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

Technical Expert Group - MSP Data 23th November 2021



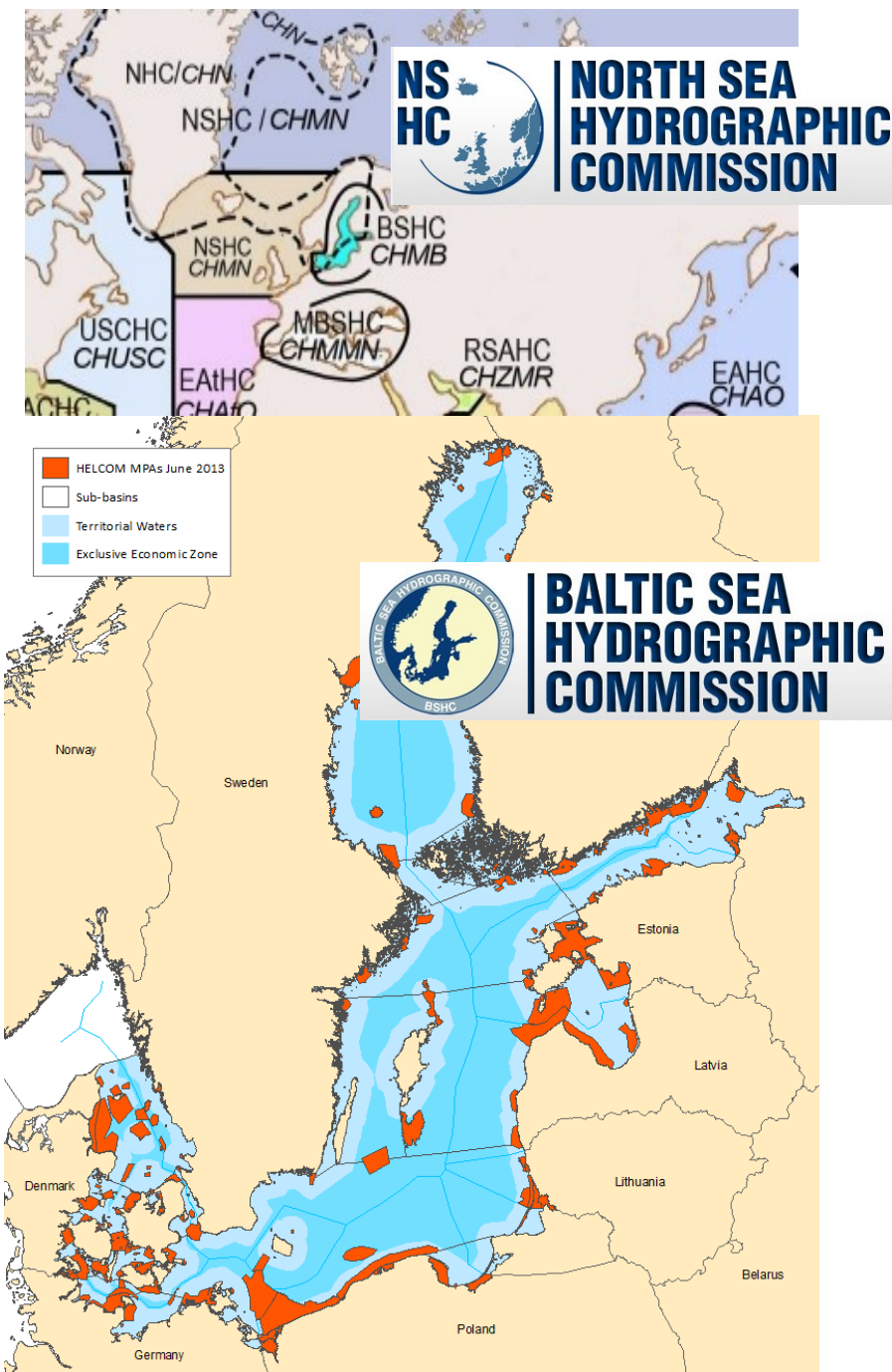
**BALTIC SEA
HYDROGRAPHIC
COMMISSION**



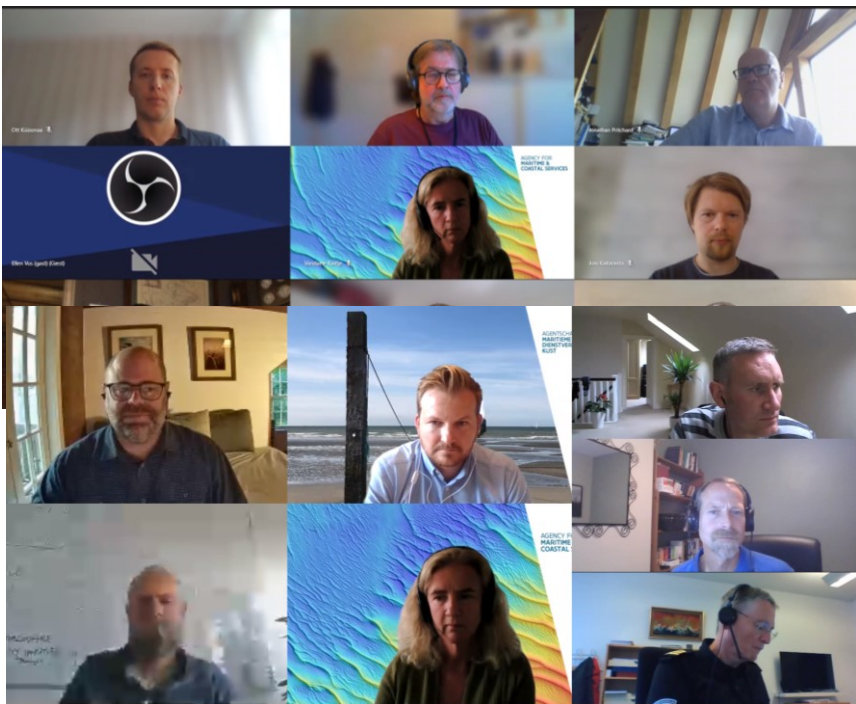
**NORTH SEA
HYDROGRAPHIC
COMMISSION**

The Baltic Sea and North Sea MSDI Working Group should:

- **Identify and analyse** the current status of individual MS MSDI implementation
- **Consider MSDI policies** within the related international project
- **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 and NSHC in the future can benefit from a regional approach**
- Monitoring MSDI and marine- related initiatives, as well as more general geospatial developments with relevance for the Baltic Sea.



List of participants at the online BS-NSMSDIWG9 meeting: September 1-2, 2021.



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External presenters			
NOAA	John Nyberg	john.nyberg@noaa.gov	
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OGC	Trevor Taylor	ttaylor@ogc.org	
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Invited			
MPA	Pearlyn PANG	Pearlyn_PANG@mpa.gov.sg	
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Do not participate			
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Germany	Patricia Slabon		
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Theme	Subject	Responsible action item
Task 1. Work item: Common understanding	<ul style="list-style-type: none"> - 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 	
Task 2. Work item: Liaison with external projects	<ul style="list-style-type: none"> - Identify relevant use cases for MSDI - Analyse the user need for relevant HO data set - Identify relevant EU projects and WG's with relevance for BS-NS MS 	
Task 3. Work item: S 100	<ul style="list-style-type: none"> - Conduct a study on visualization of S-100 datasets from a MSDI perspective (Non navigation) - Investigate the possibility to establish a regional S-121 testbed - Evaluate on how to promote S-100 in the Baltic and North Sea 	
Task 4. Work item INSPIRE	<ul style="list-style-type: none"> - 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 	
Task 5. Work item: Hydrographic data and legal aspects	<ul style="list-style-type: none"> - Study on status on implementation and responsibility with relevance to MSDI in the Baltic and North Sea countries 	
Task 6. Work item: Pilot projects/demonstration	<ul style="list-style-type: none"> - Study on the possibility to establish BS-NSMSDI WEB pages - Demonstration project (e.g. S-121 testbed and use of BS-NS MSDI datasets) - WEB GIS demonstrator with BS-NS HO datasets 	



**IHO**International
Hydrographic
Organization

Agenda for the BS-NSMSDIWG 9 online meeting. 1-2 September 2021

Theme	Time	Subject	Responsible
Welcome	1000 - 1030	Welcome, introduction of participants and practical information. Approval of agenda.	Chair
Status		Introduction to the MSDI Online Workshop 9 <ul style="list-style-type: none"> - Aims of the workshop and the meeting - Expected achievements - Status of Action list and Work program 	Chair
		Status on the MSDI work of IHO (MSDIWG) (Review of the papers circulated and responses to it)	Chair
National presentations. Presentations and discussions	1030 - 1230	National presentation from members on the status of MSDI related to: <ul style="list-style-type: none"> - The national SDI cooperation - INSPIRE - EMODnet - The framework for maritime spatial planning in Europe (MSP-directive) Presentations to include; what is the key successes and challenges within the four pillars (ref. C-17, 2.1. Policy and Governance, Technical standards, Information systems and Geographic content).	All BS-NSMSDIWG MS
		Discussion on how the BS-NSMSDIWG can support MS.	All
Lunch	1230 - 1300		
External stakeholders Presentations and discussions	1300 – 1320 1320 – 1340 1340 – 1400 1400 - 1420	Presentation from external stakeholders: <ul style="list-style-type: none"> - MSP Data ESG works - S-122 - OGC API Standards - Wend-100 	
	1420- 1445	Discussion on the how to proceed in a forward-looking perspect	
Evaluation and preparation	1445 - 1500	Evaluation and preparations for the second day	

Theme	Time	Subject	Responsible
Welcome	1000 - 1030	Welcome and the conclusions from Day One	Host/chair
Status		BS-NSMSDI WG Work plan and Action list - What are the outputs for each task?	Chair
		Action list - working on the tasks defined in the Action list.	Chair/All
National presentations. IHO Presentations and discussion	1030 – 1230	- National presentation from members on the status of MSDI. - IHO SPIs - New EU blue strategy	BS-NSMSDIWG MS Chair
Lunch	1230 - 1300		
Pilot project Presentations and discussion	1300 - 1430	Pilot project in the Baltic- and North Sea OGC Federated Marine Spatial Data Infrastructure Pilot (FMSDI). Discussion on how to proceed	Chair Trevor Taylor/ Rollin Phillips All
Work plan	1430 - 1445	Update of work plan and action list	All
	1445 - 1450	Any other business Next meeting	All
Closing	1450 - 1500	Closing of the online meeting	Chair



No.	Meeting/Work Task	Action	Responsible	Deadline	Status
4	1/2016	To prepare a presentation about S-100. Invite Johnathan Prichard to MSDIWG9	Germany/JP	MSDIWG9	Done
5	1/2018	To investigate the possibility to establish a pilot project with the focus on availability/distribution of different S-100 datasets.	Germany and Denmark	MSDIWG9	Done
7	1/2018	To create a discussion paper/presentation about process data models from a MSDI perspective with regards to IHO, MSP and INSPIRE, S-57 and S-100 and the need for harmonization	Germany	MSDIWG9	Ongoing
13	1/2019	To establish a MSDI BC and Indicators framework/template for general use. See IHO Webpage.	Denmark	MSDIWG9	Done
14	1/2019	⇒ Establish an EMODnet inf. paper dealing with the challenges from a hydrographic perspective	Norway	MSDIWG9	Ongoing
15	1/2019	To investigate what information about data encryption is releasable and send it to the MS.	UK	October 2019	Done
17	1/2019	To establish a project description of a S-100 testbed pilot project about distribution Done OGC Pilot project	Germany	MSDIWG9	Done
18	1/2019	To establish MSDI/MSP information platforms for the BS and NS	Denmark	MSDIWG8	Ongoing
21	1/2020	MS to investigate the possibility to participate in the new EMODnet call and report back to SHOM (Thierry.Schmitt@shom.fr)	All	October 2020	Done
22	1/2020	All MS to investigate their national approach to official (e.g. hydrographic) data and legally binding data/maps with relation to MSDI, SDI and MSP and report back.	All	MSDIWG9	Ongoing
23	1/2020	To follow the development of the UN-GGIM IGIF (water) model. ⇒ See 1/2021	Chair/UKHO	MSDIWG9	Done
24	1/2020	All MS to send links to their national MSDI and or MSP platform and URL to geospatial services	All	October 2020	Ongoing
25	1/2020	To establish a demonstration showing BS-NSMSDI data available	All	MSDIWG9	Ongoing
26	1/2020	To investigate the possibility to establish a regional S-121 testbed	Denmark/MS?	November 2020	Done
27	1/2020	To investigate the possibilities to establish a joint online meeting between the EU MSP Technical Expert group on data and the BS-NSMSDIWG. See 1/2021	Chair	MSDIWG9	Done
28	1/2020	To follow the EU project eMSP and report back to the BS-NSMSDIWG	Chair	MSDIWG9	Ongoing
31	1/2020	To arrange a BS-NSMSDIWG online meeting	Chair	MSDIWG9	Ongoing
32	1/2021	To send out the draft the UN-GGIM IGIF Hydro paper.	IIC	October 2021	Ongoing
33	1/2021	To establish a joint online meeting between the EU MSP Technical Expert group on data and the BS-NSMSDIWG	Chair	2021/2022	Ongoing
34	1/2021	To arrange online BS-NSMSDIWG meetings every 4. Month and a physical meeting every second year	Chair	2022	Ongoing
35	1/2021	To send out a questionnaire about national approach to official (e.g. hydrographic) data and legally binding data/maps with relation to MSDI, SDI and MSP.	Chair/all	2022	Ongoing
36	1/2021	To send out a questionnaire about links to national MSDI and or MSP platform and URL to geospatial services and data	Chai/all	2022	Ongoing
37	1/2021	To include the general questions from Netherlands presentation in the agenda for the next BS-NSMSDIWG meeting as a discussion topic. Netherlands to prepare the discussion	Netherlands.	2022	Ongoing
38	1/2021	To invite Singapore – IHO Innovation Lab to an online meeting to discuss possibilities for cooperation in the future.	Chair	2022	Ongoing
39	1/2021	To send out information about the FMSDI and request for participation in the pilot	Chair/OGC/All	2021	Ongoing
40					

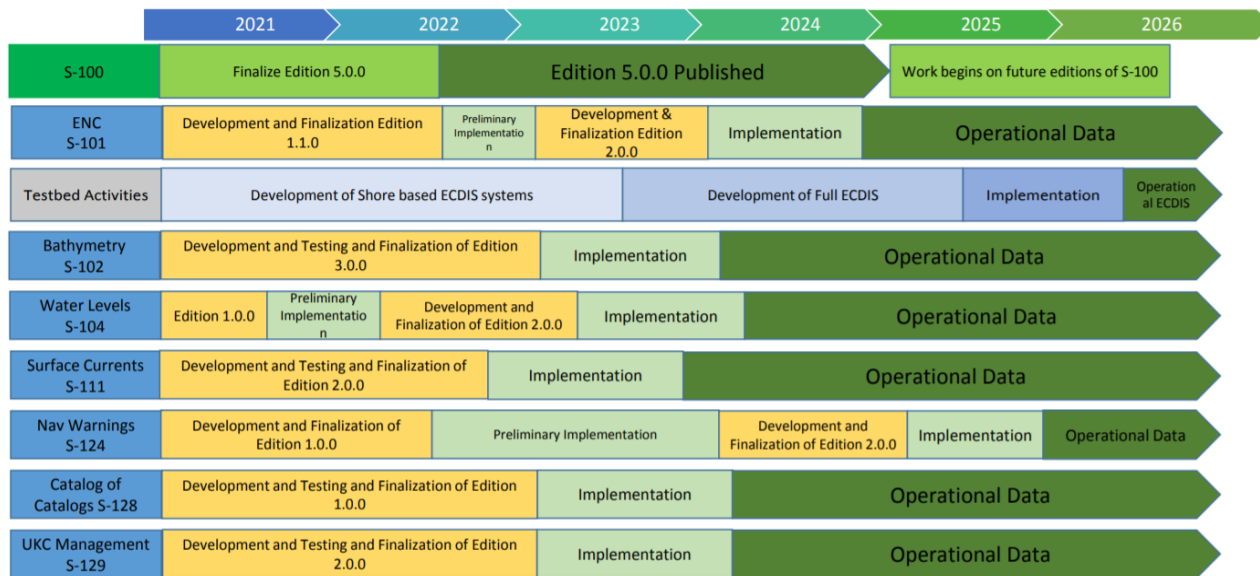
Baltic- and North Sea MSDIWG Action list September 2021



The challenged from a MSDI perspective

- Primarily a focus on mariners and navigation
- New data providers in addition to the traditional hydrographic offices
- New users and new use cases
- A need for distribution focusing on new users

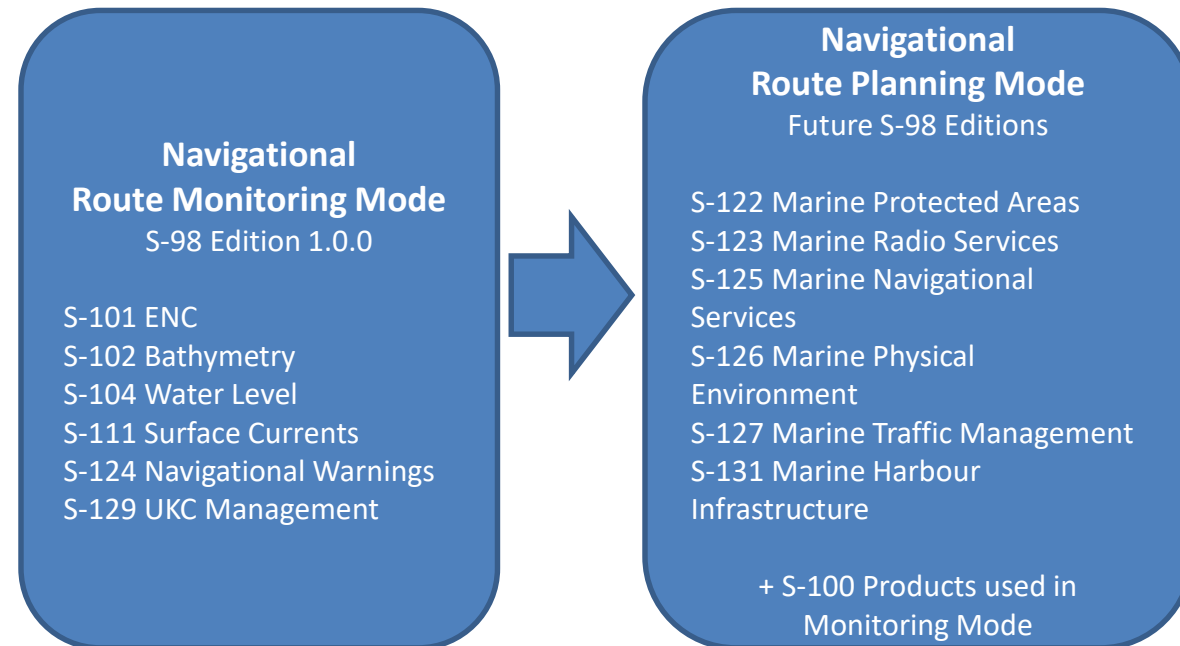
IHO Timeline – Products of initial focus



S-100 Implementation, The IHO Navigational Package

First step

Next step



Support for a joint OGC/IHO Pilot.

This Pilot will show how the value of MSDI can unlock data and information for use beyond traditional providers and consumers of hydrographic data, across borders, and across domains inclusive of improved connections between the terrestrial and marine foundational communities.

- 1. Demonstration** - The demonstration will show how using OGC, IHO and other open standards, enables the community's ability to find, obtain, utilize, share, interoperate and reuse data.
- 2. Impact on OGC Standards** - Lessons learned, gaps, and the need for changes to the OGC standards baseline, will be summarized in an Engineering Report which informs the OGC standard program.
- 3. Impact on IHO Standards** - Practical testing of relevant S-100 based IHO standards helps accelerate the process for adoption and implementation of IHO standards. The engineering report helps to inform the work of the IHO HSSCs Working Groups and will provide inputs to those groups to enhance the framework and its component standards.




OPEN GEOSPATIAL CONSORTIUM (OGC)
Proposed Partnership with
INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO)
Member States

OGC – IHO Federated Marine SDI Demonstration Pilot: FMSDI

Land/Sea Interface
Call for Support



Ocean Data Information and Services, - France

OGC seeks sponsors for a cooperative OGC – IHO Federated Marine SDI Demonstration Pilot
New Pilot will demonstrate a multi-country, federated Marine Spatial Data Infrastructure for land/sea interface use-cases.

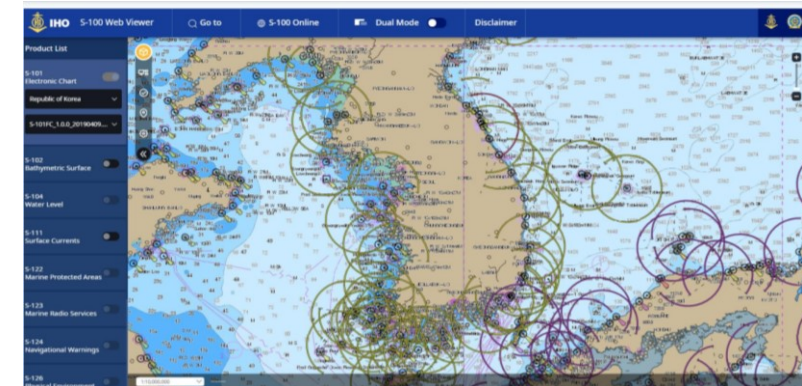
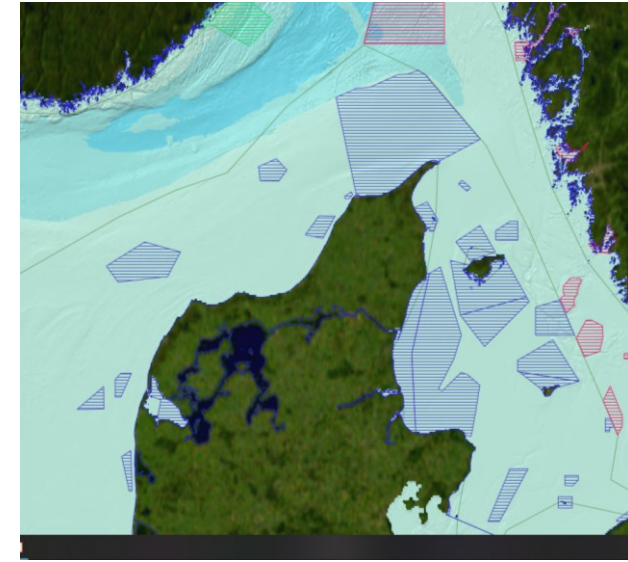
Interoperability & co-operation Baltic sea / North Sea S-122 Pilot

Interoperability

- S-101 will be the base layer – everything needed for safe navigation
=> *must not be made 'less safe' by release of other products, they are supplements*
- How will all these products work together?
=> *not standalone / harmonized*
- How co-ordinate across products/agencies?
=> *Both internally and externally*
- How perform maintenance across products?
=> *different production/QC times & methods*
- How manage distribution?
=> *different routes/speeds for different products*

Co-operation

- To ensure consistency in content and method
- Avoid duplicated work
- National agencies producing S-100 datasets



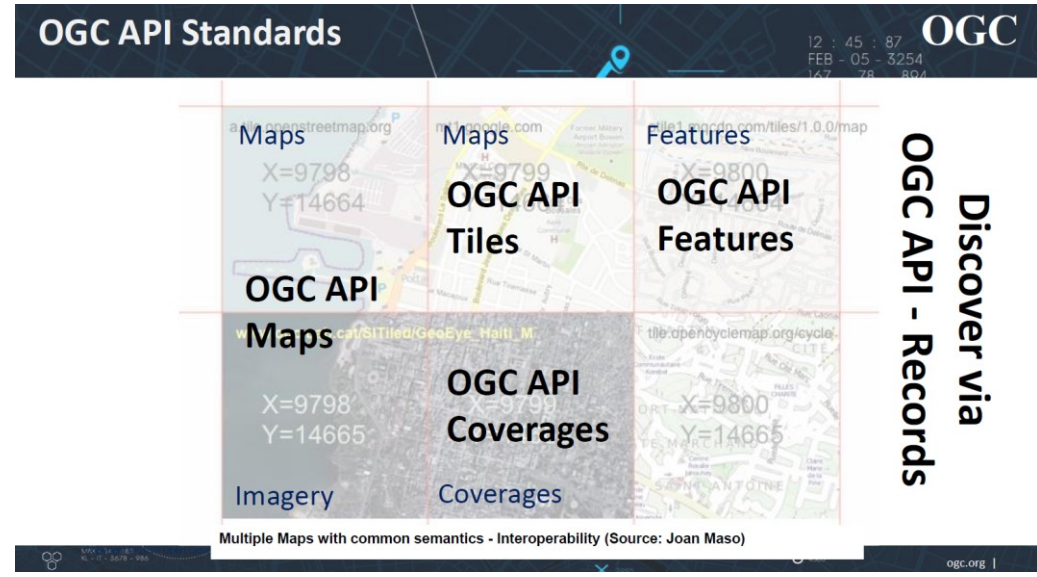
From OGC Web Services Standards to OGC API standards

Legacy OGC Web Service Standards



Multiple Maps with common semantics - Interoperability (Source: Joan Maso)

OGC API Standards



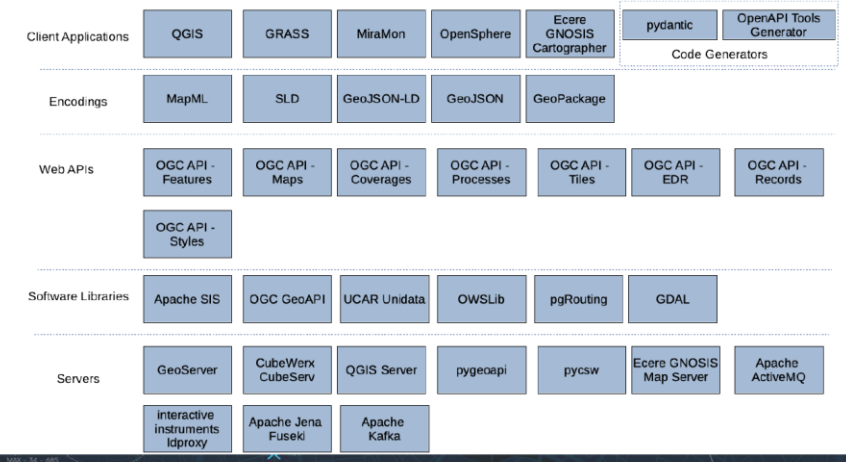
Multiple Maps with common semantics - Interoperability (Source: Joan Maso)

The 23 Design Principles for OGC Web APIs

#	Principle	#	Principle	#	Principle
1	Don't reinvent	9	Use of HTTP header	17	Use explicit relations
2	Keep it simple and intuitive	10	Allow flexible content negotiation	18	Support W3C cross-origin resource sharing
3	Use well-known resource types	11	Pagination	19	Resource encodings
4	Construct consistent URIs	12	Processing resources	20	Good APIs are testable from the beginning
5	Use HTTP methods consistent with RFC 7231	13	Support metadata	21	Specify whether operations are safe and/or idempotent
6	Put selection criteria behind the '?'	14	Consider your security needs	22	Make resources discoverable
7	Error handling and use of HTTP status codes	15	API description	23	Make default behavior explicit
8	Use explicit list of HTTP status codes	16	Use well-known identifiers		

All principles are equally important and the order of the principles does not reflect their relative importance.

Architecture of the 2021 Joint OGC OSGeo ASF Code Sprint



Questions or comments?



Thanks for your attention

For more information:

International

<https://iho.int/en/msdiwg>

Regional

<http://www.bshc.pro/> and <http://nshc.pro/>

National

<https://msdi.dk/> (in Danish only)

