry is just one stakeholder in what is a much broader issue.

The group also discussed concrete actions that the maritime industry could take to help address some of the challenges of globalization.

One idea was to create a stronger, unified voice to speak for the global shipping community, which should be tasked with issues such as addressing

the downsides of globalization. This could be a maritime platform encompassing the key stakeholders in the industry e.g. CEOs of major companies, ITF, ICS, BIMCO, INTERTANKO, INTERCARGO and perhaps ship managers.

Another idea put forward by the group was for the industry to contribute to a fund dedicated to retraining people who have lost their jobs due to emerging structural unemployment in the sector – to help give them the skills they will need to succeed in the global economy.





What is
OUR Role?

INEQUALITY

GLOBALISATION IS GOOD (not only for shipping)
Drives wealth, lifts economic benefits
Shipping plays a key role in globalisation

→ Within globalisation, some win + some lose out
The issue of inequality is the Achilles' heel of globalisation

→ Inequality leads to unrest + protectionism
Hurt shipping, destroy wealth

Shipping recognises that inequality/protectionism will weaken economic growth and structure of society

Create a maritime platform of core players

CEOs of major companies

ITF

ICS

BIMCO. Intertanko, Intercargo, SHIP MANAGERS

- acknowledge concerns
- Share concerns with politicians, public
- Explain why globalisation is better
- Tangible initiatives, action

What do we want our impact to be?

How can SHIPPING DEVELOP

BEST PRACTICE

IN OUR CORE AREAS OF INFLUENCE?

Working Group 11

Addressing the Real Concerns of Citizens Around the World

How does the Maritime Industry Increase its Value to Society?

“How can shipping be supportive of the type of economies and societies that are going to result in people experiencing less alienation, less disenfranchisement, less anger, less hatred [..]; so there

was a real focus on how value to societies can be created through shipping.”

Peter Tirschwell, Editor, Journal of Commerce, USA

The maritime industry must be conscious of how it creates societal value, ensuring that this value is communicated clearly to citizens and governments, and continuously look to increase its value to society. The working group came up with several tangible opportunities including reducing inequality, eliminating waste and increasing efficiency in the global trading system.

The working group focused on three questions: How do we as an industry create value? How do we become better at engaging with our stakeholders? And how do we improve our value to society? The questions may sound simple, but the subsequent discussion showed that the answers are not.

One key takeaway from the discussion was that the industry must become better at communicating its value to society in a way that addresses the real concerns of citizens around the world. Just stating that shipping is critically important to the global economy is not enough: too many stakeholders feel as though globalization has left them behind for this message to resonate. To be successful, the industry needs to invest both time and money to communicate the benefits of globalization.

First, the group identified areas where the industry is already creating value to society. At the global level the group highlighted the industry’s contribution to sustainability, connectivity, peace and stability.

At the national level the group pointed out that the maritime industry has a significant positive impact on the competitiveness of national economies, which facilitates the flow of foreign investment into a country, creating employment opportunities and raising living standards along the way.

At the individual level the group argued that shipping brings choice, contributes to free and fair markets, and creates jobs in the communities where it operates.

Then the group identified a number of areas where the maritime industry could make a concerted effort to add value, thus contributing to a more sustainable future:

- **Increase efficiency** and enhance transparency in the international trade process.
- **Eliminate waste** in global value chains.
- **Reduce inequality** e.g. by providing education and training, investing in

infrastructure and improving access to markets.

In its discussion, the working group made a point to highlight the role of young voices in driving lasting change.



IMAGE & VALUE



PROVIDE

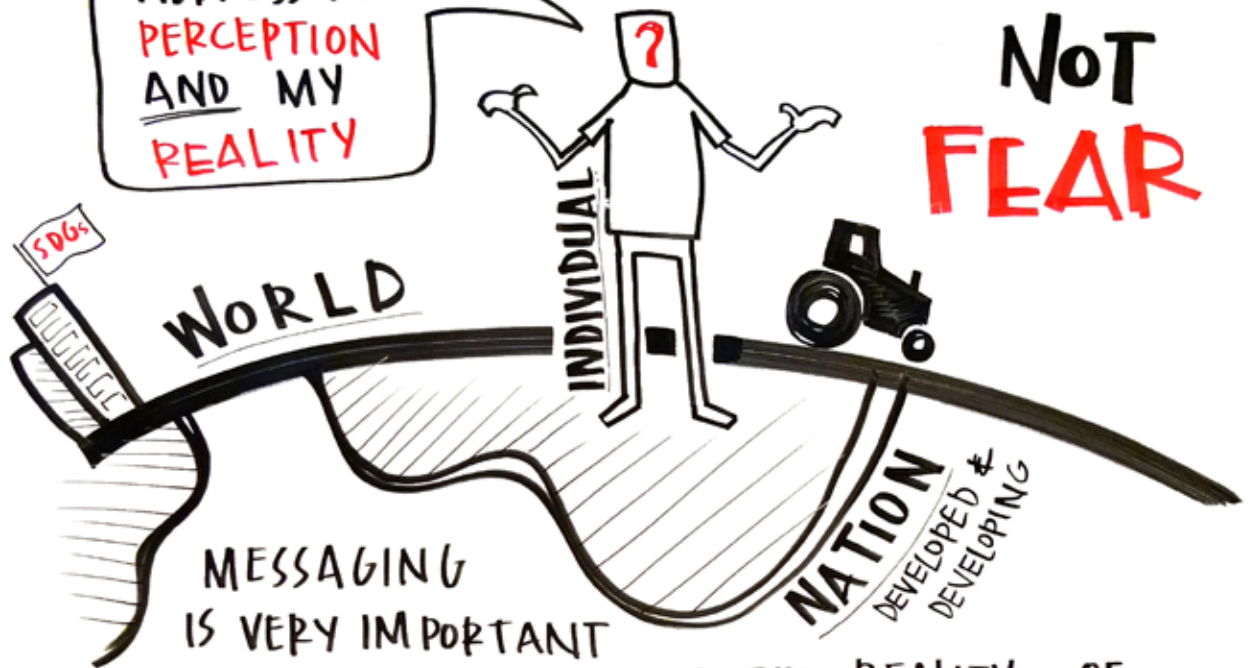
HOPE

AND HELP

HARD EMPATHY
PUT YOURSELF IN MY SHOES

ADDRESS MY
PERCEPTION
AND MY
REALITY

NOT FEAR



MESSAGING IS VERY IMPORTANT BUT ACTUALLY IMPROVING THE REALITY OF THOSE WHO HAVE BEEN MARGINALISED IS MORE IMPORTANT

WHAT CAN OUR INDUSTRY DO TO MAKE A DIFFERENCE

AND HOW TO COORDINATE WITH OTHER INDUSTRIES

VALUE CREATION

TODAY

SUSTAINABILITY
CONNECTIVITY
PEACE/STABILITY
COMPETITIVENESS
EMPLOYMENT
LIVING STANDARD
CHOICE
FREEDOM
JOBS

WORLD
NATIONS
INDIVIDUAL

FUTURE

REDUCE INEQUALITY
INCREASE TRANSPARENCY
ENABLE EFFICIENCY
ELIMINATE WASTE
DISTRIBUTION OF RESOURCES
BRING YOUNG TO NEXT FORUM

Working Group 12

From Command and Control to Autonomous Decision-Making How to Adapt to the Changing Aspirations of the Workforce

“If we have people who think for themselves we don’t need all the regulations.”

Peter Cremers, Chairman, Anglo-Eastern Ship Management, Hong Kong

In order to attract more people with the right skills, the industry must make maritime careers appealing to a younger, more engaged population – the millennials. To achieve this, the working group suggested that the industry consider a radical change: abandoning the command and control model of life at sea today.

As a starting point for their discussions, this working group recognized that the industry not only needs to change the nature of workplaces in shipping to make them more attractive to younger generations, but also make them better-known.

In the past, the shipping industry was able to attract young people who joined maritime companies to see the world. Now that communication technology and inexpensive transportation has made the world much smaller and more accessible, the shipping industry no longer offers the allure it once did. The working group conceded that the industry has been slow to react and adjust the way it is portrayed to the next generation of employees. While new ships are technologically advanced and offer interesting opportunities for tech-savvy youths, this is not an aspect of the industry that is widely depicted. The

industry must be much better prepared to offer attractive opportunities to younger generations; something that shipping is well positioned to do considering the broad scope of career pathways available to potential employees.

The working group pointed to two key challenges in attracting the next generation to careers in shipping. On the one hand, the industry should make a concerted effort to showcase the wide range of career opportunities that it has to offer – and in particular focus on channels suited to young people, for instance through an improved use of social media.

On the other hand, there is also a need to change the workplace culture in the shipping industry to better match the ambitions of the next generation. In particular, the group suggested that the traditional command and control model of running a ship is not a good fit for younger people who aspire to jobs with greater responsibility and autonomy.

The working group pointed to compliance requirements as a major obstacle to giving room for more autonomous decision-making on board ships. They proposed that regulators

could adopt a more goal-oriented approach to compliance that would reduce the level of detail in regulatory requirements to make it possible for a new generation of skilled and responsible seafarers to do their jobs in the best possible manner.

The group’s discussions also touched on the prospects that new digital technology offers modern seafarers to stay in touch with friends and family while at sea and it was suggested that technology could be used to create a “virtual reality” of home life while away at sea.



1) Why is it essential?

Because Shipping is... and we need to attract new people into our industry.



2) What will change?

- We will attract an engaged younger seafarer population (Millennials)
 - We need to bridge the Generation X questioning to adapt to life in a Command Authority of life at sea today
- Change mindset rather than regulation.

3) MILESTONES - action now!

4) Core Players

- Ship managers/owners - industry bodies
 - Maritime Academies + institutions
 - Maritime Administrations + Unions
- } collaborate

5) BOLD NEW IDEAS

- Rebranding - Mariners not seafarers
- The need for new skill sets - technology - planning for it
- Greater involvement + responsibility of younger staff
tell us what they want
- Create virtual reality of home life whilst at sea
- Ideas + responsibilities and authority to ship



Working Group 13

A Scorecard to Operationalize the SDGs How the Maritime Industry Can Contribute to the UN Sustainable Development Goals

“This is about creating growth, new global shipping trades and at the same time empowering people and improving their standard of living.”

Tom Preststulen, Managing Partner, Elkem, Norway

The maritime industry has an important role to play in delivering on the UN Sustainable Development Goals. According to this working group, by doing so, the industry will not only contribute to stability and growth in the world, but also create substantial new business opportunities. However, the group found that there is a need for initiatives to raise awareness about the SDGs in the maritime industry and make it easy for companies to engage in contributing to a more sustainable future.

The group expressed that the maritime industry must play its part in delivering on the UN Sustainable Development Goals (SDGs). Beside the fact that the industry has an obligation and an inherent interest in contributing to stability and growth globally, the SDGs present good business opportunities, especially in emerging markets.

However, the group suggested that there is both a lack of awareness in the maritime community about the content of the SDGs and a lack of knowledge about concrete and easy-to-implement actions individual companies can take to contribute to the goals. This could perhaps be attributed to the difficult economic situation facing the industry,

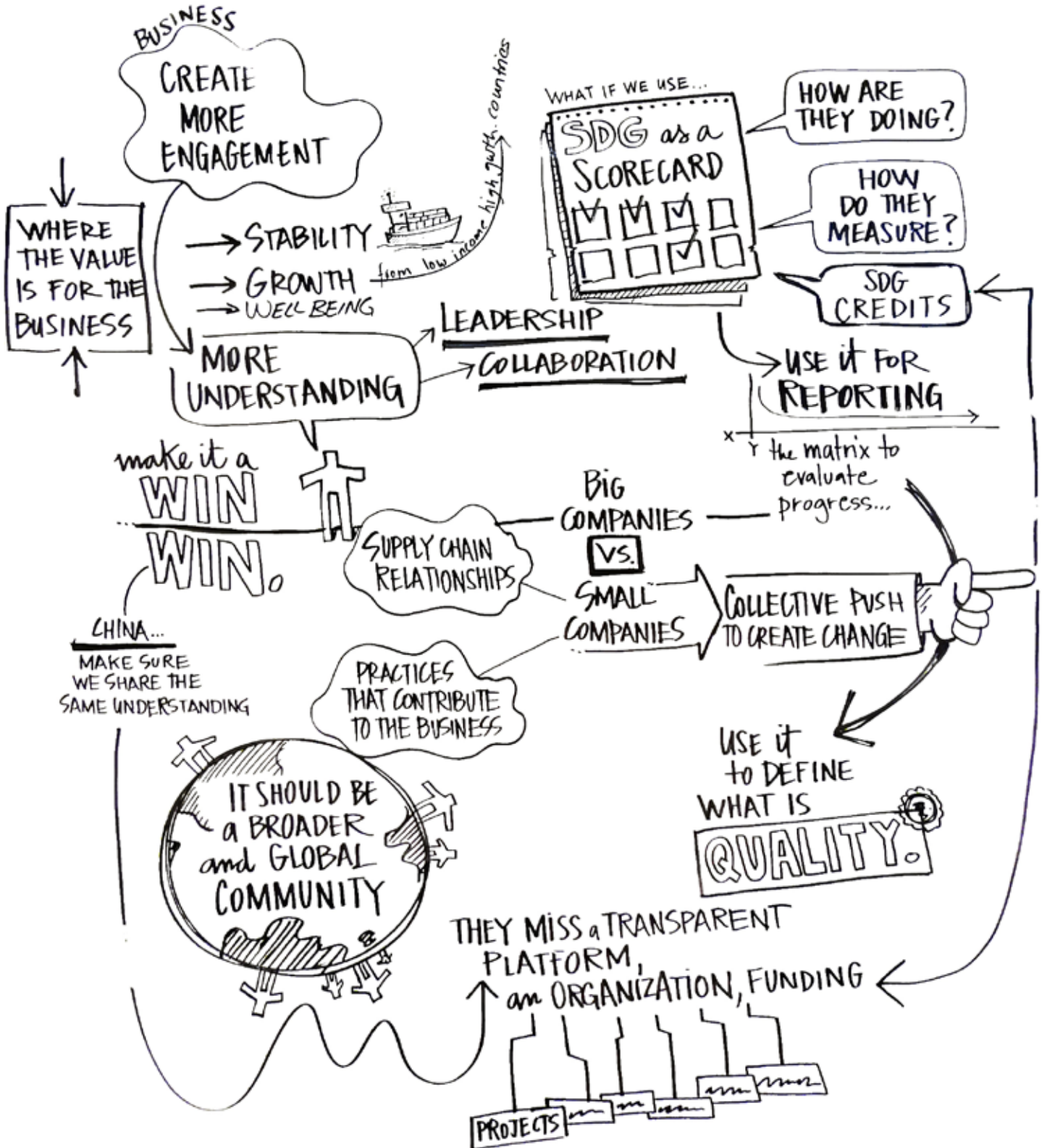
where companies find it difficult to commit resources to exploring new, perhaps less obvious business opportunities.

As a solution, the group proposed that the SDGs be made more easily accessible for the maritime industry by demonstrating the relevance of each goal to the industry as well as showcasing strategies to operationalize the goals and how to integrate them into the business in a way that can help create win-win scenarios. One suggestion from the group was to create a platform for exchanging and disseminating such information.

The group also proposed developing a globally accepted scorecard as a way to evaluate and showcase company performance with respect to the SDGs. Such a scorecard would operationalize the SDGs into standards, thus highlighting what is relevant to the maritime industry. A scorecard would also enhance transparency and enable customers, consumers and the broader public to see what is being done by the industry and how companies are working individually and collectively to contribute towards delivering on the goals.



SUSTAINABLE DEVELOPMENT GOALS



Working Group 14

A Proactive Approach to Shaping Regulation How Can the Maritime Industry be a Positive Force in Shaping Future Regulation

“The quantum change is the move to a world where we have regulation but also voluntary measures to go beyond the minimum.”

Dr Peter Swift, Director, Ardmere Shipping Corporation, United Kingdom

The shipping industry – and other stakeholders – should be a stronger force in the IMO to develop appropriate international regulations that deal with issues proactively. The group proposed creating a new regulatory model wherein the core regulation is supplemented by voluntary measures. The group also suggested setting up a new IMO forum consisting of industry, governments and NGOs that could help draft and develop new regulatory and voluntary measures.

The group explored how the maritime industry can become a stronger force in the development of international regulation to create a win-win situation for the regulators and the industry.

Participants in this group shared the view that industry is not appropriately or sufficiently represented in the IMO. Industry can try to influence IMO positioning through lobbying at the national level, but does not have the option to participate in a recognized manner. Furthermore, IMO regulation has historically been characterized as reactive, with disastrous accidents at sea as the main driver for new regulation. The group suggested that a more proactive approach is needed so that safety issues and other challenges can be addressed effectively.

The group recognized that the negotiation and adoption of sound maritime regulation requires the interests of all relevant stakeholders to be considered. However, the group also argued that shipowners – those stakeholders with the largest up-front financial stake in the industry – should have a recognized voice in the IMO to ensure that regulatory approaches have the right balance of near-term flexibility and long-term certainty to be effective.

The group came up with two proposals. First, it suggested supplementing core regulation with voluntary measures that go beyond compliance and take the industry above the minimum requirement. Such voluntary measures could include schemes, systems and processes, and should ideally be associated with incentives, timelines, quantification protocols and certification processes to prove that a certain company is indeed above compliance.

Second, the group suggested the establishment of a subgroup in the IMO consisting of industry, governments and NGOs/other stakeholders. Such a body would mirror the structure of the IMO and constitute a forum for drafting and discussing new regulation to set the framework for additional voluntary

measures. The structure of such a group would necessarily require all participants to have equal status.

Voluntary measures supplementing regulation and an IMO subgroup giving industry and other stakeholders a voice would ensure a faster and more transparent process to achieve sound and proactive international regulation.



1. To be aware of the interest of all interested parties.
2. Be proactive as well as reactive
3. New approach & get buy-in
 - a. Core Regulation supplemented by voluntary measures which go beyond core compliance
 - b. IMO Sub-group of representatives of Capital, Government & other interest (with equal status) developing the measures including time lines, incentives, quantification & certification
 - c. System is based on transparency & credibility
4. THE OUTCOME
 - a. Easier process of core regulation
 - b. Certifiable mechanisms for "Beyond Compliance" measures which leads to
 - c. Broader level of satisfaction



FISHBOWL

From Ideas to Action

For the closing plenary debate, participants were invited to sit in concentric circles for a so-called fishbowl conversation. In two rounds, **Gillian Tett**, US Managing Editor of The Financial Times and chair of the Danish Maritime Forum 2016 welcomed representatives from each of the working groups to the stage to share their proposals and discuss practical steps to take their ideas forward. The first round focused on industry-internal challenges of overcapacity, the impact of disruptive technologies and new business models. The second round addressed a wide range of external challenges for the industry such as climate change, the Sustainable Development Goals, talent, regulation and how to improve the industry's image.

After a lively and stimulating debate, Gillian Tett wrapped up the conversation by offering her view of the discussions as well as observations on how the industry might move forward. She started by pointing to three key takeaways from the discussions. First, that while the global maritime industry is facing very big challenges indeed, the industry's leaders are fully aware of the scale of the challenges. Second, that a crisis can give rise to collaborations not otherwise thought possible, and the thoughtful,

lively and passionate conversations during the two-day Forum indicate a willingness in the industry to work together to solve the challenges ahead. Third, that there are lessons from other industries about what to do and, more importantly, what not to do.

Gillian Tett went on to highlight three examples from other industries that she considered pertinent to what the maritime industry is facing today:

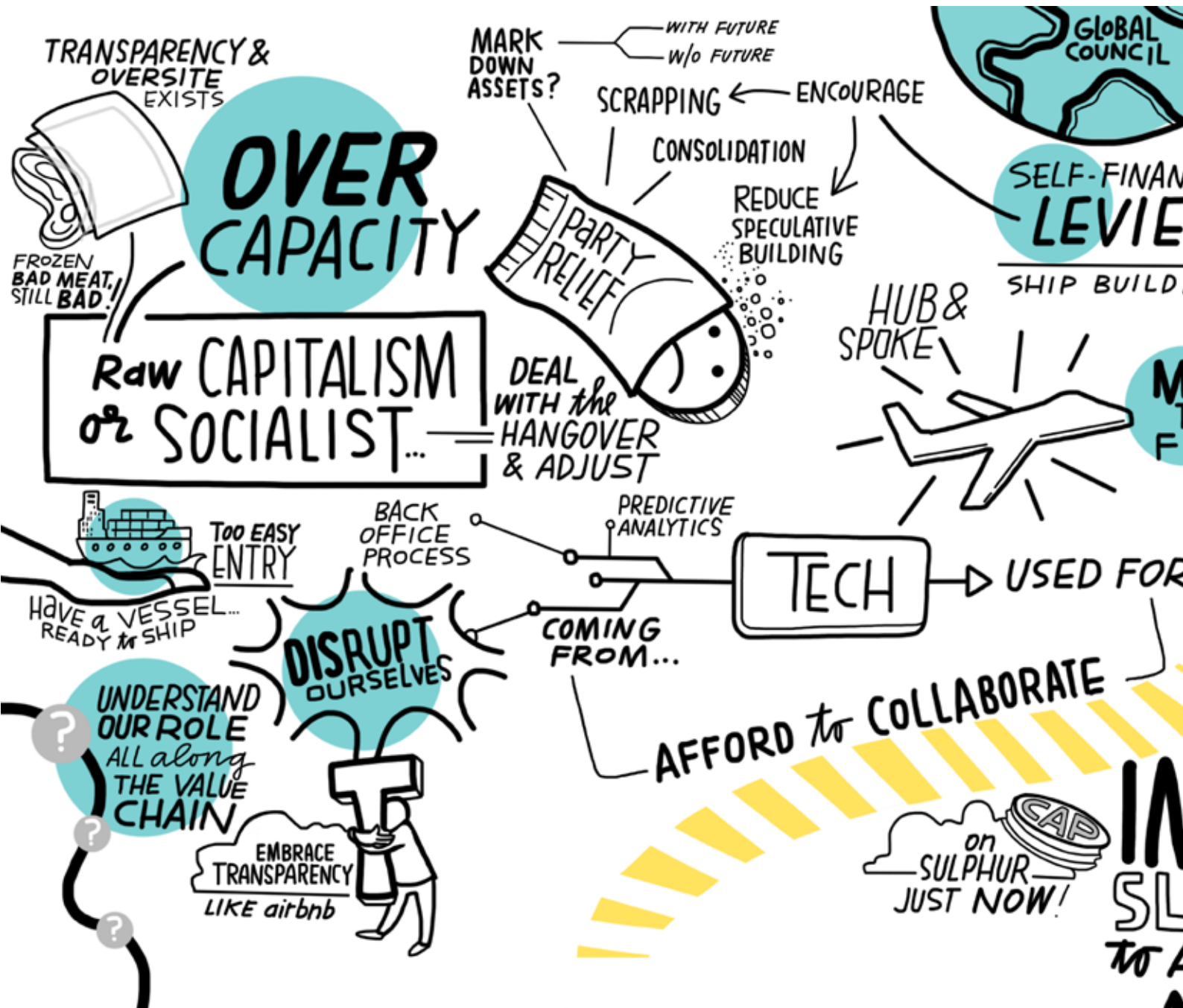
- **Speed of change.** The last decade has demonstrated that disintermediation can happen much faster than anyone believes when technological advances and new business models bring about rapid transparency. This is particularly true in business-to-consumer industries e.g. travel and retail.
- **Humility and openness in the face of big challenges.** In Gillian Tett's view, the arrogance and insularity of the banking sector in the run-up to the financial crisis meant that they were very slow to recognize the scale of the change that was needed, demonstrating how easy it is to sweep problems under the carpet and the adverse impact that has on an industry's ability to adapt

to change.

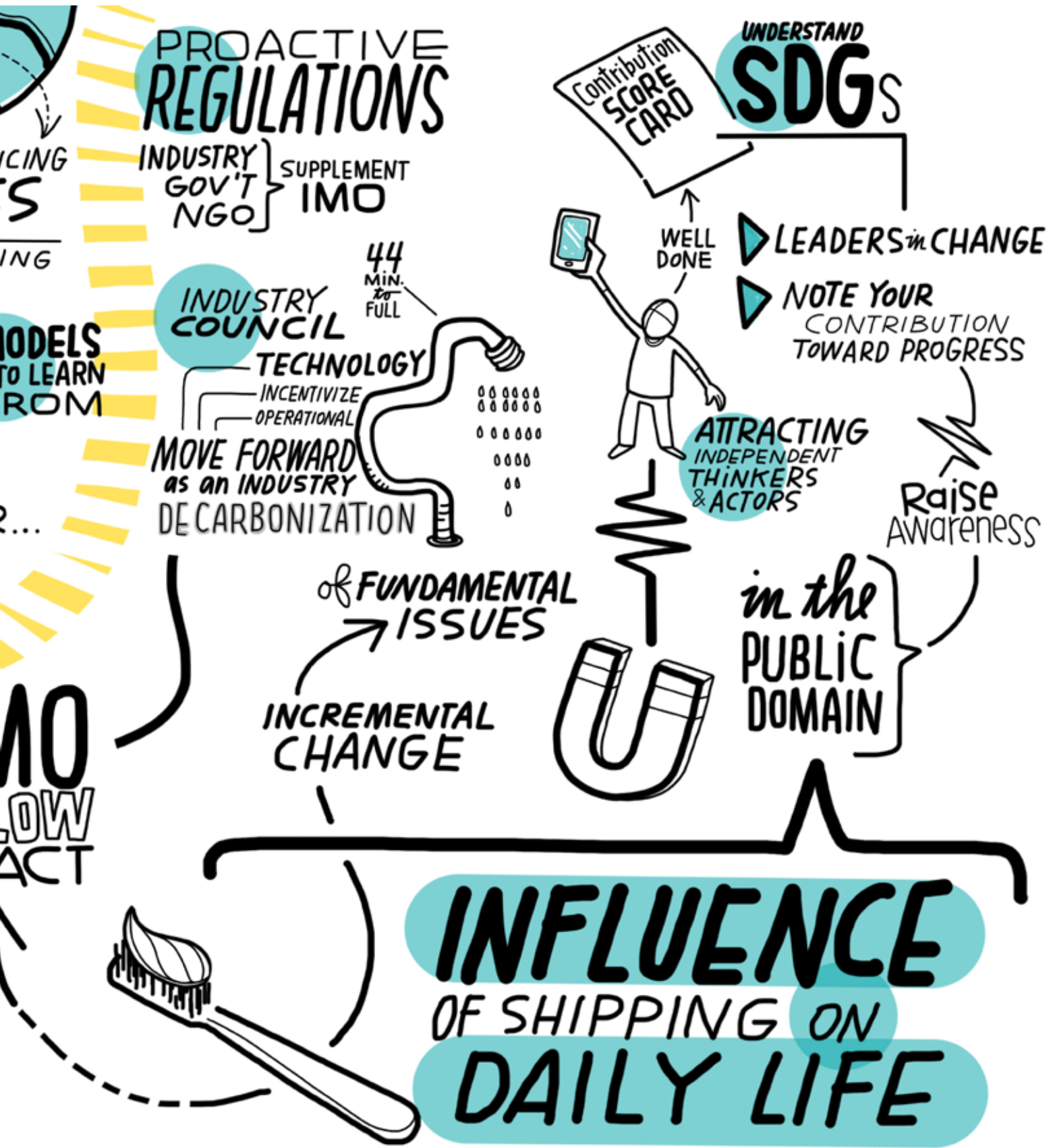
- **Breaking down silos.** Referencing her book "The Silo Effect", Gillian Tett pointed out how difficult it is for companies to get their internal bureaucratic structures to deal with rapid convergence. Today, this is most evident in the auto industry, where software, hardware and content are all converging very quickly, yet auto companies struggle to get manufacturing, IT and urban planning departments to work together to adapt to this change. The success of the maritime industry hinges on its ability not only to embrace technology, but to adopt a disruptive mentality that breaks down those silos within companies and across the industry.

Gillian Tett then passed the stage to **Anne H. Steffensen**, Chairman of Danish Maritime Days and Director General and CEO of the Danish Shipowners' Association, who closed the Forum by thanking participants for joining in this three year journey and inviting the global maritime community to work together to build on the success of the Danish Maritime Forum to establish a global platform for collaboration.





ACTION Points
FROM THE FISH BOWL







Acknowledgments

Danish Maritime Days

Danish Maritime Days is a non-profit public-private partnership between the Danish Maritime Authority, the Danish Shipowners' Association and Danish Maritime. Our mission is to unleash the potential of the global maritime industry. Danish Maritime Days provides an open platform for stakeholders in the global maritime industry, all of whom are invited to plan relevant events as part of Danish Maritime Days.

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Danish Maritime Days and the Danish Maritime Forum were prepared in close collaboration with our partners.

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The views expressed in this report do not necessarily reflect the views of all participants or of Danish Maritime Days. Working groups were informal and many new ideas were expressed in non binding discussions held under the Chatham House Rules. Further work on these ideas may require policy, technical or legal advice.



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