

# Arctic Ship Traffic Data (ASTD) project: Cover Letter: Information Paper; and MOU regarding Data Sharing

2017-02

## Protection of the Arctic Marine Environment (PAME)

Arctic Council Secretariat

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Arctic Ship Traffic Data Sharing

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Protection of the Arctic Marine Environment (PAME) Working Group

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## MEMORANDUM OF UNDERSTANDING

Among

THE ARCTIC STATES, regarding  
ARCTIC SHIP TRAFFIC DATA SHARING

1. PARTICIPANTS: The Participants to this Memorandum of Understanding (“MOU”) are the undersigned Arctic States: Canada, the Kingdom of Denmark (including Greenland and the Faroe Islands), Finland, Iceland, Norway, Russian Federation, Sweden and the United States of America. When referred to collectively herein they are “the Participants”; each of the States may individually be referred to herein as a “Participant.”

2. REFERENCES: The Protection of the Arctic Marine Environment Working Group’s [Work Plan 2015-2017](#), the [Arctic Marine Shipping Assessment Report \(2009\)](#), the [Arctic Ocean Review Final Report \(2013\)](#), and the [Arctic Marine Strategic Plan 2015-2025](#).

3. PURPOSE: The purpose of this MOU is to describe and define the general conditions for the intended sharing of Arctic Shipping Data among the Participants.

3.1. BACKGROUND: The Arctic Ship Traffic Data (ASTD) Project is an initiative of the Arctic Council’s Working Group on the Protection of the Arctic Marine Environment (PAME) and is based in part on the Arctic Marine Shipping Assessment Report (AMSA 2009) and its 2005 shipping database. The purpose of the ASTD Project is to collect information about shipping activity in the Arctic (“Data”) from the Participants to use for traffic trend analyses and related purposes under the realm of the Arctic Council. Project objectives are to develop a long-term, sustainable collection of Arctic shipping activity information consisting of a Data repository that includes ship traffic and related information provided by the Participants and a web application/tool to extract information from the repository, allowing for periodic trend analyses.

3.2. DATA TO BE SHARED: Each Participant intends to provide the Data which it deems to be relevant to this MOU to the Data repository specified in section 3.1 and to make this Data available to all the other Participants using the technical data exchange network (“the Network”) that is created under this MOU. It is anticipated that the Data will typically include, but not be limited to, Automatic Identification System (“AIS”) vessel tracking information from SOLAS vessels and other vessels carrying AIS transponders, port arrival/departure information and other pertinent ship traffic data as decided by the Participants. The Data may be provided in real time, from historical data registries, or from aggregated statistical data sources as decided by the Participants, but not presented in real time. The Participants intend to share the Data on a regular basis.

3.3. OWNERSHIP OF DATA: The Participants intend to share the data described

in section 3.2 with each other without limitation so long as used within the scope of the ASTD Project. Nothing in this MOU affects any right, title or ownership interest in and to the Data that each Participant may have under its domestic law, nor does it prevent a Participant from sharing the Data it provides under this MOU with any other entity under whatever terms and conditions it may deem appropriate. Each Participant intends to ensure that any Data it provides under this MOU does not infringe upon any patent, trademark, copyright or other intellectual property ownership rights and interests.

- 3.4. USE OF SHARED DATA: Any Data that the Participants make available under this MOU is intended to be used for purposes of Arctic Council work and for the benefit of the Arctic States including: (i) protection of the marine environment; (ii) safety of navigation, maritime safety and security; (iii) vessel traffic services; (iv) port state control; (v) marine planning; (vi) search and rescue; (vii) accident investigation; (viii) pilotage; and (ix) customs surveillance. Commercial use of the data under this MoU is prohibited.
- 3.5. ACCESS TO SHARED DATA: The Data is to be accessed and shared only as provided in Attachment One and pursuant to a signed Form for a Standard Arrangement on Access to and Use of ASTD Data (refer to Attachment One). To the extent that any Participant is required by law to make the Data available for any purpose not described in this MOU and Attachment One, that Participant intends to notify the PAME International Secretariat and all other Participants prior to any such disclosure and to provide reasonable opportunity for other Participants to indicate whether their Data should be withheld from public disclosure. Any such disclosure is to take place only in accordance with a signed "data sharing arrangement," in form comparable to the one attached hereto as Attachment Two.

#### 4. ROLES OF THE PARTICIPANTS AND RESPONSIBILITIES OF THE PAME INTERNATIONAL SECRETARIAT:

##### 4.1 Each Participant intends to:

- 4.1.1 Obtain whatever authorizations and approvals are necessary to participate in this MOU and in the Network.
- 4.1.2 Restrict its use and distribution of the Data it receives from the Network in accordance with any and all distribution and restriction policies that may be required by the Participant that provides the source data.
- 4.1.3 Pay its annual *pro rata* share, distributed evenly among the Participants, of the costs necessary to create, manage, administer and operate the Network. In the event that entities other than Participants make contributions to the costs of constructing, managing, administering and operating the network, each Participant's annual *pro rata* share will be proportionately

reduced by deducting the total amount contributed by these entities in a given calendar year from the total amount that the Participants collectively would otherwise have been asked to contribute that year, and calculating a reduced *pro rata* share. The PAME International Secretariat will make this calculation. Each Participant's reduced annual *pro rata* share will be paid in the calendar year following the year in which the contributions from entities other than Participants were received.

- 4.1.4 Timely remit those funds necessary to construct, manage, administer and operate the Network, as described in Attachment Three, hereto, to the PAME International Secretariat.
- 4.1.5 Take all actions necessary to ensure the accuracy and integrity of the Data it submits under this MOU.
- 4.1.6 Honor all guidelines and reasonable restrictions imposed by the Network Manager with respect to use of the Network. The Network Manager is the Norwegian Coastal Administration.
- 4.1.7 Abide by all of the provisions of this MOU for as long as it is a Participant.

4.2 The Participants intend the PAME International Secretariat to be responsible for:

- 4.2.1 administrative support for and oversight of this MOU and the associated technical data exchange that occurs under this MOU;
- 4.2.2 administration of access to the Network in collaboration with the Network Manager as described in Attachment One; and
- 4.2.3 receipt of financial contributions made under section 4.1.4 and transfer of those contributions to the Network Manager to cover the costs of constructing, managing, administering and operating the Network.

## 5. POINTS OF CONTACT:

- 5.1. Each Participant intends to designate one or more "Contact Persons" for purposes of this MOU and the Network. A list of Contact Persons is shown in Attachment Four, hereto.
- 5.2. The Participants intend that the PAME International Secretariat will maintain an accurate and up-to-date list of names and contact details for Contact Persons.
- 5.3. Any change intended to be made by a Participant to its designated Contact Person(s) is to be submitted to the PAME International Secretariat at the following e-mail: [pame@pame.is](mailto:pame@pame.is). The Participants request that the PAME International Secretariat timely notify all Participants of any changes to the list of Contact Persons.

## 6. OTHER PROVISIONS:

- 6.1. **PRIVACY:** The Participants intend to treat any Data submitted to the Network that contains Personally Identifiable Information or otherwise raises any privacy concerns in accordance with their respective national privacy laws.
- 6.2. **REVIEW:** The Participants intend to review this MOU at each PAME Working Group annual fall meeting (PAME-II), or at any other occasion as decided by consensus.
- 6.3. **DISPUTES:** The Participants intend to resolve any disputes relating to this MOU by consultations amongst themselves. Should this prove infeasible, the Participants intend that one or more of them may elevate the dispute to the Senior Arctic Officials for resolution.
- 6.4. **FORCE MAJEURE:** The Participants do not intend that any of them is to be liable for any unforeseeable event beyond its reasonable control not caused by its fault or negligence, which causes that Participant to be unable to carry out its intentions under this MOU, including, but not limited to, flood, drought, earthquake, storm fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civic disturbance or disobedience, strikes, labor dispute, or failure, threat or failure, or sabotage, or any order or injunction made by a court or public agency. In the event of the occurrence of such a Force Majeure event, the Participant unable to perform intends to promptly notify the other Participants in writing. Each Participant further intends to use its best efforts to resume performance as quickly as possible and to suspend its participation only for such period of time as is necessary as a result of the Force Majeure event.
- 6.5. **WARRANTIES:** With regard to the Network and the Data transmitted over it, the Participants do not intend to make any express or implied warranties as to any matter whatsoever, including the availability, accuracy, or reliability of any information or data, whether tangible or intangible, made, developed or supplied under this MOU, or the ownership, merchantability, or fitness for a particular purpose of the information, of the data made, developed or supplied under or pursuant to this MOU.
- 6.6. **ENTIRE MOU:** The Participants intend that this MOU embodies their entire understanding regarding the MOU's subject matter.
- 6.7. **INTERNATIONAL LAW:** The Participants do not intend this MOU to be binding under international law.
7. **COMMENCEMENT DATE:** This MOU commences on the day after the date on which the last of the eight Participants have signed this MOU and remains in operation unless and until it is discontinued.
8. **REVISION/UPDATING:** The Participants intend that any modifications or revisions to this MOU are to be done only by mutual written understanding of the Participants.

9. Nothing in this MOU precludes the Participants from deciding at a later date to modify or revise this MOU to allow Permanent Participants and Arctic Council Observers to participate in and contribute to this data sharing project at a more in-depth level than the access options described in Attachment Two.

10. DISCONTINUATION: Any Participant may discontinue its participation by providing at least 30 days prior written notice to all of the other Participants. Discontinuation by a Participant does not affect the ongoing operation of the MOU. Participants intend for discontinuation of the MOU to occur only when the Participants mutually decide in writing to do so.

SIGNED BY: PARTICIPANTS

Date: \_\_\_\_\_

Senior Arctic Official for Canada Alison LeClaire	Senior Arctic Official for Finland Aleksi Härkönen
Senior Arctic Official for Iceland Arni Thor Sigurdsson	Senior Arctic Official for Kingdom of Denmark Hanne Fugl Eskjær
Senior Arctic Official for Norway Anniken Ramberg Krutnes	Senior Arctic Official for Russian Federation Vladimir Barbin
Senior Arctic Official for Sweden Andrés Jato	Senior Arctic Official for United States of America Julia L. Gourley

**ATTACHMENT ONE**

**Form for a Standard Arrangement on Access to and use of ASTD Data**

*(Refer to paragraph 3.5 in the MoU above)*

**I. BACKGROUND:**

This document outlines the exchange of ship traffic Data in the Arctic through the Arctic Council Ship Traffic Database (ASTD). The ASTD builds on the Havbase platform which is operated by the Norwegian Coastal Administration (NCA) and is compatible with other systems such as the Arctic Spatial Data Infrastructure (Arctic-SDI) platform and the Arctic biodiversity data service. The Data from the ASTD (herewithin referred to as the “System”) will be shared by and among the Arctic States and other entities as set forth in this Attachment and the *Memorandum of Understanding Among the Arctic Council Member States regarding Arctic Ship Traffic Data Sharing (ASTD MOU)*.

The Data will be accessed through the Havbase system which will be adapted and “tailor made” to meet the requirements and needs of the ASTD. Data will be stored on secure and dedicated servers as part of the Network described in the ASTD MOU, for which the NCA is the Network Manager. The ASTD expert group members in coordination with the PAME Shipping Expert Group Co-Chairs and with the concurrence of the PAME Heads of Delegations will decide which users will gain access, and the type of access granted. The PAME International Secretariat will act as administrator for user access.

**II. USER ACCESS LEVELS:**

There are four access levels to the System as defined in the table below. The Arctic States intend that the PAME International Secretariat will act as the administrator in close collaboration with the Norwegian Coastal Administrations’ Havbase team.

<b>USERS AND ACCESS LEVELS</b>
<b>LEVEL 1:</b> Arctic States that are current on their annual <i>pro rata</i> share financial contributions.
<p>LEVEL 1 access means access to all data in the database for analysis under the auspices of the Arctic Council. The data will include:</p> <ul style="list-style-type: none"> <li>✓ UTC timestamp of position report</li> <li>✓ Vessel identity; Maritime Mobility Service Identity (MMSI) number and International Maritime Organization (IMO) ship identification number</li> <li>✓ Latitude and longitude</li> <li>✓ Speed over ground</li> <li>✓ Course over ground</li> <li>✓ Detailed Ship type for each ship sailing, 49 ship types included</li> <li>✓ Emission data for each ship</li> <li>✓ Tonnage,</li> <li>✓ Size</li> <li>✓ Engine data,</li> <li>✓ Tank volumes, and</li> </ul>

✓ Anticipated main fuel types

LEVEL 1 data may be accessed only by means of a request to the PAME International Secretariat.

To allow each Participant to withhold Data it has provided under this MOU as described in section 3.5, the PAME International Secretariat will notify all Participants of each LEVEL 1 request before distributing any data. If a Participant does not object to the inclusion of its Data in what has been requested within 28 calendar days after notification by the PAME International Secretariat, the PAME International Secretariat will download and transmit the requested data once the requester signs a Data Sharing Arrangement (Attachment Two).

If within 28 calendar days after notification by the PAME International Secretariat of a LEVEL 1 request a Participant objects to the inclusion of its Data in what has been requested, its Data will not be included in the requested data, which will be downloaded and transmitted by the PAME International Secretariat as described above.

**LEVEL 2:** Arctic States that are current on their annual *pro rata* share financial contributions;

LEVEL 2 provides access to the same data as is available under LEVEL 1 *except* that vessel identity data (MMSI, IMO ship identification number and ship name) is not included.

The distinction between LEVEL 1 and LEVEL 2 Access is that under LEVEL 2 Access, the Arctic State receives a username and password from the PAME International Secretariat to access the database directly.

To allow each Participant to withhold Data it has provided under this MOU as described in section 3.5, the PAME International Secretariat will notify all Participants of each LEVEL 2 request before providing the requestor with a username and password. If a Participant does not object to the inclusion of its Data in a LEVEL 2 request within 28 days after notification by the PAME International Secretariat, the PAME International Secretariat will provide the requestor with a username and password to access the database once the requester signs a Data Sharing Arrangement (Attachment Two).

If within 28 days after notification by the PAME International Secretariat of a LEVEL 2 request a Participant objects to the inclusion of its Data in what has been requested, its Data will not be included in what the requestor will be able to access after signing a Data Sharing Arrangement (Attachment Two) and receiving a username and password from the PAME International Secretariat.

**LEVEL 3:** Arctic States that are not current on their full annual *pro rata* share financial contributions; Permanent Participants; Arctic Council Subsidiary Bodies; Arctic Council Observers that have made a financial contribution of an amount decided by PAME member governments to the administration, maintenance and operation of the Network

LEVEL 3 access means access to the same data as is available under LEVEL 2 *except* that ship type information is aggregated into 13 ship types instead of 49 ship types.

The PAME International Secretariat will notify all Participants of each LEVEL 3 request. LEVEL 3 access may be granted only if there is consensus to do so among all Participants. If no Participants objects to the LEVEL 3 request within 28 calendar days after notification by

the PAME International Secretariat, the requestor will receive a username and password after it has signed a data sharing arrangement (Attachment Two)

A Participant may request LEVEL 3 access on behalf of an accredited academic institution or other recognized research entity under the terms and conditions described in the MOU and this section, the signing of a data sharing arrangement (Attachment Two), and the payment of a financial contribution by the academic institution or research entity in an amount to be decided by PAME.

**LEVEL 4:** General public, open viewing online.

Level 4 access means access that is available to the general public online. No data can be downloaded with Level 4 access; only limited high-level aggregated information is available for viewing.

**ATTACHMENT TWO  
SAMPLE OF A DATA SHARING ARRANGEMENT**

<b><u>Requester</u></b>	<b><u>Data Provider</u></b>
Agency Name:	Agency Name:
Data User:	Custodian:
Title:	Title:
Address:	Address:
Phone:	Phone:
E-mail:	E-mail:

**I. PURPOSE**

In this section, both signatories are to state in non-technical language the purpose(s) for which they are entering into the data sharing arrangement, i.e., how the Data will be used, what research or studies will be performed, or what the desired outcomes are perceived to be as a result of obtaining the Data. The Data may only be used for research and/or analytical purposes as stipulated in paragraph 3.4 of the MOU. As provided in paragraph 3.4 of the MOU, commercial use is not allowed in any form.

Any and all Data shared under this Arrangement is subject to all applicable requirements regarding privacy and confidentiality that are described herein.

**II. PERIOD OF ARRANGEMENT**

The period of arrangement extends from \_\_\_\_\_ to \_\_\_\_\_

**III. JUSTIFICATION FOR ACCESS**

In this section, the requestor provides justification under the terms and conditions of the MOU for access to the Data

**IV. DESCRIPTION OF DATA**

In this section, the signatories provide specific detailed information concerning the Data to be accessed or shared.

**V. METHOD OF DATA ACCESS OR TRANSFER**

In this section, a description of the method of Data access or transfer is provided.

**VI. LOCATION OF MATCHED DATA AND CUSTODIAL RESPONSIBILITY**

The signatories understand that one Agency/body will be designated as “Custodian” of the file(s) and will be responsible for the observance of all conditions for use and for establishment and maintenance of security protocols as specified in this arrangement to prevent unauthorized use. Where and how the Data will be stored and maintained will also be specified in this section.

Each signatory represents and warrants further that, except as specified in an attachment or except as authorized in writing, that such Data is not to be disclosed, released, revealed,

showed, sold, rented, leased, loaned, or otherwise have access granted to the Data covered by this arrangement to any person. Access to the Data covered by this arrangement is to be limited to the minimum number of individuals necessary to achieve the purpose(s) stated in this section and to those individuals on a need-to-know basis only.

However, any aggregated data products that are used for assessments, analysis and other relevant reports may be shared and should be accessible to Arctic States and the PAME International Secretariat for other usages.

Any use of Data from the Arctic Ship Traffic Database is to be referenced accordingly.

**VII. CONFIDENTIALITY**

The requestor commits to establishing appropriate administrative, technical, and physical safeguards to protect the confidentiality of the Data and to prevent unauthorized use of or access to it.

**VIII. DISPOSITION OF LEVEL 1 DATA**

The requestor and its agents are to destroy all confidential information associated with actual records as soon as the purpose(s) of the project have been accomplished and notify the PAME International Secretariat and its dedicated contact person. When the project is complete, the requester is to:

1. Destroy all hard copies containing confidential data;
2. Archive and store electronic data containing confidential information off line in a secure place, and delete all on line confidential data; and
3. Erase or maintain in a secured area all other data.

**IX. RESOURCES**

The types and number of personnel involved in the Data sharing project, the level of effort required, as well as any other non-personnel resources and material, which are required, are to be listed here.

**X. NONCOMPLIANCE**

Any noncompliance with this arrangement may result in immediate termination of this arrangement, immediate suspension of access to Data, and the automatic denial of any future requests to access Data. If access to Data is suspended, no refund or reimbursement will be made of any previous financial contribution.

**XI. SIGNATURES**

In witness whereof, the PAME Chair is designated to execute this arrangement effective with this signing for the period set forth in Article II.

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(Name)

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(Title)

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(Date)

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**ATTACHMENT THREE****NETWORK COSTS****ESTIMATED PRO-RATA SHARES**

Currently estimated annual Network costs (denoted in U.S. dollars), including the annual *pro rata* share for each Participant's financial contribution, are set forth in the table below.

	Timeframe				
	Year 1	Year 2	Year 3	Year 4	Year X
Development costs:	134.000				
Annual running costs:		28.000	28.000	28.000	28.000
<b>Total estimated annual costs:</b>	<b>134.000</b>	<b>28.000</b>	<b>28.000</b>	<b>28.000</b>	<b>28.000</b>
<b><i>Estimated annual costs per Participant:</i></b>	<b><i>19.000</i></b>	<b><i>4.000</i></b>	<b><i>4.000</i></b>	<b><i>4.000</i></b>	<b><i>4.000</i></b>
<b><i>Total costs after 4 years of operation:</i></b>				<b><i>246.000</i></b>	
<p><i>*Norway's yearly contribution is deducted accordingly as requested by Norwegian Coastal Administration, to simplify the cost sharing of the system. Norway has operated and developed Havbase for several years and will continue to maintain and improve the system which will benefit this project with continual and additional costs for Norway. However, Norway will pay its equal share of the costs as a member State of the Arctic Council but as a measure to simplify the paying procedure.</i></p>					

**Annual Running Costs:**

Running costs include administration, data storage, maintenance, operation, change and update of hardware and other related aspects. It will also cover license fees and upgrades to key software components when technology is outdated. Current estimated total annual running costs are \$28.000 USD.

**ATTACHMENT FOUR**  
**DESIGNATED CONTACT PERSONS**

<b>Country</b>	<b>ASTD Designated Contact Persons</b>	<b>ASTD Designated Technical Experts</b>
<b>USA</b>	Peter Oppenheimer Chief International Section Office of General Counsel National Oceanic and Atmospheric Administration <a href="mailto:peter.oppenheimer@noaa.gov">peter.oppenheimer@noaa.gov</a>	Brian Page US Coast Guard – Office of Communication and Sensors Capabilities (CG-7611) <a href="mailto:Robert.B.Page@uscg.mil">Robert.B.Page@uscg.mil</a>
<b>Norway</b>	Anja Elisenberg Senior Adviser Ministry of Climate and Environment <a href="mailto:ae@kld.dep.no">ae@kld.dep.no</a> Tel: +47 22245806	Jon Arve Royset Senior Advisor The Norwegian Coastal Administration <a href="mailto:jon.arve.royset@kystverket.no">jon.arve.royset@kystverket.no</a> Tel: +47 37019760 Mob: +47 90137505
<b>Kingdom of Denmark</b>	Pernille Palmelund Sørensen (SFS) Head of Section Danish Maritime Authority Maritime Regulation and Legal Affairs <a href="mailto:PS@dma.dk">PS@dma.dk</a> Tel: +45 72 19 63 12 Mobile: +45 91 37 63 12	Mads Bentzen Billesø Danish Maritime Authority <a href="mailto:MCB@dma.dk">MCB@dma.dk</a> Tel: +45 9137 6329
<b>Russia</b>	Natalia Kutaeva (TBC) Marine Rescue Service of Rosmorrechflot (MRS) <a href="mailto:kutaevang@morspas.com">kutaevang@morspas.com</a>  Konstantin Dashko (TBC) Federal State Budgetary Institution West Arctic Sea Ports Administration <a href="mailto:dashko_kv@mail.ru">dashko_kv@mail.ru</a>	Yuriy Ryzhuk Deputy head, Exploitation unit, Directorate of marine navigation safety and transportation safety, Federal enterprise “Rosmorport”  Phone: +7 495 411-77-59 (ext. 1702) Fax: +7 495 221-30-81 E-mail: <a href="mailto:y.ryzhuk@rosmorport.ru">y.ryzhuk@rosmorport.ru</a>
<b>Canada</b>	Drummond Fraser Transport Canada <a href="mailto:drummond.fraser@tc.gc.ca">drummond.fraser@tc.gc.ca</a>	Patrice Côté Transport Canada <a href="mailto:Patrice.cote@tc.gc.ca">Patrice.cote@tc.gc.ca</a>
<b>Finland</b>	Anita Makinen Finnish Transport Safety Agency <a href="mailto:anita.makinen@trafi.fi">anita.makinen@trafi.fi</a>	Kaisu Heikonen Finnish Transport Agency <a href="mailto:kaisu.heikonen@fta.fi">kaisu.heikonen@fta.fi</a>
<b>Iceland</b>	Helga Jónsdóttir Ministry for the Environment and natural resources <a href="mailto:helga.jonsdottir@uar.is">helga.jonsdottir@uar.is</a>	Greipur Gísli Sigurðsson Icelandic Road and Coastal Administration (IRCA) <a href="mailto:ggs@vegagerdin.is">ggs@vegagerdin.is</a>
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