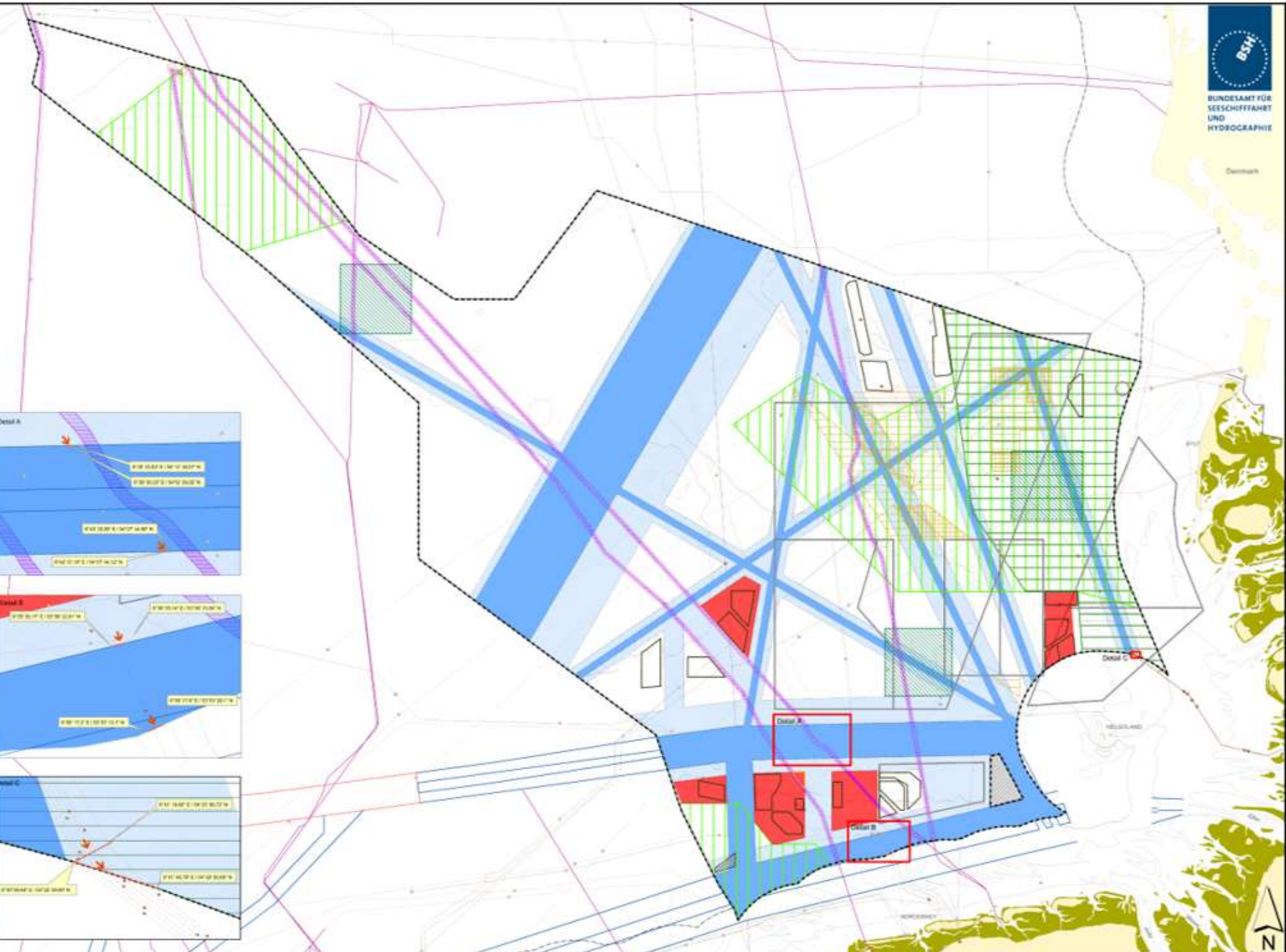
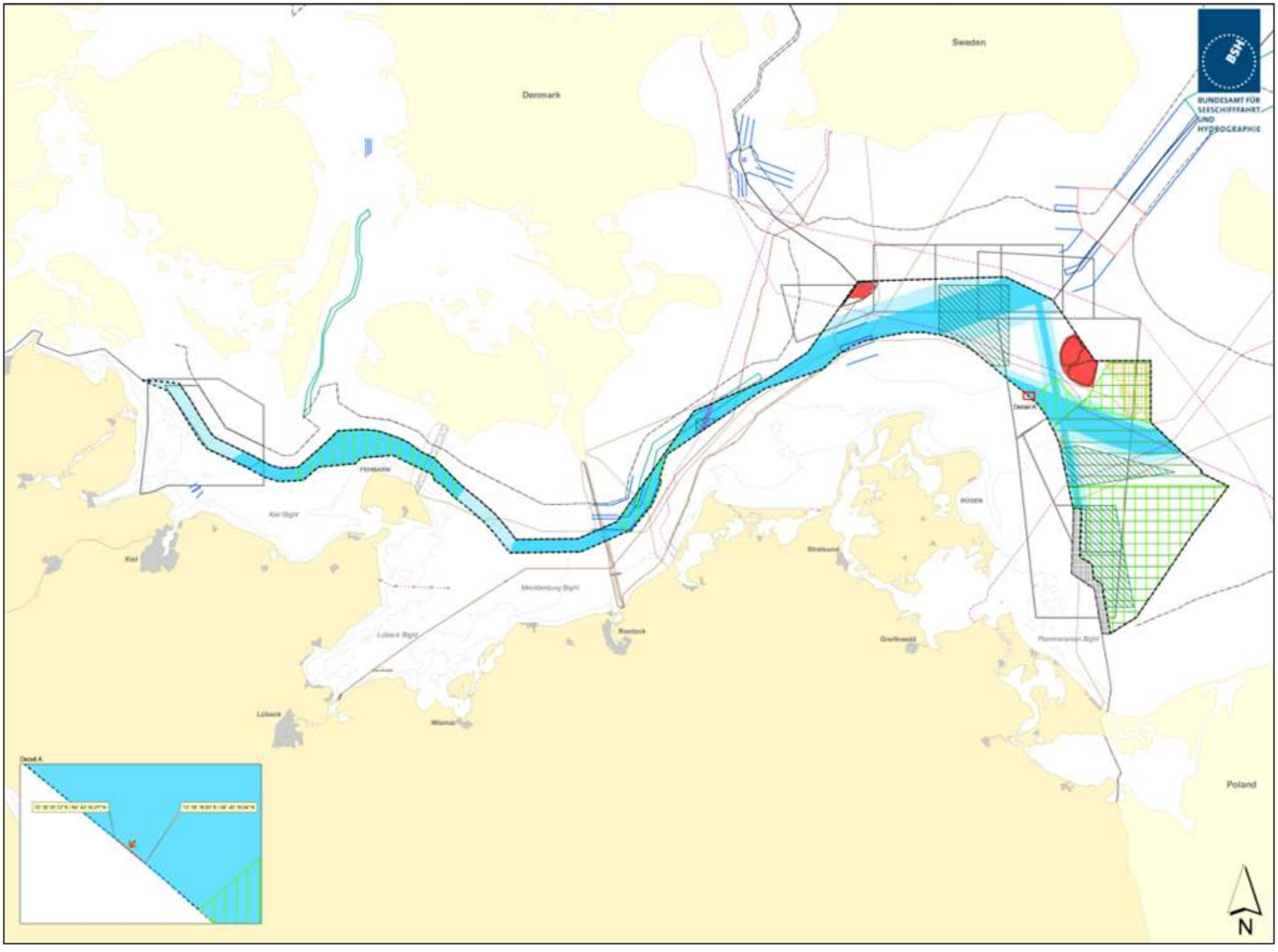
Connecting Seas

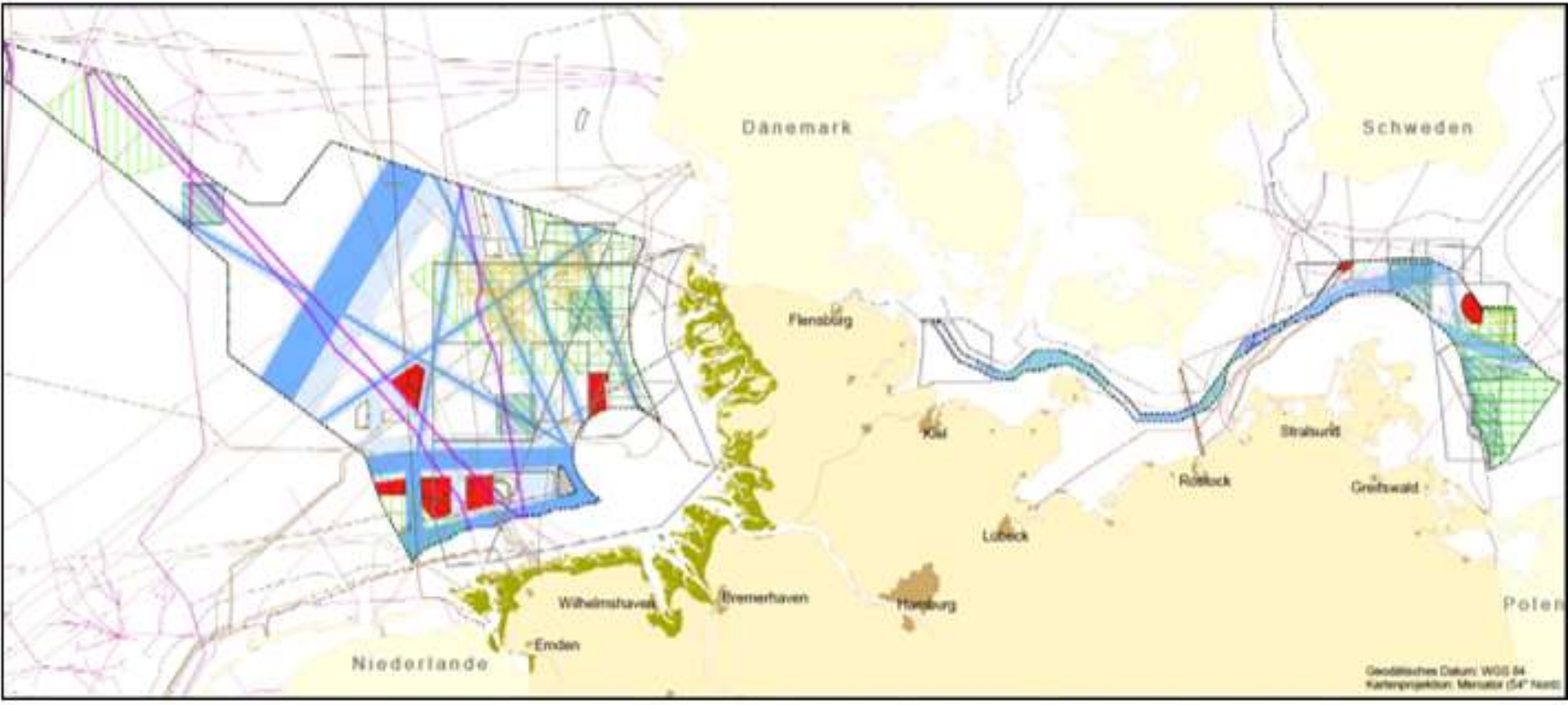
NorthSEE – Baltic LINes MSP conference

NorthSEE and Baltic LINes

Dr. Kai Trümpler, German Federal Maritime and Hydrographic Agency (BSH)


BSH
BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE
Detail A
Detail B
Detail C
N


Sweden
Denmark
BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE
Oesel A
FEHMARN
Kiel Bight
Kiel
Mecklenburg Bight
Lübeck Bight
Lübeck
Wismar
Rostock
RÜGEN
Stralsund
Greifswald
Pomeranian Bight
Poland
N


Dänemark
Schweden
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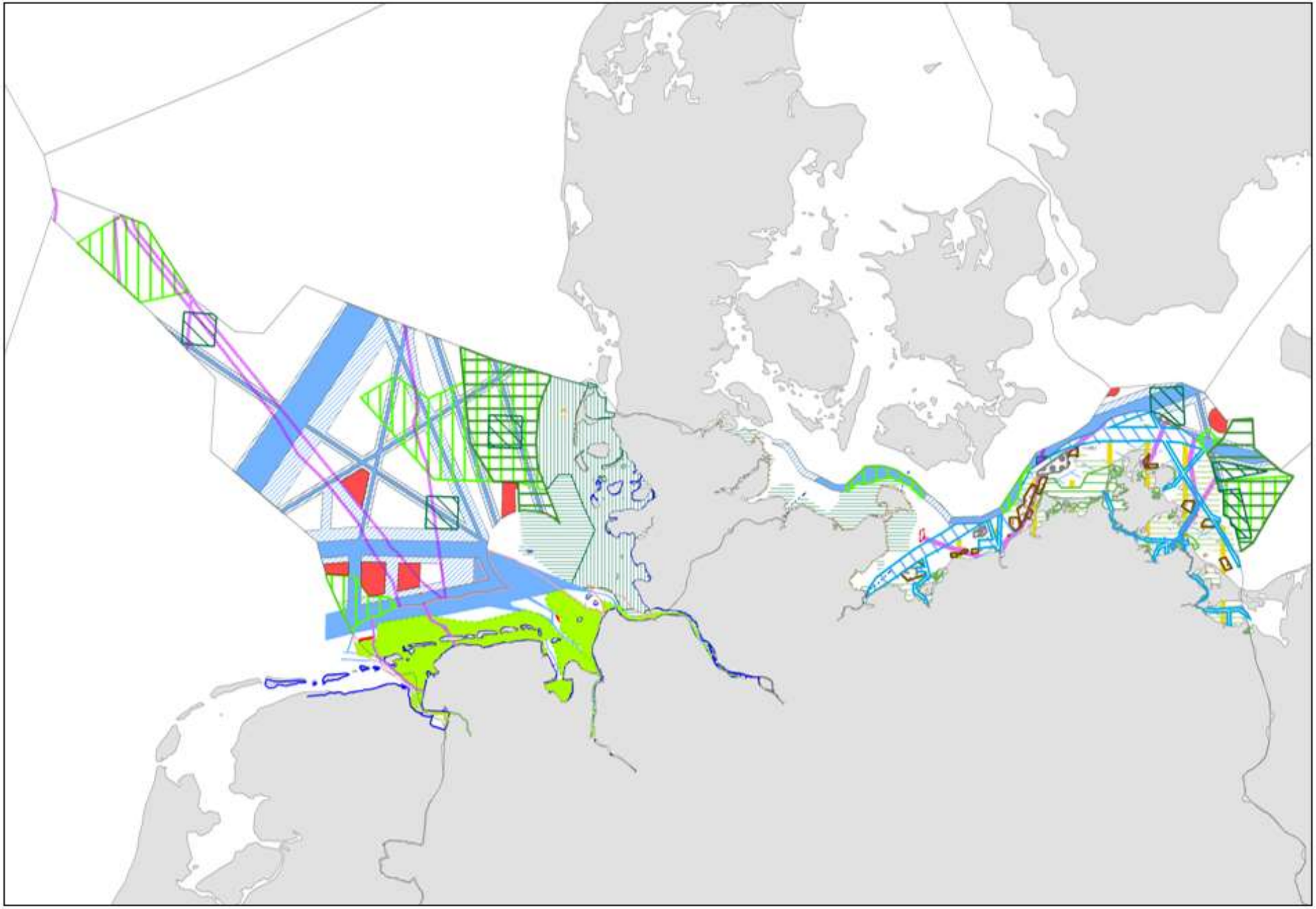
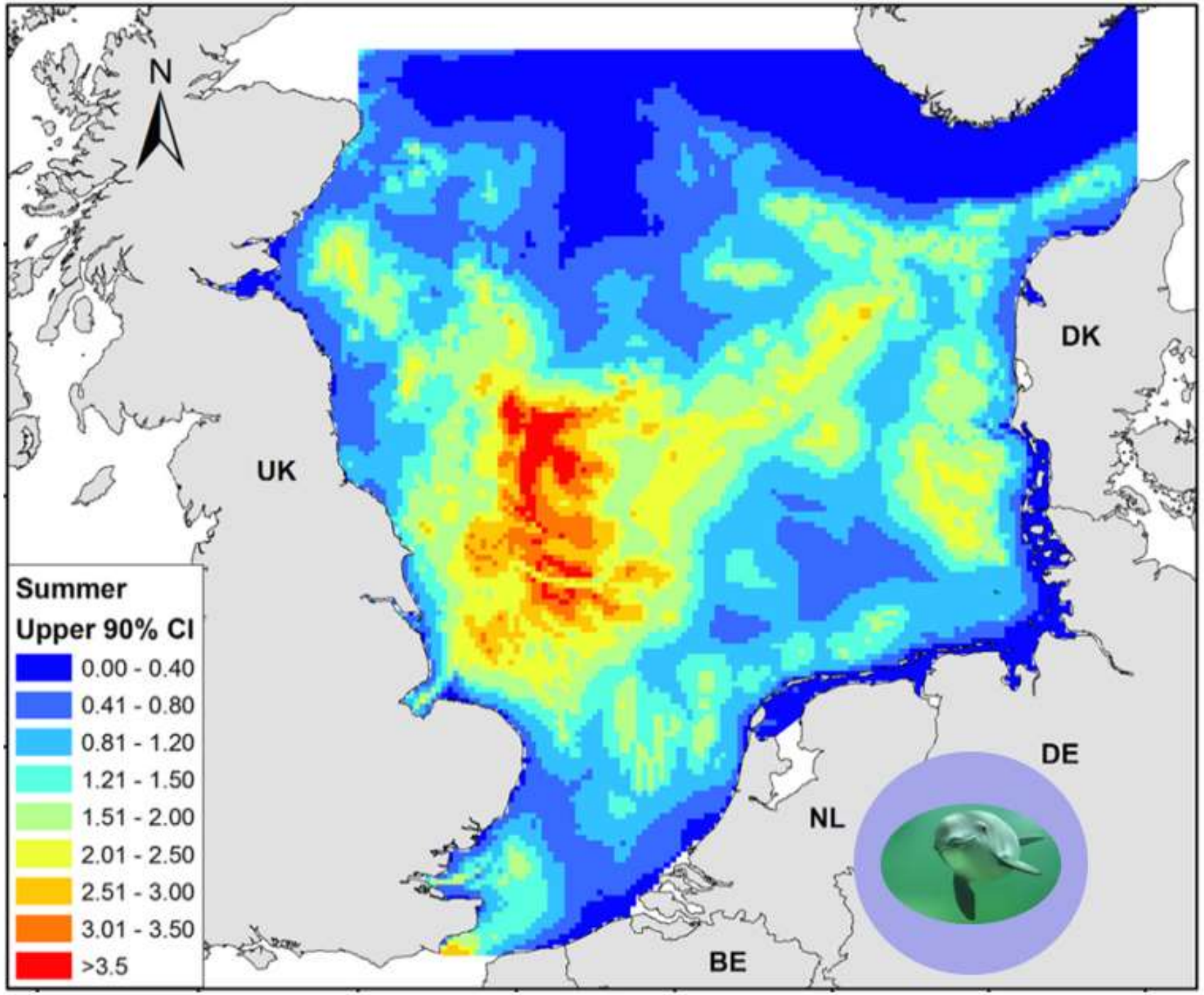
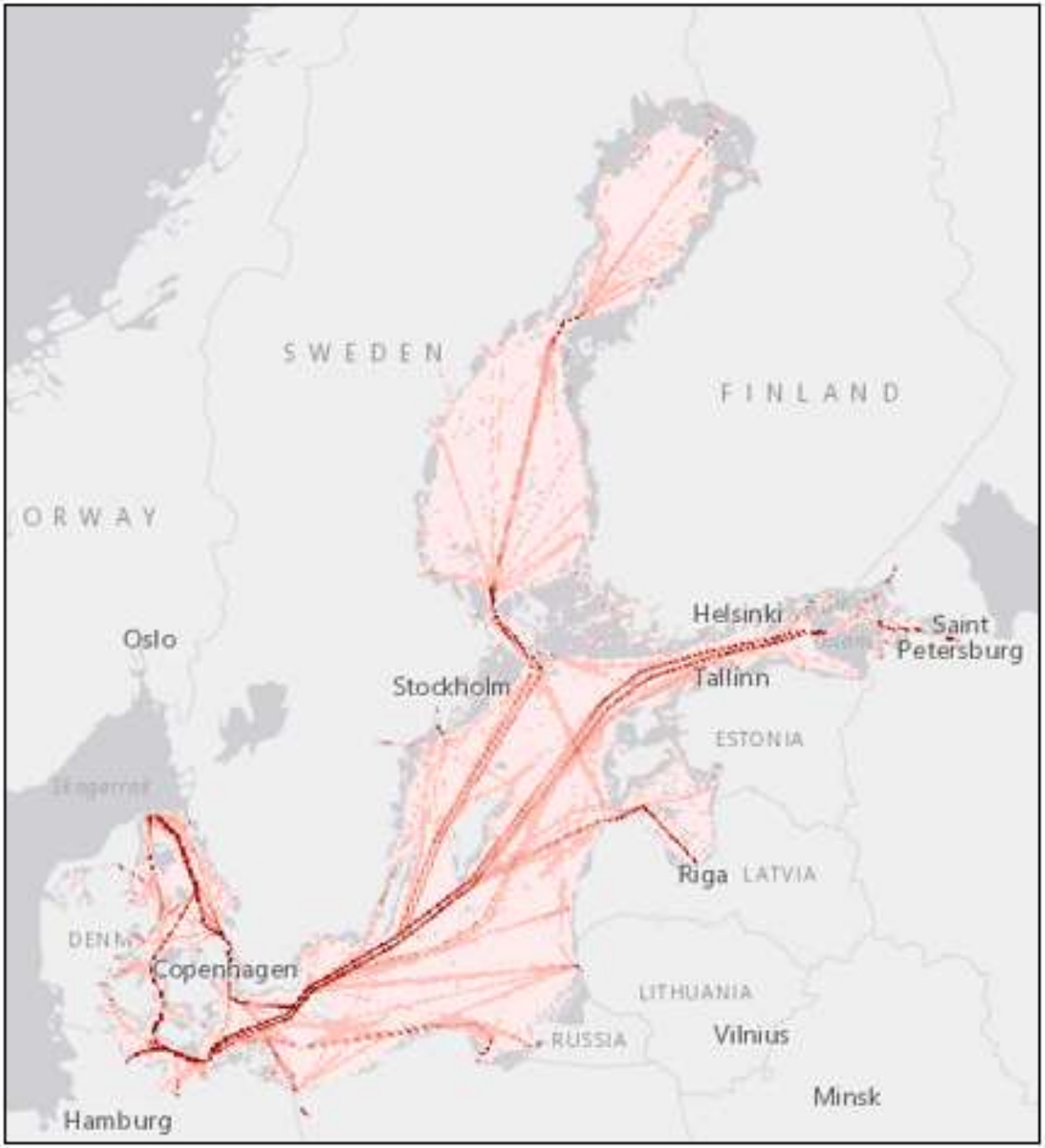
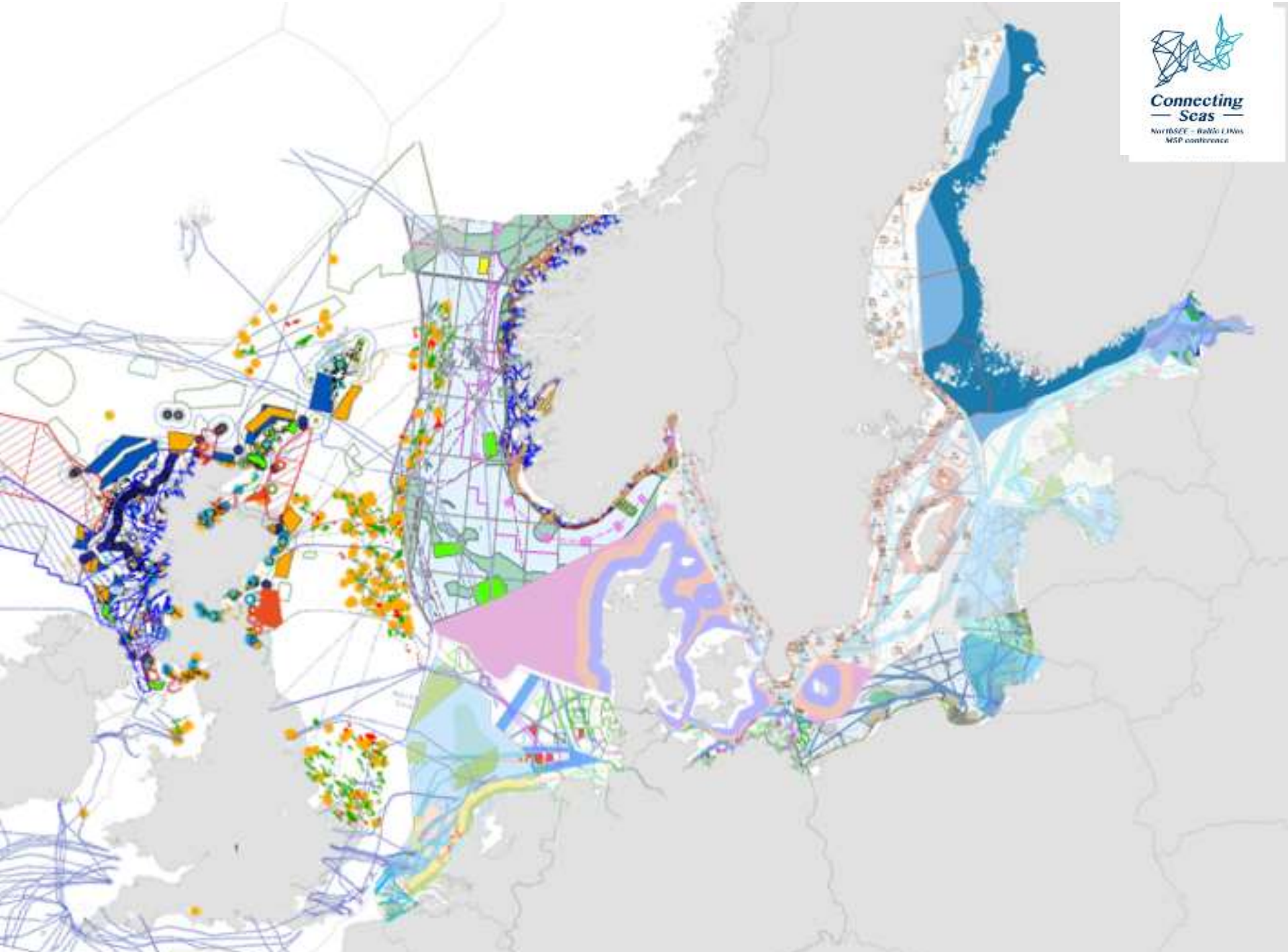
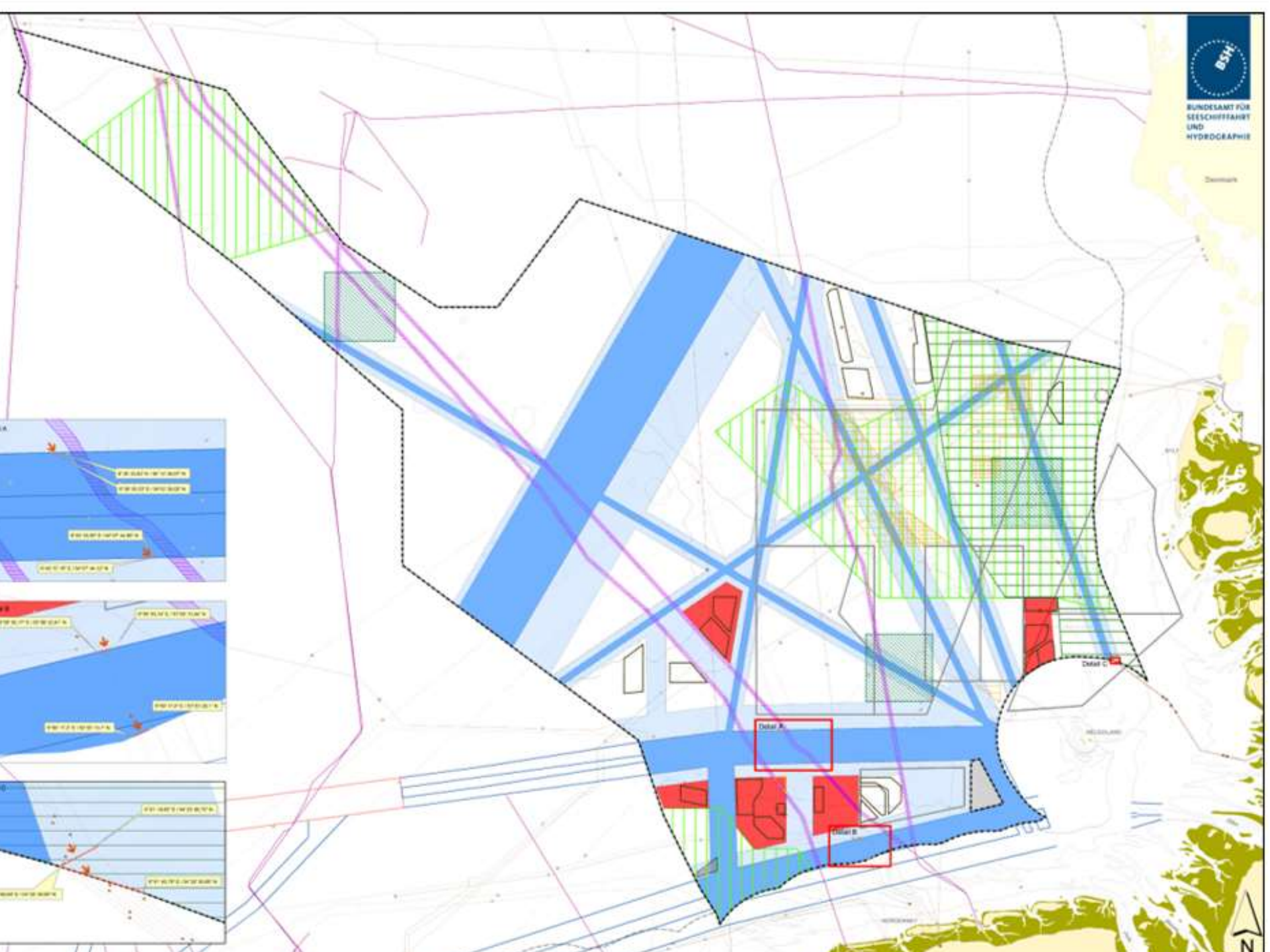
Kiel
Lübeck
Rostock
Stralsund
Greifswald
Wilhelmshaven
Bremerhaven
Hamburg
Emden
Niederlande
Polen




N
UK
DK
DE
NL
BE
Summer
Upper 90% CI
0.00 - 0.40
0.41 - 0.80
0.81 - 1.20
1.21 - 1.50
1.51 - 2.00
2.01 - 2.50
2.51 - 3.00
3.01 - 3.50
>3.5


SWEDEN
FINLAND
ORWAY
Oslo
Stockholm
Helsinki
Saint
Petersburg
Tallinn
ESTONIA
Riga
LATVIA
Copenhagen
LITHUANIA
RUSSIA
Vilnius
Minsk
Hamburg


Connecting
Seas


BSH
BUNDESAMT FÜR SEESCHIFFFAHRT UND HYDROGRAPHIE
Detail A
Detail B
Detail C
N

Connecting Seas

NorthSEE – Baltic LINes MSP conference

Shipping

Jeroen van Overloop, Directorat General Shipping

Ships

Oldest boat

Connecting Seas

NorthSEE – Baltic LINes MSP conference

Historic

door Jeroen Van Overloop


DAVID ADAMSON


VICTORY

Now


SANTA RAFAELA


SABRINA I


ROALD AMUNDSEN
HURTIGRUTEN


Elation
ELATION


ЯМАЛ


LIVING STONE


SAFMARINE MERU
Safmarine


Monaco Explorations.org


FORTE


HÖEGH AUTOLINERS
H


MODERN EXPRESS
PANAMA


MAERSK LINE


BRAVE TERN
Fred.Olsen Windcarrier


OCEAN STAR
FR 77 OCEAN STAR


STAR POLARIS


© Allseas


PORT OF HOUSTON AUTHORITY
spliethoff
DANZIGERGRACHT


EUROPEAN SPIRIT

Some for fun


44644
180
44929
134
44940
GBR
215


Petra
BAR-5952 V
Nautal


Australia


FRASER


SCANBOAT.COM

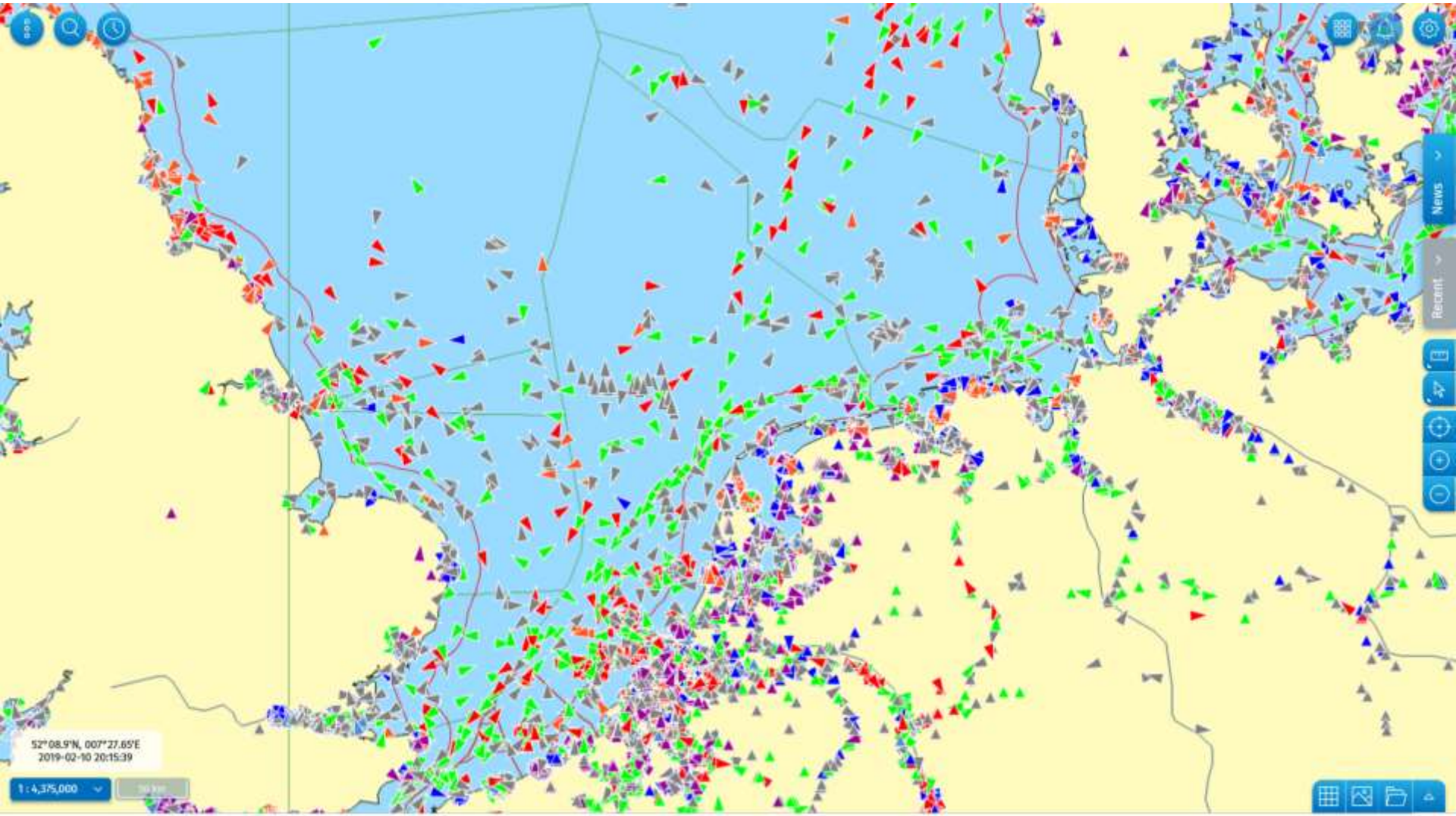

HOVER

North SEE
Interreg North Sea Region
Baltic LINes
Interreg Baltic Sea Region

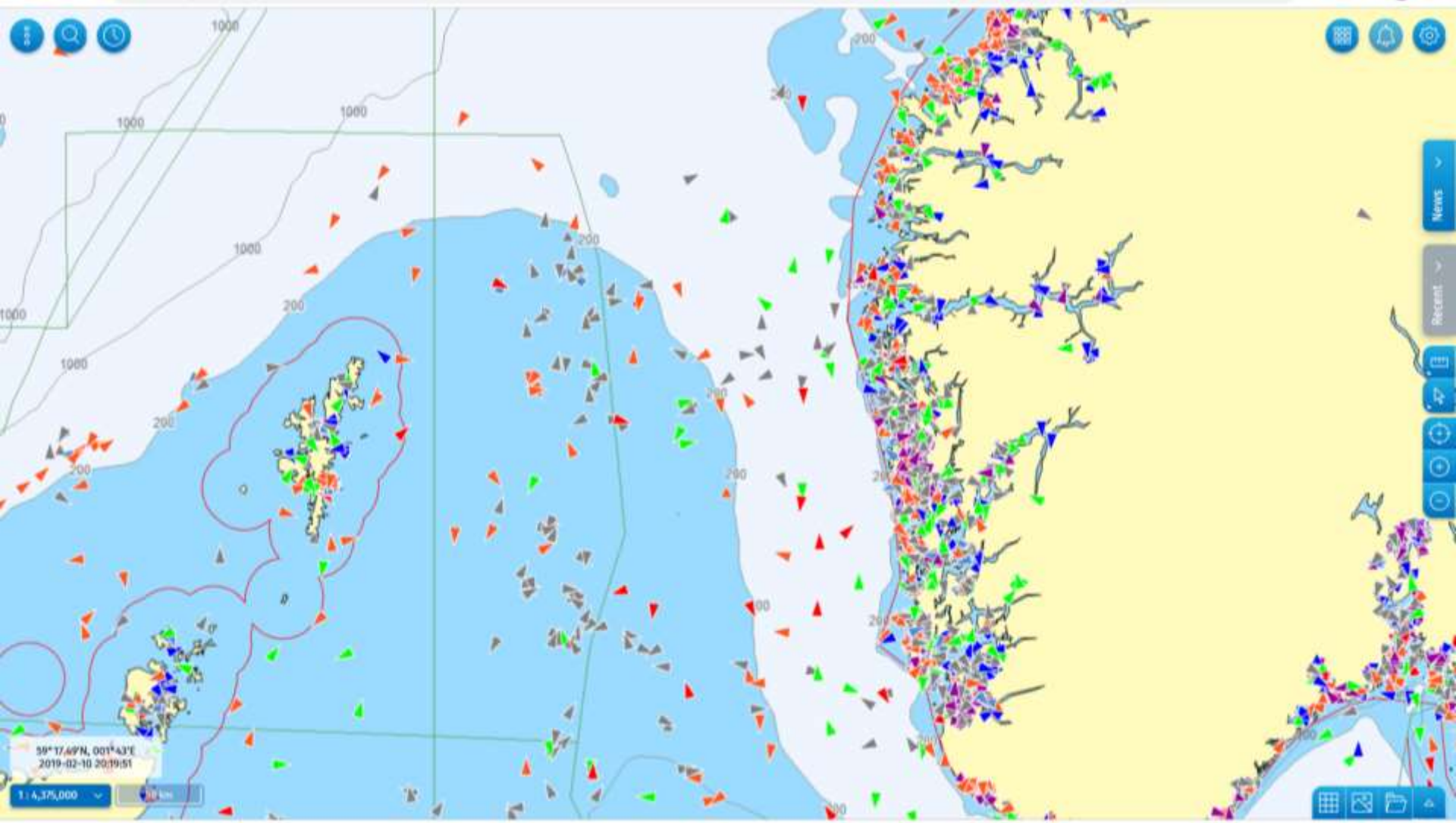

CruisinTikisKeyWest.com


nauti-craft

Where?


News
Recent
52°08.9'N, 007°27.65'E
2019-02-10 20:15:39
1 : 4,375,000


Requesting vessel positions...
News
Recent
57°25.43'N, 016°30.39'E
2019-02-10 20:17:30
1 : 4,375,000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200
News
Recent
59°17.69'N, 001°43'E
2019-02-10 20:19:51
1 : 4,375,000

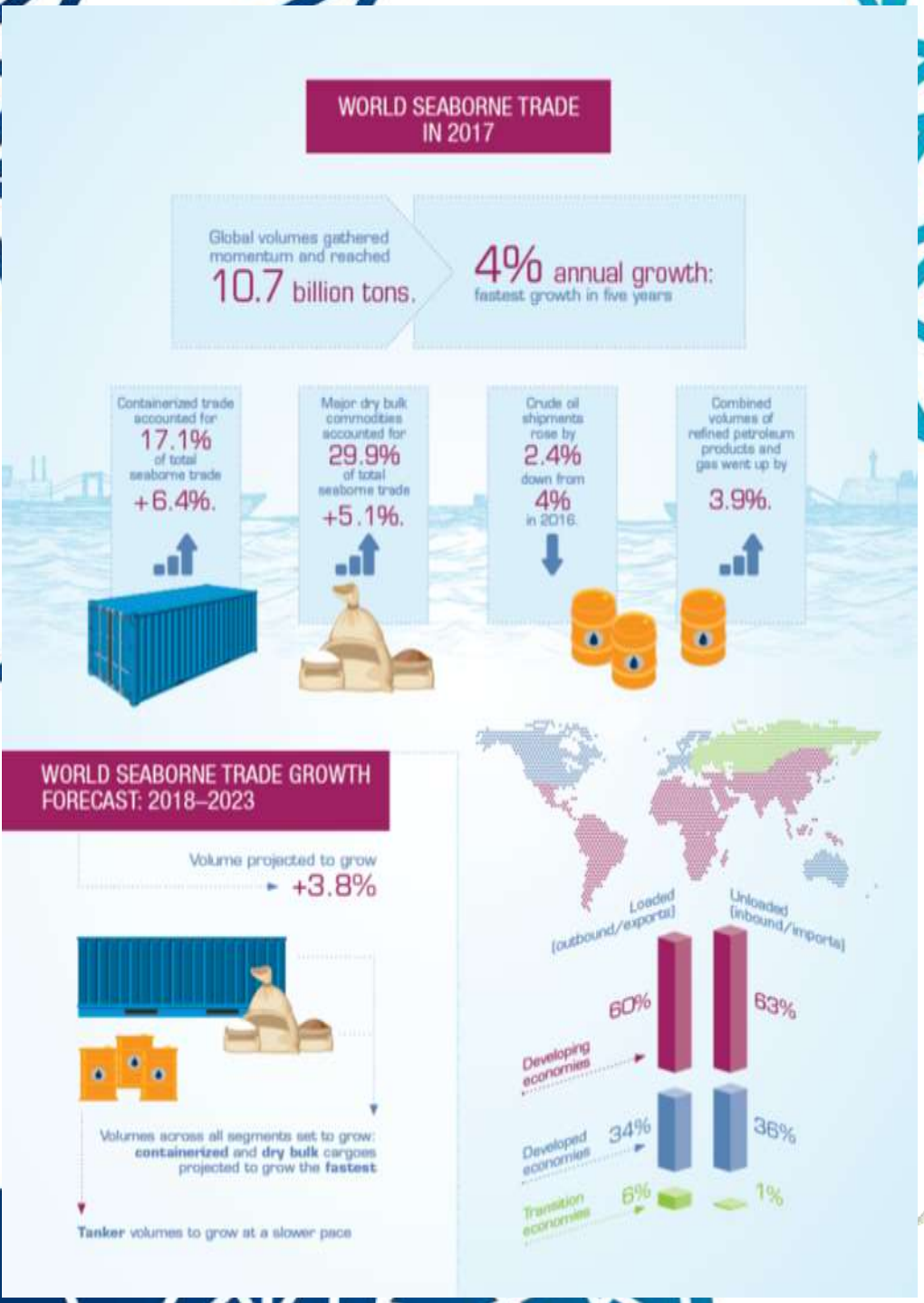
Why in MSP?

Connecting Seas

NorthSEE – Baltic LINes MSP conference

22/02/2019

Shipping is the blood of the economy



Connecting Seas

NorthSEE – Baltic LINes MSP conference

22/02/2019

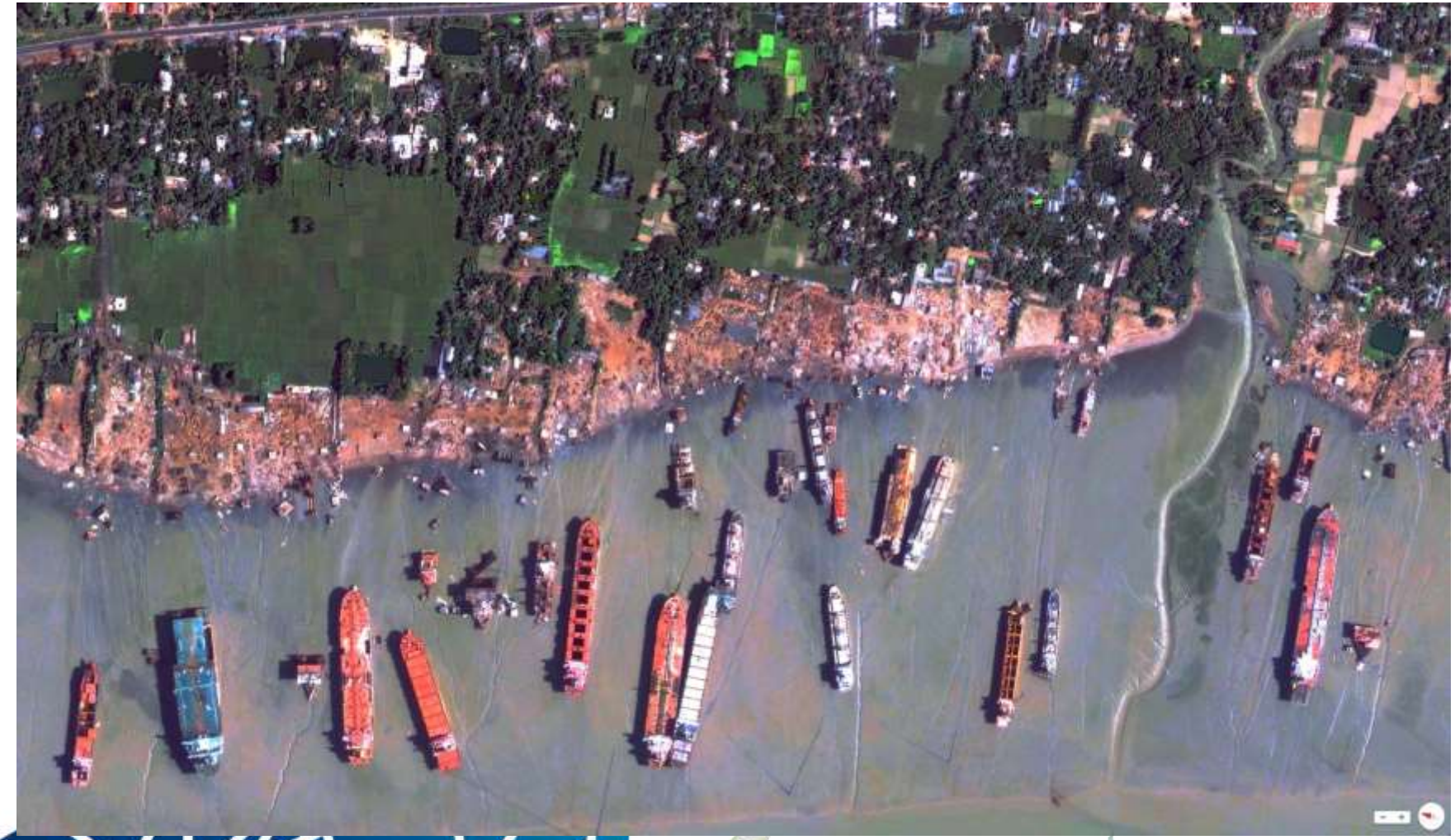
At any time more than 80% of all transported good are on board of a ship

Interreg North Sea Region

Baltic LINes

Interreg Baltic Sea Region

Vulnurable



Connecting Seas

NorthSEE – Baltic LINes MSP conference

Why else?

Connecting Seas

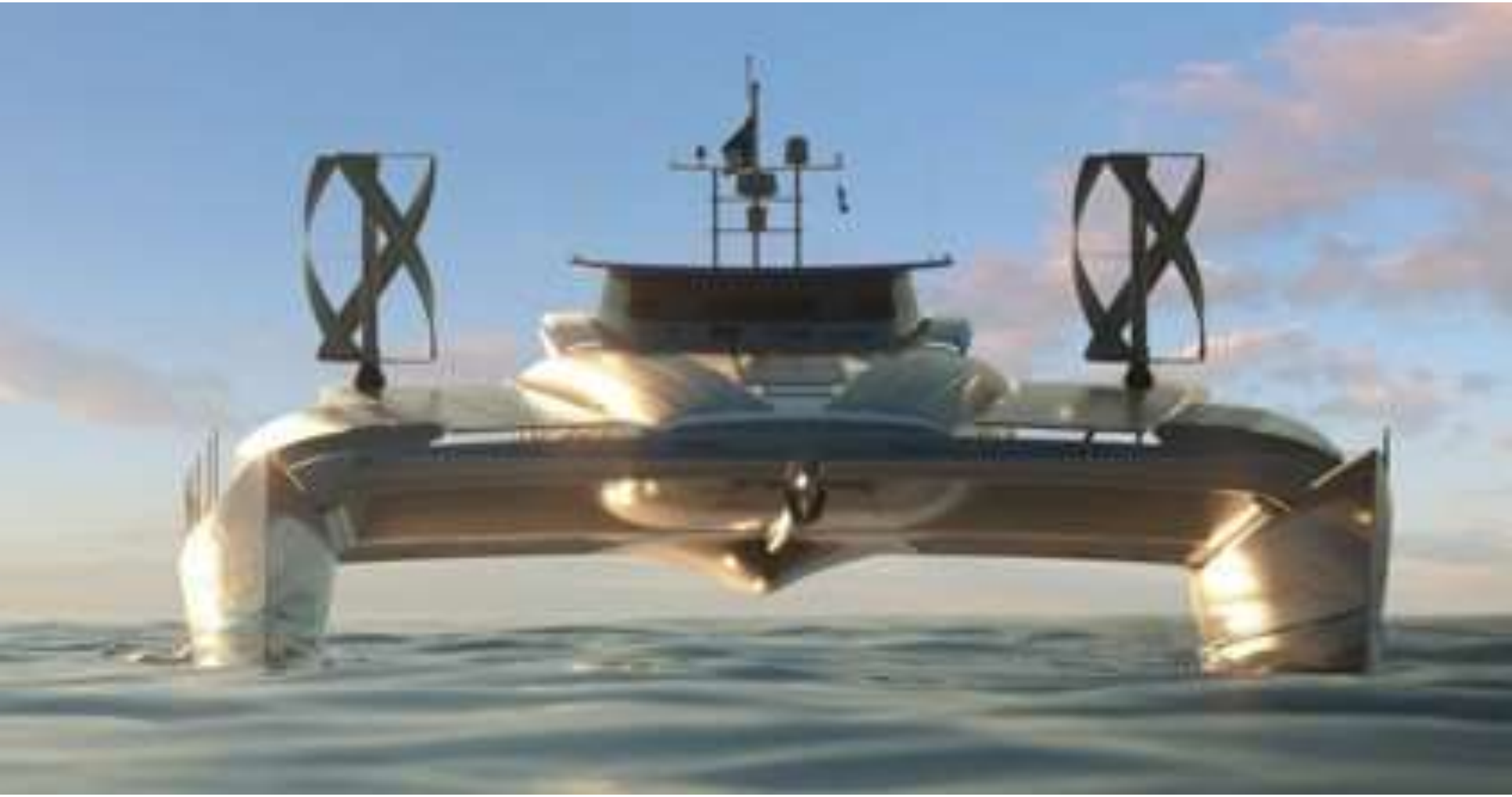
NorthSEE – Baltic LINes MSP conference

22/02/2019

Future

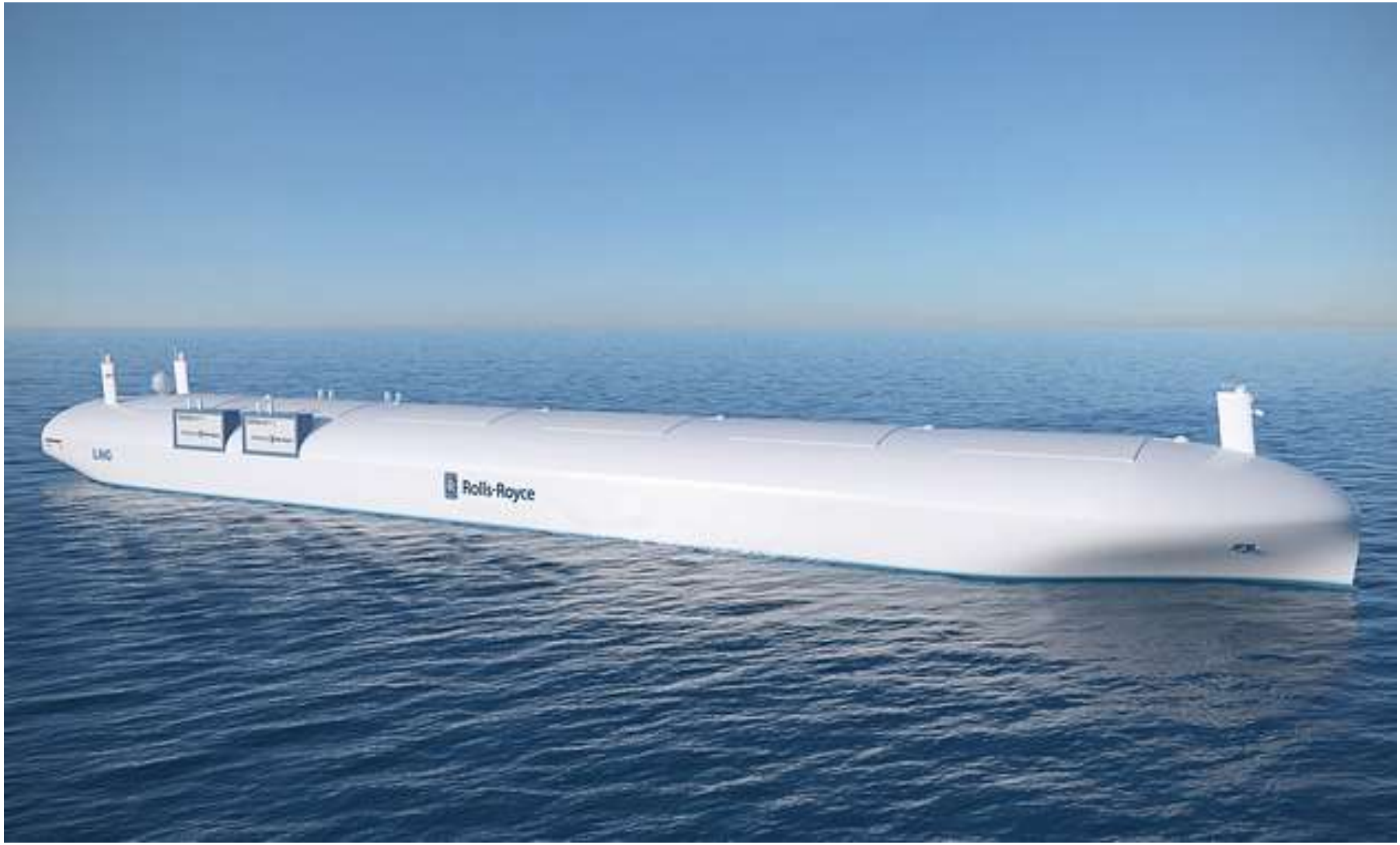

LNG
Rolls-Royce


Rolls-Royce
100




KONGSBERG


PEACE BOAT


LNG
Rolls-Royce


DELTAMARIN
Zero Emission


WEBSTORE
WÄRTSILÄ

Connecting Seas

NorthSEE – Baltic LINes MSP conference

Energy

Dr. Andronikos Kafas, Marine Scotland

Connecting Seas

NorthSEE – Baltic LINes MSP conference

How a seed became a tree

Or how we built a system based on an MSDI to access MSP data

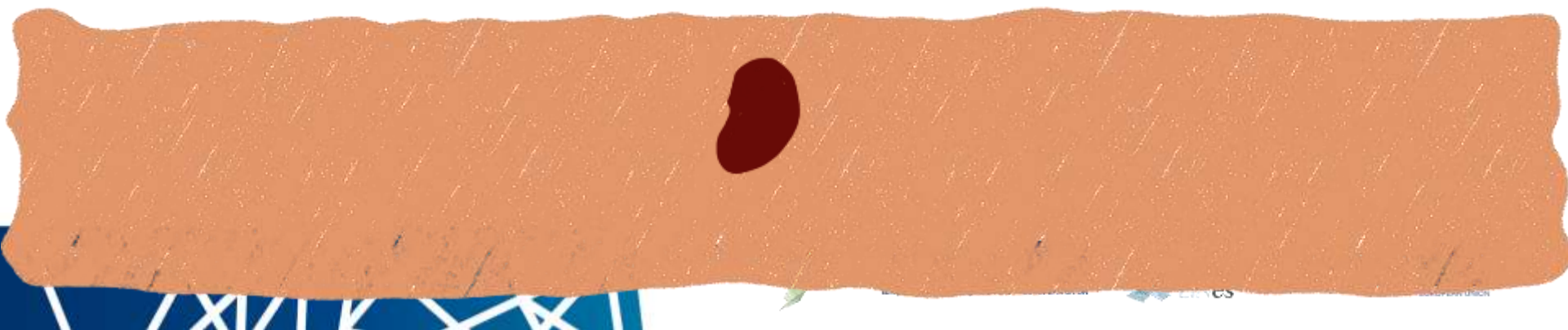
You have seen maps about a lot of uses: wind farms, shipping, environment... Now, what do we need to make all those maps?

Data, of course.

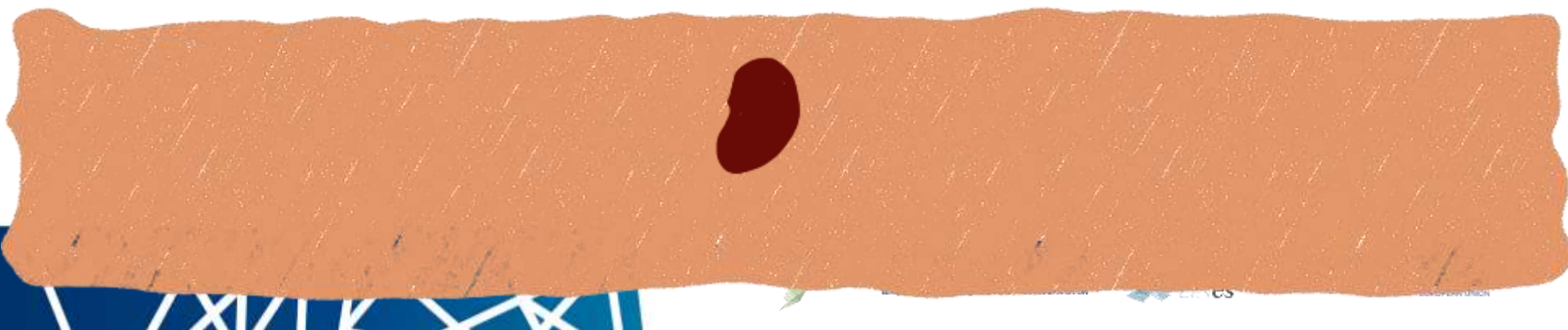
The problem is...

...data is always very difficult to get.

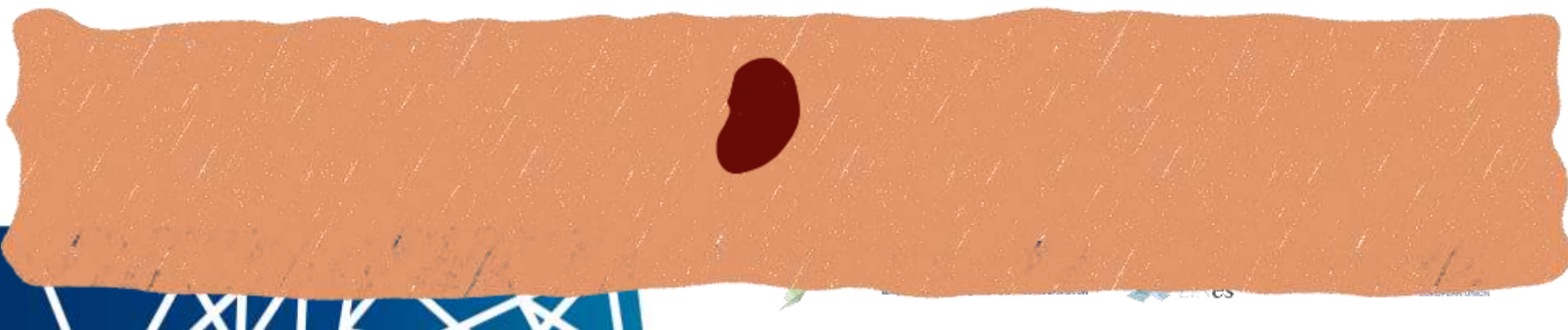
That’s why the Maritime Spatial Planning community in the Baltic Sea planted a seed seven years ago.



Seven years ago, a project called BaltSeaPlan acknowledged the problem and recommended to build a...



...hold on tight to your seats...

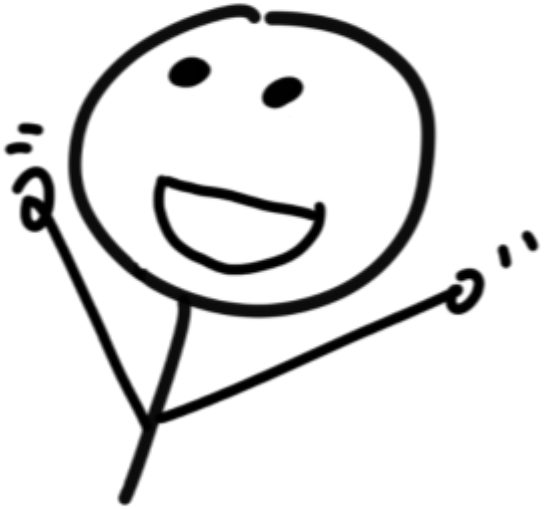


...system to access Maritime Spatial Planning data based on a Marine Spatial Data Infrastructure (MSDI) from which users can view and download data and metadata in Open Geospatial Consortium (OGC) standards.

A system to access Maritime Spatial Planning data based on a Marine Spatial Data Infrastructure from which to view, query and download data and metadata in Open Geospatial Consortium (OGC) standards.

...and this is exactly what we have developed in BalticLINes.

I guess some of you, are thinking
“wow, that sounds so exciting”.



But I am afraid many of you are thinking “what the hell is this guy talking about?”

Let me explain
in plain
English...

We have developed a system (think of Google Maps for MSP) that potentially:

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Can make the work of MSP planers more effective

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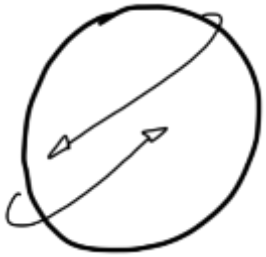
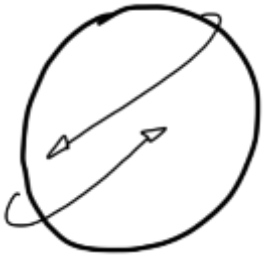
Can make the work of MSP planers more effective



Will help make coherent plans across borders

We have developed a system (think of Google Maps for MSP) that potentially:

Can make the work of MSP planers more effective



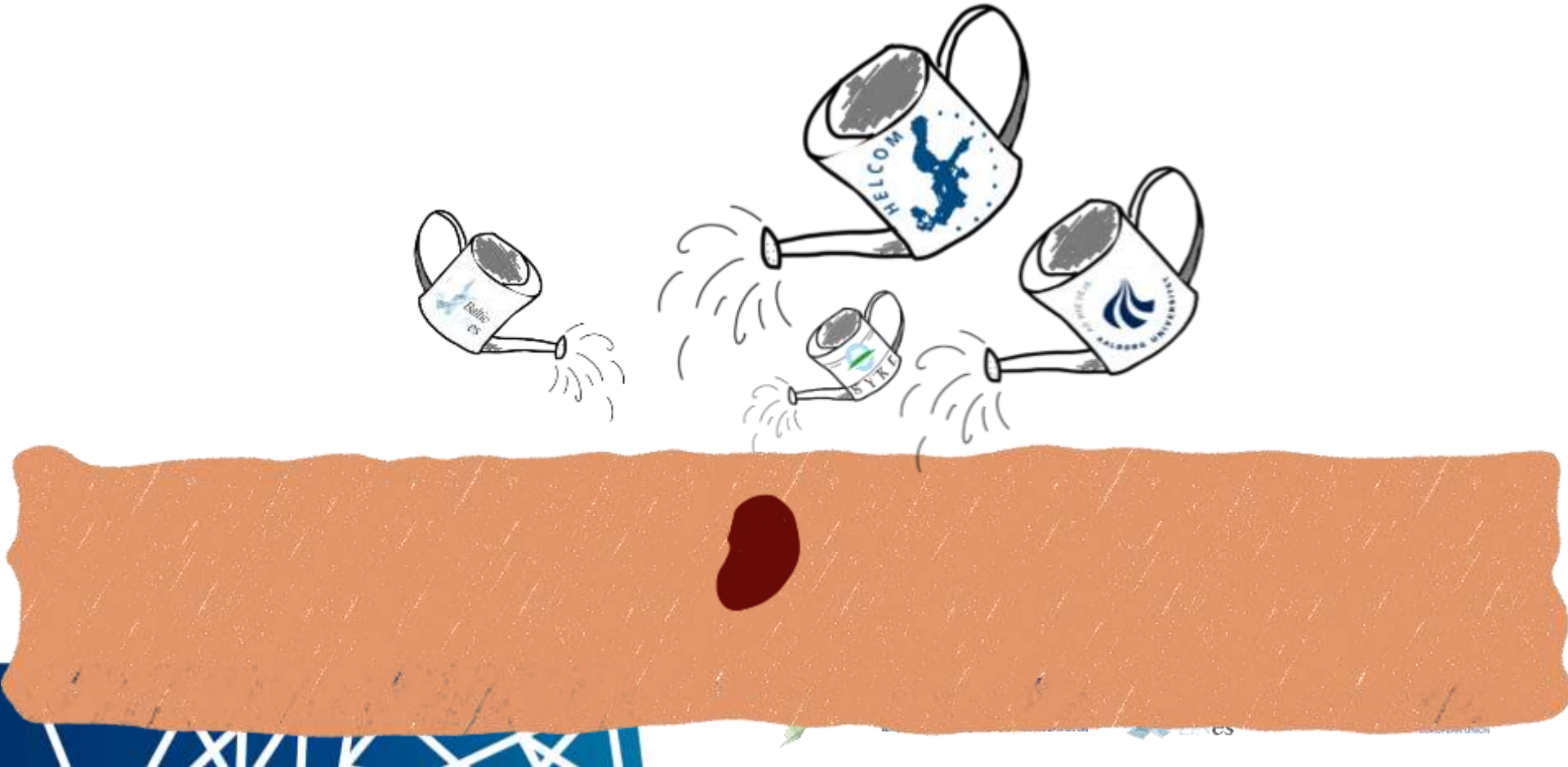
Will help make coherent plans across borders

Will contribute to a better environment and blue growth

It all started with this seed. HELCOM have been watering the seed for three years with much love and care.

We were not alone. We had the support of the Aalborg University and the Finnish Environment Institute.

And this would have not been possible without the support of all the wonderful people in the BalticLINes project.



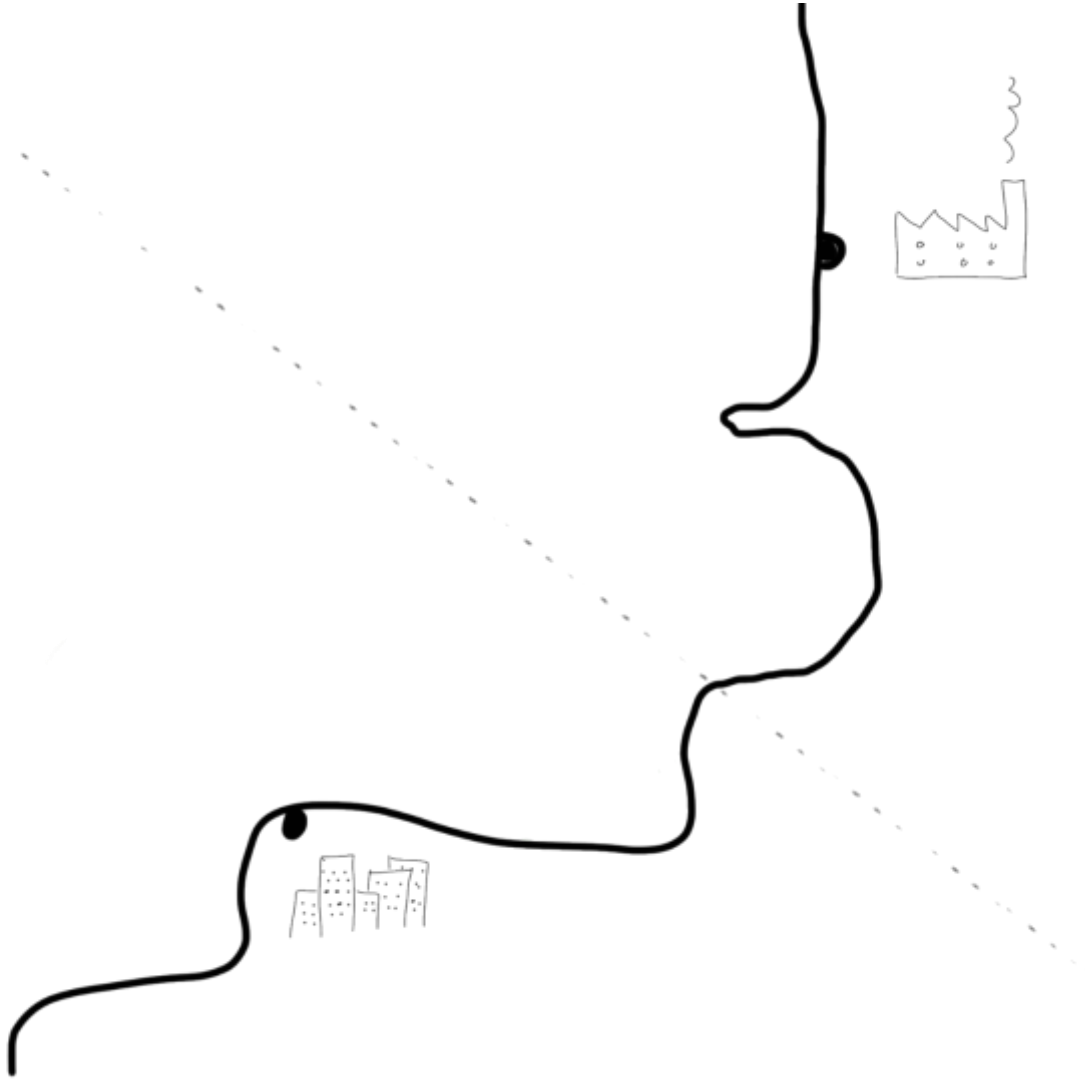
Do you want to see the result?

Before that, let me explain WHY we did it.

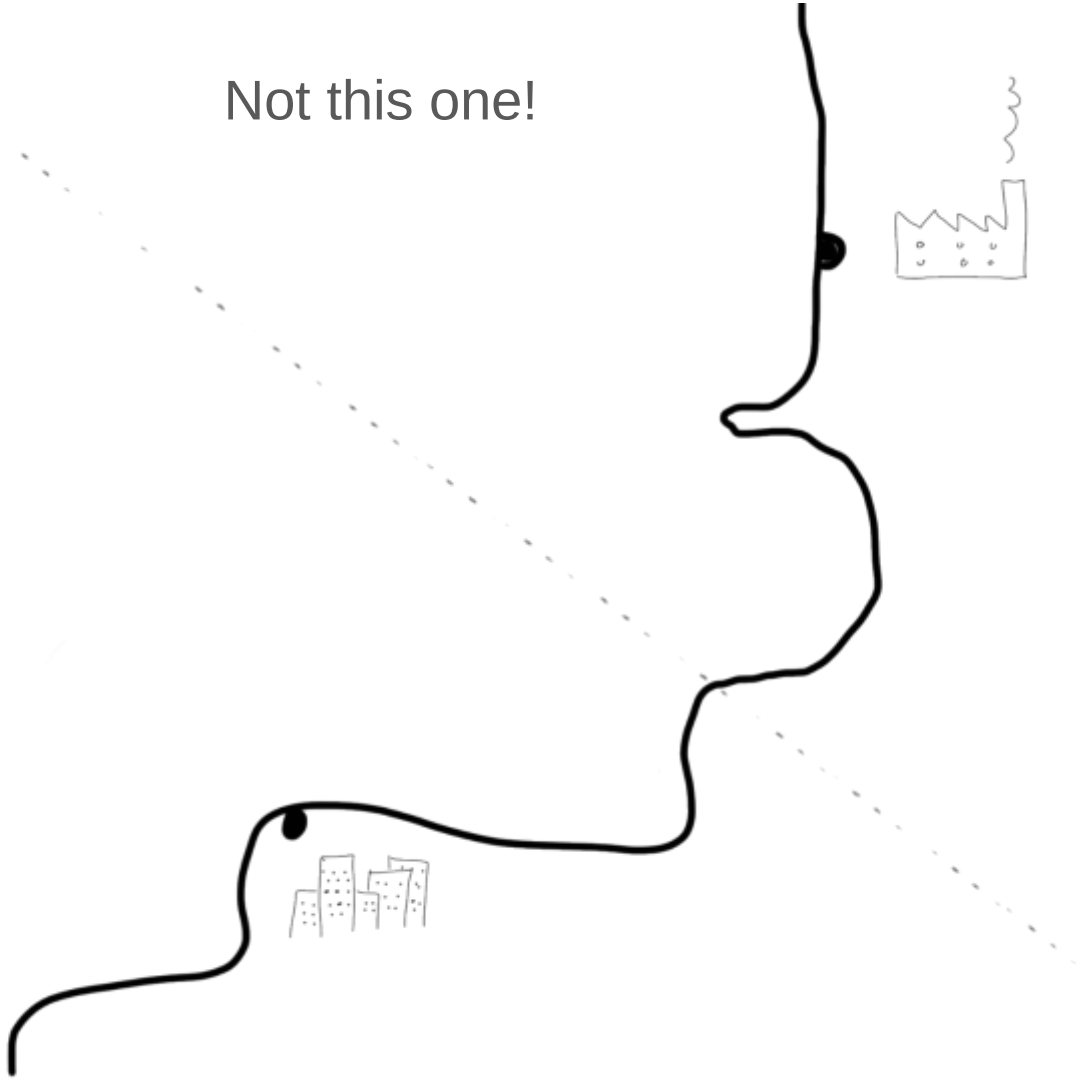
As I said, it’s very difficult to get data. But it’s even more difficult to get up-to-date data from your neighbours.

Why is it important to work with up-to-date data from your neighbours? Let me give you an example.

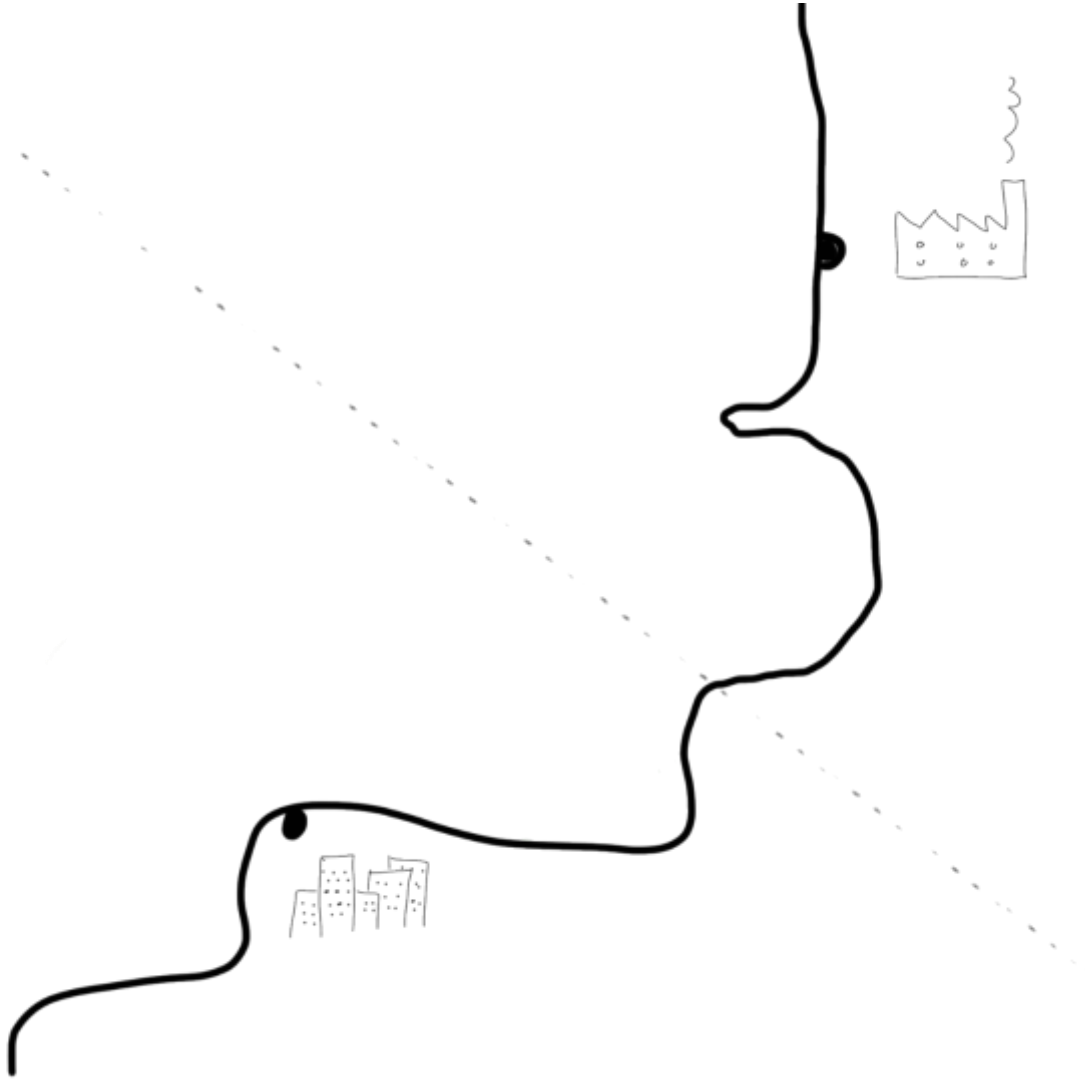
Imagine you are a MSP planner in this country.

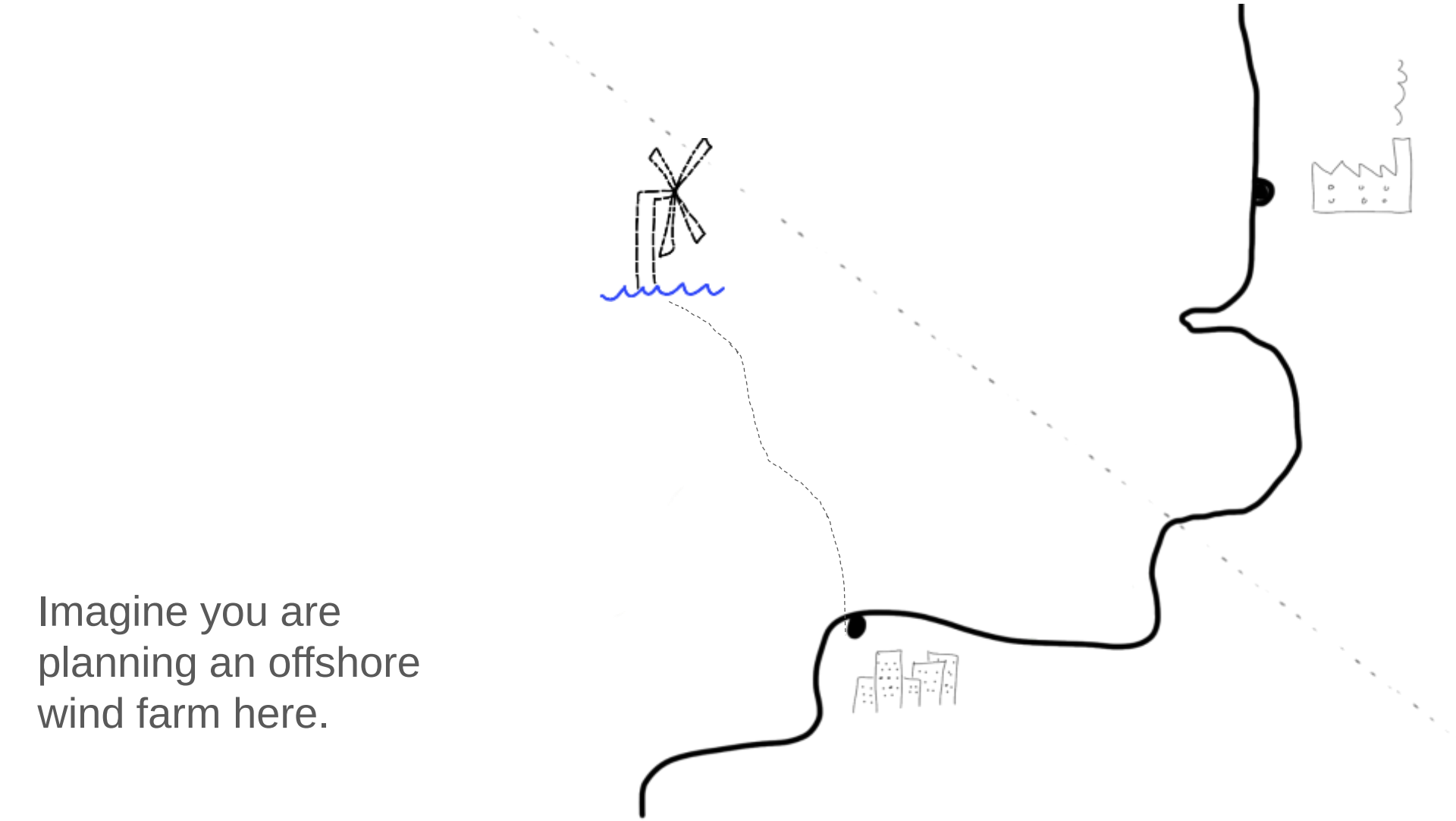


Not this one!



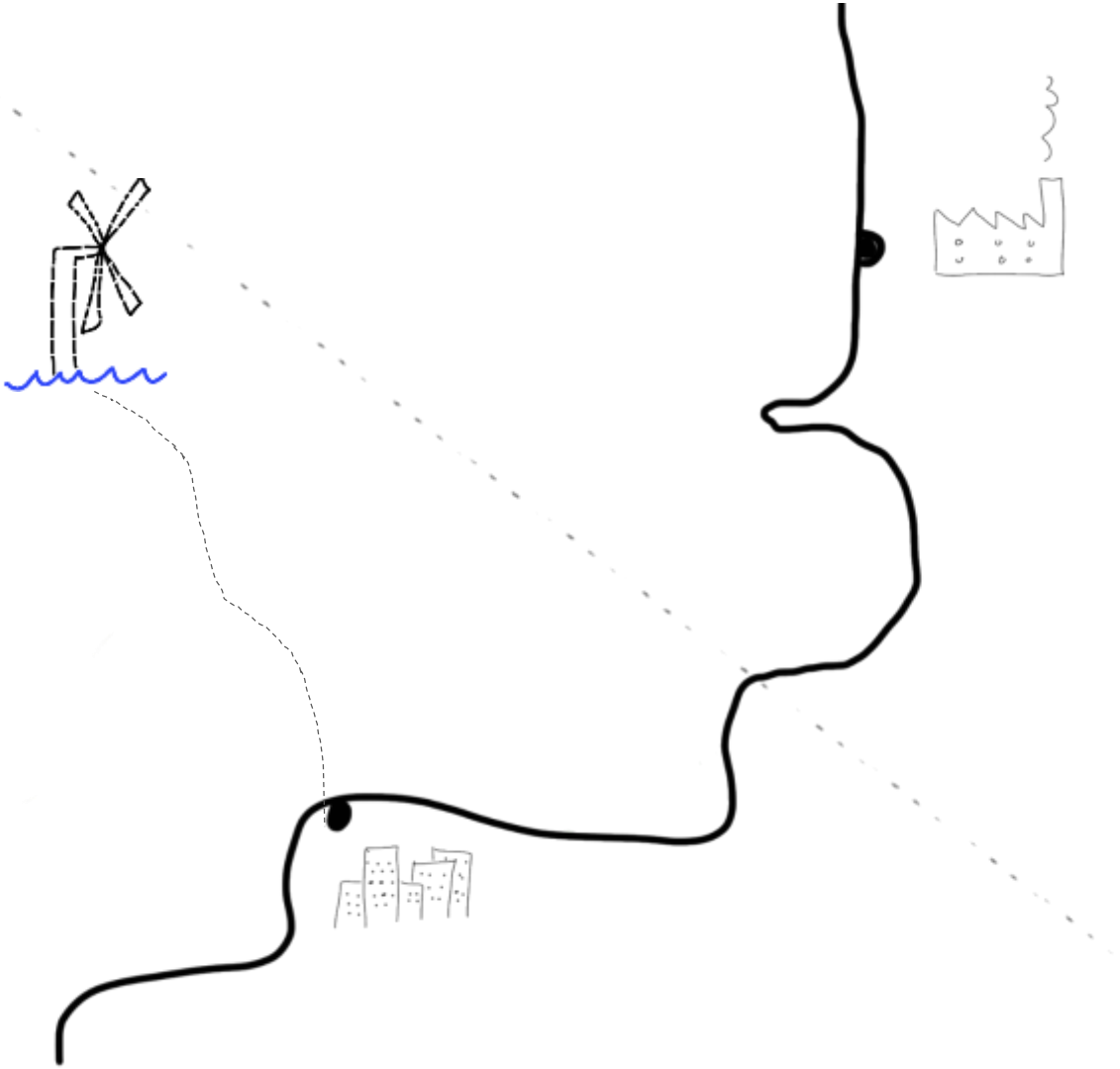
But this one...



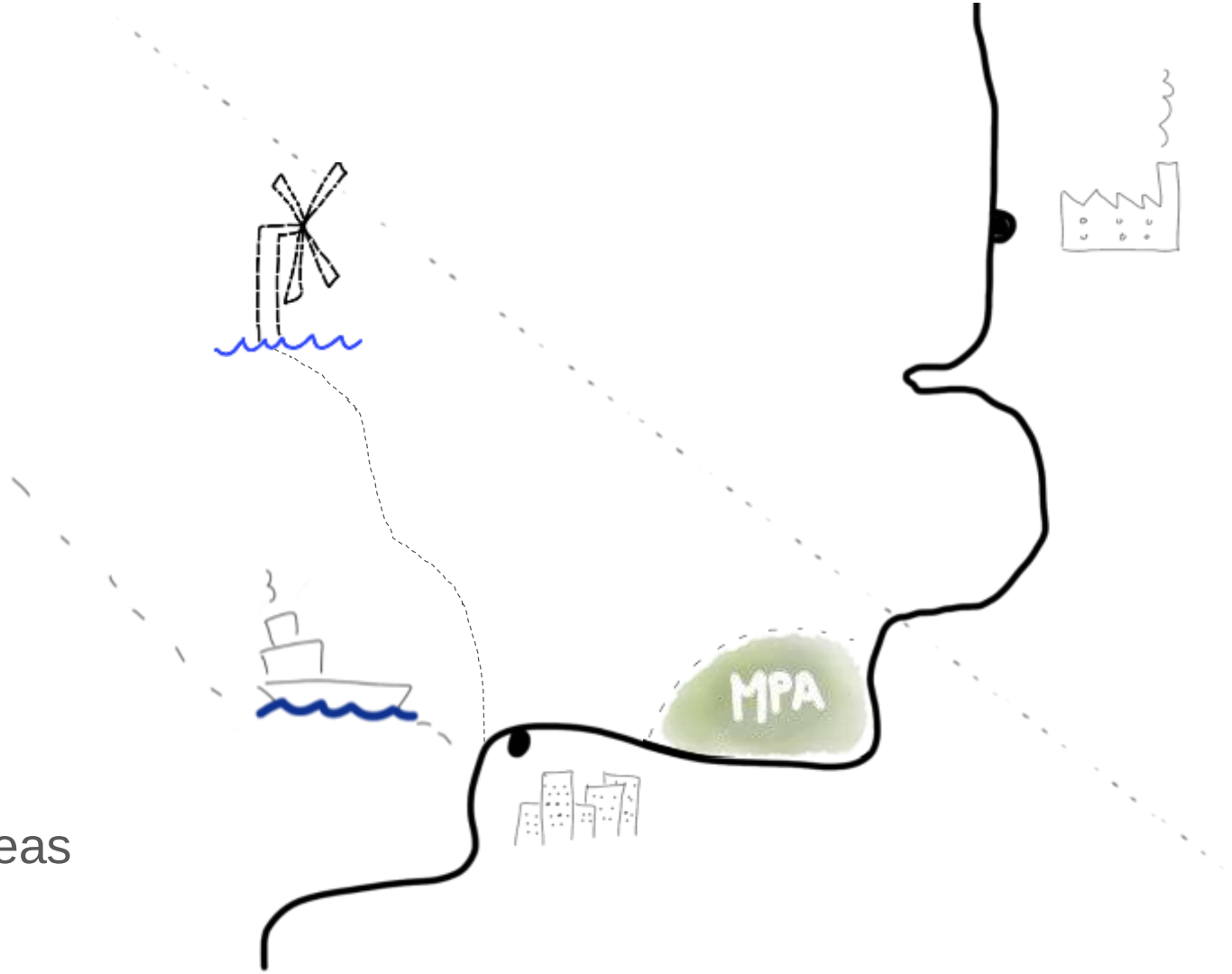


Imagine you are planning an offshore wind farm here.

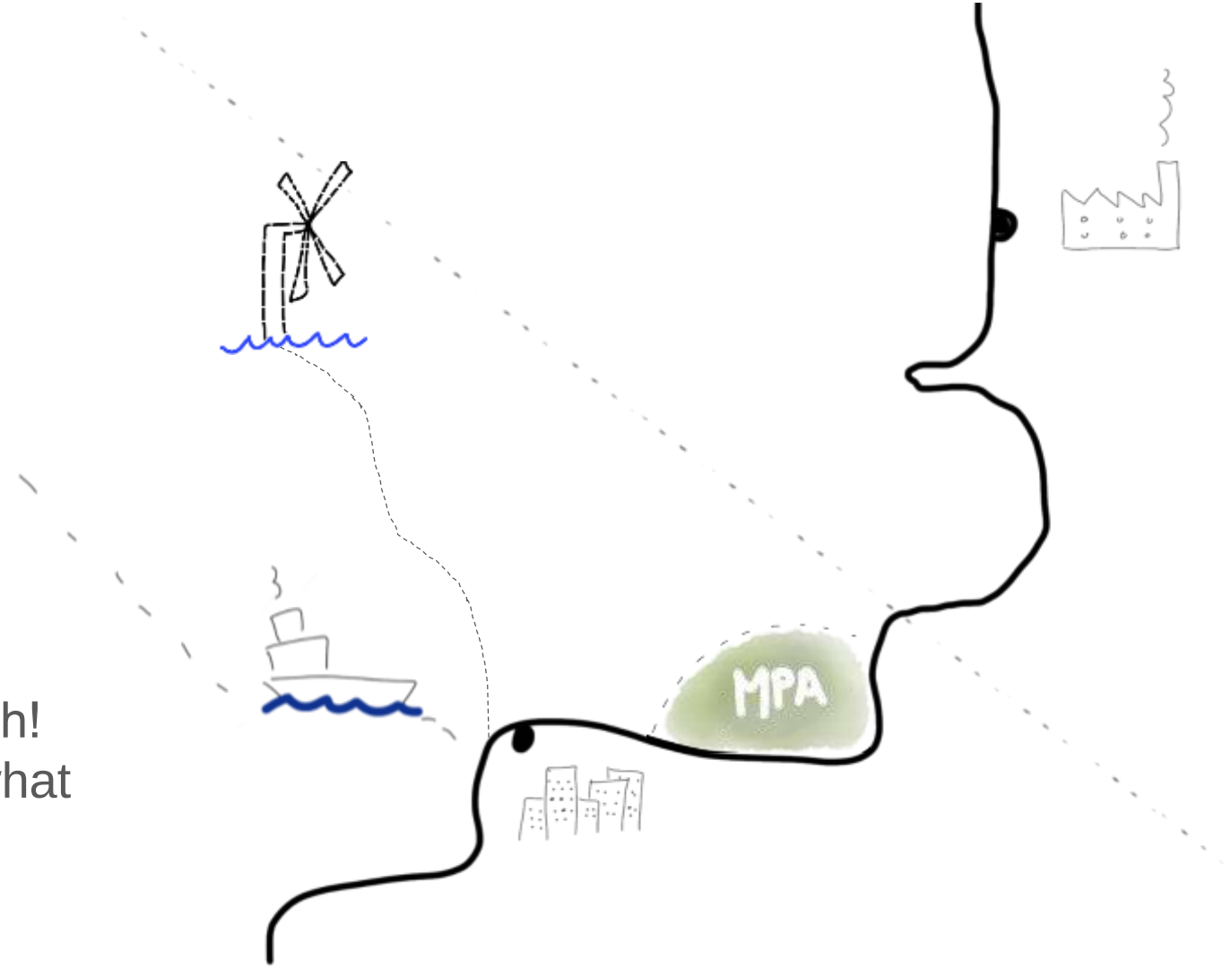
Getting data from your country is relatively easy.



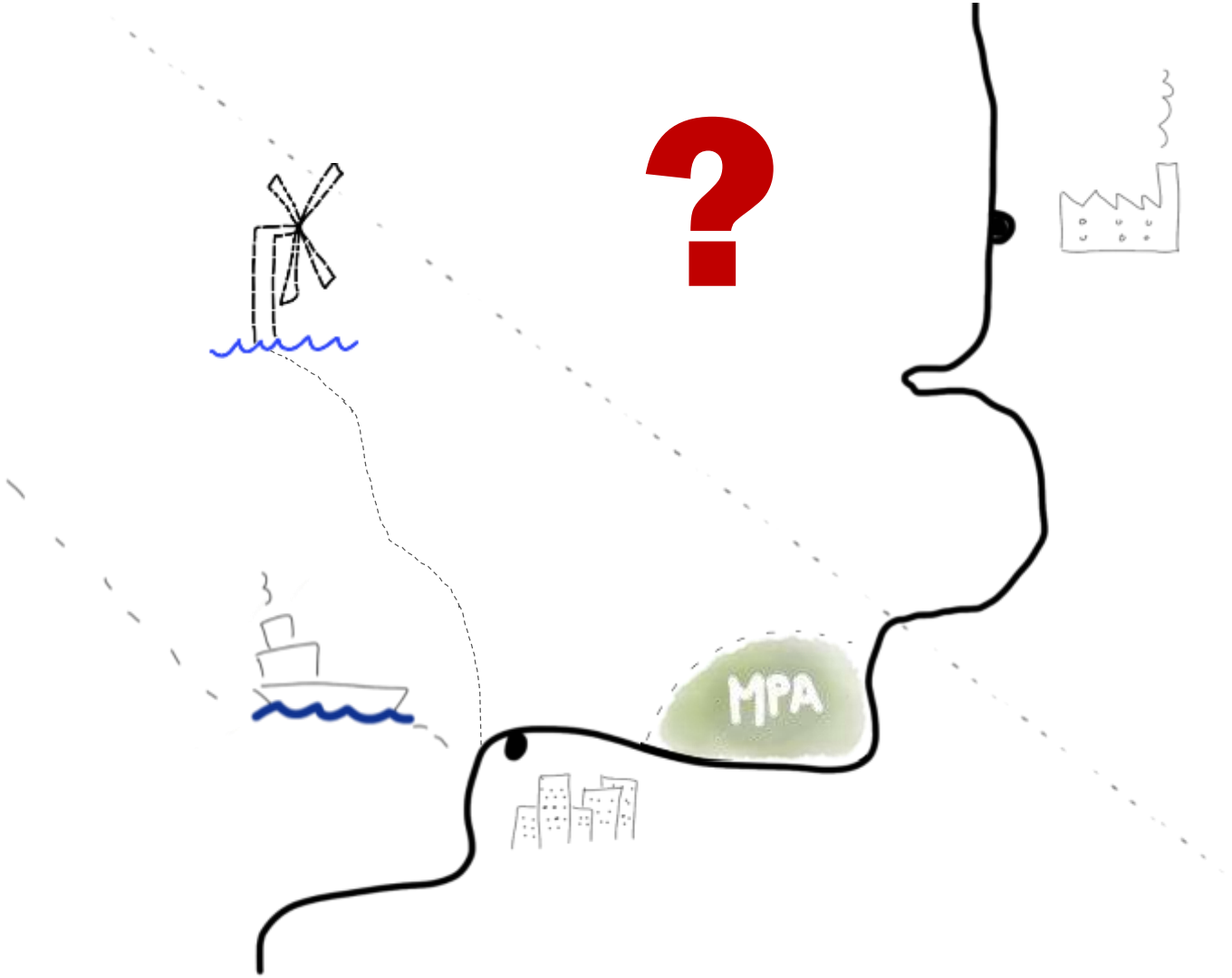
You know where the ferry lines and the Marine Protected Areas are.



But that’s not enough!
You need to know what your neighbour is planning.



Where do you get data from your neighbour?

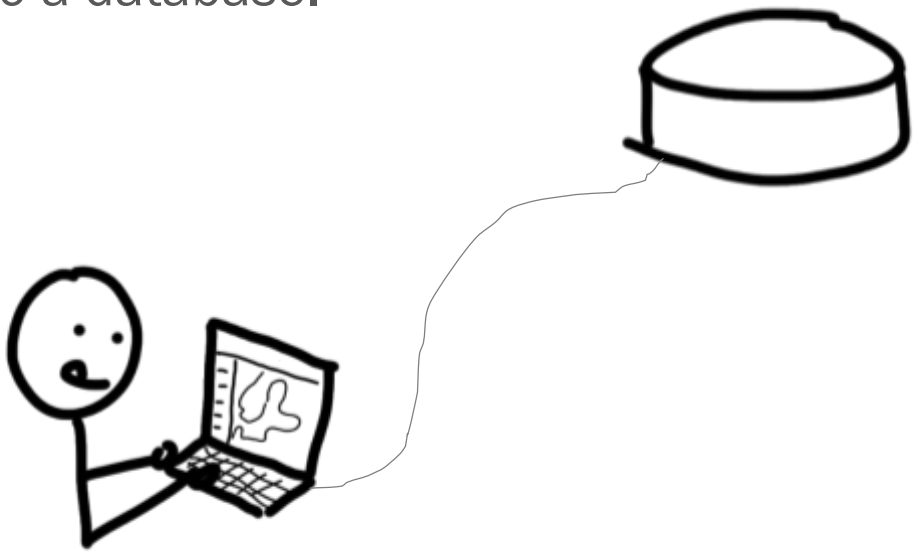


Before the BaltcLINes project planners had

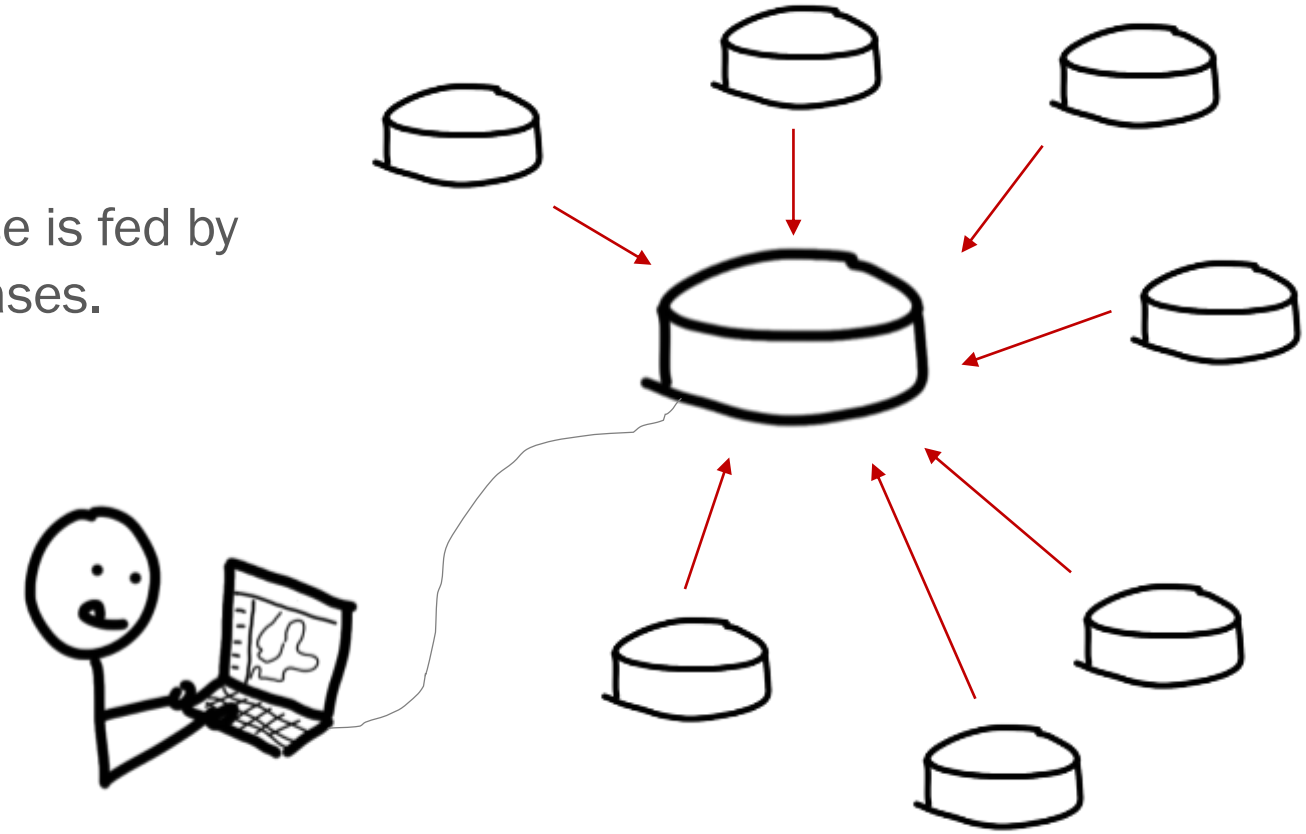
1 option

A centralized database.
How does it work?

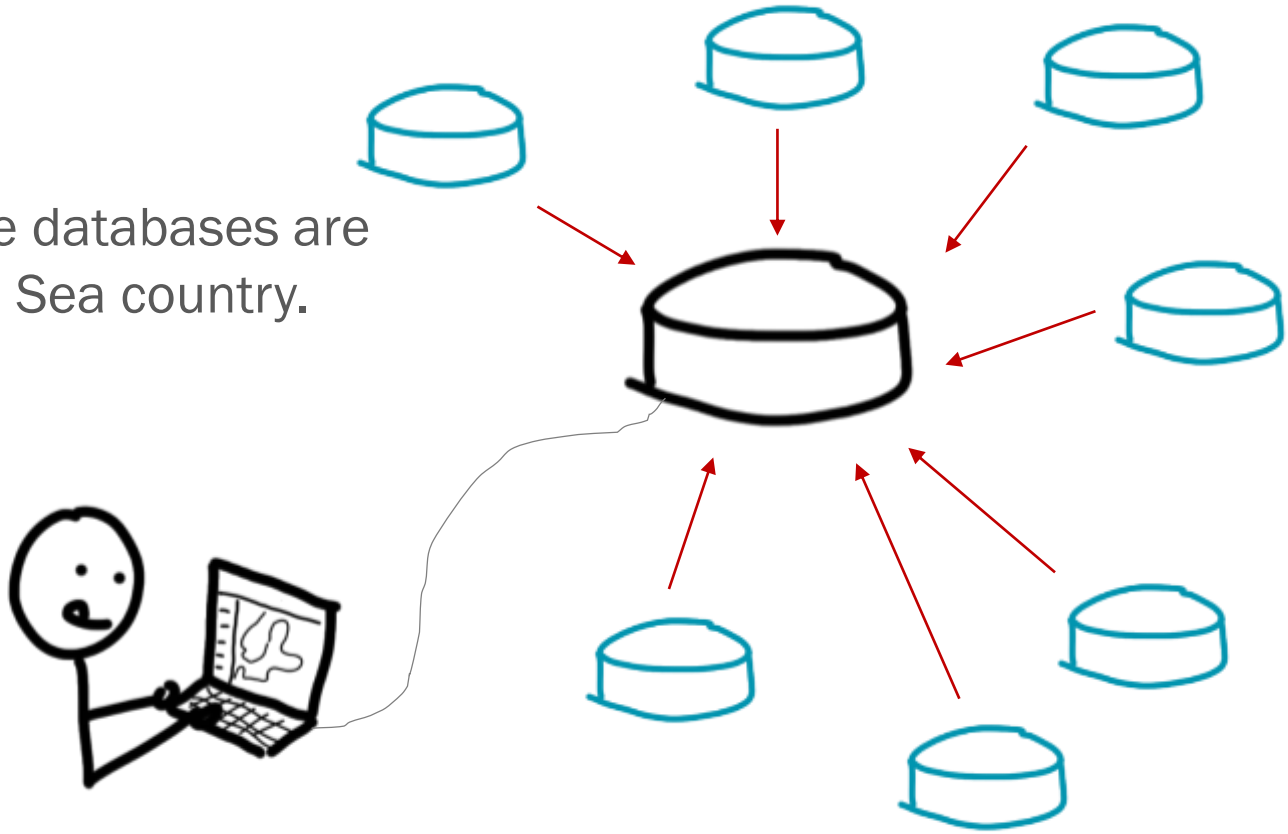
You connect to a database.



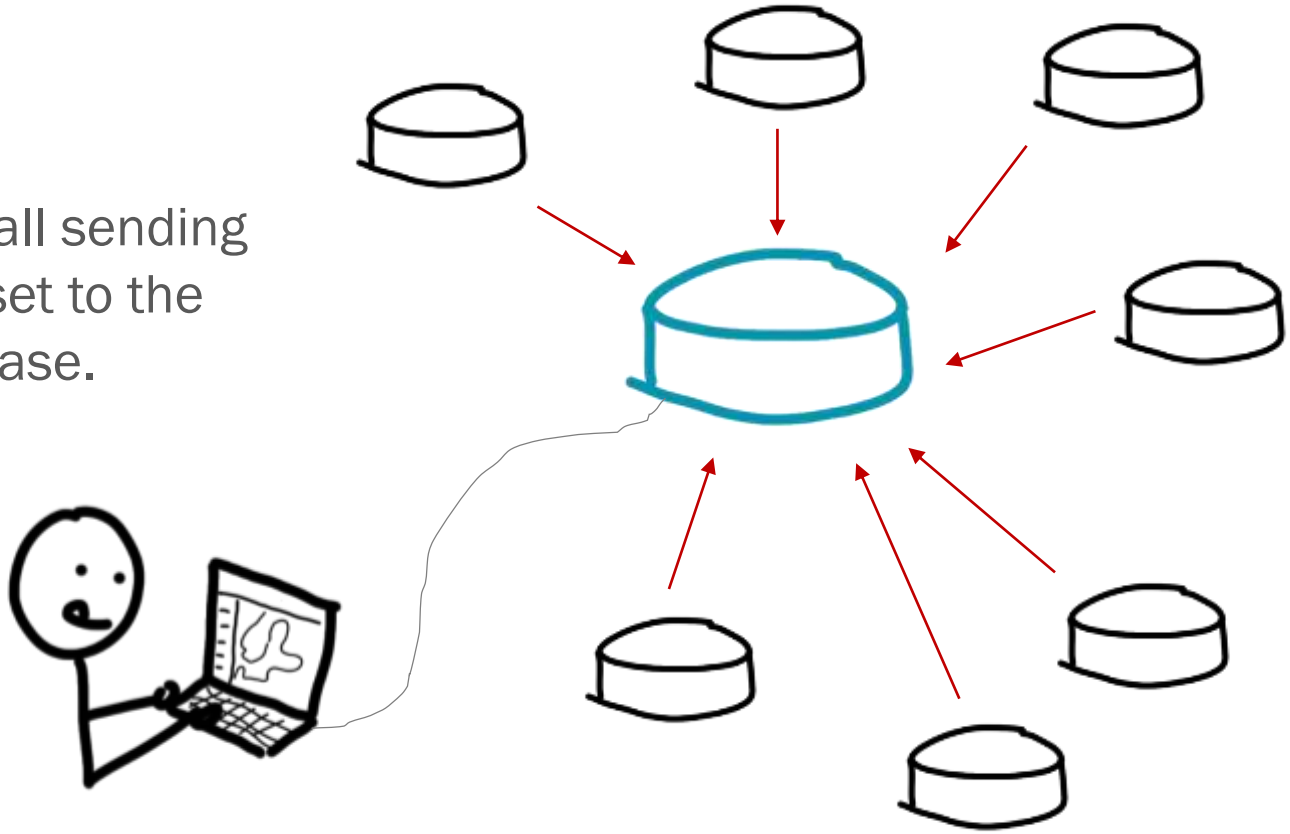
This database is fed by many databases.



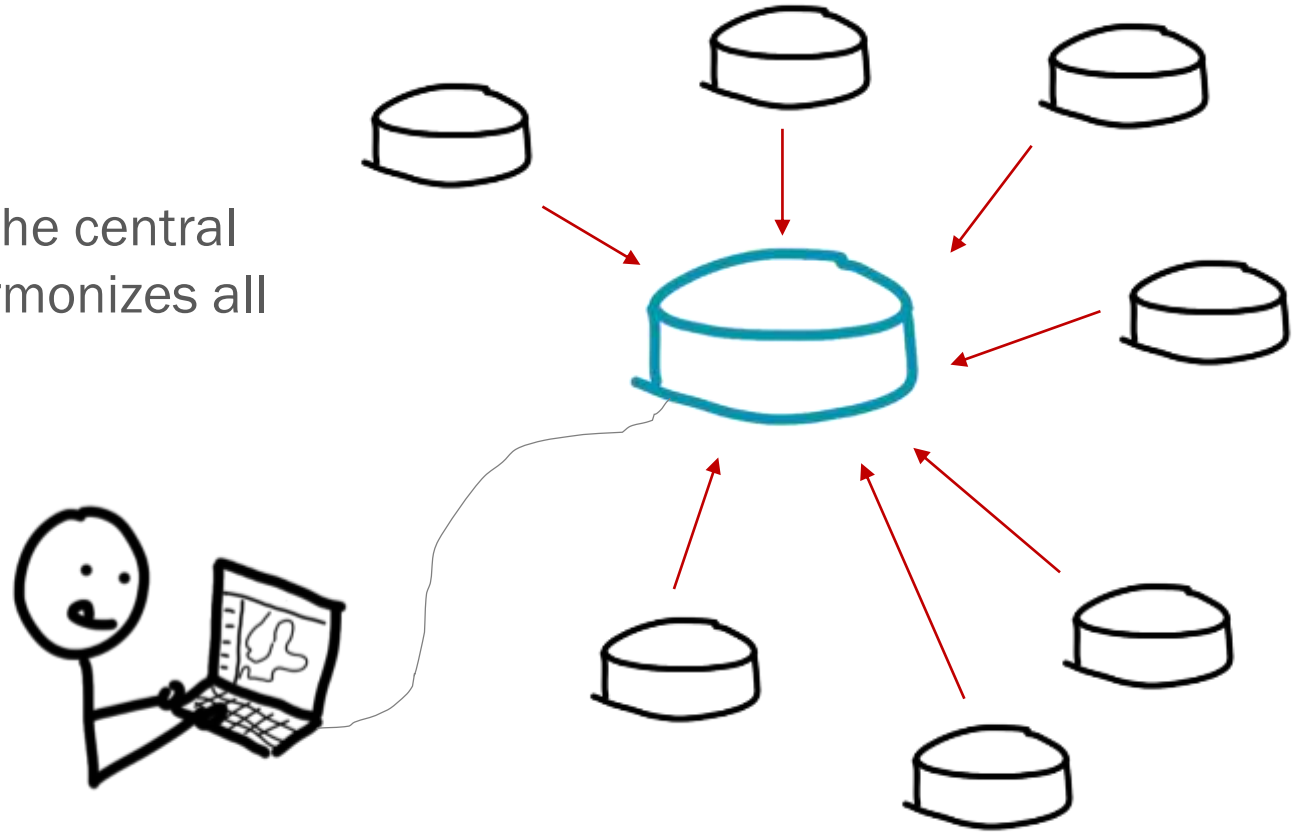
Imagine those databases are in each Baltic Sea country.



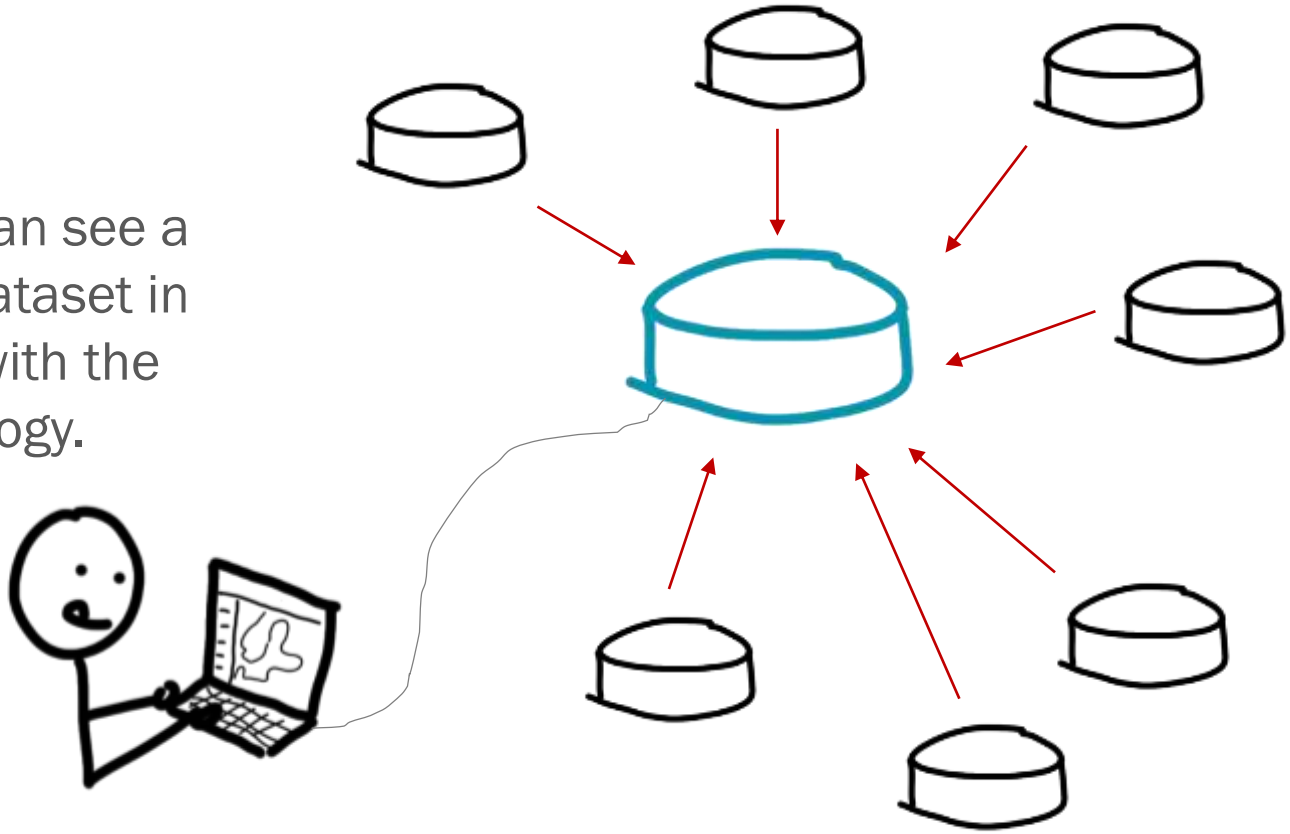
And they are all sending an MPA dataset to the central database.



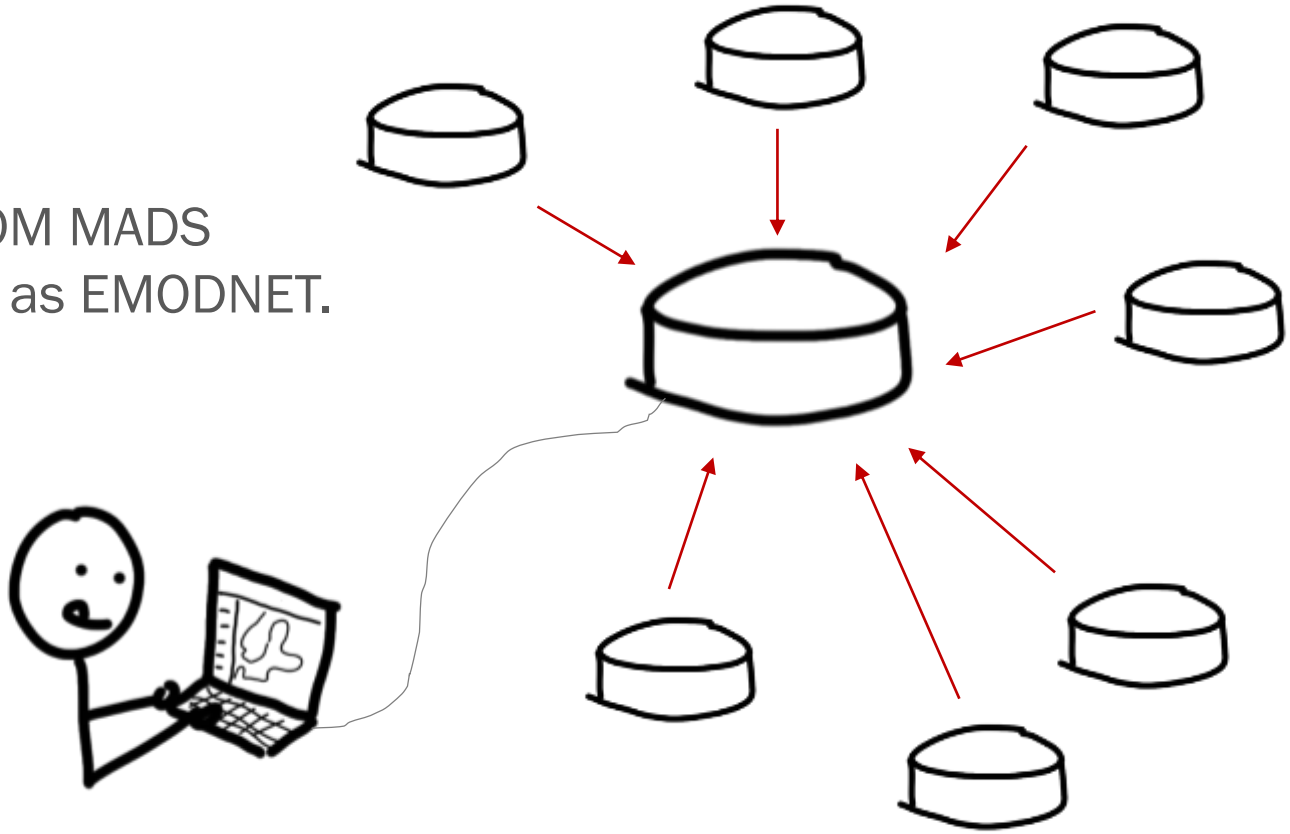
Someone in the central database harmonizes all datasets.



So that you can see a single MPA dataset in English and with the same symbology.

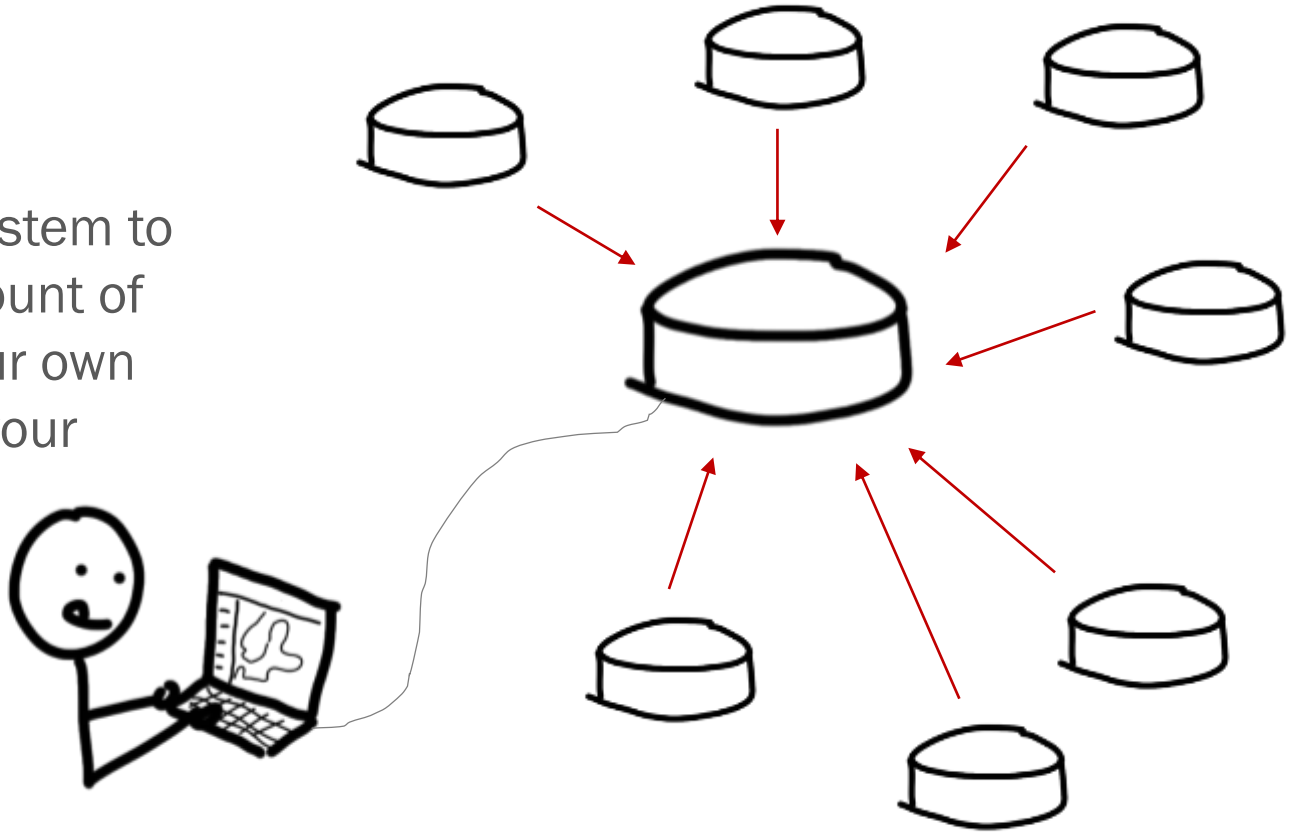


So the HELCOM MADS
works as well as EMODNET.



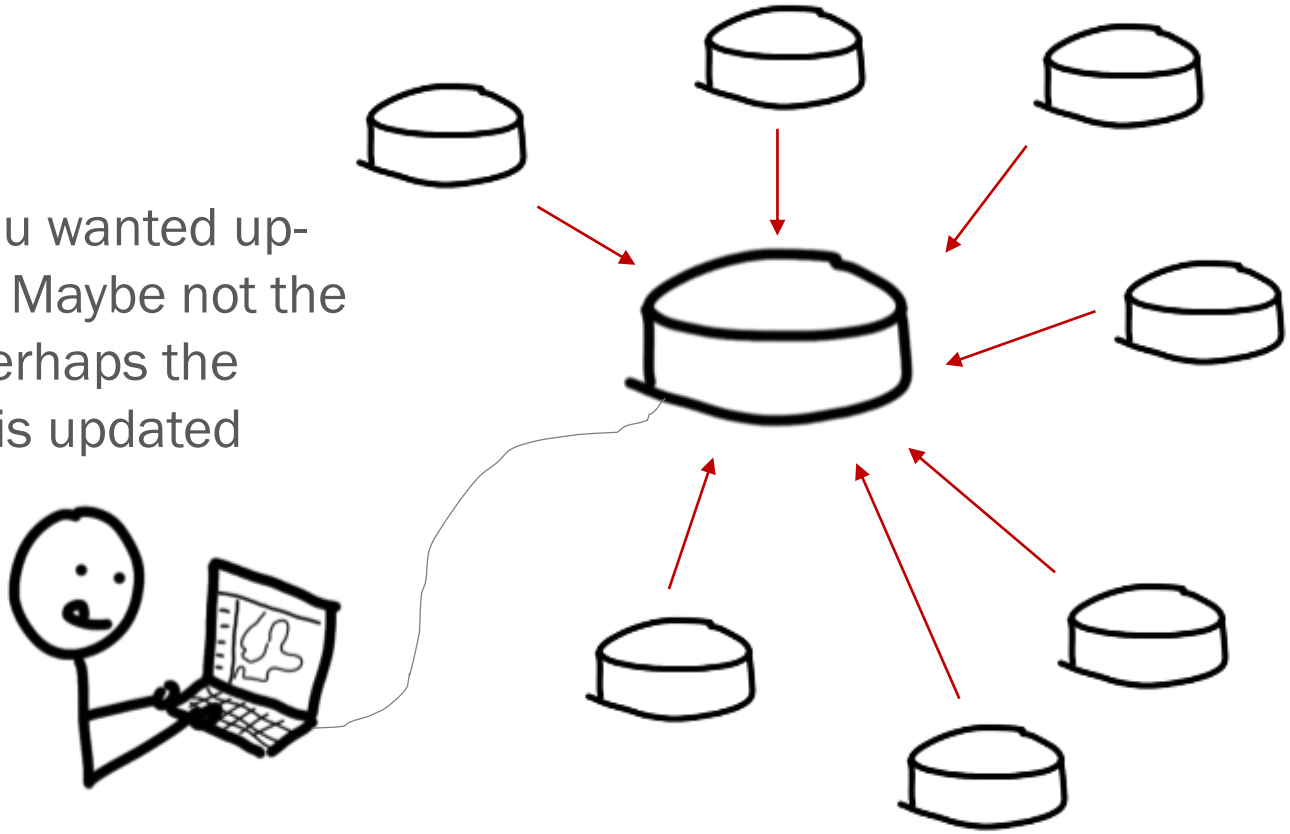
HELCOM Map and Data Service

It’s a great system to get huge amount of data from your own country and your neighbour.



HELCOM Map and Data Service

But what if you wanted up-to-date data? Maybe not the best place. Perhaps the MPA dataset is updated annually!

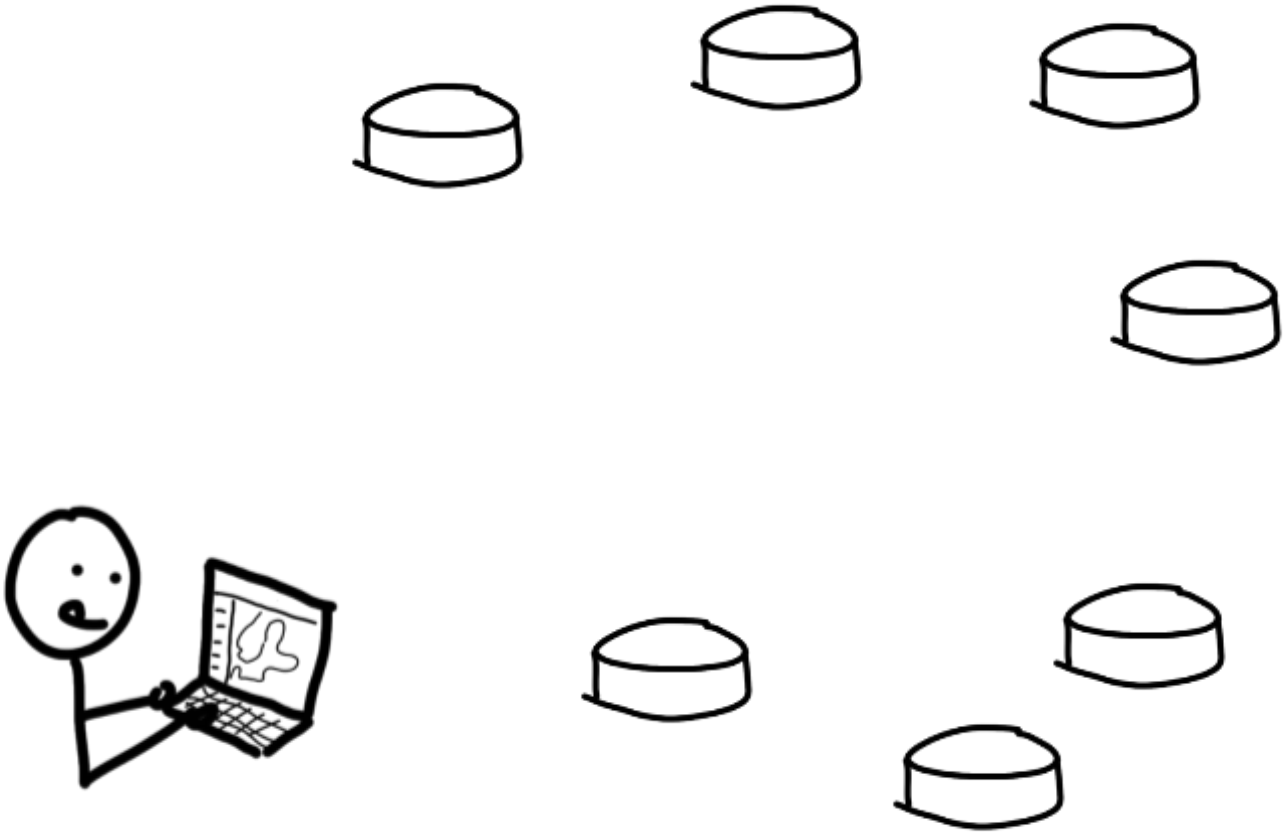


And that’s why now MSP planners have a…

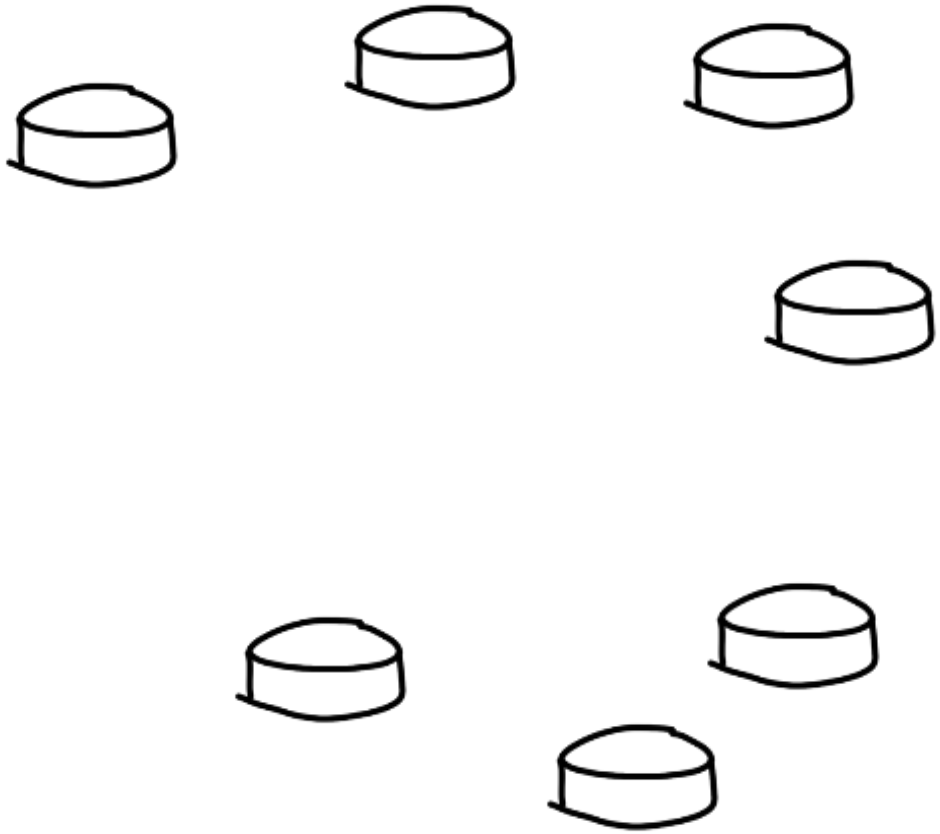
2nd option

Use a tool to access decentralized data. How does that work?

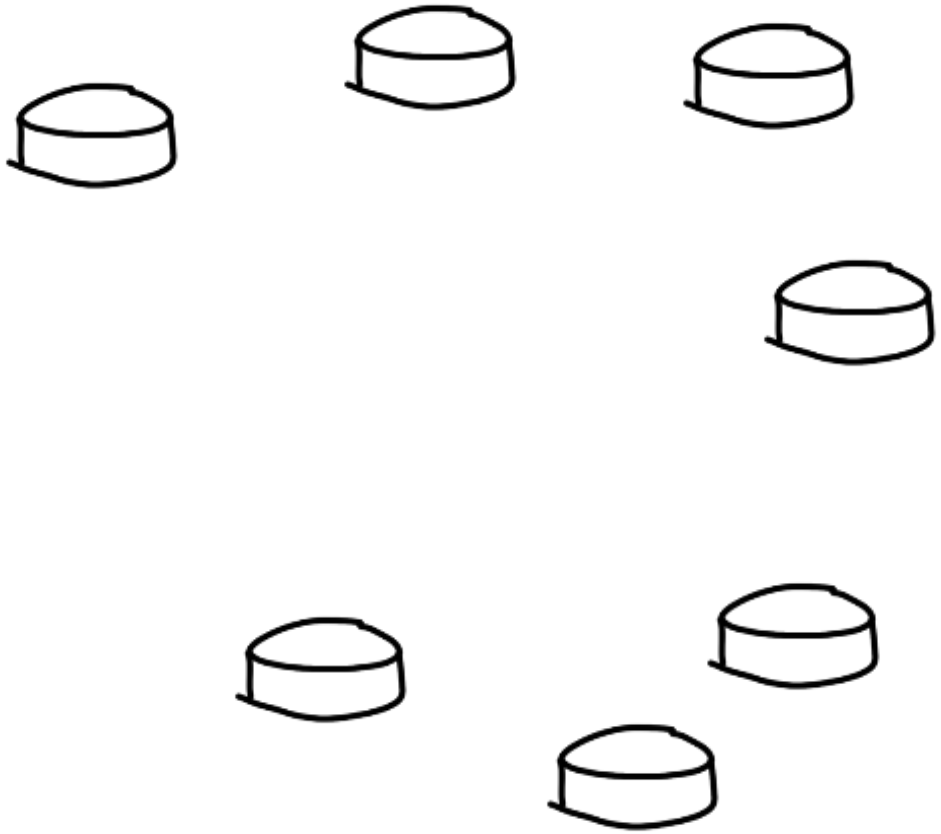
There is no central database.



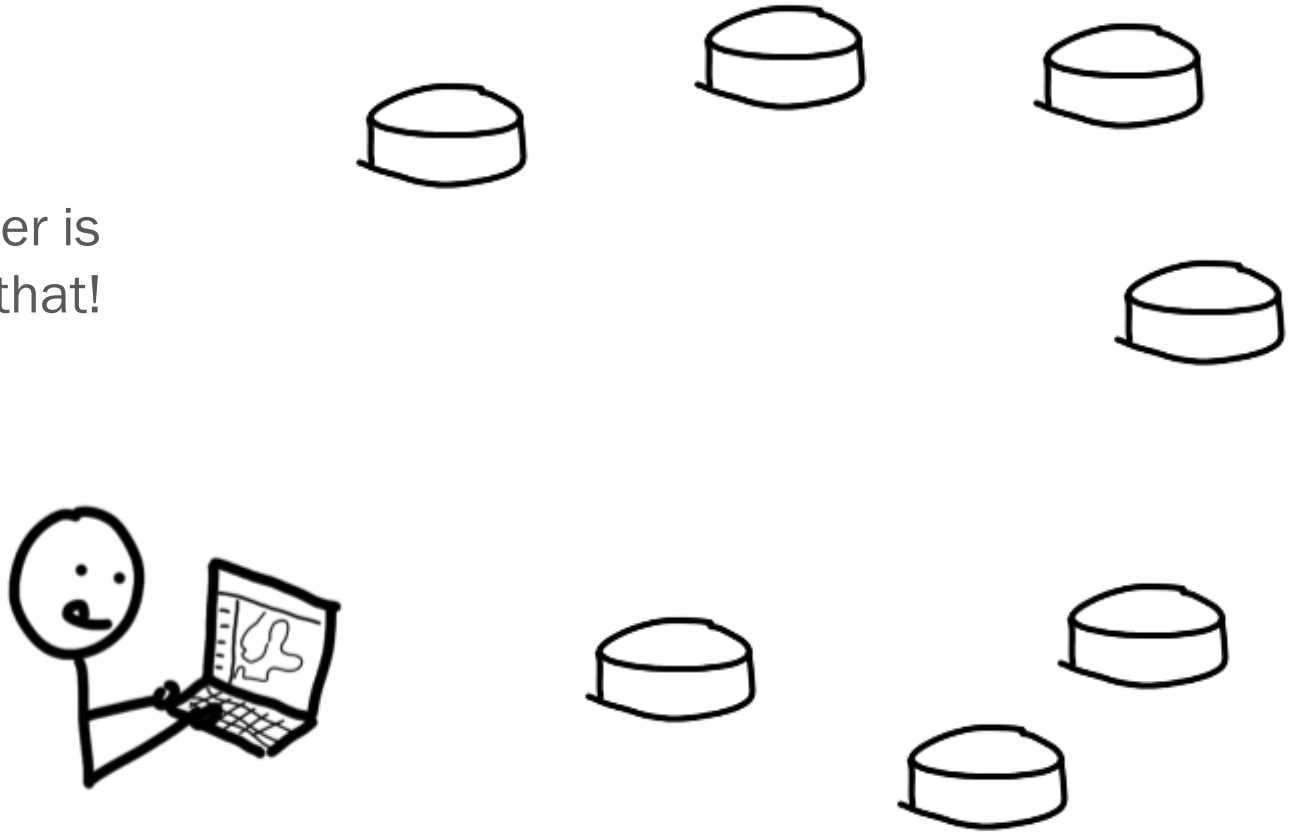
So how do you access those databases?



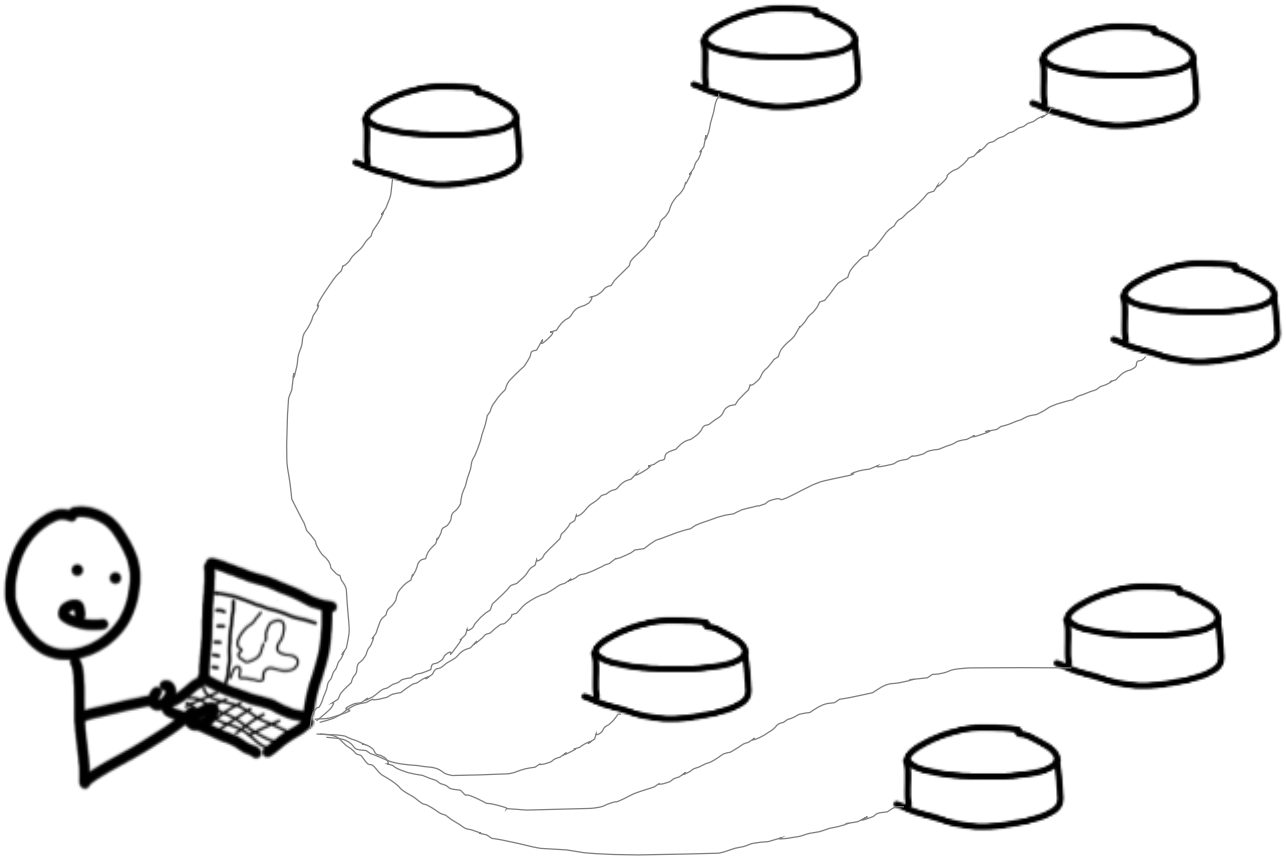
Shall we build another one? Shall we merge all?



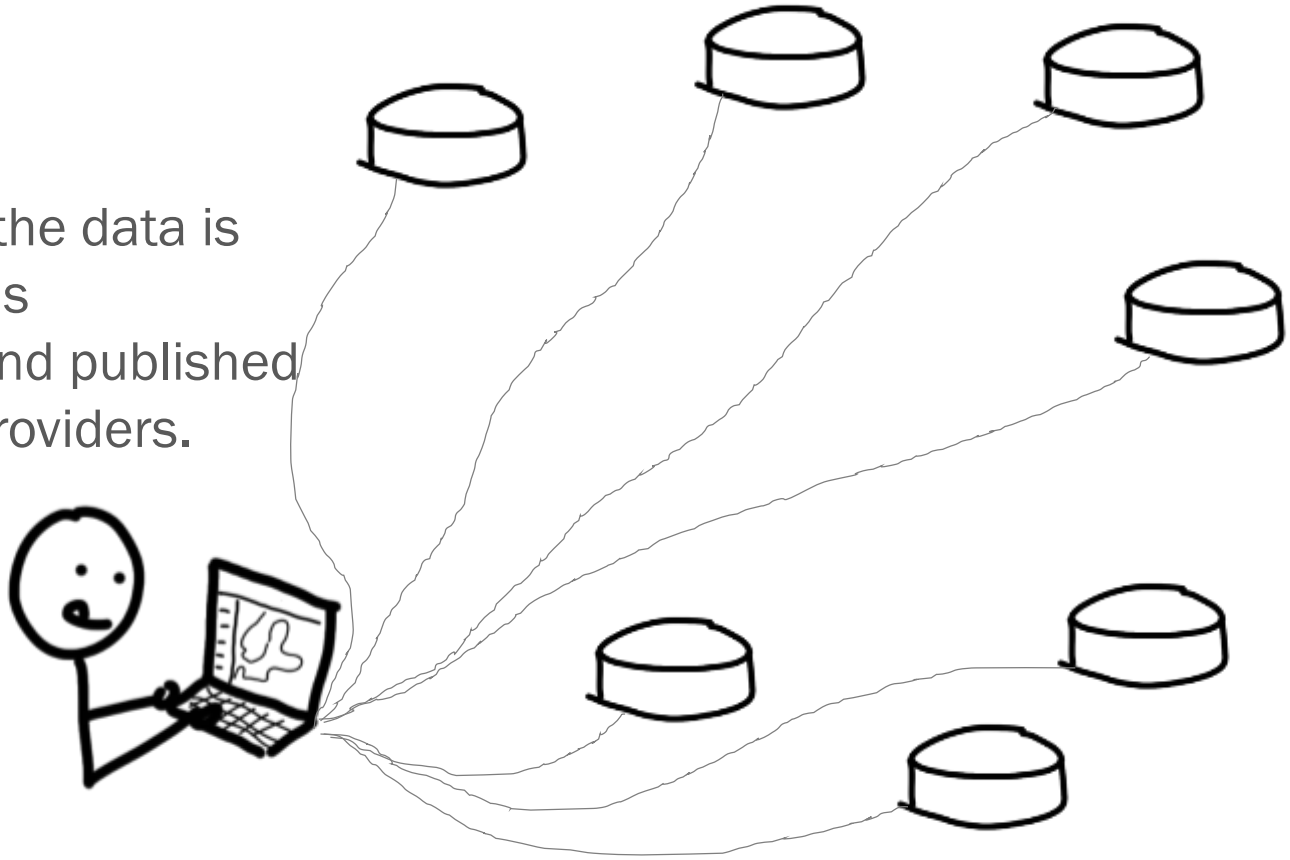
No! The answer is simpler than that!



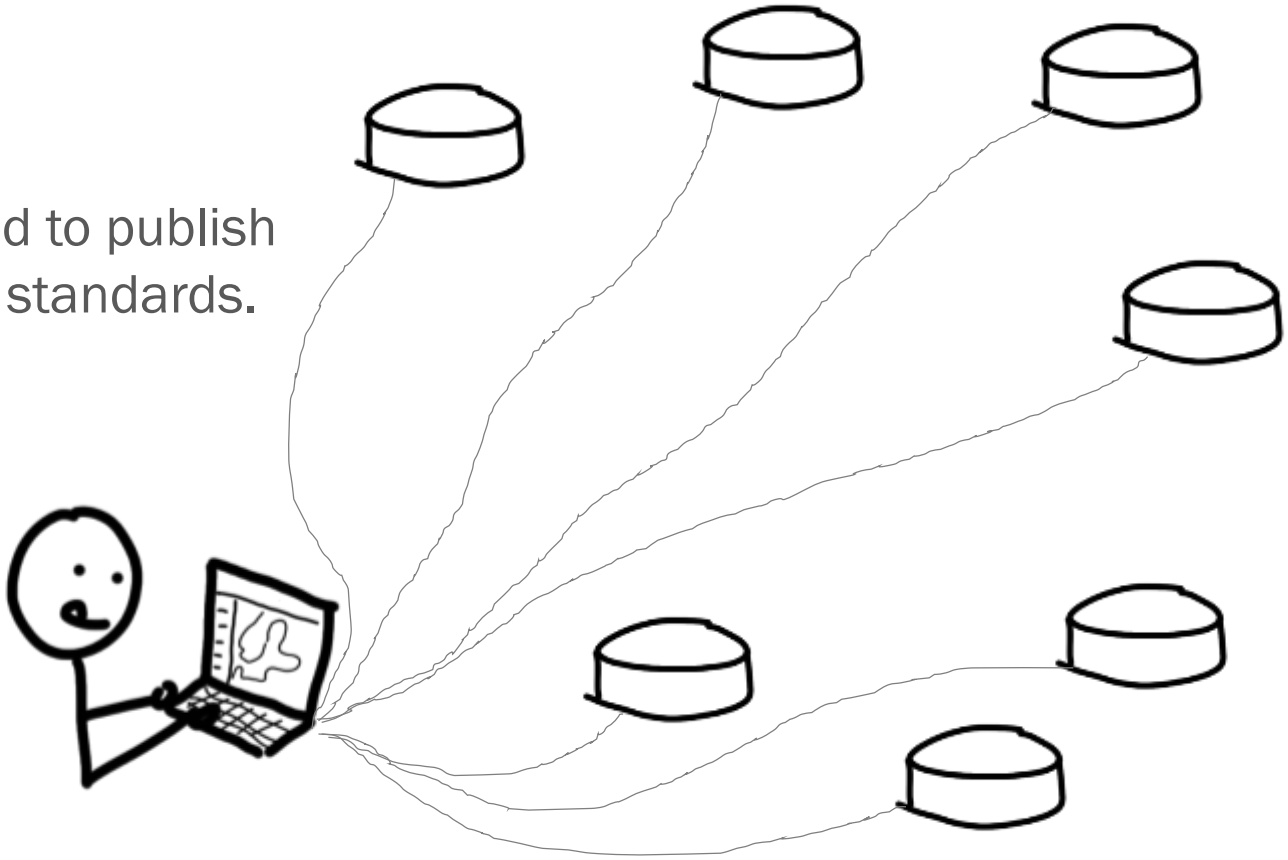
You access
them directly!



You are sure the data is up to date—it's maintained and published by the data providers.



They only need to publish them in open standards.



This is what HELCOM has built…

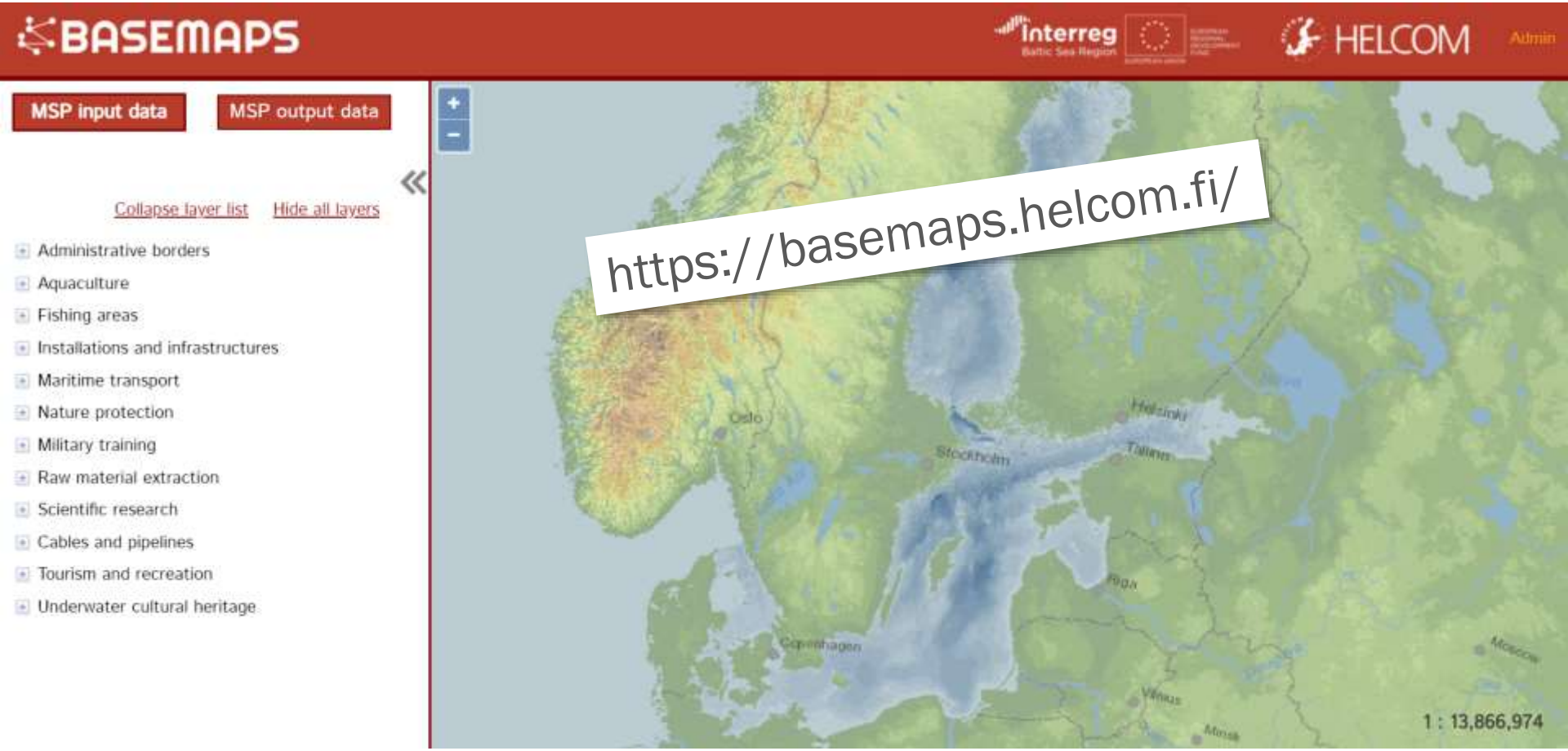
This is what HELCOM has built…

The first time MSP planners can search data from the original source…

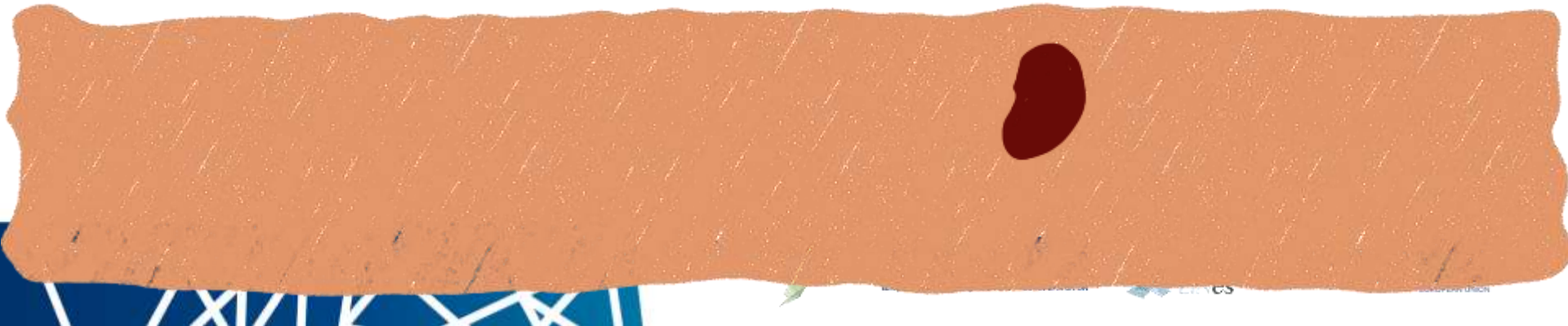
...and it's called...

BASEMAPS

Baltic Sea Map Service


BASEMAPS
Interreg
Baltic Sea Region
HELCOM
Admin
MSP input data
MSP output data
Collapse layer list
Hide all layers
Administrative borders
Aquaculture
Fishing areas
Installations and infrastructures
Maritime transport
Nature protection
Military training
Raw material extraction
Scientific research
Cables and pipelines
Tourism and recreation
Underwater cultural heritage
https://basemaps.helcom.fi/
Oslo
Stockholm
Helsinki
Tallinn
Riga
Copenhagen
Vilnius
Minsk
Moscow
1 : 13,866,974

Let me finish with the seed.



We have been nurturing it for three years.

And we got a nice tree.

Now it’s the turn of the MSP community to take care of it.

How? By publishing
data in open standards

Please, don't
let the tree die!

Data providers:
publish data in
open standards!

dr. Harald Warmelink

North SEE
Baltic LINes
Interreg North Sea Region
Interreg Baltic Sea Region
EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND
marinescotland Scottish Government Riaghaltas na h-Alba gov.scot
SIMCelt
Rijkswaterstaat Ministry of Infrastructure and Water Management
Breda University OF APPLIED SCIENCES


MSP Challenge
Simulation Platform


MSP Challenge
Your sea basin too? Let’s build it!

Texel, NL
Apr 2018

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OF APPLIED SCIENCES

Connecting Seas

NorthSEE – Baltic LINes MSP conference

Identification of planning criteria

Riku Varjopuro (BalticLINes)

North SEE

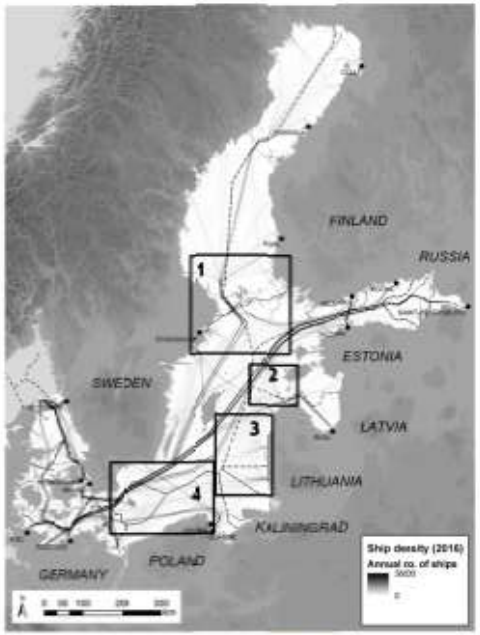
Interreg North Sea Region

Baltic LINes

Interreg Baltic Sea Region

Starting from the planning issues

EXAMPLES OF MSP PLANNING ISSUES IN THE BALTIC SEA

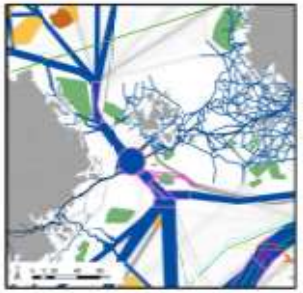


* Due to practical layout issues different national terms and definitions are not reflected here. Instead, collective terms are used to obtain similar color codes.

Case 1: Area around Aland

Countries: Sweden, Finland

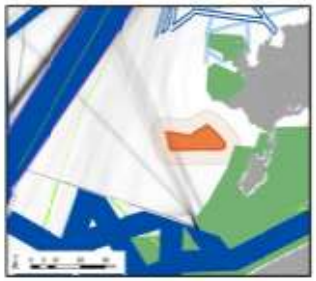
Planning issue: Different methods to transfer IMO regulations into national MSP ship corridors



Case 2: South-West of Saarema Island

Countries: Estonia, Sweden, Latvia

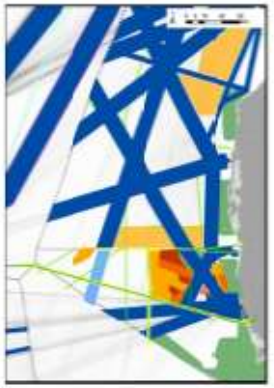
Planning issue: Mismatches between ship corridors and potential impact on navigational safety from planned offshore wind farm



Case 3: South-East Baltic Sea

Countries: Sweden, Latvia, Lithuania, Russia, Poland

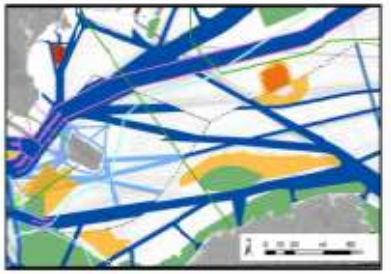
Planning issue: Mismatches between ship corridors of several countries (gaps between, and different widths of corridors)



Case 4: Area around and east of Bornholm

Countries: Poland, Sweden, Denmark, Germany

Planning issue: Mismatches between ship corridors (gaps between, and different widths of corridors), issues between shipping and energy (shift of traffic due to OREI)



Jointly agreed planning criteria to avoid mismatches?

	National planning criteria for OWE
BE	A set of criteria is used by the MSP authority
DK	A set of criteria is used by the energy authority
EE	No use for a fixed set of planning criteria
FI	Not needed for MSP, regional sets of criteria are used
DE	A set of criteria is being developed
LV	A set of criteria is used in MSP
LT	A set of criteria is used in MSP
NL	A set of criteria is used by the MSP authority
NO	No existing criteria
PL	Research projects have developed sets of planning criteria
SCOT	A set of criteria is used by the MSP authority
SE	An indicative list exists, but always case by case

General Provisions of Ships' Routeing

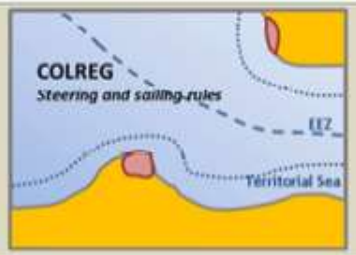
- Course alteration should be as few as possible
- Route junctions should be avoided
- Make optimum use of water depth and navigable areas
- Design traffic lanes to be fully usuable (from edge to edge)
- Take traffic density, other uses and sea room available into account

IMO

MSC ↑ NCSR

- Description of the area
- Cooperation between States
- Traffic Considerations
- Hydrographic survey
- Alternative routeing measures
- Offshore structures nearby

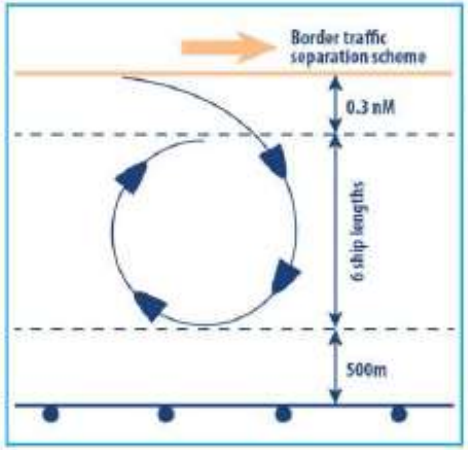
(Joint) **proposal** for an internationally recognized recommended/ mandatory routeing system, e.g. TSS or ATBA



Wish/ need to establish *IMO routeing systems* to improve the safety of navigation areas

- with high traffic density,
- restricted sea room,
- limited depth or
- unfavourable weather conditions

National goverments



CALCULATION FOR A ROUND TURN TO STARBOARD IN A SHIPPING LANE (SEE COLREGS 8, P13)

The required room is:

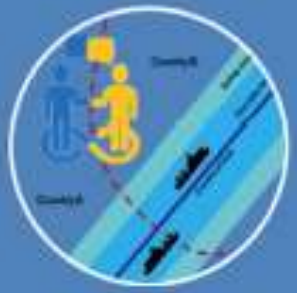
1. Start of the round turn. A round turn is not started right away. Normally one first deviates from the course, while observing the other vessel. This requires time. In the meantime one deviates from the original track. The minimum distance required for this manoeuvre is 0.3 nautical miles.

If a country has a case by case approach,

would it use commonly agreed planning criteria?

Identification of planning mismatches and suggestion for planning solutions

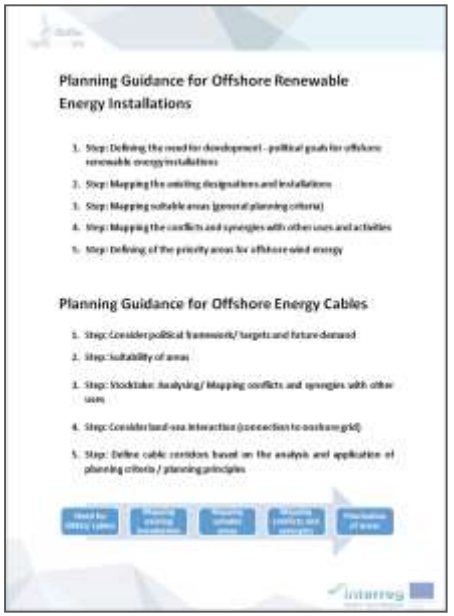
Assessment of national approaches and planning criteria (differences)

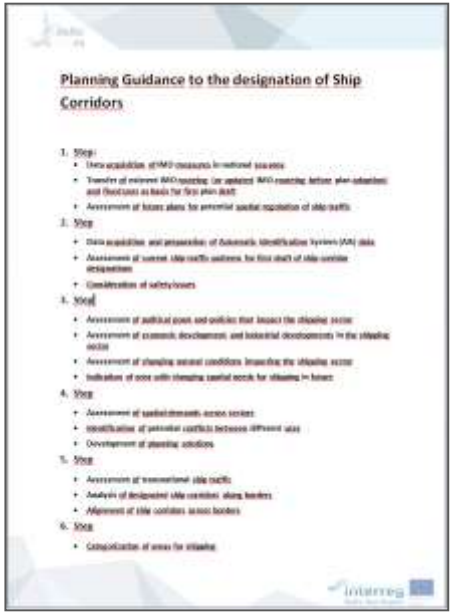


Step-wise approach for the planning of ship corridors and ORE infrastructure in MSP


North SEE
Improving the co-existence of Offshore Energy Installations & Shipping
Report on Work-package 4.4 of the NorthSEE Project
interreg
North Sea Region


Baltic LINes
IDENTIFICATION OF TRANSNATIONAL PLANNING CRITERIA
Work Package 4.2
interreg
Baltic Sea Region


Planning Guidance for Offshore Renewable Energy Installations
1. Step: Defining the need for development - political goals for offshore renewable energy installations
2. Step: Mapping the existing designations and installations
3. Step: Mapping suitable areas (general planning criteria)
4. Step: Mapping the conflicts and synergies with other uses and activities
5. Step: Defining of the priority areas for offshore wind energy
Planning Guidance for Offshore Energy Cables
1. Step: Consider political framework/ targets and future demand
2. Step: Suitability of areas
3. Step: Stocktake: Analysing/ Mapping conflicts and synergies with other uses
4. Step: Consider land-sea interaction (connection to onshore grid)
5. Step: Define cable corridors based on the analysis and application of planning criteria / planning principles


Planning Guidance to the designation of Ship Corridors
1. Step:
2. Step
3. Step
4. Step
5. Step
6. Step

Learn more:

https://northsearegion.eu/northsee/project-downloads-library/

https://vasab.org/project/balticlines/project-outputs/

And the sessions of this conference!