32th NSHC meeting
21 - 23 June 2016
Dublin, Ireland

Report of the Baltic Sea – North Sea Marine Spatial Data Infrastructures Working Group

(BS-NSMSDIWG)

Jens Peter Hartmann BS-NSMSDIWG Chair

Baltic Sea – North Sea Marine Spatial Data Infrastructure WG (BS-NSMSDIWG)

BALTIC SEA HYDROGRAPHIC COMMISSION

NS HC

NORTH SEA HYDROGRAPHIC COMMISSION

The BSHC at its 20th Conference approved a request from NSHC to expand the BSMSDIWG also to include the NSHC in a dual MSDI WG.

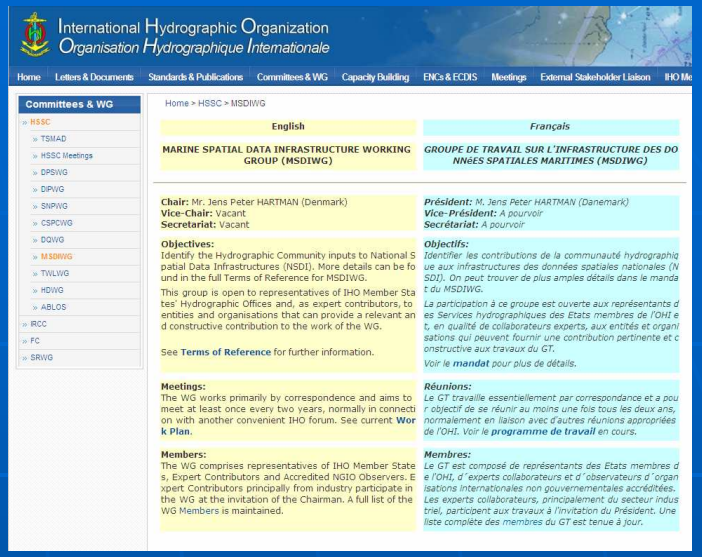
The Working Group should:

- Identify and analyse the current status of individual MS MSDI implementation.
- Consider MSDI policies within the related international project e.g. e-navigation, ICZM, INSPIRE, MSP, EU Integrated Maritime Strategy, the Marine Strategy Framework and EU Strategy for the Baltic Sea Region.
- Analyse how maritime authorities can contribute their spatial information and the necessary updates, so information can easily be collated with other information to a current overall picture for the region.
- Focus on how BSHC in the future can benefit from a regional approach.
- Monitor the development of SDI that could be relevant for the Baltic Sea.
- To present a yearly report to the BSHC and a report to NSHC every second year at their meeting. This report should include a description on the current status, recommendations on how to proceed with the MSDI implementation and if deemed necessary an action plan with specified time schedule for future BSHC and-NSHCMSDI actions.

BS-NSMSDI Draft Work Programme

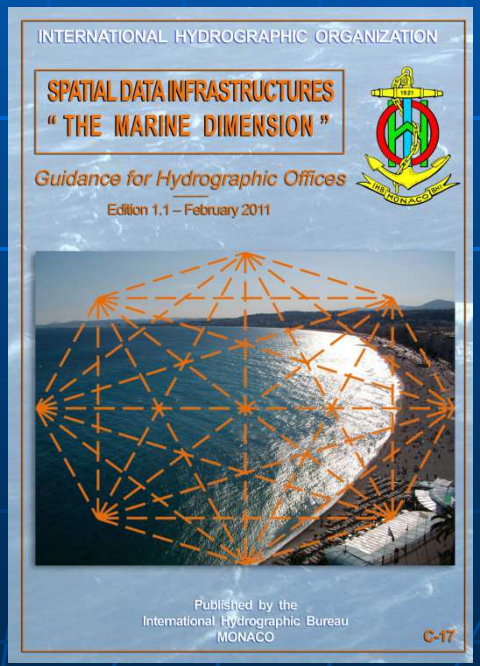
Theme	Subject	Responsible action item
Task 1. Work item: Common understanding	- Establish a framework for common understanding of MSDI - The opportunities and challenges from a national and regional MS perspective - Definition of HO role in MSDI	1
Task 2. Work item: Liaison with external projects	- Identify relevant use cases for MSDI - Analyse the user need for relevant HO data set	2,3,4,5,6,7,8,9
Task 3. Work item: S 100	- Conduct a study on S-102 from a MSDI perspective (Non navigation) - Evaluate on how to promote S-100 in the Baltic and North Sea	10,11,12
Task 4. Work item INSPIRE	- Study on IHO standard S 57 in relation to INSPIRE - The difference between S 57 and S 100 - Identify the challenges with S-102 on interoperability with INSPIRE	13,14,15
Task 5. Work item: Hydrographic data and legal aspects	- Study on status on implementation and responsibility with relevance to MSDI in the Baltic and North Sea countries	16
Task 6. Work item: Pilot projects/demonstration	- Study on the possibility to establish BS-NSMSDI WEB pages - Demonstration project - WEB GIS demonstrator with BS-NS HO datasets	17,18,19,20, 21

IHO - MARINE SPATIAL DATA INFRASTRUCTURE WORKING GROUP (MSDIWG)



Key objectives:

- Advise Member States on their roles in National Spatial Data Infrastructures (NSDI)
- Identify actions and procedures that the IHO might take to contribute to the development of SDI and / or MSDI in support of Member States



IHO MSDIWG Meeting

The sixth meeting of IHO Marine Spatial Data Infrastructures Working Group (MSDIWG) took place in Tokyo, Japan, hosted by JCG from 27-29 January 2016. The outcome of the meeting is available from the IRCC section of the IHO Website under the MSDIWG.

The MSDIWG meeting was preceded firstly on 25 January by a Demonstration Workshop at which MSDIWG Expert Contributors showed how their software, hardware and tools can assist HOs develop capability to engage in MSDI and secondly on 26 January by a MSDI Open Forum meeting entitled "Contributing to the successful delivery of MSDI".

The aim of both events was to focus on MSDI and to propose ways to progress MSDI implementation within the Organisation and its Member States.

MSDIWG MS and RHC

MS / RHC	NHC	NSHC	MBSHC	BSHC	USCHC	EAHC	EAtHC	SEPRHC	SWPHC	MACHC	SAIHC	NIOHC	RSAHC	SWAtHC	ARHC
Argentina														X	
Australia									X						
Brazil										X				X	
Canada					X										X
Cuba										X					
Denmark	X	X		X											X
Estonia				X											
Finland	X			X											
France		X	X				X		X	X	X				
Germany		X		X											
Japan						X									
Nigeria							X								
Netherlands		X								X					
Norway	X	X									X				X
Portugal							X								
Republic of Korea						X									
Romania			X												
Slovenia			X												
Spain			X				X								
Singapore						X									
Ukraine			X												
UK		X							X	X	X	X			
USA					X				X	X					X

Body of Knowledge	*Le corpus de connaissances*

Marine SDI Documents:

Frequently Asked Questions on SDI
Capacity Building material on SDI
SDI Stakeholders
Hydrographic Data Policy for SDI (Best practices for Hydrographic Offices)
White Paper - The Hydrographic and Oceanographic Dimension to Marine Spatial Data Infrastructure Development Developing the capability (A contribution from the MSDIWG Experts Contributors)

Miscellaneous:

New Zealand Bathymetry Investigation Report (2015) >>>> NEW <<<<
MSP Governance Framework Report (2014)
Links to SDI websites
UN-GGIM: A Guide to the Role of Standards in Geospatial Information Management (2014)
UN-GGIM: A Guide to the Role of Standards in Geospatial Information Management - Companion document
UN-GGIM: Future trends in geospatial information management: the five to ten year vision (July 2013)
IHO-ONHG Seminar on Marine Spatial Data Infrastructures, La Havana, Cuba, 9 February 2009
EuroSDR-IHO Workshop on Land and Marine Information Integration, Dublin, Ireland, 21-23 March 2007 (Report)
IHO Marine SDI Workshop, Havana, Cuba, 12 February 2007
IHO SDI Seminar, Rostock, Germany, 8-9 November 2005
BLAST [Bringing Land and Sea Together] Project

Marine Spatial Data Infrastructures Working Group (MSDIWG)

SDI Geoportals

Last update: novembre 17, 2014

National SDIs:

Argentina		
Belgium	Brazil	Canada 1
Canada 2	Canada 3	Canada 4
Croacia	Denmark	Estonia
Finland	France	Germany 1
Germany 2	Great Britain	Iceland
Ireland	Italy	Latvia
Lithuania	Mexico	Netherlands
Northern Ireland	Norway	Poland
Portugal	Romania	Slovenia
Spain 1	Spain 2	USA 1
USA 2	USA 3	USA 4

Other SDIs:

EU Inspire	GEOSUR Portal	GOOS Glider Tracker
Open Geospatial Consortium 1	Open Geospatial Consortium 2	

SDI/MSDI OGC Related Standards

Visualisation & Portrayal
OGC/ISO 19128 Web Map Service (WMS)
OGC Web Map Tile Service (WMTS) 1.0
OGC Styled Layer Descriptor 1.1 (SLD)
OGC Web Map Context 1.1 (WMC)
OGC KML 2.2

Catalogue & Discovery
ISO 19115, Geographic information – Metadata
OGC Catalogue Services Specification 2.0.2 (CSW)
ISO Metadata Application Profile
OGC (ISO19115 Metadata) Extension Package of CS-W ebRIM4 Profile 1.0

Distributed Maintenance & Use (Technology)
OGC/ISO 19136 Geography Markup Language (GML)
OGC/ISO 19142 Web Feature Service 2.0
OGC/ISO 19143 Filter Encoding 2.0
OGC Web Coverage Service (WCS) 2.0

Geospatial Processing
OGC Web Processing Service (WPS)

Mobile Devices
OGC Open GeoSMS
OGC GeoPackage

Real Time
OGC/ISO Observations & Measurements Schema (O&M) / ISO 19156
OGC Observations and Measurements XML (OMXML)
OGC Sensor Model Language (SensorML)
OGC Sensor Observations Service (SOS)
OGC Sensor Planning Service (SPS)

Geosemantics
ISO 19150 Geographic information – Ontology

Domain Model standards (Content)
OGC CityGML
ISO 19144, Geographic information -- Classification systems
ISO 19152, Geographic information -- Land Administration Domain Model (LADM)
GeoSciML – Geological structure and bore holes
OGC WaterML 2.0 - Sharing in-situ sensor water observations
S-57/S-100 - IHO Transfer Standard for Digital Hydrographic Data

MARINE SPATIAL DATA INFRASTRUCTURE (MSDI) QUESTIONNAIRE

CIRCULAR LETTER 56/2015
6 August 2015

INTERNATIONAL HYDROGRAPHIC ORGANIZATION

ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

IHB File N° S3/8151/MSDIWG

CIRCULAR LETTER 56/2015
6 August 2015

MARINE SPATIAL DATA INFRASTRUCTURE (MSDI) QUESTIONNAIRE

Reference: Report of the MSDIWG to the IRCC7 (*doc. IRCC7-8E rev1*)

Dear Hydrographer,

1. The Inter-Regional Coordination Committee (IRCC), at its 7th meeting in June in Mexico City, approved the Terms of Reference for the Marine Spatial Data Infrastructure (MSDI) Working Group (MSDIWG) and consolidated the transfer of this body from the Hydrographic Standards and Services Committee (HSSC) to the IRCC. The Committee also approved the MSDIWG Work Plan for 2015-2020 (see Reference, Annex C). Work item A.1 of the MSDIWG Work Plan is to "*Set up a survey to establish current position in respect of benefits and challenges faced by Member States' role in National Spatial Data Infrastructure (NSDI) and / or MSDI*". In order to implement this task, the MSDIWG has decided to circulate a questionnaire initiated by Canada (Annex A).

2. Canada took the initiative early in 2015 and completed a short study to review the way a sample of comparable nations have developed an MSDI to support the distribution of navigational information to commercial shipping, recreational boaters, and the general public. The result of this survey will be reported to the eighth meeting of the IRCC by the MSDIWG next year, where several presentations will address best practices for MSDI.

3. In order to broaden the results of study, the MSDIWG has requested that the IHB issue a Circular Letter inviting full participation in the questionnaire. The Directing Committee invites Member States to complete and submit the questionnaire provided in Annex A to the Canadian Hydrographic Service (kian.fadaie@dfo-mpo.gc.ca) with copy to the MSDIWG Secretary, Mr. John Pepper (john.pepper@oceanwise.eu) at their earliest convenience and **no later than 15 October 2015**.

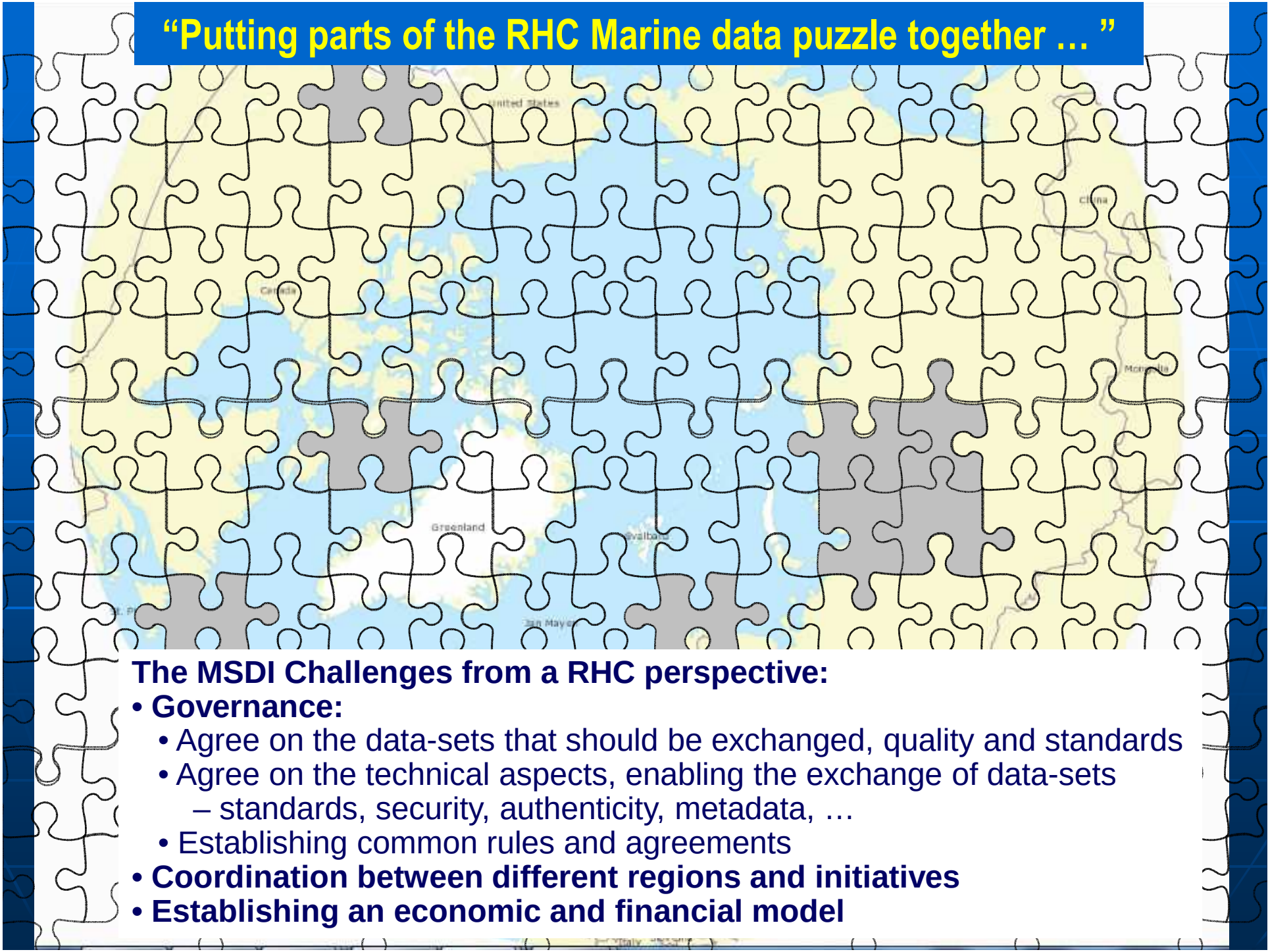
4. Noting that Canada has already collected this information from several countries those countries that have already responded, are not required to complete the questionnaire again.

On behalf of the Directing Committee
Yours sincerely,

Mustafa IPTES
Director

Annex A : Questionnaire on Marine Spatial Data Infrastructure (MSDI) Implementation.

“Putting parts of the RHC Marine data puzzle together … ”



The MSDI Challenges from a RHC perspective:

- **Governance:**
  - Agree on the data-sets that should be exchanged, quality and standards
  - Agree on the technical aspects, enabling the exchange of data-sets
    - standards, security, authenticity, metadata, …
  - Establishing common rules and agreements
- **Coordination between different regions and initiatives**
- **Establishing an economic and financial model**

The NSHC meeting is invited to

- take note of the report
- discuss the implication of MSDI from a HO perspective and how MS can benefit from a regional approach to MSDI
- discuss if information/status about MSDI should be included in the National report from MS to NSHC meetings