

Arctic Circle Assembly 2019

“Afternoon Session” (90 min) Breakout Session

Title: Breaking the ice: cooperation for safe, sustainable and responsible exploitation of Arctic sea routes

Organized by the EU Polar Cluster members [ARICE](#), [KEPLER](#), [ARCSAR](#), with [ExtremeEarth](#)

Dr Nick Hughes, KEPLER coordinator, Leader of the Norwegian Ice Service at MET Norway

Dr. Verónica Willmott Puig, Project Manager ARICE, International Cooperation Unit

Alfred Wegener Institut, Helmholtz Centre for Polar and Marine Research, Germany

Description of the session:

The recent changes of the Arctic have triggered increased economic activity in the region. The industries operating in the Arctic (shipping, oil and gas, fisheries, cruise tourism and the submarine cable industry, among others) face significant challenges, including; a lack of critical infrastructure (e.g. ports, navigation charts), poor quality and availability of essential meteorological, sea ice and iceberg information and a lack of high bandwidth links to communicate them, the need for essential search and rescue capabilities. Safety of navigation is a serious concern for the operational ice mapping agencies such as the European Ice Services, and their users operating in harsh conditions and remote areas like the Arctic, as well as the potential environmental damage caused by them. Thus, operational ice map agencies and industry partners also have a critical need for better Arctic information to support safe, responsible, and effective industry operations in support of sustainable development of the Arctic economy and Blue Growth.

Session scope and aims

This breakout session will showcase the needs of a collaborative science-industry approach in addressing accurate sea-ice and weather predictions, information on the status of the Arctic and its marine life, and complex predictions of future scenarios. It aims at fostering active discussions on how the science community can better address the needs of industry, and at **identifying opportunities for collaboration between the science community, ice mapping agencies, and industry**. We are suggesting a breakout session that will include presentations, followed by a moderated panel discussion on what knowledge development is needed to support safe, responsible and effective industry operations in the Arctic.

Organizers

This breakout session is organized by a collaborative effort four projects funded by the EU's Horizon 2020 programme, through the EU Polar Cluster:

“ARICE: Arctic Research Icebreaker Consortium: A strategy for meeting the needs for marine-based research in the Arctic” which aims at providing Europe with better capacities for marine-based research in the ice covered Arctic Ocean.

“KEPLER: Key Environmental monitoring for Polar Latitudes and European Readiness” is built around the operational European Ice Services and Copernicus information providers, to prepare a roadmap for Copernicus to deliver an improved European capacity for monitoring and forecasting the Polar Regions.

“ARCSAR: Arctic and North Atlantic Security and Emergency Preparedness Network” will address the Arctic and North-Atlantic (ANA) region, preparing to cope with the Security and safety threats that will result from increased commercial activity in the region including traffic through the Northern passages, cruise traffic, and offshore oil and gas activity.

“ExtremeEarth” develops extreme earth analytics techniques and technologies that scale to petabytes of big Copernicus data, information and knowledge, and applies these technologies in two of the thematic exploitation platforms of the European Space Agency: the one dedicated to Food Security and the one dedicated to the Polar regions

Programme

Convenor: Peter Hinchliffe, Former Secretary General, International Chamber of Shipping (confirmed)

00:00 - Introduction from the **Convenor**

00:05 - Towards a sustainable development of the Arctic: providing Europe with better capacities for marine-based research in the ice covered Arctic Ocean. Overview of ARICE project and EU Polar Cluster. **Speaker:** Nicole Biebow, ARICE Coordinator, **confirmed.**

00:15 - KEPLER: Developing a road-map for the future evolution of Copernicus to support stakeholders and end-users in the Polar Regions. Overview of the KEPLER project. **Speaker:** Nick Hughes, KEPLER Coordinator, **confirmed.**

00:25 - Industry priorities support safe, responsible, and effective industry operations in the Arctic Ocean (1 of 2). **Speaker:** Mark van der Hulst, Oceanwide Marine Services, **confirmed.**

00:35 - Industry priorities support safe, responsible, and effective industry operations in the Arctic Ocean (2 of 2). **Speaker:** Dr. Marko Keber, Fincantieri Oil&Gas, **confirmed.**

00:45- Requirements for monitoring and supporting search-and-rescue operations in the Arctic **Speaker:** Bent-Ove Jamtli, ARCSAR coordinator, **confirmed.**

00:55 - Development of artificial intelligence and cloud-based computing to provide enhanced Arctic information products for Copernicus. Overview of the ExtremeEarth project. **Speaker:** Vladimir Vassov, ExtremeEarth, **confirmed.**

01:05 - **Panel discussion** what are the needs of the industry to operate safely in the Arctic, and on ways of industry-science cooperation.

01:25- Conclusions and actions from the **Convenor**

Room set-up

Round tables or any setting that allows discussion, for 50+ people.

Speaker list

Peter Hinchliffe OBE

Former Secretary General International Chamber of Shipping, independent maritime consultant, Convenor

Nicole Biebow, ARICE Coordinator, Alfred Wegener Institut, Helmholtz Centre for Polar and Marine Research, presentation title: Towards a sustainable development of the Arctic: providing Europe with better capacities for marine-based research in the ice covered Arctic Ocean. Overview of ARICE and ARICE project and EU Polar Cluster.

Nick Hughes, KEPLER Coordinator, Norwegian Meteorological Institute, Leader of the Norwegian Ice Service, presentation title: Using a wide variety of tools including satellite imagery processing, community-based observations, and Artificial Intelligence to provide guidelines for the future development of Copernicus Earth observation programme. Overview of the KEPLER and ExtremeEarth projects.

Mark van der Hulst, Managing Director, Oceanwide Marine Services, presentation title: Industry priorities support safe, responsible, and effective industry operations in the Arctic Ocean (1 of 2).

Marko Keber, Head of Special Projects, Fincantieri Oil&Gas, presentation title: Industry priorities support safe, responsible, and effective industry operations in the Arctic Ocean (2 of 2)

Bent-Ove Jamtli, Director of Joint Rescue and Coordination Centre Northern Norway (JRCC NN), presentation title: Requirements for monitoring and supporting search-and-rescue operations in the Arctic.

Vladimir Vassov, Associate Professor at Royal Institute of Technology (KTH), Stockholm, presentation title: Development of artificial intelligence and cloud-based computing to provide enhanced Arctic information products for Copernicus.

BIOGRAPHIES:

Peter Hinchliffe OBE

Former Secretary General International Chamber of Shipping, Convenor

Peter enjoyed a first career in the British Royal Navy, that included over 20 years at sea and 5 years in command of submarines. He also gained a civilian BSc (Hons) in Systems and Management. He joined the International Chamber of Shipping in 2001 and for several years led ICS representation on maritime safety, security and environmental issues at the IMO and elsewhere. He served as Secretary General of ICS from 2010 until 2018 when he retired. The membership of the International Chamber of Shipping (ICS) comprises the key national shipowners' associations from around the world and represents more than 80% of the world's merchant tonnage. Peter is now working as an independent maritime consultant. Peter is a Fellow of the Nautical Institute and chairs the NI Executive Board. He is a Younger Brother of Trinity House. He is a Board Member of World Ocean Council.



Nicole Biebow leads the International Cooperation Unit at the Alfred-Wegener-Institute (AWI). She is responsible for all international relations of the AWI and maintains an extensive network of contacts in the European and international science and policy communities. She has long-standing experience in the management of international projects and consortia. Nicole Biebow is the executive manager of EU-PolarNet, which is developing an Integrated European Polar Research Programme in close cooperation with the relevant stakeholders. Since January 2018, she is also coordinating the EU project ARICE. ARICE is developing strategies to ensure the optimal use of the existing polar research vessels at a European and international level, working towards an International Arctic Research Icebreaker Consortium. ARICE offers trans-national access to six research icebreakers working in the ice covered Arctic Ocean. Nicole Biebow received her PhD in Marine Geology at GEOMAR in Kiel in 1996.



Nick Hughes (KEPLER coordinator, Leader of the Norwegian Ice Service, MET Norway) Hughes is based in Tromsø, Norway and is responsible for the daily operation of the Ice Service and for project management including the development of new data processing algorithms and information services. Hughes has 21 years experience in Arctic and Antarctic research with 15 field campaigns including as a civilian sea ice mission specialist for the UK Royal Navy expeditions of HMS *Tireless* in 2004 and 2007. In current EC H2020 projects he is Coordinator of KEPLER, developing a roadmap for the future Copernicus coverage of the Polar Regions, and Work Package Leader in ExtremeEarth, developing new machine learning and artificial intelligence techniques for sea ice and iceberg parameter extraction from satellite and other data using cloud-based processing. He is also involved in the Research Council of Norway funded Centre for Research-based Innovation (SFI) CIRFA, developing pilot information services for iceberg, sea ice, oil spill and polar lows. Hughes is the creator of the QGIS-based open source ice charting system Bifrost and is Norway's representative on the WMO-IOC JCOMM Expert Team on Sea Ice.



Mark van der Hulst, COO at Oceanwide Expeditions, A privately owned company in the Netherlands that over 25 years is operating Expedition vessels in the Polar Waters. Mark comes from a Navy background before he joined Oceanwide. He was heavily involved in the development of the IMO Polar Code and is a member of the executive committee of AECO (Arctic Expedition Cruise Operator association) as well as chair of the Marine Committee of this organization. He is Chair of the executive committee of IAATO (International Association of Antarctic Tour operators) and chair of the Marine Committee of IAATO.



Bent-Ove Jamtli, ARCSAR coordinator, Director of Joint Rescue Coordination Centre (JRCC) North Norway

Director of JRCC North Norway since 2013. He was previously a Fighter Controller in the Norwegian Air Force, and has held several staff and command positions. Bent-Ove has worked as a Search and Rescue Mission Coordinator (SMC) at Joint Rescue Coordination Centre (JRCC) North-Norway 1996-2000. He was then in charge of planning and execution of the international NATO/PfP SAR exercise Bright Eye.



Vladimir Vassov (ExtremeEarth, Associate Professor at the Royal Institute of Technology (KTH), Stockholm).

Dr. Vladimir Vlassov is an Associate Professor in Computer Systems at KTH Royal Institute of Technology, Stockholm, Sweden. Prior coming to KTH, in he was an Assistant and Associate Professor at LETI (1985-93). He was a visiting scientist at MIT (1998), USA, and at the University of Massachusetts Amherst (2004), USA. His current research interests include autonomic computing (in particular, self-management of distributed systems); distributed computing (including P2P, Cloud and Grid computing), programming environments; performance modelling and evaluation. Vlad was heavily involved in the Flink project, through his student who developed the graph API for Flink, Jelly. Vlad has participated in EU projects such as Clommunity, Artemis (FP7), and Grid4All. In ExtremeEarth he leads KTH's work on cloud-computing support for the Hops platform, including support services to other partners.



Marko Keber (Head of Special Projects at Fincantieri Oil & Gas S.p.A., Trieste, Italy)

Fincantieri operates in the offshore sector through its subsidiary Fincantieri Oil & Gas S.p.A., to which the company Fincantieri Offshore and the Vard Group report. Its offshore sector work includes the designing and building vessels for the extraction and production of oil and natural gas. Fincantieri Offshore is the operational unit that deals with designing and producing offshore craft, such as semi-submersible drilling rigs and drillships. The VARD group is a global leader in building high-end offshore support vessels.