

Manuel Frias
Nordic Open Data Week
Visualization day
Helsinki 4 June 2015

What is HELCOM?



Baltic Marine Environment Protection Commission

helcom.fi/helcom-at-work/press-room/videos/40th-anniversary-animation

Watch the video!!

HELCOM

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Ministerial Declarations | Groups | Projects | Events | Press room | Publications | Roadmap

- Press releases
- Videos
  - 40th Anniversary Animation
  - Baltic Sea shipping visualized
  - Jubilee session - HELCOM 40 years
- Leaflets and brochures
- HELCOM presentation template
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40TH ANNIVERSARY ANIMATION





I have been working

6 years

at the HELCOM Secretariat

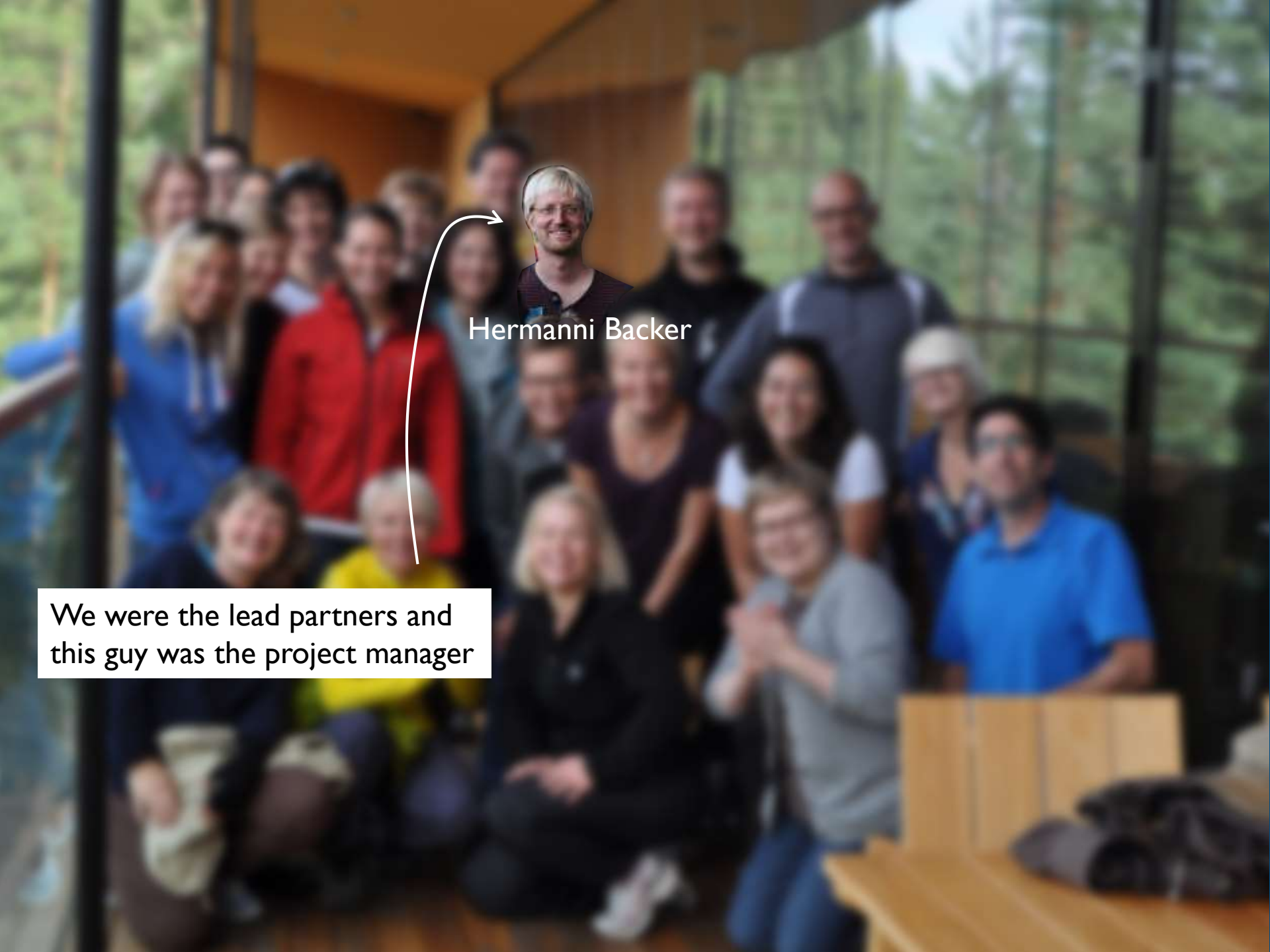
The project that **opened**

my (dataviz) eyes

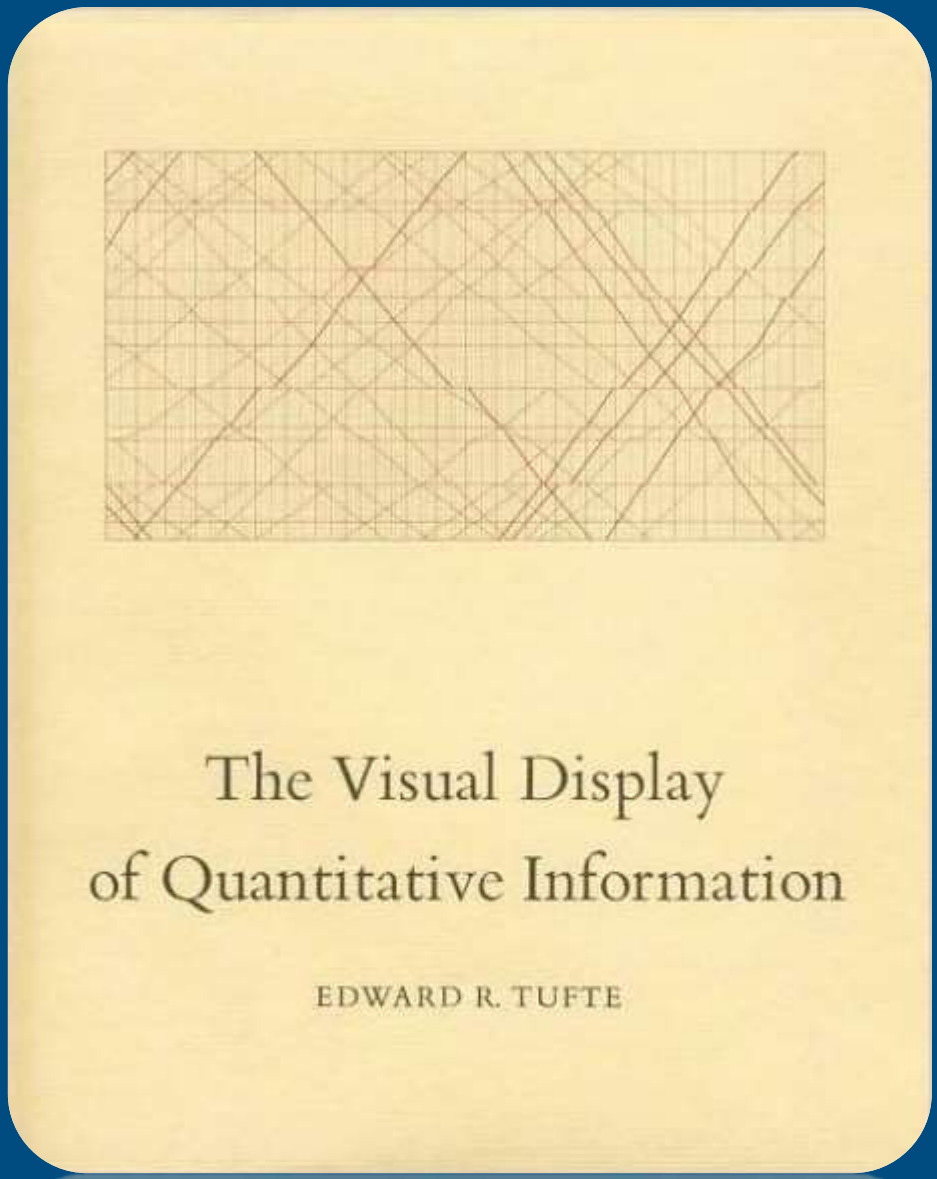
Plan Bothnia



KoneCranes


Hermanni Backer
We were the lead partners and this guy was the project manager

One day I saw this book in his room.
It opened my eyes...



I started to get interested in data visualization.

My modest library



BLAH BLAH BLAH
WHAT TO DO WHEN WORDS DON'T WORK
DAN ROAM
THE BACK OF THE NAPKIN
DAN ROAM
STEAL LIKE AN ARTIST
DON'T MAKE ME THINK!
WEB USABILITY
Universal Principles of Design
Emotional Design
presentationzen DESIGN
Reynolds
Design Information
the functional art
Show Me the Numbers
The Non-Designer's Design & Type Books
Robin Williams
presentationzen
Reynolds
The Element
DANIEL H. PINK
A WHOLE NEW MIND
BARD
PICTURE THIS
HOW PICTURES WORK
100 THINGS
VISUAL MEETINGS
The Elements of Graphic Design
THE DESIGN METHOD
thinking with type
Ellen Lupton
CREATIVE CONFIDENCE
Ware
Information Visualization
THE SKETCHNOTE HANDBOOK
CARTOGRAPHER'S TOOLKIT
Gretchen N Peterson
CLEAR and to THE POINT
KOSSLYN
GEO GRAPHIC
UNDERSTANDING Comics
SCOTT McCLOUD
GRAPHIC DESIGN THE NEW BASICS
LUPTON PHILLIPS
Robin Williams Design Workshop
Now you see it
FEW


These books opened my eyes even more
Show Me the Numbers
NAPKIN

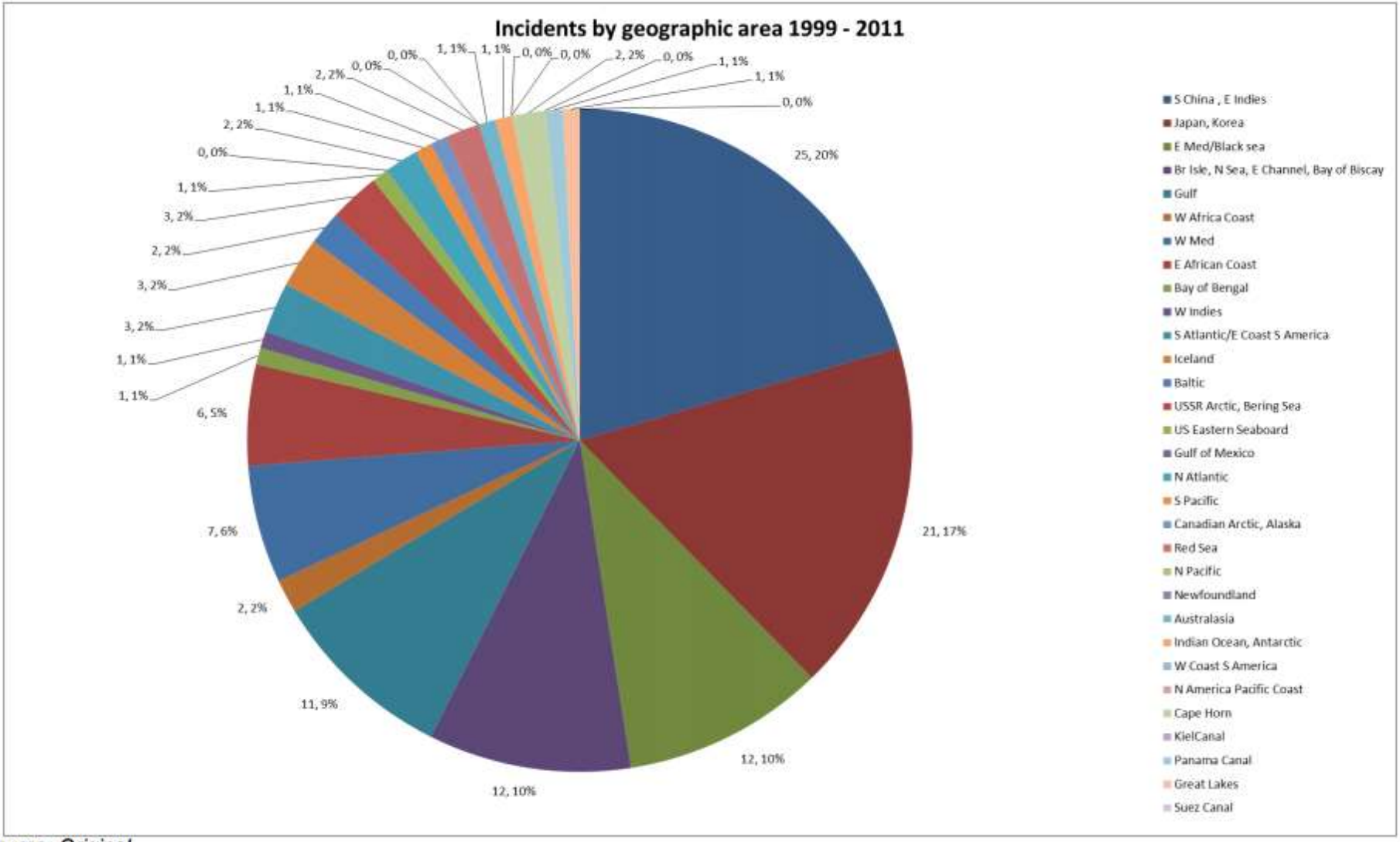
After reading those books I realized there is

ROOM FOR IMPROVEMENT

regarding data visualization.

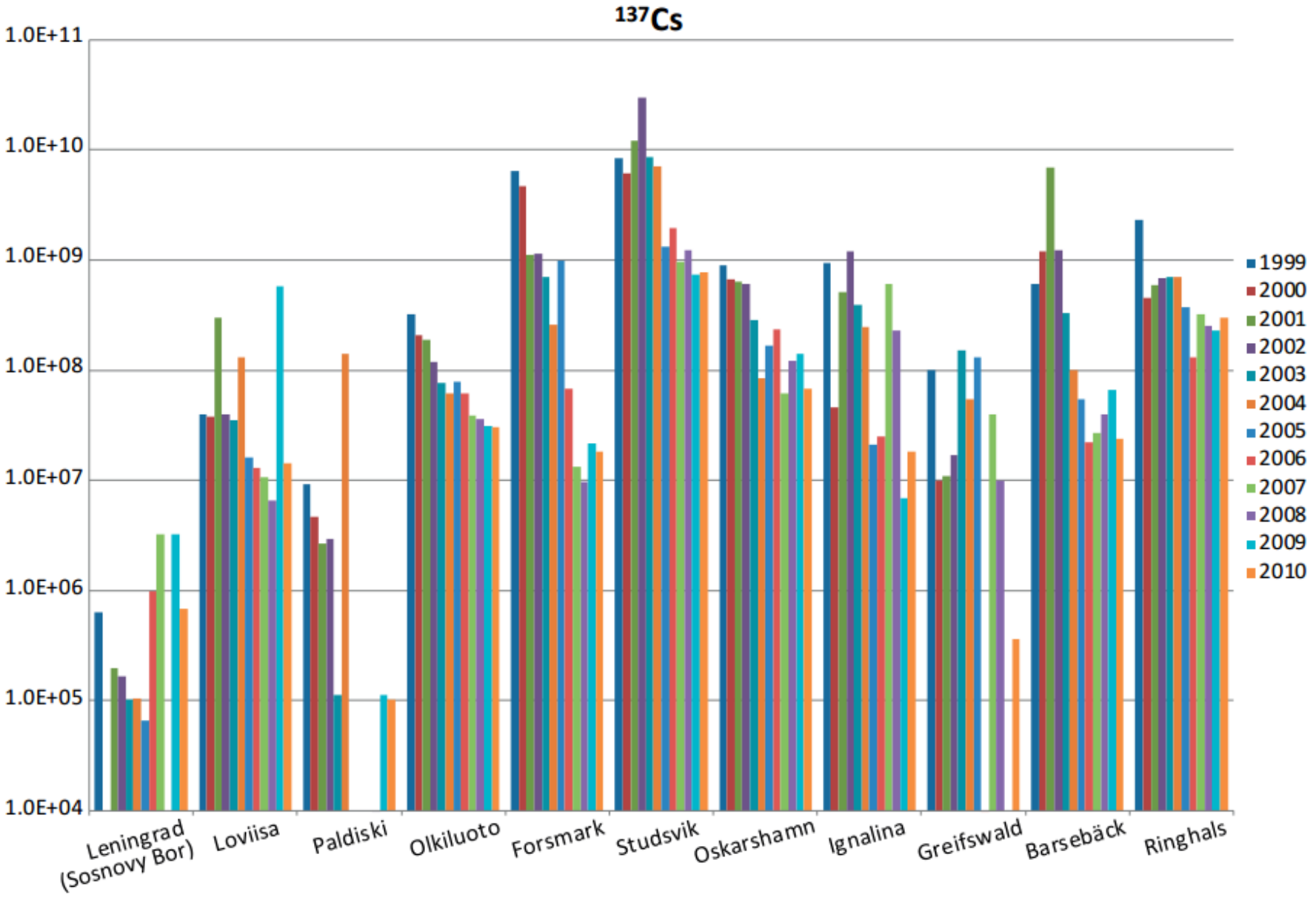
In 15 seconds, how many ship incidents are in the Baltic Sea?

Graph 5: Losses by geographical area



Source: *Original*

Which station has the highest value in 2005?



If you could do it you have superpowers



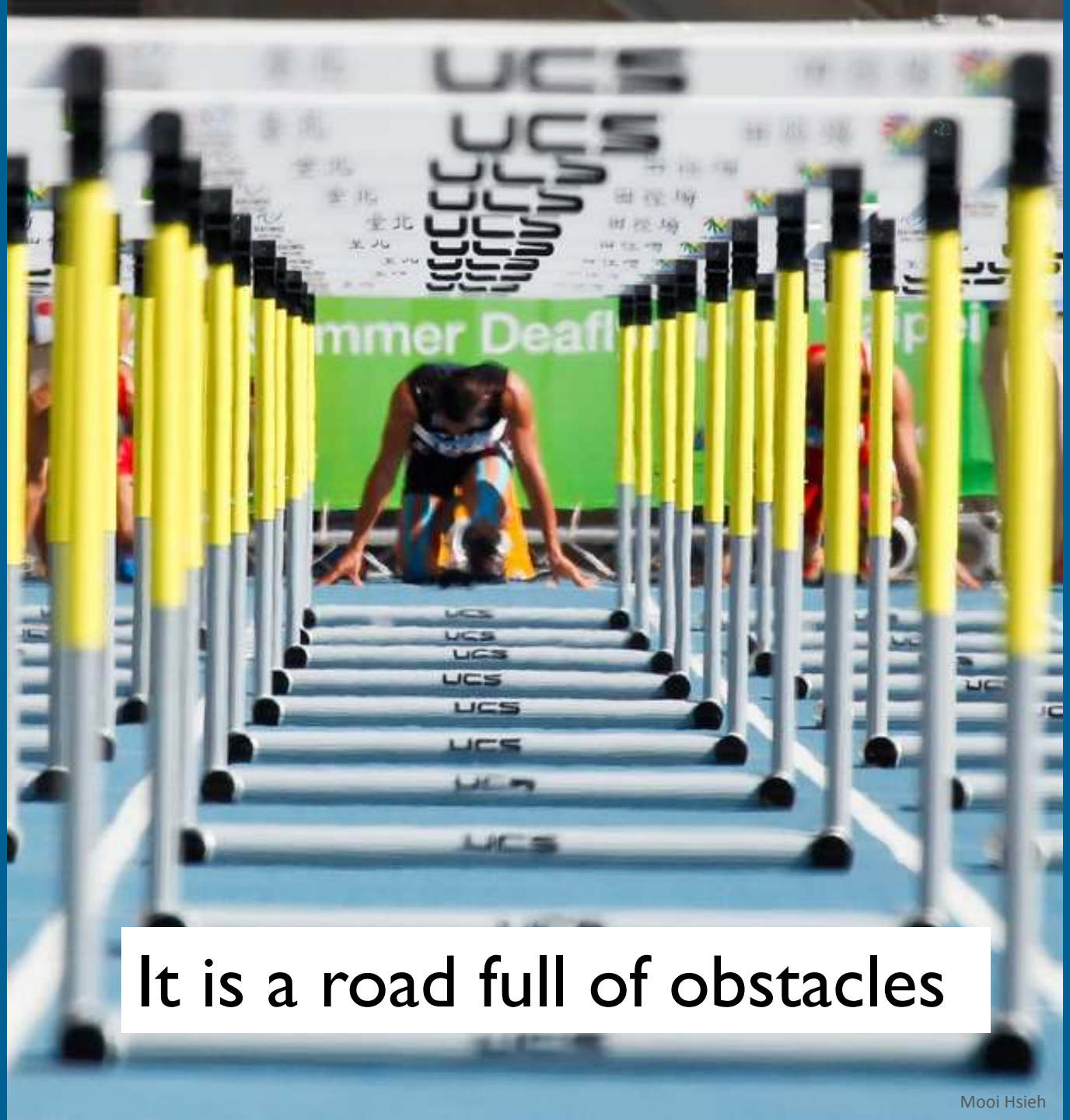
JD Hancock

I decided I have a...

MISSION

MISSION

IMPOSSIBLE?



It is a road full of obstacles

Mooi Hsieh


Traditionally, they haven't paid special attention to visualization
Scientists
HELCOM
Policy-makers

...and they have several **ideas**
I'd like to challenge...

Idea 1



Content
is
king



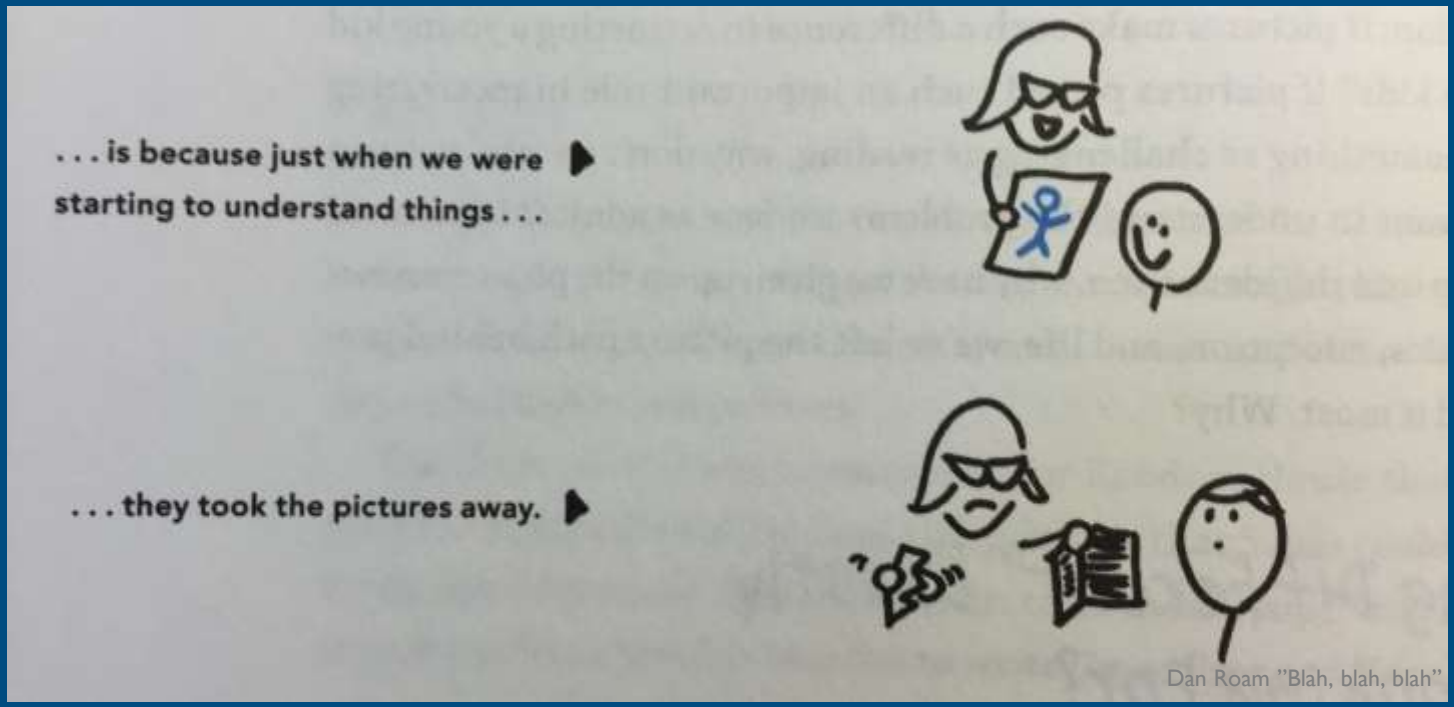
Content
is
king



Content and design are kings

Idea 2

We don’t know how to draw!



Idea 3

Simplify = dumbing down


”Simplicity is about substracting the obvious and adding the meaningful”
John Maeda

Simplify ≠ dumbing down

Subtle **strategies**

to change the visualization culture in HELCOM

Strategy 1

I  whiteboards

I hope everyone realizes how useful they are
to visualize and share ideas!


BALTIC SCOPE
AIS explorers
AIS
Objective
Final products
I use it in my office...
My colleague Florent and me use it almost daily

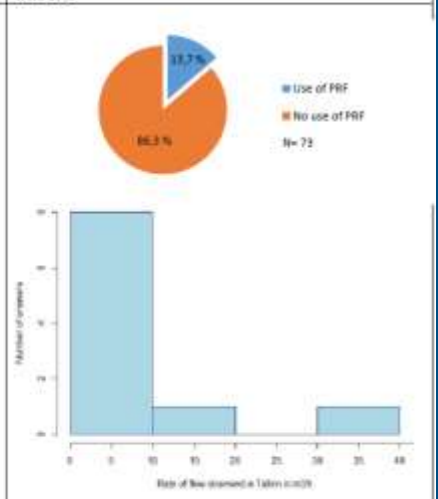

And now also in the HELCOM Secretariat kitchen
Welcome to our whiteboard!

Strategy 2

I try to give example!

Year 2013:
Report with lots of numbers screaming for graphs

1. First priority passenger ports (2010 HELCOM PRF Roadmap)

Port	No. of international passengers (ferries and cruise ships)[1]	No. of cruise passengers (cruise ships only)[2]	No. of cruise ship calls[3]	Arrangement of port reception facilities for sewage (2013)	Update with the 2014 Survey on PRF (when the information is available) - The pie chart shows the proportion of use of the facilities in the harbour - On this histogram, only the data from ships that use the facilities were used
Tallinn (EE) http://www.portoftallinn.com/paljassaare-harbour Cruise Baltic port category: X-large - *Additional information from the 2013 overview:* *In 2014 the Port of Tallinn is expecting to start construction of fixed reception points connected to the Tallinn public sewage system.* *These improvements will cover Old City Harbour quays no 13-17, 24-25 and a new cruise quay.* - *No special-fee system (2013):* *A standard waste fee is charged from every ship with some exceptions.* *Sewage volumes exceeding 7m³ are subject to extra payment.*	2006:6760000* 2007: 6514294 2008: 7247366 2009: 7257646 2010: 7900000 2011: 8500000 2012: 8800000	2006: 305026' 2007: 294738 (292158') 2008: 377522 (375578') 2009: 416605 (415575') 2010: 392000 (390000') 2011: 443000 (437517') 2012: 442000 (440504')	2006:289' 2007:268' 2008:298' 2009:305' 2010:279' 2011:293' 2012:294'	Since 2011 fixed reception points connected to public sewage system (30m³/h) available at Tallinn Old City Harbour quays no. 1 and 3. In other quays there is no direct discharge to sewer system – i.e. the quays are served by floating vehicles (150-300m³) and tank trucks (7-17m³) if requested.	
Rostock (DE) http://www.rostock-port.de/ Cruise Baltic port category: Large - *Additional information from the 2013 overview:* *The cruise port of Rostock-Warnemünde is equipped with a connection of the berths to the municipal sewer system.* *In 2013 the municipal treatment plant accepts sewage with a maximum intake rate of 90m3/h (25 L/s).* *Sewage from cruise ships (incl. grey water) is accepted only within the defined and published sewage quality parameters.* - *No special-fee system (2013):* Yes, up to 300m³ of sewage is included in the "no-special-fee" system. Sewage volumes exceeding 300m³ are charged with 3EUR/m³.	2006:2541144* 2007: 2583042* 2008: 2689551* 2009:2405100* 2010: 2195154 2011: 2249091 2012: 2343707	2006: 173500 2007: 133700 2008: 171600 2009: 161800 2010: 177200 2011: 257300 2012: 300000	2006: 138 2007: 93 2008: 115 2009: 113 2010: 114 2011: 158 2012: 181	Direct discharge to sewer system available in the cruise terminal. Tank trucks available in the cargo port.	
Copenhagen (DK) http://www.cmport.com/ Cruise Baltic port category: X-large - *Additional information from the 2013 overview:* *In the Port of Copenhagen PRFs for sewage are part of the new 1,1 km long cruise quay which will be finalized in autumn 2013 and which will be taken into use spring 2014. The new system will be equipped with the possibility of flushing with rain water to avoid clogging.* *Some cruise ship traffic will berth elsewhere and will be without fixed link PRF.*	2006:829000* 2007: 2583043* 2008: 2689551* 2009:1456000* 2010: 1502000 (1431000*) 2011: 1604000 2012: 1722000	2006:458000 2007:509000 2008: 560000 2009: 620000 (575000') 2010: 662000 2011: 820000 2012: 840000	2006:280' 2007:289' 2008:301' 2009:334' 2010:307' 2011:368' 2012:372'	Direct discharge to sewer system , 250-300 m3 sewage per hour per berthing place, will be available on new quay which will be operational from 2014 onwards. Otherwise Copenhagen Port's reception facilities for sewage (and grey water) utilise the tankers of a haulage company (possibility to utilise three tankers per	

Year 2015: New version

By Hermanni Backer, Florent Nicolas and me

Saint Petersburg (Russia)

312 cruise calls

http://www.pasp.ru UN LOCODE: RULED



1. Sewage Port Reception Facilities 2014

The Saint Petersburg area includes in total five harbours serving passenger traffic.

The new passenger port "Marine Façade" (Marine Passenger Terminal on Vasiljevskiy Island, St. Petersburg) has fixed standard connections to the municipal wastewater system with capacity.

Other quays of Port St. Petersburg have no direct discharge to municipal wastewater system. The sewage at these quays is collected by tankers operated by three different companies:

Direct fee collected in accordance with the national rules and according to volumes is applied for collection wastes, including sewage, from passenger ships.

Planned improvements

No information provided for 2014.

Before 2014

Saint Petersburg was listed as having adequate PRF for sewage in the 2010 HELCOM Roadmap for upgrading PRF for sewage in passenger ports of the Baltic Sea area.

In 2009, the capacity of the sewage collection was up to 1,000 m³ per day. The investment for port reception facilities was around 1 million USD.

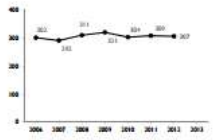
In 2010, when three new quays in Marine Façade were put into operation the capacity of sewage collection was 2,700 m³ per day. During second stage of construction the planning of investments was around 2 million USD.

In 2011, after the completion of terminal construction and putting into operation of two new quays, the capacity of sewage collection was 4,745 m³ per day.

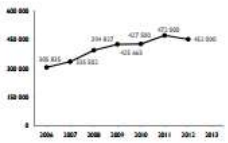
2. Passenger traffic trends in Saint Petersburg

A compilation based on statistics from the Baltic Sea coastal countries national administrations, regional ports organizations (BPO, ESPO), the publication "Baltic Port List" and the Nordic Council of Ministers.

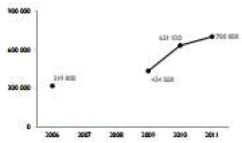
Cruise ships calls



Cruise ships passengers



International cruise and ferry passengers

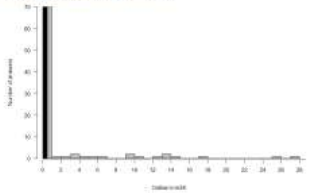


in Saint Petersburg - 2014

m industry

CLIA-affiliated cruise ships, received by HELCOM Secretariat as a reply to a joint HELCOM –CLIA whole cruising season (April to October 2014).

.1. Sewage discharges 2014



The figure shows discharges reported by cruise industry as part of the survey. The black bar shows the number of ships that did not use the sewage PRF for sewage even if available.

Comments from cruise ships on port facilities 2014

No information provided for 2014.

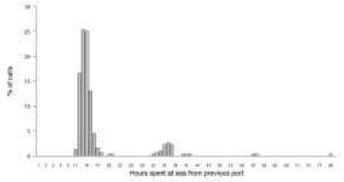
Comments from ports on cruise ship visits 2014

No information provided for 2014.

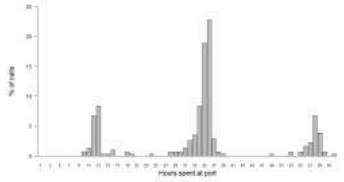
AIS based statistics (total calls: 312)

Generated from AIS data from the regional HELCOM AIS network covering the whole Baltic Sea area. The AIS data used includes all cruise ships operating in the Baltic Sea area (annex 1). The dataset covers the whole cruising season (April to October 2014).

3.2. Time at sea from previous port per call

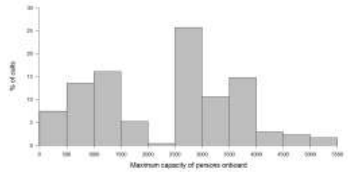


3.3. Time spent at port per call

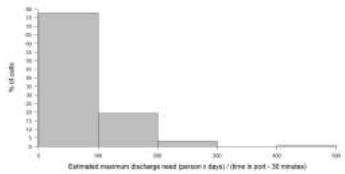


3.4. Maximum number of persons on board per call

Maximum capacity of persons onboard including passengers and crew



3.5. Estimated theoretical max. discharge need [1]



[1] Estimated total discharge capacity needs of cruise ship calls during summer 2014, assuming all wastewater generated after leaving last port of call will be discharged in the port. The presented figures are based the following calculation. Multiplying this figure with a waste water production estimation in m³ sewage per person per day gives you the estimated total discharge need in m³h⁻¹. $\frac{\text{Days at sea (days from previous port)} \times \text{Persons(maximum capacity of ship)}}{\text{Time (hours spent at port} - 30 \text{ minutes)}}$

Strategy 3

Sometimes I put visualization and design books on the kitchen table.



More ideas?
Please share them!!!!


@manolofrias


https://fi.linkedin.com/in/manuelfrias