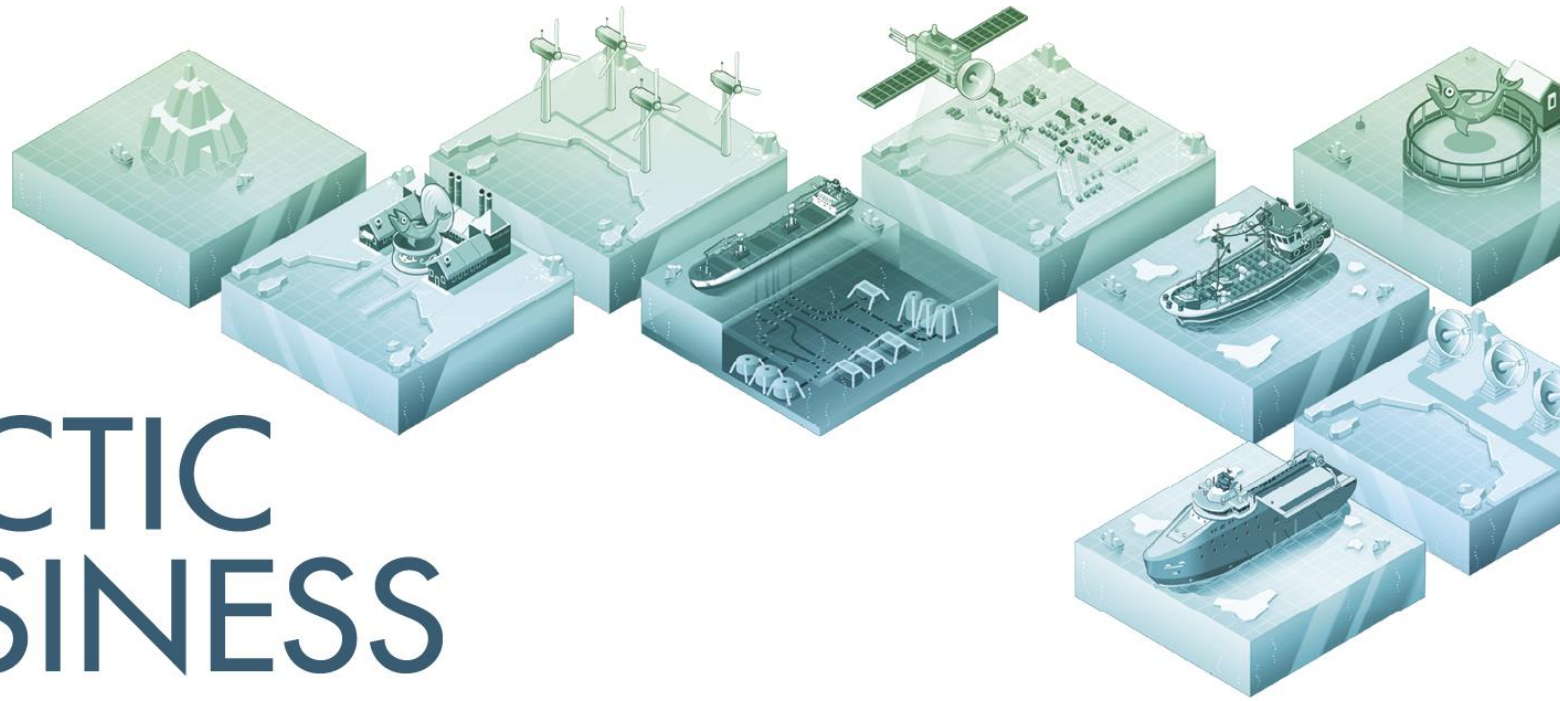




ARCTIC
BUSINESS



Arctic Business Council

Tromsø, 24th January 2017

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2017 summit participants

- Adrianus Melkert / NxtVn
- Annette Malm Justad / Store Norske Spitsbergen Kulkompani AS
- Bjørn Rønning / Midgardsormen
- Carol Browne / NxtVn
- Christian Bonfils / BW DRY CARGO ApS
- Eero Hokkanen / Arctia Ltd
- Elisabeth Tørstad / DNV GL Oil and Gas
- Felix H. Tschudi / Tschudi Shipping Company AS
- Geir Lasse Kjersem / LMG Marine
- Gunnar Sand / SINTEF
- Jan Petter Pedersen / KSAT
- Jez Averty / Statoil
- Juha Ala-Mursula / BusinessOulu
- Karl Johnny Hersvik / Aker BP ASA
- Khaled Sedrak / NxtVn
- Liv Monica Stubholt / Selmer
- Mika Lauhde / SSH Communications Security
- Morten Lunde / Midgardsormen
- Nils Arne Johnsen / Ramboll
- Ottar Haugen / Norwegian Coast Guard
- Paul Holthus / World Ocean Council
- Peter Hinchliffe / International Chamber of Shipping (ICS)
- Pierluigi Nalin / Edison Norge
- Reko-Antti Suojanen / Aker Arctic Technology Inc
- Richard Glenn / Arctic Slope Regional Corp. (ASRC)
- Robert McDowell / Cooley LLP
- Rolf Skatteboe / Kongsberg Satellite Services
- Rúni M. Hansen / Bakkafröst & Tjaldur
- Sturla Henriksen / Norwegian Shipowners' Association
- Suvi Linden / NextVn Finland
- Tara Sweeney / Arctic Slope Regional Corp. (ASRC)
- Terje Aunevik / Pole Positions Logistics
- Terje Solheim / Aker BP ASA
- Tor Husjord / Maritime Forum North
- Toril Røe Utvik / Statiol ASA
- Trond-Erik Johansen / ConocoPhillips
- Tuomas Korpela / ICEYE



WHAT'S YOUR DREAM FOR AN ARCTIC BUSINESS PLATFORM?

GAIN THE REPUTATION FOR RESPONSIBLE AND SUSTAINABLE DEVELOPMENT

Sustainable development welcomed by society locally, regional and globally

A 100% connected and prosperous Arctic.

SUSTAINABLE DEVELOPMENT

Science based & acceptance for responsible development's activities

An organic and environmentally sustainable development where also the oil industry may have a role.

A SUSTAINABLE DEVELOPMENT BASED ON FACTS?

LEVEL PLAYING FIELD, WHERE INFRASTRUCTURE NEEDS AND SUSTAINABLE DEVELOPMENT ARE PRIORITIES

Effectuate positive change for favorable polar growth & peace

NOVEL DEPLOYMENT OF "Internet of Things" and "Public Private Partnership"

A forum for interaction between business leaders from a variety of industries to formulate unified views related to the Arctic policies

SHARE KNOWLEDGE TO AVOID BLIND SPOTS AND HAVE THE COMPLETE PICTURE

RAPIDLY INTEGRATE NEW KNOWLEDGE INTO DECISIONS

Knowledge and broad understanding/accept for sustainable use of Arctic resources.

HIGHER RESULT FLEXIBILITY + KNOWLEDGE BY ACTING IN COMMON

Where ever you are in Arctic - you are connected to Widenand IT.

To make structured a test arena and a showcase for business development in the arctic by connecting Arctic science knowledge to science, business, capital and policy.

Smallbased as the logistical hub in Arctic

HAVE a SISTER ARCTIC Polaris and S&P to be in place

Build on a regulatory platform that stimulates development + protect the environment

Generate real vibrant and competitive business ecosystem

GLOBAL PARTNERSHIPS THROUGH ARCTIC CONNECTIONS

AN ACTIVE FORUM FOR PUBLIC & INTERESTS PRIVATE.

MAKE A REAL DIFFERENCE



What's your dream for an Arctic business platform?

in order to
knowledge and
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IT

SUSTAINABLE
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Science based
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A SUSTAINABLE
DEVELOPMENT
BASED ON FACTS

HAVE a Science
ARCTIC
Preparations & Set
to be in place

Welcome remarks by Sturla Henriksen



The international business community is a key contributor in setting new industry standards, creating new technologies and bringing first-hand experiences into Arctic policy decision-shaping and -making. In order to obtain and maintain our “license to operate” in the Arctic, we must use this and demonstrate our commitment to a **responsible and sustainable** development of Arctic economic and commercial opportunities.

Cooperation and partnerships are the keys to success in the region; working together, sharing knowledge, best practices and ideas. The high-level, for business-by business, international Arctic Business Council provides a platform for **launching, exploring and seeking support** for ideas, initiatives and projects among peers both within and outside of their respective sectors.

The Arctic Business Council was created to make things happen. Through the previous summits, council participants have initiated or sought support for concrete projects that will advance intentions and discussions into actions and results.

One such project is *SARiNOR Search and Rescue in the High North*, a comprehensive financial co-operation between public and private actors representing a significant combination of knowledge, expertise and experience about emergency preparedness in Arctic waters. The first phase, safeguarding human life, was finished last fall, resulting in a 700-pages report outlining concrete suggestions on how to achieve sufficient search and rescue capacity through planning, co-ordination and implementation of SAR operations at sea in the High North.

Introduction by Dr. Gabrielle Walker



The Arctic is a complex region in which to do business, from many points of view: regional and geopolitical influences, environmental operating challenges, stakeholder interests and perceptions, and investment. Since its formation in 2014, the **Arctic Business Council has sought to provide a common platform** in which businesses working in the Arctic can **explore the benefits of collective approaches to help reduce the complexity and mitigate the risks**.

Previous meetings identified eight strategic streams that, for the 2017 summit were grouped into five categories:

- Common best practices
- Community engagement/Stakeholder engagement/Perception of the Arctic
- Investment vehicle
- Knowledge sharing/Data access
- Emergency preparedness

Since the first Summit, the world has become considerably more volatile and uncertain, with challenges including geopolitical instability, lower prices for energy and resources, weak economic growth, and the urgent challenges posed by climate change. The 2017 Summit therefore adopted the lens of “risk and uncertainty” through which to explore these five strategic streams.

The ultimate goal for the 2017 Summit was to consider ways that the Arctic Business Council can help **reduce the uncertainty and hence minimize the risk**, by **identifying a small, doable number of initiatives** that could leverage the power of the collective approach. The idea was to increase the Council’s ambition by narrowing and intensifying its focus – via projects that have engaged owners and deliverers and real, on-the-ground, impacts.

Risk management and uncertainty

Elisabeth Tørstad – DNV GL Oil and Gas

Consequences are

- Environmental
- Economical
- Personnel
- Delivery to market
- Reputational
- Political

Uncertainty

- Parameter Uncertainty
- Completeness Uncertainty
- Model Uncertainty

Arctic Climate is changing and ice is melting

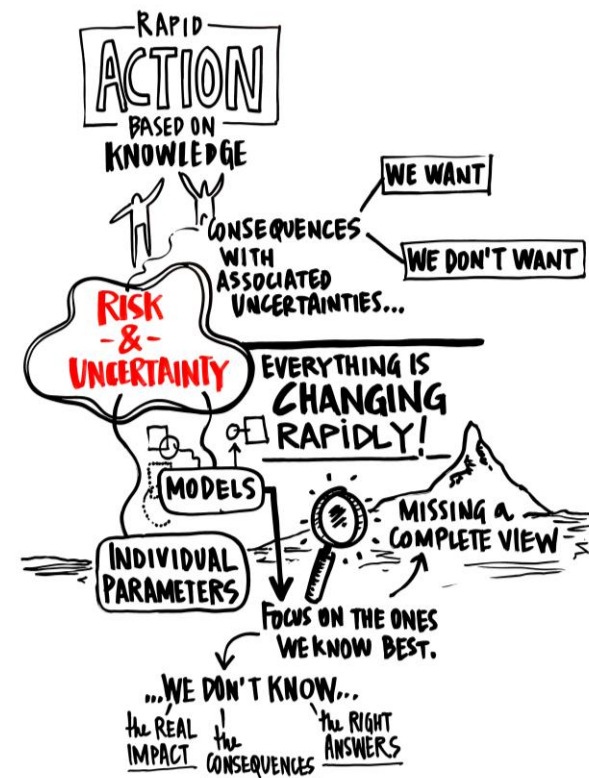
- Surface and sea conditions change
- Significant wave heights change by 2050s over the entire Arctic region



Defining the scope of the risk assessment

Selecting models and methodologies and making judgments

Choosing Risk measures to summarize findings and allow comparison of risk



"Risk means the consequences of the activity with associated uncertainty."

Petroleum Safety Authority Norway (2015)

The context

The Arctic is a **complex region in which to do business**, from many points of view including regional and geopolitical influences, environmental operating challenges, stakeholder interests and perceptions, investment, etc.

Already the Arctic Business Council (ABC) has initiated several collective projects and delivered some concrete results. Now we have the opportunity to increase our ambition by sharpening our focus.

Exploring an Arctic business platform

- What areas of uncertainty are currently most important for doing business in the Arctic, and what are the associated risks?
- How could the ABC platform help to reduce the uncertainty and hence minimize the risk?
- Specifically, how might it help to operate from a collective platform rather than as individual companies?

- ① BEST PRACTICES
- ② ENGAGEMENT
- ③ INVESTMENT
- ④ KNOWLEDGE & DATA
- ⑤ EMERGENCY PREPAREDNESS

Context and reasons to have a business platform

CONTEXT

NEED TO
IDENTIFY
and ENGAGE
ALL THE BUSINESSES
INVOLVED

↓
LOCAL
STAKEHOLDERS
WHAT'S IN IT
FOR THEM?

TOO MANY
MOVING PARTS
TO THINK ABOUT
LONG TERM
INVESTMENTS
IN INFRASTRUCTURES

DECISION-MAKING
BASED ON EMOTION
RATHER THAN REAL DATA

AMBIGUITY in
RULES of
ENGAGEMENT
(DIFFERENT RULES
FOR DIFFERENT PLAYERS)

REASONS to HAVE a PLATFORM

- REPUTATION and SHARED GOALS
- ENGAGE WITH WIDEST STAKEHOLDERS AS ONE ENTITY
- HAVING SUCCESS STORIES (DECOUPLE INFRASTRUCTURE FROM CONSUMERS)
 - ↳ LEAD COLLECTIVE INFLUENCE and TAKE DECISIONS
- DATA to BETTER UNDERSTAND CONSEQUENCES
- BETTER USE OF RESOURCES (EFFICIENCY)
- IDENTIFY COMMON GROUND FOR CONVERSATIONS
 - NGOs — BUSINESS } TALK TOGETHER
 - PUBLIC — SCIENTISTS }
- PUBLIC/PRIVATE TOGETHER
- PUT IN PLACE WORKING SOLUTIONS RATHER THAN PERFECT (and LOOK at WHAT'S HAPPENING IN OTHER CONTEXTS)
- LINK BUSINESS and PEOPLE REQUIREMENTS
- IDENTIFY DIFFERENCES in RULES and SHARE THEM
- CROSS-INDUSTRY CLUSTER → REDUCE RISKS

The voice of a coast guard

Ottar Haugen – Norwegian Coast Guard

The Arctic is a **fascinating and contrasting place**; rapid effects of climate change, vast distances, clean air, surprisingly diverse wildlife, extreme differences between seasons. This result in unpredictable uncertainties that (should) keep everybody operating in the Arctic on their toes.

The area offers **great economic opportunities**, and the trends are clear; marine life is moving north, there are more and more cruise and merchant vessels venturing further into previously (almost) unavailable areas, and prospects of extracting energy and mineral resources seem more viable.

Increased activity comes with great obligation. We need to be wise. Contingency planning and search and rescue capabilities and capacities need to be up to speed on increased activity. Examples of maritime accidents in Arctic and Antarctic waters show that we have been just inches off major catastrophes involving the potential loss of hundreds and thousands of human lives.

In conclusion, one cannot conquer nature, and in particular the Arctic.



Arctic Business Council 2017 initiatives

Defined initiatives with leads

- Develop Arctic Sustainable Development Goals (SDGs) relevant to Arctic industries (*Paul Holthus, World Ocean Council*)
- Develop a common narrative on behalf of all industries (*Sturla Henriksen, Norwegian Shipowners' Association*)
- Engage and partner with existing arenas and platforms such as the Arctic Economic Council (*Sturla Henriksen*)
- Secure international cooperation to share experiences and best practices on emergency preparedness, search and rescue (*Tor Husjord, Maritime Forum North*)

Other proposed initiatives

- Catalysing the Arctic Investment Protocol through endorsements and further development of an investment vehicle
- Building trust through vertical dialogue. Interact with local communities
- Creating trust, by using data, look for consensus. Use scientists to help finding common ground
- Liaise with Centre for Integrated Remote Sensing and Processing for Arctic Operations (CIRFA)
- Establish public-private partnerships to develop digital infrastructure
- Demonstration project: multi-mission data and information services for Arctic operations (*Jan-Peter Pedersen, KSAT*)

POSSIBLE INITIATIVES



White space – blue future



Børge Brende – Norwegian Minister of Foreign Affairs

The opportunities of the blue economy are presently becoming more and more visible. We have so far just seen the tip of the iceberg. The potential is huge as proteins from the oceans can help feed the world in a more sustainable manner, transport corridors can help make transportation of goods and even passengers more efficient and robust, conventional and renewable sources of energy can help power the world, and minerals in the seabed can provide much needed input to industrial processes.

The future of the Arctic is very much interlinked to the future of the oceans. However, there is not and nor should there be a race to the Arctic. Cooperation and public-private partnerships are necessary in order to explore the possibilities while at the same time protect and safeguard a fragile ecosystem and rich cultures.

In Norway, we see a ***need to develop the Arctic*** based on the specificities of the Arctic so that we create robust and sustainable win-wins.

Arctic Business Council

Tromsø, 24th January 2017

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