



Source :



### [FEPORT Third Annual Stakeholders' Conference – Brussels, November 30<sup>th</sup>, 2017](#)

*The event brought together representatives of more than 30 organizations of the wider maritime logistics chain as well as international and EU institutions who heard presentations on the overarching theme of "Maritime logistic chains and the 'perfect storm'".*

*More than 30 speakers from across the global stakeholder network, ranging from representatives of the European Commission to the World Economic Forum and the OECD International Transport Forum, participated and provided differing perspectives on the interdependence of global supply chains and the opportunities and challenges posed by the fourth industrial revolution.*

*Furthermore, a key theme of the conference which emerged was whether regulation is keeping speed with advances brought about by digitalisation, or other technological innovations, or is serving as an impediment. In this regard, several speakers contended that additional regulation needs to be implemented to safeguard competition from distortion, and to ensure European businesses are not hindered from innovating, thus assisting them in remaining dominant global players going forward. Other key thematic areas of discussion, amongst others, included issues accompanying the rise of big data – 'the new oil' - and the future of workers, who will increasingly find employment opportunities in skilled positions in an era of automation and digitalisation. Please see below for a full summary of the discussion.*

#### ***Welcoming speeches***

**Ms Barbara Schretter, Director of the Representation of the Free State of Bavaria to the EU**, took the floor to open the annual conference. She welcomed participants and noted that Bavaria is at the cutting edge of logistic chains. Today's event provides a forum to engage in dialogue with logistic chain stakeholders, she stated.

The Connecting Europe Facility (CEF) has shown great value in connecting Europe and Bavaria stands at the centre of the link between Northern and Southern Europe. Furthermore, she said that logistics and transport efficiency hinge on speed and timeliness. As such, given the fundamental changes in digitalisation, she thought this conference could not have come at a more appropriate time.

**Mr Gunther Bonz, FEPORT President**, welcomed guests to the conference and thanked his counterparts from the Bavarian representation for hosting the event. Moreover, he remarked Bavaria was synonymous with innovation. The annual conferences commenced two years ago and has shown added value, as seen in ever increasing participation, and thus he expressed hope that today's conference would also prove fruitful.

The 'perfect storm' should be converted into growth for Europe. The challenges are large, but the fourth industrial revolution will not make all humans redundant, he underlined. Rather, work organisation will be adapted. Concerning FEPORT, the organisation represents a capital-intensive branch of maritime industry which requires flexible frameworks for innovation. The frameworks needed include regulation on taxation and labour and their associated areas. Legislation must not hinder positive change, he stressed. Therefore, he hoped colleagues could discuss ideas during today's conference with a view to ensuring the industry and Europe is on the right track.

### ***Opening Speeches***

**Mr Young Tae Kim, Secretary General of the International Transport Forum, ITF, OECD,** then took the floor for the first opening speech of the morning. He stated he was optimistic there will be increased cooperation between FEPORT and the ITF. Society is now focussed on the fourth industrial revolution and it can be termed an evolution if uncertainties are removed and society is prepared for its impact. The world is becoming more interconnected, such as in the areas of technical interoperability, but also increasingly across sectors, such as transport. For example, shared mobility is increasingly being discussed.

'Inclusive transport' is a paradigm which demonstrates the rise of such interconnectivity, he explained, as it covers society as a whole and can positively impact on people in rural, isolated areas.

There are 59 Member States of the ITF and now is the time to extend its presence to non-European countries; for example, currently only four Asian countries are members. In the transport sector, there are three overriding values: social, economic and environmental. From the social point of view, an inclusive model is sought; moreover, any model must also be economically viable and environmentally friendly.

Noting he had attended the recent COP23 summit in Bonn, he stressed additional cooperation is required across sectors. On regional issues, many people are now talking about interconnection between Asia and the Europe, or Eurasian connectivity. This is primarily focussing on land connectivity. In 2017, the Asia-Europe (ASEM) transport meeting was held in Indonesia and they wanted to focus on maritime issues. Thus, multi-modalism is required to take all countries' interests into account.

On the ITF, Mr Kim mentioned that it produces research outcomes focussing on the decarbonisation of transport. Concluding, he reiterated his hope that more cooperation and collaboration between the maritime sector and ITF would be achieved.

**Mr Wolfgang Lehmacher, Head of Supply chain, World Economic Forum,** said the title of his presentation was 'are we ready for the new world?' To be ready, one must understand what the fourth industrial revolution is. This concerns more than one or two technologies: it is about how this technology is embedded across society. It is about the convergence of technology throughout the biological, physical and technological world. There are now systems living in connected systems, he clarified.

Humans are technical beings and this was first seen when stone tools were harnessed. As this revolution concerns convergence, it can bring both benefits and peril. In addition, there are issues such as privacy and surveillance states. Indeed, there are many issues pertaining to ethics in this regard.

Business models have been transitioning since the first industrial revolution, such as the change from steam powered ships to oil power ships to satellite guided ships. The 'new world' is just another level which has been applied atop the 'old world'. In terms of transportation, the fourth revolution concerns networks and systems of autonomous vehicles. In the previous revolutions, the change came from within; however, in this 'perfect storm' the change is coming from the outside. For example, this is the case with the electric car. Whole cities must be rewired; it is a complete change compared to the previous incremental changes. The electric car means huge questions for the oil sector. It will disrupt the energy sector, he stressed. This example demonstrates how one change can affect disparate global systems.

It is a question of when disruption will arrive, not if. Disruption is not inherently a bad thing, he stated; however, organisations must get ready for the change. On speed of change, New York went from horse powered transport to vehicles within 10 years a century ago. This shows change has been fast over the last couple of centuries. In recent times, the smart phone has revolutionised society, although only released 10 years ago. Additional innovations include companies issuing their own currencies over the past few years. We are living in a world of intelligent assets, he stated.

On areas which are important for ports, he said he had picked six: platforms and experience; visibility and transparency, advanced manufacturing; e-commerce and omni-channel; automation and electrification; and new modes of production.

At the centre of these changes are human beings. On online platforms, retail and media have been disrupted. 16.4% of global retail is now online and this barely existed 10 years ago. Platforms are the great disruptors, but they can also be harnessed by organisations. Regarding visibility and transparency, people want to know where their goods are produced and whether they are produced in a humane way.

When it comes to the supply chain, data is contributing to 'structured knowledge' and it makes the supply chain more responsive and nimble. Moreover, distributed manufacturing has also been aided by 3-D printing. However, he said 3-D printing will not kill off global trade. Factories have economies of scale which make distributed manufacturing too fragmented in comparison. It is not only about getting physical products delivered, it is also about the associated communication behind the supply channels.

Business must strive to incorporate smart systems in order to stay ahead of the curve, he stressed. Every transaction in a port can be automated which can reduce costs. Moreover, this can be seen when it comes to remotely controlled ships. The T-HR3 is a robot which is controlled by a human and is a combination of different technologies. A person puts on 'wearable' clothing and can control the robot in effect.

There are also autonomous ships which have come online and Uber are looking into implementing autonomous cars. On drones, they are already in the air but there is no regulation. This a real problem and regulation must be introduced, but should not be done in isolation. A complex world is emerging and simple and effective regulation is needed, he reiterated.

Data is the new oil, he stressed. One who cannot manage data cannot live in a system of systems. He called on governments to 'get used to the new oil' and develop systems which can manage large troves of data. Businesses must help policymakers to formulate the right policies. If there is too much 'Wild West' the sheriff comes to stop everything and thus there must be cooperation across all sectors when it comes to the fourth industrial revolution. In a decade the world will

look very different than it does today, he concluded, and holistic systems thinking needs to be employed to effectively manage the coming disruption.

**Henrik Hololei, Director General, DG MOVE**, agreed with the previous speaker in terms of the need to address disruption. Global growth was relatively weak last year; however, the global goods trade is projected to increase by an average of 3.3% up to 2030. This is good news for the transport economy, he stated. Three European ports are in the top 20 container ports in the world and almost 4 billion tonnes of cargo pass through European ports each year.

80% of all traded goods are done so by shipping and 5% of EU employment is generated by the logistics sector, highlighting the importance of logistics and shipping. Recent trends also indicate growth in the container market, he added. Moreover, there is a trend towards vertical integration and consolidation. In addition, there has also been a tendency towards horizontal integration. However, he said he would not like to only see several big players emerge who would monopolise routes such as has been seen in the US aviation sector. Consolidation cannot come at the cost of competition.

Moreover, he said it was time for the International Maritime Organization (IMO) to commit to reducing greenhouse gas emissions. The industry needs to be mobilised in this context and emissions should not exceed 2008 levels and decarbonisation should be worked towards in light of the 2050 objectives. As such, he reiterated his call for increased commitment from the industry in to attain these goals.

On safety and security, these are key aspects in the transport sector. The Commission has started to review the rules when it comes to loading and unloading bulk carriers.

Mr Hololei then identified four elements which will be central going forward:

Firstly, digitalisation must be embraced. Now innovative solutions are transforming the transport centre. People and societies are interacting in ways previously unheard of, he stated. It is a whole new ecosystem and if the sector does not proactively change it will be changed. Moreover, regulators must make the right changes and implement the right balances. There are also wider challenges: how can digitalisation be embraced by those who believe they will lose out? The right attitude must be taken in this regard. Many people now view globalisation as a negative and the same should not be true of digitalisation.

Data is becoming a new fuel for economies. Thus, there must be clear rules for data ownership and transparency is key. Expectations towards data protection are high in Europe and tech companies are positive in terms of how European standards are developing.

Digitalisation and automation will impact jobs. Adaptability will be required in this regard. New business models will emerge. Certain jobs will be lost, but new ones will be created. There is currently almost an autonomous vehicle in the air; however, the pilot still has a job but works under a different capacity. Digitalisation is a tool which provides more information. Flexible legal and technical frameworks must be developed to allow innovation, he stated.

Secondly, administrative burdens need to be cut in order to increase efficiency in the transport network and to optimise digitalisation. The use of electronic transport documents is one such area where the digital transport and logistics forum and the Commission is working to lower administrative burdens. Reporting formalities also need to be rationalised and simplified, he stated, and reporting requirements should be harmonised across Member States.

Digitising cargo formalities under the European maritime single window framework is central in this regard. Another important deliverable is establishing interoperability in supply chains to optimise cargo chains.

Thirdly, digitalisation is key to monitoring physical components of the transport sector and multi-modality is imperative in this instance. 2018 is the year of multi-modality and much more work will be done in this area in the near future.

Fourthly, ports must be strengthened to provide much needed connectivity. Ports sustain 3 million jobs and employ 500,000 people directly in Europe. However, they are facing global challenges, such as lack of investment and stronger environmental requirements. Therefore, the Commission's aim is to support ports, through pieces of legislation such as the port services regulation which will come into force in 2019. Ports also play a crucial role in decarbonisation. He stated the target should be for zero carbon emissions in ports.

He reiterated that digitalisation also has to take care of the horizontal challenges in the transport sector. The credibility of digitalisation is at stake where there is not enough protection in this regard. Everybody has also understood that cybersecurity is vital.

In addition, strategic assets must be defended and collective assets secured. Foreign investments in European ports must be subject to the European regulatory framework. There needs to be a level playing field, he stressed.

Concluding, change comes with risks and possibilities. Europe is globally competitive in the area of transport and barriers must be broken down to ensure Europe continues to prosper in this sector. Thus, he called on stakeholder to cooperate to amplify Europe's place in the 'new world' which Europe should embrace and seek to proactively shape.

### **Session 1**

- ***How are EU companies embracing the 4<sup>th</sup> Industrial Revolution?***
- ***How are EU companies of the logistics chain facing the 'perfect storm'?***
- ***Who are the early movers?***
- ***What are the major risks and opportunities?***

**The Moderator, Ms Anna Maria Darmanin, Secretary General of European Tug Owners Association, ETA,** took the floor and commenced the first session. Without further ado, she invited Mr Dirk Visser to give his keynote speech

**Key note speech: Mr Dirk Visser, Senior Consultant, Managing Editor DynaLiners, Dyanmar**

- **Are we heading towards more vertical and horizontal/operational/business integration?**
- **Does the existing regulatory framework impede or facilitate innovation?**
- **How is sustainability becoming a competitive advantage for companies embracing the change?**
- **How will Robotics and Automations impact on business models?**

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**Dirk Visser** said he wanted to talk about the industrial revolution in action in the area of container terminals. FEPORT members are responsible for the handling of 94% of containers in Europe, he noted. Concerning container cranes, they are becoming larger and larger as ships continue to increase in size. There has been enormous scale development in shipping and terminals have had to follow suit.

Almost 580 ships are larger than 10,000 TEU and 60 are now larger than 18,000 TEU capacity. Container ships are on average 14 times bigger than they were in the mid-1960s. Cranes' hoisting capacities have had to increase. The larger the ship, the larger the distances the cranes have to reach. Double trolley cranes and twin lift spreaders have been two ways to address such container challenges. Most modern terminals realise between 25-35 moves per hour and seven ship-to-shore cranes (StS) may sometimes be required. This amounts to a veritable industrial revolution, he stressed.

Horizontal transport is predominantly not yet automated and traditional vehicles are still overwhelmingly used. However, automated vehicles have been used in Rotterdam port since the late 1980s. Shuttle carriers can also be automated. New cranes are currently being developed which could engage in 1,000 moves per hour in order to increase efficiency.

On container terminal automation, there is more talk than action taken in practice. Indeed, in the Mediterranean regions there are only five terminals which have a level of automation today. However, remotely controlled cranes are increasingly coming online.

By 2030 Mr Visser predicted there would be five or six worldwide operators in the area of container carriers. He believed innovation was being assisted by the fact that there is limited regulatory frameworks in this field. Robotics and automation are the container industry business model of the future, he concluded.

### ***Testimonials and panel discussion***

Firstly, a short **video** by **Rolls Royce** on future shore control centres was shown. The overarching message was that manned and remote-controlled vessels are becoming the reality. Full situational overviews are now possible for operators who are monitoring vessels from remote positions. This system also employs flexible solutions, cooperation and sharing of data. Please find a link to the video [here](#).

**Mr Frank Kho, Vice President, Market Intelligence, Strategy and Development, Kalmar,** took the floor to give his remarks. He said a real challenge concerns the rate of change at the moment and that automation is coming. On automation and disruption, Kalmar is seeking to address such challenges posed as larger vessels and impacts on the supply chain. Moreover, he stated the main issue for him pertained to labour and job disruption.

Kalmar has been part of automation and 30-40 terminals have been automated over the past 25 years. People must be instilled with trust where automation is concerned and promises to stakeholders need to be delivered upon. Furthermore, everyone has a different concept of what the best solution entails. On the International Container Terminal Service Inc (ICTSI) terminal in Melbourne, he said they were seeking to roll out what has been proven to work in the past. There are no unmanned terminals, he clarified.

More than 50% of container consignments do not dock on time and this poses many challenges. This shows workers are still required to deal with issues that arise on a daily basis. Thus, the real challenge is to make it all work together. He spoke about 'humanised automation', wherein automation would embrace human behaviour. Therefore, interfaces should be designed to enhance – and not limit – human capabilities.

**Moderator Anna Maria Darmanin,** noted the absence of Ms Angela Titzrath, CEO, HHLA, and moved on to the panel discussion. She asked the panellists how their companies have dealt with the fourth industrial revolution.

**Mr Maurizio Bragagni, CEO, Tratos,** said the answer was, and remains education. His company produces cables and these are at the core of the revolution. The cloud is a server which is connected to cables and 90% are under the sea. A major risk concerns the fact that Europe is one of the weakest players in the global system at the moment. For example, 5G has been rolled out in the US.

Europe suffers from monopolies stemming from privatisation; for example, BT in the UK. The supply chain was 'verticalised' and this removed competition. Moreover, education means constantly learning, he finished.

**Mr Julian Oggel, GM, Novatug,** wholeheartedly agreed with previous statements that this revolution concerns people and not machines. It is about making what is already there more efficient. His organisation's real problem concerns getting ships into and out of ports as quickly as possible. There are five central areas in shipping: scale, speed, safety, sustainability and smartness.

On scale, the container shipping industry has grown by fifteen times since 1968 and an exponential growth rate is being seen in the area of cruise ships. Concerning the transport chain, much of the cost stems from transport and handling costs. With the growth in ship size, the real money is in building larger ports to accommodate larger ships, he stated.

Towing must be reinvented. Huge growth has also been seen in this area and static bollard pull trend continues to rise. Thus, his organisation has designed a revolutionary tug boat called an optimised carousel RAVE tug. They cannot be capsized and they can steer the tow and he believed this would revolutionise towage.

**Mr Raphaël Fabian, EU Affairs Officer, Rolls Royce,** stated Rolls Royce is facing the revolution across many fronts. On autonomous vessels, he explained they are unmanned vessels. The reality is, autonomy is coming and the question is how to harness the opportunities. Situation

and awareness is the ability of the vessel to understand the world around it and use information on the course to take. It factors in a variety of parameters, such as technological issues and weather patterns.

Rolls Royce does not see the world going autonomous overnight; crews will stay on board ships for quite some time. All this information collected can be fed to the captain and gives him an increased basis for decision making.

On regulation, he said an array of opinions are required to arrive at balanced regulation which will serve society as a whole. Thus, he called for dialogue between all interested parties about issues such as future redundancies. Concluding, he said if one wants to ride a wave, one must be ahead of the wave and ride it with momentum. Europe has a golden chance and now is the time to take advantage of the momentum.

### ***Questions and Answers***

**A Representative from Porto Valencia** asked how automated vessels will change the face of ports.

**Raphaël Fabian** answered that the most important issue was making vessels ready and integrated and not changing ports as such; this will entail vessels' sensory information systems being upgraded. If things get tricky in the port, someone from an onshore monitoring centre could log in to the ships to manually steer it through heavy traffic, for example.

**A Representative from KSI** said he had heard a lot about automation without humans. He asked if society was missing the right opportunities to best utilise human capabilities.

**Julian Oggel** replied that humans now do a lot of tedious jobs and that is where machines can come in. Therefore, humans could be deployed to do more complex jobs. Artificial Intelligence is not necessarily intelligent, he stressed. Humans are infinitely better at dealing with situations they have not encountered before. It is also about mobilising the female workforce and he noted that 30% of crane drivers in the port of Rotterdam are now women.

**Raphaël Fabian** welcomed autonomy when it serves humans and not vice-versa.

**Moderator Anna Maria Darmanin** thanked the panellists for their participation and closed the first session.

## **Session 2**

- **What are the consequences of the 'perfect storm'?**
- **What are the new emerging business models?**
- **Shall the no-assets companies be the winners in the new world?**
- **What are the jobs that will be needed in the future?**

**The Moderator, Mr Tom Antonissen, EU Affairs Advisor, the Association of European Vehicle Logistics, ECG,** immediately gave the floor to Mr Wax for the keynote speech.

**Key note speech: Mr Michael Wax, Co-Founder Freight hub/Box Tech**

- **Is the innovation within the maritime logistics chain going fast enough?**
- **What is the current role of cargo owners and consumers in the current 'perfect storm'?**
- **Is there a need for training and re-training/re-skilling?**
- **Which type of innovation should be supported in priority?**
- **How is legislation integrating fast changes within the logistics chain?**

**Michael Wax**, appearing via video link, said that today's 'storm' must be contextualised by looking back through history. The five biggest companies in 1997 are not the same as today. Three of the biggest five in 2017 were founded within the past 20 years and only one company, Microsoft, is still in the top five 20 years on.

Nokia was the king in the mobile phone industry 10 years ago and the iPhone was introduced that same year, in 2007. Two years on, Apple was dominant. Daimler sold 2.1 million cars in 2016 but also had 14.5 million customers in the services economy. For example, they invested heavily in FlixBus. As such, some larger companies are trying to diversify in response to disruptions.

Concerning logistics, the vast majority of all goods are transported by ship. Whereas once holidays were booked through physical travel agents, this has switched to online bookings. Today, a lot of containers are still being booked manually and it shows that an industry which handles billions of tonnes' worth of goods each year is barely digital in some respects.

In addition, investments in the entire logistic space have grown to around \$10 billion per year in the maritime sector as there is so much potential.

Uber is an example of a disruptor which owns zero real assets in terms of taxis. Thus, business models are also being radically changed. The incumbent approach often encompasses outdated technologies, such as spreadsheets, and he stated his company has come up with a holistic platform of track and trace which provides a digital overview for customers. This is a tech-based product which is being expanded through feedback sessions. Efficiency is also ensured due to direct customer feedback, he clarified.

The company was set up in 2016 and the second office has just been established in Hamburg. The strategy combines logistics experts and tech-savvy workers, he finished.

**Moderator Tom Antonissen** thanked Mr Wax for his presentation. He announced a second video would now be shown.

A video by **Logit-One** concerning control of container information (end to end visibility service) was played. The service was designed to create a holistic review of respective operational systems. Logit One sends alert notifications when there is an issue on the shipping routes in order for users to investigate why delays have occurred in order to mitigate the costs associated with late arrivals. Please find a link to the video [here](#).

**Mr Fernando Liesa, Director, ALICE**, said ALICE was initiated to focus on medium and long-term visions for logistics. It is designed to clarify opportunities and challenges in this context and will feed into a research and innovation strategy. The association was established three years ago and the network represents many types of stakeholders in the area of logistics.

The organisation is also trying to anticipate frameworks for discussion on logistics with the European Commission and they have held talks on the issue of decarbonisation. He noted technology is increasingly being implemented into the market. He agreed that a lot would change over the next 10 years. In particular, the number of 'unicorn' companies has greatly increased and many of these businesses are in the area of technology.

There have been a lot of logistics start-up companies founded in recent years and he stressed collaboration across the sector must be shown in order to take advantage of the coming changes. The World Economic Forum identified logistics as an area susceptible to disruptions in 2016. The question is: how much value can digitalisation bring to society? This is combined with a need to reduce the carbon footprint. Thus, new business models must be taken into account. However, he said there was still a lot of 'silo thinking' and the challenge is to create greater interconnectivity.

Concluding, the potential of platforms must be considered in greater detail and the reality is they will be connected going forward. The question in this regard is who will be managing these platforms. Industry must be active in creating the correct regulatory framework to actively meet the challenges ahead, such as in the areas of skills and sustainability. The key to achieving this is collaboration, he reiterated.

### ***Testimonials and panel discussion:***

**Moderator Tom Antonissen** asked the next speakers if they could react to what they had heard so far. Addressing Mr Woodward, he asked what effects Brexit might also have on the industry.

**Mr Xavier Woodward, DP World London Gateway supply chain center**, said they had two ports in the UK: London and Southampton. £1.5 billion has already been pumped into both ports and he stated they would have to find a way through Brexit. However, the trade passing through the two ports is mainly from Asia and non-EU trade accounts for 98% so it would not be as much of an issue as it would for other UK ports.

Safety is key to their model, he stressed. Fatalities take place in the industry each year and he wanted to see solutions reducing this figure to zero. Concerning their business model, it is akin to a Formula-1 pitstop for ships and trucks. Therefore, efficiency and speed are critical. This is where automation comes into play. Moreover, productivity needs to be increased as ships have gotten larger. Each container is tracked and he compared the port to a multi-dimension game of Tetris. Finally, reliability is also essential, he concluded.

**Moderator Tom Antonissen** asked what kind of worker profiles were present in the port sector.

**Xavier Woodward** remarked he was committed to increasing diversity as the port sector suffered from a lack of diversity, saying he was particularly focused on hiring more female workers.

**Francisco Blanquer, Business & Innovation Business Manager, TerminalLink**, echoed that automation is coming. However, the regulation is not yet in place. He also reiterated that data is the new oil. Society is moving towards less manpower and more intelligent design and decision making. Therefore, increased agility is required. Artificial Intelligence does not contain all the solutions and humans will still be required. The future remains unclear and change is increasing at a rapid rate.

A big change has now been seen in the area of e-companies. Autonomous equipment has become a service and not an asset. Port authorities grant licences in order to ensure a service for the community. The main problem is that there is not enough regulation where data is concerned. Moreover, there is not enough education and training on data. For Europe to be successful, knowledge is required. The technology is already here, but people need to understand how to operate the technology. Society is not prepared for interconnected systems and a lot of information will have to be filtered and understandable. If data cannot be managed, society will have nothing, he concluded.

**Moderator Tom Antonissen** agreed that data analysis will be key going forward. He stated he had heard regulation is behind technology and was glad to be able to give the floor to representatives from the European Commission to comment on this matter.

**Mr Sandro Santamato, Head of Unit for Maritime and Logistics, DG MOVE**, contended that the revolution is about systems; however, this is not a novelty in transport. Bringing innovation is not as easy as many people presume and components must be coordinated in tandem. He stated regulation is a form of coordination. This is why forums have been launched on coordination to see what must be done to address potential negative disruptions.

One thing he had heard was that there was not enough acceptance by national authorities when it comes to electronic documentation in the area of transport. Thus, facilitating the acceptance of these electronic documents is one aspect the Commission is working on. Their stance is also to try and ensure the systems are futureproof. It is the first step to allowing the market to provide solutions. The other big proposal is on modifying legislation on the maritime sea window. The Commission is seeking harmonisation in this context, he finished.

**Moderator Tom Antonissen** noted some of his organisation's members had raised questions concerning blockchain and why electronic signatures are still not being accepted and he hoped one of the panellists could comment on this.

**Ms Susanne Aigner, Head of Unit, DG TAXUD**, mentioned the fact that trade lanes use transport lanes and that bottlenecks remain an issue. In addition, automation and digitalisation must be 'married' with data, she stressed.

One issue regarding automation is that the EU does not plan to do away with customs officials and therefore some form of small delay is virtually impossible to avoid. The idea in this regard is to speed up trade at borders and customs changes as much as possible. However, this is costly

and €380 million is in the pipeline in this regard. Moreover, there are projects to use data available from transport systems to ensure that new investment is directed into the right areas.

However, there is a risk there are too many single windows, such as in the case of the maritime window, and there must be harmonisation to avoid data having to be submitted more than once.

On legislation, it is complex to introduce and takes a lot of time, she stressed. However, the customs code tries to ensure Member States can move forward at their own pace as everything is evolving so fast. Echoing earlier statements, she said people are still integral to the whole process of making difficult decisions which a machine may not be able to make. She finished by noting there are four challenges the customs side is facing: data quality; data processing; data protection and data confidentiality; and data connectivity.

**Mr Mark Scheerlinck, Business Development Manager of Logit-One**, stated it was clear the industry was changing. However, people are still the drivers of this change. He stated he was working hard on strengthening supply chains and the freight trade of tomorrow was not the freight trade of today. Moreover, more regulation will be required and he stressed he was looking forward to more legislation being introduced. Customers expect businesses to plan ahead and they want goods delivered to their doorstep on time. In addition, customers also want to track their shipments and this poses additional challenges, he concluded.

### ***Questions and Answers***

**Wolfgang Lehmacher** said there is a narrative which instils people with fear that jobs will be lost. However, the most advanced and automated economies, such as Japan and Germany, actually lack labour. Furthermore, on blockchain, he stated smart contracts could be introduced to speed up the shipping process. Thus, the question is: is there a team working on blockchain in the Commission?

**Susanne Aigner** replied there is a team working on blockchain in the area of customs. Moreover, customs authorities have said they can see the advantage of introducing these new technologies. However, the data must be secure if it is out there.

**Fernando Liesa** remarked the problem is not the number of people in the labour market, but how many people have the knowledge to work with these new technologies. Therefore, managing cyclical employment will be the major challenge.

**A Representative from the European Shippers' Council (ESC)** stated shippers are engaged in many of the aforementioned areas. He noted that Dutch customs officials have been increasingly working with electronic shipping documents and the challenge is to roll this out across all Member States.

### **Session 3**

- **How are the other regions of the world addressing the challenges of the 4<sup>th</sup> Industrial Revolution?**
- **What is the role of regulators and policy makers in those countries in supporting industry's efforts?**
- **What are the threats and opportunities from the 'perfect storm' and how are they dealt with in other areas of the world?**

**The Moderator, Ms Rachel White, Secretary General of ICHCA, International Cargo Handling Association**, opened the third session and noted this session part would focus on what was happening from a global perspective. She remarked the conversation has begun to change and that industry is now engaging in the debate on the 'perfect storm'.

**Key note speech: Mr Wiebe Schipper, Associate Director Land Transport & Logistics Operations, Supply Chain Europe, LyondellBasell**

- **What are the latest developments in other regions of the world?**
- **What is the status of investments in innovation in those regions?**
- **Who is going fast and why?**
- **Is sustainability on the agenda of all regions?**

**Wiebe Schipper** took the floor to give his keynote speech. He noted the company he represents is relatively young and is relatively unheard of as it is not a business to consumer Company. The Global headquarters is in Houston and the European headquarters is located in Rotterdam. Concerning their supply chain, he said it is global with varying regional focuses. They use a lot of ports and these serve as important nodes in the supply chain. An important geographical area for their operations in Europe is found in the Rhineland.

The total amount they spend on transport and logistics is \$500 million per year and his main message was that a lot of growth is being seen across the whole supply chain. On operations, safe and sustainable operations, on and off site, are integral. Safety throughout the supply chain is important, he stressed. Regarding sustainability, LyondellBasell is increasingly moving in this direction and recently entered into a project to recycle plastics.

On the growth agenda, he said his company were in the process of building a plastics and petro-chemical plant and these products will be exported across the world. The global supply chain network is essential to securing the smooth flow of goods. Conversely, limits to growth have been identified, primarily in terms of a lack of infrastructure in Europe; bottlenecks are also a particular issue.

Moreover, there is a shortage of truck driver in Europe and many factors, including legislation, have contributed to this. The average truck driver in Europe is now 54 or 55 years old and this issue will be exacerbated over the next few years. The result has been missed business. Regarding the move from road to rail, this is continuing. However, problems still exist in terms of the rail infrastructure, such as was seen in the Rastatt rail incident. Barge congestion for hinterland container connections was also cited as a challenge at the moment.

On the theme of the 'perfect storm,' Mr Schipper said the stars have aligned for automation and digitalisation to increase capacity and efficiency in the industry. In this regard, he highlighted the role initiatives such as self-driving trucks could play. Restrictions to growth must be removed, he stressed. Trade facilitation needs to be promoted, particularly in light of Brexit as their organisation has two plants in the UK.

Concluding, Mr Schipper stated the key words were 'sustainability, infrastructure, trade, and digitalisation and automation'.

**Moderator Rachel White** noted digitalisation is not a panacea and other areas such as infrastructure need to be addressed.

**Michael Dempsey** asked which mode of transport could be changed the fastest.

**Wiebe Schipper** stated that rail freight has a lot of advantages; however, the infrastructure needs to be further invested in.

### ***Testimonials and panel discussion between global actors***

**Moderator Rachel White** then introduced the session's panellists.

**Mr Michael Dempsey, Vice President, Container and Port Solutions, ORBCOMM Company** stated the industry today is 'dumb, dark and disconnected.' Thus, information is not being shared adequately. As such, the Internet of Things (IoT) can assist in sharing information. Concerning regulation, he advised not to underestimate how quickly legal framework can change the industry. For example, strict California shipping codes resulted in companies upgrading overnight to avoid fines.

20 billion devices will be connected by 2020 in the IoT. Installing the IoT on cargo results in greater visibility. Today, of 1.65 million refrigerated containers, only about 320,000 use tracking devices. Therefore, IoT has still not been rolled out on a large-scale level. In addition, firms that are forward looking are wondering what they can do with their data. For example, Maersk introduced tracking and monitoring of 300,000 refers. They have taken analytic tools and used the information to save \$30 million in the area of Pre-Trip Inspection (PTI). Their tracking is done remotely from a centre in India. IoT and the container chain has started to move fast and Maersk has set the bar, he stressed.

**Moderator Rachel White** noted Maersk has started sharing data with ships which was quite revolutionary in itself. She then gave the next speaker the floor.

**Mr Maxence Eyraud, Responsible for Digitalization, Group, CMA CGM**, said he represented a global company. Digitalisation was set as a key strategy one year ago and he expressed hope it would bring value added to the company and to the industry as a whole. Furthermore, the company decided digital capabilities would have to be built. Now, on all the projects being rolled out, digitalisation allows for the leveraging of different kinds of assets.

Data is at the core of the digital transition, he stressed. In addition, his organisation has digital representatives across the globe in order to keep up with developments worldwide. He remarked the most difficult projects are where collaboration is involved. While valuable, it can be challenging to create value and projects for the industry across sectors. However, he concluded by expressing hope that collaboration would increase going forward.

**Mr Jens Roemer, Managing Director, a.hartrodt**, stated the company he represented was 130 years old and had established expertise globally. Logistics also concerns the management of people from different cultures. Traditionally, the freight forwarder has been the architect of the global supply chain. They also act as contractual carriers and this becomes important when it comes to digitalisation. Data is the oil of the future, he reiterated.

However, to digitalise, one must know their processes. The processes are the same globally and he said his role was to identify the mounds of data they are sitting on. Regarding the supply chain, the party who pays the freight is the customer. By controlling the majority of the supply chain, his organisation handles many aspects of the shipping and thus can gather large amounts of data. He stressed they had always engaged in multi-modal transport and this was nothing new. The industry will have to respect and watch the developments carefully, he stated. In terms of their data control, they employ one data base across 60 countries they work in.

Summarising, Mr Roemer said there will be more opportunities than threats for freight forwarders going forward.

**Mr Cameron Thorpe, Chief Executive Officer, DCT Gdansk SA**, remarked he had heard many times that the terminal was a black hole for cargo. Thus, the terminal industry has a lot of work to do. If data is the new oil, then just like oil, data is slippery. It must be used and not allowed to fall through one's hands, he stressed.

The experience shows that the terminals are far from the cutting edge of latest data developments. He noted his industry was still excited about the third revolution: automation. In terms of changes in the industry, automated terminals, are becoming more and more mainstream; this technology is happening where the original drivers for change are not necessarily present, such as a recent example seen in Indonesia. Therefore, it is clear that industries and countries can leap-frog forward by harnessing the fourth industrial revolution.

Mr Thorpe underlined European terminals are at the forefront concerning smart technology and smart solutions. In addition, China has stated its aim to be at the head of this revolution; they are also the investors and the innovators and sometimes it can take a collection of democracies longer to find consensus on an issue. Moreover, a lot of shipping lines and forwarders have a global spread, whereas ports such as Gdansk do not have the same global reach. In terms of benchmarks, only one European country is in the top 10 worldwide when it comes to internet speed. Thus, issues pertaining to infrastructure and networks need to be addressed, he concluded.

**Mr Soeren Jakobsen, Trade Affairs Officer, DG TRADE**, confirmed the Commission's impression is that the European transport and trade sector is punching above its weight globally. DG TRADE seeks to ensure extra market access across the world. Concerning trade negotiations, they are about securing what you can do today, tomorrow. Thus, while this may not sound inspiring, it is about providing security.

DG TRADE also looks into how it can support the internal market's standards outside Europe. This often entails securing multi-modal activities and many elements of the internal market are strong compared to other regions of the world.

Moreover, the balance between being open and protectionism has made the EU vulnerable in some instances. President Juncker has spoken of a screening mechanism for non-EU companies wishing to invest in sensitive areas of European industry. The idea is to counter investments in critical infrastructure that must be protected. Member States have a lot of problems applying the instruments they have and thus there is a need for an enhanced framework, he highlighted.

#### **Session 4**

- **How are EU regulators and policy makers supporting EU companies' efforts to remain competitive?**
- **Is there a need to adapt existing legislation?**
- **How to instore a global playing field?**
- **What are the threats and opportunities that industries of the logistics chain face?**
- **What is expected from EU regulators?**
- **Does the existing framework impede or facilitate integration?**

**The Moderator, Mr Christophe Tytgat, Secretary General of European Shipyards and Marine Equipment Manufacturers, Sea Europe**, took the floor and said the main focus would be: 'is Europe ready for the new world?' He noted regulation was an important element in policy making and the industry must work hand in hand with those implementing regulations. He then gave the floor to Mr August Braakman for his keynote speech.

***Key note speech: Mr August Braakman, SG of European Maritime Law Organization***

**August Braakman** took the floor and stated it was his task to talk about the effects digitalisation may have on the shipping industry. The interconnection forged by digitalisation interconnects the relevant markets throughout the logistics chain. One such market is that of container services. Emerging developments will change the sector if they are not adequately addressed. As heard today, the EU is supportive of the development of digitalisation. However, what had not been heard was how the EU was going to react to competition issues.

The 'perfect storm' is characterised by a powerful concurrence of two factors: firstly, the encroachment of regional and global ecommerce players on traditional maritime logistics business; and secondly, the digitalisation of this industry, which is provoking a move from supply chain models to commodity-driven logistics solutions. These two factors are the result of the ever-increasing impact of the high-technology industry (HTI) and the use of business intelligence and analytics (BI&A) systems, he underlined.

On vertical integration, it is undertaken because it improves the quality of door-to-door services. Moreover, one must take a holistic approach to examine what impact the distortion of competition on one part of the logistics chain will have on the entire line. In addition, financial participation by governments in ports has decreased rapidly.

The vertical integration between the lines and the terminal container service entails that digitalisation is constructed in a vertical way. That gives an enormous boost to cooperation between the two entities as it is supported by BI&A systems. This means that digitalisation systems enable both facets to align and react quickly. Terminals which do not have vertical integration cannot react properly and adeptly so as to be real competitors with those terminals that have been integrated, Mr Braakman underlined. Thus, this may lead to a distortion of competition and the Commission must assess this.

Mr Braakman stated the tools at the EU's disposal to react are obsolete. They will not suffice to give assurance to companies that operate in the container and marine service industry. The legal tools at the Commission's disposal are based on the geographic scope of articles 101 and 102. Up until recently, it was interpreted agreements always had to be a connection with the European mainland to be covered by the scope. However, the qualified effects doctrine, adopted by the CJEU on September 6 2017, means agreements made with non-EU companies will fall within the scope of EU competition law if the trade may affect competition in Europe.

Therefore, it is logical that business agreements are made under different, benign frameworks, such as under Singapore law. Block exemptions still exist in Singapore and this aspect has been extended to 2020. This means that lines can enter into agreement of price fixing in Singapore. If one takes a position that these agreements have an effect on EU trade, then the Commission has a duty to act.

Concluding, he took the view that the above developments, and in particular the constant and extremely rapid pace of change in HTI and thereby in BI&A systems, pose a huge challenge for the Commission to guarantee fair and undistorted competition in the markets of the maritime shipping industry. The Commission has an obligation to act, Mr Braakman finished.

***Panel Discussion between representatives of the industry and EU institutions:***

**Moderator Moderator Christophe Tytgat** noted he heard there is a common trend of consolidation in the industry. Thus, has Europe missed the boat or are there opportunities left for European businesses?

**Mr Jan Hoffmann, Chief, Trade Logistics Branch, UNCTAD**, stated his organisation's task was to provide a global, neutral overview. From the annual analysis, developing countries are no longer just exporters of raw materials but they are now importers of high value goods. The forecast is that there will be a 3.2% growth in seaborne trade between 2017-2022. On the specialisation of different countries, nations are beginning to specialise in certain segments. For example, ship building that takes place in Europe concerns highly specialised vessels such as cruise ships.

In that context, he stated there has been consolidation in the container ship market. On world container port volumes by region, 64% of all traffic is in Asia. Moreover, regarding the time container ships spend in port, the key indicator in terms of length is efficiency. For example, ships spend the longest time in countries such as Bangladesh and Djibouti and the shortest time in countries such as the Netherlands and Japan. Concerning data sharing, this has been used by ports to benchmark themselves against other ports around the world.

Summing up, he noted there will be an intergovernmental group of experts in competition law and policy on July 11-12, 2018.

**Moderator Christophe Tytgat** spoke about free trade agreements (FTAs) and said it seems there are interesting tools available. China is extremely ambitious and open about it. The new Silk Road is part of this and he asked what is being done from the Commission's side about this. Moreover, should this be seen as an opportunity or a threat?

**Mr Laurent Bardon, Policy Officer, DG TRADE**, replied by saying China's goals are not based on the EU's free trade principles. Moreover, China is not necessarily opening up to foreign companies operating in China and many projects financed by China abroad are carried out by Chinese companies. Therefore, one cannot say there is a level playing field in place. Russia has also taken protective steps and the Commission is trying to engage in bilateral dialogue to address issues as they arise. Furthermore, the EU is looking into defining a strategy for connectivity in Asia and discussion has begun with Member States in this regard. The aim is to promote transparency and free trade.

**Moderator Christophe Tytgat** remarked terms heard today were more than just 'buzz words'. He then asked the question: is European legislation on port security still fit for purpose?

**Mr Christian Dupont, Deputy Head of Unit for Maritime Security, DG MOVE**, said shipping is a global business and operators represented here have interests that are not always the same as ship owners' interests. Thus, a forum must be promoted where everyone can work and talk together. When it comes to prevention against cybersecurity attacks, the first reaction by the maritime sector were statements that the maritime sector was immune. However, he questioned if this was really the case.

There is no legislation envisaged to increase cybersecurity on the land side. They are doing it for their own benefit. When colleagues from DG CNECT proposed such regulation in the past, representatives from the maritime sector asked for an exemption.

Therefore, his answer was that powerful instruments have been developed and the directive on port security extends beyond the simple port facility. Moreover, the Commission is tasked to inspect indirectly and Member States implement this legislation. When it comes to new threats, like cybersecurity, it takes more time and requires cooperation from everyone.

He noted a terminal in Genoa was blocked for one day due to a systems failure and there were knock-on effects which lasted for seven days. Therefore, this exemplified the fact that ICT is at the centre of modern society.

**Moderator Christophe Tytgat** said an observation he had heard previously was that European rules are perfect for the internal market but are not fit for global trade. He asked Mr Rivero's take on this.

**Mr Eduardo Martinez Rivero, Head of Unit, DG COMP**, noted the rules on competition were written in 1957, but they are adaptable. They are being applied to companies that did not exist in 1957, let alone 15 years ago. Competition is about creating efficiency and competition enforcement is about ensuring that the economy can work because the operators win on their merits and not due to a protectionist or monopolistic stance.

Mr Rivero, taking the example of payments, stated an infrastructure is required to make payments from a phone, for example. Everybody wants to present their product to the customer and this is competition; it avoids bottlenecks. As such, there is regulation designed to tackle dominant positions.

He said the Commission had always distinguished between vertical and horizontal consolidation. A big problem can arise when few vertical silos are the result. Competition is also about preventing a 'race to the bottom'. Moreover, there is a general block exemption regulation, keeping in line with the motto, 'big on big, small on small,' he concluded.

**Moderator Christophe Tytgat** then asked if the Commission is doing enough to boost the European maritime industry on a global level.

**MEP Pavel Telička (ALDE, CZ), TRAN Committee**, stated he would be inspired by what Mr Hoffman had shown in his slides. Connectivity, security and fair competition going forward are key. He questioned if it was not high time that a review of the maritime strategy be carried out. Competitors cannot be stopped, such as in the case of the Silk Road initiative. Europe must look at how it can expand its connectivity. In addition, bilateral agreements need to safeguard competition, he stressed. Getting this right is key and it could enable European enterprises to compete at the highest level on a global level. Finishing, he called for a more strategic approach and reiterated the importance of ensuring safeguard measures.

**Moderator Christophe Tytgat** agreed that a holistic maritime strategy is required. It must boost the competitiveness of all segments of the maritime industry. As such, he asked Mr Ferber what his take on this possible strategy is.

**MEP Markus Ferber (EPP, DE), ECON Committee**, stated the Commission should not be blamed for doing its job; it was created to oversee the internal market. Moreover, it is mainly Member States that are members of international organisations and the Commission often only has observer status. Thus, he asked if this stance was strengthening or weakening Europe.

Moreover, there must be a level playing field and an environment conducive to economic growth.

Creating a level playing field for ports was a very difficult approach which is why it took four attempts in this regard, he noted. Furthermore, there must be acceptable level playing fields concerning issues such as state and private owned harbours and there are many similar challenges.

In addition, there are numerous questions on ship security and which vessels have the right to come to European harbours. Europe has tried, through legislative undertaking, to influence what happens across the globe. It is a huge challenge inside the European Union and for other jurisdictions as well. He called on participants to ask their Member States to act as Europeans on the world stage. There is also a lack of investment in infrastructure throughout Europe which needs to be addressed, he finished.

**Moderator Christophe Tytgat** then opened the floor to questions.

**A Representative from KSI**, noted a lot had been heard about China but not a lot about the US. Chinese innovation is supported by their government and he asked if the same could be seen in Europe. Additionally, innovators must be protected, he stressed. European industry should be adequately supported.

**Michael Dempsey** said in practice there has been little collusion where there was vertical integration. Thus, he asked why this had become such a big issue in Europe.

**August Braakman** replied it was a competition issue due to the fact that it is vertical integration and also due to the impact of BI&A and HTI systems. Therefore, this could lead to distortion of competition and should be taken care of now before it is too late.

**Jan Hoffmann** remarked that he agreed with the concern posed by liner shipping companies increasingly owning terminals. As such, the independent terminal operators feel they are being left out.

**Eduardo Martinez Rivero** said the failure of European competition has often been down to the lack of capital and thus work is ongoing under the capital markets union.

**Moderator Christophe Tytgat** noted the main message he took from the session was that perhaps the legislation and policy will have to be scrutinised over the next few years to prepare for the opportunities and challenges facing the sector. In addition, he echoed the call for Member States to act in a united, European front. Finally, he thanked participants and closed the final session.

### ***Wrap Up***

**Ms Lamia Kerdjoudj-Belkaid, Secretary General of FEPOR, the Federation of European Private Port Companies and Terminals**, stated her wrap up could not possibly reflect all that had been discussed on the day. However, she hoped to highlight some of the main points which had been evoked.

Mr Kim's opening message was that there will be an evolution and not a revolution if the industry acts fast. Mr Lehmacher stated data is the new oil and is at the heart of the digitalisation. In addition, Mr Hololei noted the Commission was actively encouraging the move towards digitalisation and that the environmental goals must be worked towards under any

strategies adopted. The aim in this regard is zero emissions by 2050, an objective FEPORT supports.

Additionally, Ms Kerdjoudj-Belkaid noted that during the morning sessions, it was stated automation is coming and Europe needs to be ahead of the wave. The human element will remain crucial for a successful future. Moreover, workers must be reabsorbed into the labour market. Collaboration was also stressed and the transport sector is composed of industries that need to work together.

During the afternoon session, speakers held that innovation must be embraced by industries and digitalisation is not the only area that needs support; investment in physical infrastructure, for example, is also required.

In the last session, the scene was set for the future. EU regulators are doing a lot already, but more will need to be done and this is a discussion to be continued.

Furthermore, Ms Kerdjoudj-Belkaid said the discussions went far beyond digitalisation and touched on an array of areas, such as the impact on people, issues relating to data, automation, and collaboration.

The videos also took participants on a journey to the future. Concluding, she asked if it was not in society's hands to ensure the fourth industrial revolution brings wellbeing to humanity.

### ***Closing Speeches***

**Ms Maja Bakran, Deputy Director General DG MOVE**, recalled some of the main elements Mr Hololei had highlighted in his speech in the morning. Areas Europe needs to work towards include lower emissions and embracing digitalisation. Moreover, Europe must cut the administrative burdens and increase multi-modalities.

In addition, there needs to be more investments in ports. Regulators and policymakers can make the difference in supporting innovation and providing co-funding through facilities such as Horizon 2020.

On TEN-T, guidelines do consider infrastructure in a flexible manner. This new approach enables innovative approaches, such as removing bottlenecks and thus enhancing ports and hinterland connections. There are hundreds of projects under TEN-T, including 30 priority projects, and the core network should be completed by 2030.

The logic is also backed by European coordinators. At the same time, core network corridors are a suitable framework for working to facilitate knowledge exchange and promote digitalisation through Europe.

This is mainly based on CEF financing and suitable instruments will need to be rolled out to ensure adequate funding for this area. Moreover, the rise of innovative funding has been seen, such as blending. The CEF has proved to be very effective and has shown it has fast delivery and high absorption capacity. €22.4 billion has been committed in the transport sector under CEF and this should mobilise €46.4 billion in overall investment.

In order to maximise remaining funds, this year CEF blending was launched whereby a €1 billion grant was issued to maximise innovation funding and the results will be published in December. €2 billion in project proposals have already stemmed from this €1 billion.

In addition, there is €440 million in additional funding under CEF debt funding under the Juncker Plan, which also provides for commercial investment in the area of shipping. Furthermore, EFSI projects also encompass the area of green sea shipping.

Concerning Horizon 2020, it is key to innovation and providing for the ports of the future. It is important to look forward to the next MFF, she stated. Europe is entering uncharted waters in this regard, but she stressed the Commission would like to see a reinforced CEF in order to finish the TEN-T network. Emerging priority funding must also be secured. The Commission is always looking for opportunities to increase funding.

Concluding, she underlined great progress was made in 2017 and in 2018 the focus will be put on multi-modality. Stakeholders must work together to achieve results.

**Ms Julia Bergstein, Counsellor for Transport, Permanent Representation of Estonia to the EU**, stated digitalisation and the development of the EU single market were clear priority areas for the Estonian Presidency. Nothing is agreed until everything is agreed, she said, and the Council conclusions on transport have yet to be fully endorsed. The goal was to have a forward-looking set of conclusions and she believed they had delivered in that regard. Innovation and digitalisation of transport logistics are a key driver in connecting Europe.

However, many challenges will need to be faced, such as sustainability. Transport is one of the main polluters and there must be a shift to tackle this. Digitalisation plays an important role in decarbonisation of transport. Moreover, tackling congestion by building more motorways is not a sustainable approach. Therefore, there must be a transition from ownership to sharing and platforms will play a key role in this regard.

Transport is undergoing major changes; as such, Member States in the Council conclusions are invited by the Commission to work towards a multi-modal strategy.

Increasing safety is also one of the main goals. 70 people die in traffic accidents every day in Europe and 90% of road accidents are due to human error. These numbers must be lowered and digitalisation and automation can also assist in this regard.

Concerning economic growth, digitalisation can create jobs and can save up to 20-40% on transport investments due to increased productivity. Digital services are cheaper than other services, such as paper and printing. Digitised data exchanges can also help to achieve progress on 'digital by default' and 'once only' submission for information and digital certifications for ships must be promoted.

Today's services are global by nature and require adequate digital infrastructure. However, it is of utmost importance to have societal-wide dialogue on how digitalisation will affect society. Issues of education and life-long learning are key to this. Some opportunities will close but others will emerge.

Finally, the free movement of data must be at Europe's centre. This could be considered as a fifth freedom of the European Union. At the same time, privacy and personal data need to be respected and cybersecurity guaranteed. Concluding, she thanked industry for being supportive of this transitional process.

**Mr Gunther Bonz, FEPORT President**, stated Europe is in the midst of the fourth industrial revolution. In 1975, the largest companies included Texaco, GM and Ford. Today, the largest companies include Apple, Microsoft and Lenovo. The company worldwide with the highest research and development budget this year was Amazon with over \$17 billion. This shows

society is firmly in the fourth revolution. Finishing, Mr Bonz thanked participants and speakers and said he was already looking forward to next year's conference already.

**Source :**

