





international



Delegates Booklet

The realisation of the Maritime Service Portfolios

Copenhagen – Oslo – Copenhagen 24th – 26th January 2018

Supporting organisations



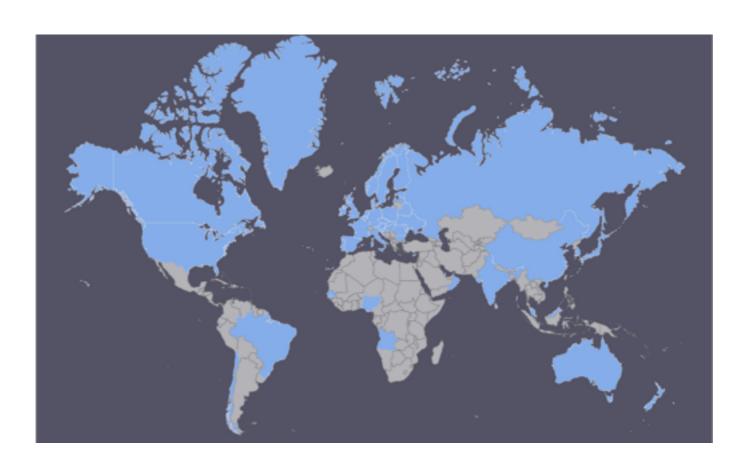








Countries and organisations represented over the past 8 years





Welcome from Jorge Arroyo

It is my pleasure to welcome delegates from so many countries from around the world to the 8th International e-navigation Underway Conference between Copenhagen and Oslo, and I hope you enjoy the cruise between the two beautiful Scandinavian capitals.

Since the beginning in 2011, the e-navigation Underway International Conference has attracted several hundred delegates from more than 50 countries across the 7 continents and provided access to numerous companies and people prominent in their fields.

This year we warmly welcome CEO of DFDS Niels Smedegaard as our Keynote speaker together with leading speakers from all over the world.

The theme for the 2018 Conference will be: **The realisation of the Maritime Service Portfolios.**

Bon Voyage

Jorge Arroyo Conference Chair



Day One 24th January 2018

11:00	Check-in and welcome in the terminal
12:00	Lunch served in the conference area
13:00	Conference opens / welcome address Andreas Nordseth, Director General, Danish Maritime Authority Francis Zachariae, Secretary General, IALA
13:20	Setting the scene Jorge Arroyo, Conference Chair Deputy chair, IALA e-navigation committee Program & Management Analyst, US Coast Guard
13:30	Keynote Niels Smedegaard, CEO and President DFDS
14:00	Making headway: IMO's plan to lead shipping into a new digital era Sascha Pristrom, Technical Officer IMO
14:20	Status and roadmap of the HGDM Sun-bae Hong, Head of e-navigation development task force Ministry of Ocean and Fisheries, Republic of Korea
14:40	IALA's work on e-navigation Jorge Arroyo, Deputy Chair IALA e-navigation committee
15:00	Coffee break & luggage to rooms
15:30	e-navigation and autonomy from an operators perspective Michael Rodey, Innovation Strategy Manager Maersk
15:50	Implementing e-navigation; a qualified view on the future of e-nav John Erik Hagen, Director Norwegian Coastal Administration

16:10	Coffee break	
16:30	Ship departs Copenhagen	
16:45	Industry software maintenance standard Aron Sørensen, Head of Maritime Technology & Regulation BIMCO	
17:05	IHO S-100 framework - baseline standard for e-navigation Maritime Services Abri Kampfer, Director IHO	
17:25	S-Mode and the bridge displays of the future Richard Doherty, Chief Technical Officer and Deputy Secretary-General CIRM	
17:45	End of day 1	
19:30	Welcome Champagne in Columbus Club and networking opportunity	
20:30	Dinner buffet in the 7 Seas Restaurant	
	Day 2	
	25 th January 2018	
07:00	Breakfast Buffet	
	Conference in the Auditorium	
Session '	I: e-navigation projects and testbeds	
08:30	If it works in Singapore, it works anywhere Todd Schuett, Project Manager Kongsberg Norcontrol	

08:50	Maritime system engineering: A shore based bridge concept
	Bjørn Åge Hjøllo, Project Manager, e-navigation NAVTOR AS
09:10	Prototype development of ENC and marine information services in the SMART navigation project
	Sewoong Oh, Senior research engineer KRISO
09:30	Coffee break
09:45	Ship arrives in Oslo
10:00	The digital coastal state; initiatives for the EfficienSea2 project
	Jens Murawski, Reseacher,
	Denmarks Meteorological Institute Bjørn Borbye Pedersen, Director of e-navigation
	DMA
10:30	STM & SMART navigation, test bed results, standardisation and future plans
	Per Setterberg , Operational Project Manager STM
	Jin Hyoung Park, System Engineering Management Team Leader
	SMART Navigation project office
11:00	PortCDM, practical use, governance and standards
	Michael Bergmann, Secretary,
	PortCDM Council
	Trond Andersen, Manager Maritime Department
	Stavanger Harbour
11:30	Coffee break

Session 2: Autonomous solutions in the maritime domain

12:00	Autonomous	shipping	from a regulatory	perspective

Nick Lemon, Manager, System Safety Standards

AMSA

12:20 Safety at sea in an autonomous era

James Fanshawe, Chairman, Maritime Autonomous Systems

Regulatory Working Group,
UK Marine Industries Alliance

Legal aspects and liability issues concerning autonomous shipping

Matti Eronen, Legal council Finnish Transport Agency

13:00 Lunch

12:40

Session 3: Specific e-navigation solutions

14:00 Automatic speech recognition and speech output as a means of reducing maritime

information overload

Peter John, Senior Researcher

Fraunhofer Institute for Digital Media Technology

14:20 Next steps towards standardised and automated ship reporting

Fred Pot, Principal

Marine Management Consulting

14:40 Velocity obstacles, an enriched RADAR/ECDIS/EPD presentation as an e-nav

extension

Stephan Procee, Senior Lecturer Navigation

Maritiem Instituut Willem Barentsz

15:00 Coffee break

15:20 Group photo



Session 4: Building blocks for e-navigation

15:30	Status and needs for a successful realisation of S-200 Nick Ward, IALA S-200 Registry Manager IALA
15:50	Maritime Resource Names (MRN), value and use Minsu Jeon, Technical Operations Manager IALA
16:10	End of day 2
16:30	Ship departs Oslo
20:30	3 course set menu in Blue Riband Restaurant
23:00	Drinks served in the Columbus Club – live music

Day 3 26th January 2018

07:00	Breakfast Buffet
08:50	e-navigation for inland waterways
	Brian Tetreault, Navigation Systems Specialist
	US Army Corps of Engineers
09:10	Use of AIS-ATON in natural disaster preparedness and recovery
	David Lewald , Program Analyst – Navigation Systems US Coast Guard
09:30	Coffee break & check out (secure baggage in luggage room)
09:45	Ship arrives in Copenhagen

10:00	Any ID'aes for harmonization? Aron Sørensen, Head of Maritime Technology & Regulation BIMCO
10:20	Announcing e-navigation Underway Asia Pacific and North America
10:35	Coffee break
11:05	Panel discussion, facilitated by Bjørn Borbye Pedersen, Director of e-navigation DMA
12:00	Conference highlights Jorge Arroyo, Conference Chair
12:30	Closing remarks Francis Zachariae, Secretary General IALA
12:40	Lunch served in the conference area
13:00	Conference closes
13:30	Departure of the pre-booked bus to the hotel and airport



Andreas Nordseth
Director-General
Danish Maritime Authority

Andreas Nordseth became Director-General in the Danish Maritime Authorities (DMA) in January 2009. The DMA sets the direction for future quality shipping and its field of responsibility is based on the shipping industry and its framework conditions, the ship and its crew. In addition, DMA is responsible for aids to navigation in the waters surrounding the Kingdom of Denmark and ashore.

In 1982 he graduated from the Copenhagen Nautical College. After awarding his Shipmaster's Diploma, he went to sea, first as a Deck Officer at the East Asiatic Company, then as a Training Officer at the Danish training ship "DANMARK" and finally as a 2nd Lieutenant of the Reserve in the Royal Danish Navy in 1986.

Subsequently, Andreas Nordseth studied at Danish Technical University, whilst holding the position as assisting maritime lecturer at Copenhagen Nautical College from 1986-1989. After having graduated, he continued teaching as a Maritime Lecturer, before joining the Danish Maritime Authority. His areas of responsibility, besides the maritime educations, included operational issues related to safety of navigation and the like as well as internal functions such as HR and internal service.

Andreas Nordseth holds numerous positions. He is chairman of Consultative Shipping Group; a position he has held since 2009. He is Governor at the World Maritime University and board member of the Maritime Development Centre of Europe (MDCE), the Danish Maritime Fund, the European Maritime Safety Agency, the Association for Promotion of Danish Shipping and the Advisory Board for Executive MBA in The Shipping & Logicistics Executive MBA Advisory Board at Copenhagen Business School.

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Francis Zachariae
Secretary-General
International Association of Marine Aids to Navigation and Lighthouse
Authorities (IALA)

Francis Zachariae began the work as Secretary-General of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) in

February 2015. Francis Zachariae joined the Danish Naval Academy, followed in 1983 by service aboard several naval ships. From 1988 to 1990 he was Aide-de-camp to the Minister of Defence. He went back to sea in 1990 on patrol vessel "Havkatten", which was one of new project "Standard ex" vessels. Two years later he became Project Manager, for the procurement of such vessels at the Naval Material Command.

At the same time as he was working with the Danish Ministry of Defence, Francis Zachariae completed a Master of Science in Public Administration, following which he was promoted to Captain (N) and appointed to Brussels to become Branch Chief and Advisor of the EU Council Secretariat. Appointed Deputy Director General of the Danish Maritime Safety Administration (DaMSA) in 2007 he was responsible for navigational information, aids to navigation, coastal rescue, pilotage and regulatory tasks, until the merging of DaMSA with the Danish Maritime Authority in 2011, when Francis became Deputy Director General. His main tasks were related to maritime regulation, safety of navigation and pilotage in the Danish, Greenlandic and Faroese waters.



Jorge Arroyo
United States Coast Guard
Program & Management Analyst

Jorge Arroyo joined the United States Coast Guard in 1980 and in the subsequent 13 years served as a commissioned officer with assignments and duties in recreational boating safety, search & rescue, vessel traffic management, polar icebreaking, ship and shore-side operations. He was project officer in more than two dozen regulatory projects including the 1986 Summer Olympic yachting events and US vessel traffic service rules.

After a 5 year hiatus, he returned to the US Coast Guard in 1999 and is currently a program & management analyst in the Office of Navigation Systems at USCG Headquarters in Washington, D.C and the USCG's regulatory project officer and subject matter expert for Automatic Identification System (AIS). He is also US delegate to the International Maritime Organization Navigation Sub-Committee; member of various working groups of the International Electro technical Committee and Radio Technical Committee for Maritime Services; and past vice-chair of the International Association of Marine Aids to Navigation and Lighthouse Authorities (AIS) working group. Mr. Arroyo obtained a bachelor of science from the University of Illinois, juris doctor from DePaul Law School in Chicago, Illinois, and, has sailed the seven seas and made land fall on every continent.





Niels Smedegaard CEO and President Shipping & Logistics Group DFDS

Niels Smedegaard was born in Denmark in 1962. His journey towards his leading role in the maritime community began with a military career at the Royal Life

Guards. He achieved an M.Sc. in Business Administration from Copenhagen Business School and later the MBA Exchange program, University of Texas, Austin. In 1988, he joined airline company SAS where he was appointed finance manager of SAS Service Partner. In 1994, he went to Switzerland, to join Swiss Air Associated Companies as Head of Strategic Controlling and CFO of Gate Gourmet. In 2000, he was appointed CEO at e-gatematrix, a global subsidiary of Gate Gourmet, headquartered in the USA. In 2007 he returned to Denmark to become CEO & President of DFDS A/S.

In addition to his role as CEO & President of DFDS, Niels Smedegaard is chairman of The Bikuben Foundation and Kollegiefonden Bikuben and deputy chairman of Danish Shipping. At the end of 2017, he completed his 2 year-period as chairman of ECSA (European Community Shipowners' Association), where he continues as a member of the board. DFDS operates a strong shipping and logistics network throughout Europe, and in 2010, the company was transformed by the major acquisition of logistics and shipping company Norfolkline. Since then, DFDS has changed its way of working and annually achieved the best financial results in its 151-year long history. Most recently, Niels Smedegaard has initiated a major digital transformation of the company.

Today, DFDS services freight customers and passengers at sea with a fleet of fifty ships, including Ro-Ro vessels, Ro-Pax vessels, cruise ferries and side-port/container vessels. In addition, DFDS offers terminal handling at their shipping terminals. DFDS also offers logistics services such as door-door solutions and other logistics solutions throughout Europe and to and from the CIS-countries. This includes road transport, rail transport, distribution, warehousing and cross-docking services based on a modern fleet of dry and temperature controlled trailers and containers as well as own trucks.



Sascha Pristrom Technical Officer IMO

Mr Pristrom has a strong maritime background, having learned the seafaring profession from scratch. He has sailed on various types of ships and became

a master mariner in 2005 and taking up teaching at the University of Applied Sciences in Rostock-Warnemunde, Germany. In 2007 he continued his career ashore working for the International Maritime Organization (IMO), where he has been entrusted with various posts before taking up e-navigation matters in 2016.



Sun-bae Hong Deputy Director Ministry of Ocean and Fisheries, Republic of Korea

Mr Hong is currently the Team Manager of SMART-Navigation project, and has for many years worked with maritime safety related tasks, such as Port State

Control (PSC), anti-piracy measures, marine environment protection, and is a member of IMO Member State Audit Scheme, international cooperation regarding IMO and introduction of Automatic Identification System (AIS). He has also worked with shore-based network, Ship Security Alert System (SSAS) and Maritime Domain Awareness (MDA).

Mr Hong's educational background is from Korea Maritime University, deck officers on board ships and The World Maritime University.



Michael Rodey Innovation Strategy Manager Maersk

Michael Rodey has worked for A.P. Moller-Maersk since 2015, where he heads the development of autonomous vessel technology - a highlight has been heading the autonomous tug project in partnership with Rolls-Royce. Prior to

Maersk, Michael worked in the energy industry for such giants as Saudi Aramco and Statoil, as an energy consultant, and served 4 years in the United States Marine Corps as a non-commissioned officer.





John Erik Hagen Regional Director Norwegian Coastal Administration

John Erik Hagen has been Regional Director for the Norwegian Coastal Administration for 24 years. He pursued a career in the Norwegian Navy, attending the officer' training school and the Norwegian Defence College. During

his 10 year military career he also achieved a University Degree in Law, Social Science, Economics and Business Administration.

He spent several years in management positions in the offshore industry and transportation services and John Erik has functioned as acting Director General of the Norwegian Coastal Administration on behalf of the Royal Norwegian Ministry of Fisheries and Coastal Affairs. Today he serves in many national and international boards and advisory boards such as Coordinator of the IMO Correspondence Group on e-navigation. He has also been the Chairman of the Working Group established by the Royal Norwegian Ministry of Fisheries and Coastal Affairs and the Ministry of Transport of the Russian Federation, for the cooperation between Russia and Norway on safety in the Barents area.

Aron Sørensen
Head of Maritime Technology & Regulation
BIMCO

Aron Sørensen holds the position as Head of the Maritime Technology and Regulation and is responsible for BIMCO's technical affairs. He manages BIMCO's role in marine, operational and regulatory related matters at a number of international organizations such as IMO, ISO, IACS and IHO.

His tasks include negotiating, monitoring and disseminating relevant conventions and assisting in the development of international standards, regional/national requirements, and assessing the impact on BIMCO members.





Abri Kampfer Director IHO

Abri Kampfer is Director at IHO, the intergovernmental organization whose role is to ensure that the world's seas, oceans and navigable waters are properly surveyed and charted to support the safety of navigation and the protection of the

marine environment. He oversees the IHO technical programme, which addresses the development of international standards for hydrographic information, products and services.



Richard Doherty
Chief Technical Officer and Deputy Secretary-General
CIRM

Richard Doherty joined CIRM in 2013 as Chief Technical Officer and Deputy Secretary-General. His background is in product and business development, and he previously spent 6 years working for Pole Star Space Applications, a

leading provider of software solutions to the shipping industry.

Richard is responsible for coordinating the technical work of CIRM, and he chairs the organisation's various working groups. He is a member of the Royal Institute of Navigation.





Todd Schuett
Project Manager
Kongsberg

Since earning a graduate degree from the University of Chicago, Todd Schuett has traveled throughout the world and visited numerous port and coastal surveillance centers. As the training manager of Kongsberg Norcontrol IT since

2000, he has instructed hundreds of VTS operators from all corners of the world, as well as developed one of the first interactive online learning solution for maritime surveillance systems operations.

Prior to joining Kongsberg Norcontrol IT, Mr. Schuett taught at several universities, including Doshisha University and Ritsumeikan University in Kyoto, Japan. He has served as Kongsberg's project manager for the EU funded D3CoS project developing the cooperative Path Planner technology. Mr. Schuett has been a member of the IALA workgroup on e-Learning and is a regular delegate for the IALA V-103 Workshops. He is currently the project manager for SESAME Straits, an e-navigation test bed project funded by the Norwegian Research Council and endorsed by the Straits e-navigation Alliance.



Bjørn Åge Hjøllo Senior Project Manager NAVTOR AS

Educated Bachelor in Geophysics from the Geophysical Institute, University of Bergen, Norway in December 1989. In April 1992 he added a Master of Science in Meteorology at Geophysical Institute, University of Bergen, Norway. His task

has been to build NAVTOR from scratch, his responsibility mainly includes Product Management and Project Management within the field of e-navigation. Undersigned was one out of seven starting NAVTOR, and is minority owner and member of the NAVTOR Leadership team.

In 2004, he joined C-MAP Norway as General Manager for C-MAP Marine Forecasting Centre. He became a Product Manager in C-MAP, and later in Jeppesen Marine. In 2011 a group of managers left Jeppesen Marine, and established NAVTOR AS, and he is today Senior Project Manager of e-navigation, and a minority owner in NAVTOR.





Dr Sewoong Oh's research activities focus on the marine data exchange standard and maritime safety services. He is the leader of a project of supporting S-100 infrastructure including testbed system and compilation of S-100 test datasets until 2020, funded

infrastructure including testbed system and compilation of S-100 test datasets until 2020, funded by the Korea Hydrographic and Oceanography Agency (KHOA) of Korea. In addition, He is leading two research topics of ENC service for non SOLAS vessel and marine safety information service in the SMART Navigation project. Currently, He is a member of S-100WG and NIPWG of IHO and also contributing the development of S-200 product specification of IALA.



Bjørn Borbye Pedersen Director e-navigation DMA

Bjørn Borbye Pedersen has worked with strategy and innovation management at the Danish Maritime Authority for the past seven years. He is director of

DMA's e-navigation team. He has been a leading force in the EU project EfficienSea2 in which he is responsible for the work package 'Measures to Maximise Impact' and chairs the Executive Board. EfficienSea2 has 32 partners, a budget of 11.5M Euro and aims at developing the essential solutions that will take e-navigation from testbeds to real-life implementation. The Maritime Connectivity Platform (previously the Maritime Cloud) being the evolving concept.

Prior to joining the Danish Maritime Authority Bjørn worked for five years in an innovation think-thank and two years in management consulting. Bjørn holds an MSc (Econ.) in Management of Innovation and Business Development from Copenhagen Business School combined with MBA studies at National Cheng Chi University, Taipei, and Cox School of Business, Dallas.





Per Setterberg
Operational Project Manager
SMA

Per Setterberg is the Operational Project Manager for the STM Validation Project. Per was Activity Leader in the MONALISA 2.0 project 2012-2015

where the STM concept was defined and elaborated. He is a Master Mariner and Coordinator Innovation at the Swedish Maritime Administration (SMA), working for SMA since 2004.

Before joining the STM team of the Research and Innovation unit he was business area manager for the Vessel Traffic Services (VTS), icebreaker management and Search and Rescue mission coordination at SMA. In his seagoing career, Per served as deck officer on oil- and chemical tankers in worldwide trade and subsequently as Dynamic Positioning Officer on dive support vessels and pipe layers in the North Sea and Brazil.



Jin Hyoung Park Senior Researcher KRISO

Dr Jin Hyoung Park is leading systems engineering practices at SMART-Navigation Project Office of Korea Research Institute of Ships and Ocean Engineering (KRISO). And he is the project leader of Korean-European

Innovative Portable Pilot Unit (KEI.POP) Project at Korean side, a Korea-German bilateral project funded by EUREKA program.

His research activities focus on innovations in navigational and maritime safety systems. For international collaborations, he serves as the vice-chair of Harmonization WG of the ENAV Committee at IALA. In the Maritime Connectivity Platform Development Forum (MCDF), Dr Park is leading the Maritime Messaging Service (MMS) WG. Recently he has joined the International PortCDM Council as the representative from the SMART-Navigation Project Office.





Michael Bergmann Secretary PortCDM Council

Michael Bergmann has experience in software engineering, the aviation as well as the maritime market on navigation.

He owns the maritime consultancy company BM Bergmann-Marine and works for RISE (Research Institute Sweden), Safebridge GmbH, 7Cs GmbH and others.

Michael Bergmann holds various positions: observer, participant and advisor at the IMO, IALA and IHO, Member of the advisory board of the German IMO delegation, President at CIRM, Fellow of the Royal Institute of Navigation, Associated Fellow of the Nautical Institute, Member of the Council of the German Institute of Navigation, Initiator and secretary of the "International PortCDM Council", Author of various articles and publications.

Mr. Bergmann holds the following degrees: MBA - University of Liverpool, UK, Master degree of educational theory, theology, psychology, sociology and others from Cath. University of Applied Science in Mainz, Germany.



Trond Andersen
Head of Maritime Department
Port of Stavanger

Harbour Master Trond Andersen has been the head of the Maritime Department since February 2015 in Port of Stavanger. He pursued a career at sea on shuttle tanker in the merchant fleet for almost ten years. From 2010 until current position

he was head of the shipping department in the Norwegian Hydrographic Service, responsible for vessels and crew that collected data to produce nautical charts. He started his career in the Hydrographic Service in 2007, covering tasks from GIS specialist to responsible for national products, in addition to the above-mentioned tasks. Through the port's involvement in PortCDM, Trond is the project leader in the Port of Stavanger.





Nick Lemon Manager AMSA

Mr Lemon, President of IHO, is a manager at the Australian Maritime Safety Authority based in Canberra, Australia. Since joining AMSA in 2003 Nick has worked in the areas of marine aids to navigation, nautical advice and policy, and with the maintenance of AMSA's delegated legislation.

Before joining AMSA, Nick worked as a seaman officer and hydrographic surveyor in the Royal Australian Navy (RAN). Highlights from his time in the RAN include an exchange posting with the Royal Navy working on survey ships around the British Isles and three years in command of an Australian Navy survey ship working on the Australian and Papua New Guinea coasts. Nick also spent several years at the Australian Hydrographic Office in operations, planning and senior management roles.

Nick has a Bachelor of Surveying Degree, a Graduate Diploma in Business Administration, and is a member of the Australian Surveying and Spatial Sciences Institute, the Nautical Institute and the Hydrographic Society.

James Fanshawe Chairman, Maritime Autonomous Systems UK Marine Industries Alliance

James Fanshawe retired from the Royal Navy in 2005. An Anti-Submarine warfare specialist, he commanded HMS HURWORTH, CLEOPATRA AND FEARLESS and was the Commander United Kingdom Task Group and Commander of the Devonport Flotilla. He held several senior appointments ashore including Director of Plans at the UK Permanent Joint Headquarters.

James works within a mixed commercial portfolio, chairing several companies and organisations. He chairs the UK's Maritime Autonomous Systems Regulatory Working Group on behalf of the Marine Industries Alliance. This group has now released a Code of Conduct for the safe operation of Maritime Autonomous Surface Ships (MASS) and has now published a Code of Practice for MASS, having prepared the proposal submitted by the UK to the International Maritime Organisation in February 2017 for a regulatory scoping exercise for Maritime Autonomous Surface Ships. He is a member of the Maritime Autonomous Systems (MAS) Steering Group and the MAS Council. He was appointed the Chairman of Smart Ports in September 2017.





Matti Eronen Legal council Finnish Transport Agency

Specialized in transport and maritime legislation. Graduated from Turku University, LL.M. 1988, trained in court. Studied at Oslo University Nordic

Maritime Institute. Helsinki University EU-expert training. Worked as forwarding agent, P&I- and insurance specialist and maritime lawyer in private shipping companies. Since 1989 worked at administration. Finnish Maritime Administration as secretary for international affairs, deputy director and chief of legal department. From 2010 at Finnish Transport Agency as legal council. During 2012 national expert training (NEPT) at EMSA (European Maritime Safety Agency). Represented Finland at IMO committees and subcommittees. IALA LaP member.

Since 2015 Turku University post graduate doctoral student on subject "VTS liability issues".



Senior researcher into Maritime Communication at the Fraunhofer Institute for Digital Media Technology (IDMT). Senior lecturer of Maritime English at Jade University of Applied Sciences. Member of the Papers and Activities Committee of the IMLA International Maritime English Conference (IMEC).



Fred W. Pot
Principal
Marine Management Consulting

Fred Pot has a Master's Degree in Naval Architecture and Marine Engineering from the Technical University at Delft in The Netherlands and an MBA from Stanford. He worked for Ocean routes, a ship weather routing company, and spent 20 years in management positions at Matson Navigation Company in San Francisco and Honolulu. He has also held senior positions at Holland America Line in Seattle, P&O Princess Cruises in Los Angeles, Cornerstone Systems in Seattle, SeaCAS and MeteorComm in Kent, Washington

Mr. Pot acted as technical advisor to the US Delegation to IEC workgroups that formulated performance standards for AIS-B and for Task-oriented Display of Navigation Information (INS). He wrote several articles about AIS and e-navigation for Compuship and The Digital Ship, is Program Co-Chair for the e-navigation Underway (North America) Conferences.

Stephan Procee
Senior lecturer navigation
Maritiem Instituut Willem Barentsz

Mr Procee started his career as junior officer on the Dutch merchant fleet 1985, he later transferred to the Hydrographic Service of the Dutch Royal Navy where

he worked as Cartographic Compiler and Head of Data management.

In 1998 he took the opportunity to start lecturing navigation at Maritiem Instituut Willem Barentsz on the Isle of Terschelling. He became involved in the ACCSEAS project (2012-2015) with a focus on AIS/GIS and Augmented Reality. Since 2016 he has worked part time as PhD researcher at Delft Technical University on the development of an Ecological Interface for Augmented Reality in marine navigation.



Nick Ward
IALA S-200 Registry Manager
IALA

Dr. Nick Ward is Research Director for the General Lighthouse Authorities of the UK and Ireland, providing advice on strategy & policy for research & development. He carries out work on radio-navigation and communications and has been closely involved with the development and international standardisation of radar beacons, Differential GNSS, the Automatic Identification System (AIS) and now with e-navigation and the Common Maritime Data Structure. He was vice chairman of the IALA e-navigation committee for eight years and before that chair of the Radio-navigation and AIS Committees. He is an Honorary Member of IALA, a Chartered Engineer, Fellow of the Royal Institute of Navigation and an Associate Fellow of the Nautical Institute.

He is currently manager of the IALA S-200 domain and is IALA's Project Manager for EfficienSea2.



Minsu Jeon Technical Operations Manager IALA

Mr Jeon is the Technical Operations Manager at IALA. He is responsible for supporting and coordingating the work of the committees and representing the association in a technical capacity.

Minsu is an Aids to Navigation Manager and has served in the Korean Navy for two years and worked in Korea and Fiji for over 13 years. He has a Master's degree in Port Engineering from the Korea Ocean and Maritime University. From 2016 to 2017, Minsu worked as the Regional Safety Navigation Adviser in the Pacific Community (SPC). There, he contributed to enhancing the awareness and level of safety in the region. Prior to 2016, Minsu spent 11 years with Korea Association of Aids to Navigation (KAAN).



Brian Tetreault
Navigation Systems Specialist
US Army Corps of Engineers

Brian Tetreault is the e-navigation team leader for the U. S. Army Corps of Engineers Research and Development Center, Coastal and Hydraulics Laboratory. His projects include developing navigation systems to improve safety, efficiency and reliability of inland and coastal waterways.

He is a US representative to national and international e-navigation-related bodies, including the World Association for Waterborne Transport Infrastructure (PIANC), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), International Electrotechnical Commission (IEC), the Radio Technical Commission for Maritime Services (RTCM), and the US Committee on the Marine Transportation System (CMTS). He is a graduate of the United States Coast Guard Academy, served in the Coast Guard for 22 years at sea and ashore, and holds an Unlimited 2nd Mate and a 1600 Ton Master license.



David Lewald Program Analyst – Navigation Systems US Coast Guard

Mr Lewald provides advisory and consultative services to agency programs and managers on a broad range of modern navigation matters that involve

legacy and future state technology. He serves as an advisor and subject matter expert (SME) to the Director of Marine Transportation Systems on digital and electronic navigation matters and systems, including, but not limited to electronic chart systems (ECDIS\ECS), automatic identification systems (AIS), integrated navigation systems (INS), integrated bridge systems (IBS), navigation sensors (e.g. Radar, GPS, etc.), and electronic aids to navigation.

He also serves as a navigation systems technical expert to standards development organizations such as International Maritime Organization (IMO), International Hydrographic Organization (IHO), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), Committee on the Marine Transportation System (CMTS), International Electro technical Commission (IEC), National Marine Electronics Association (NMEA), and Radio Technical Commission for Maritime Services (RTCM).



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