

Successful SDIs

Does the marine geo-sector provide a much needed
beacon?

Frederika WelleDonker, MSc.

OTB Research Institute for the Built Environment



GSDI-12 PhD Workshop
Singapore, 17 October, 2010

f.m.welledonker@tudelft.nl



Overview

- Research question
- Hypothesis
- Method
- Case study observations
- Preliminary conclusions
- More research?

Research question & hypothesis

Background:

In spite of EU initiatives, value adding PSI is still limited. Therefore, what are the real obstacles to reusing PSI for value adding

Question:

Has the marine geo-sector indeed been successful in overcoming the non-technical challenges of developing and using SDIs?

Hypothesis:

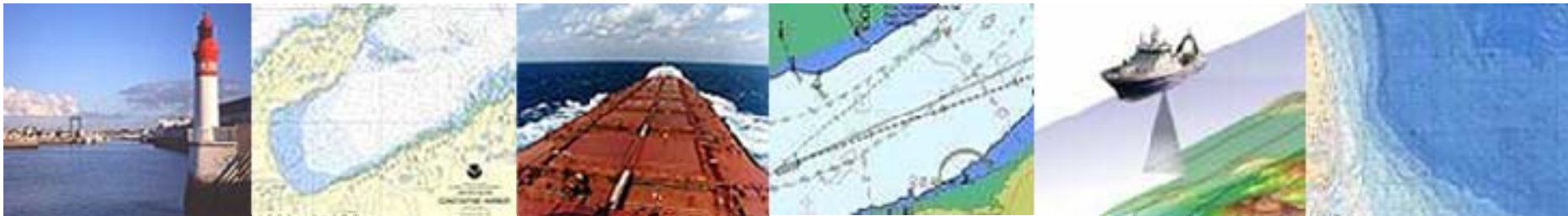
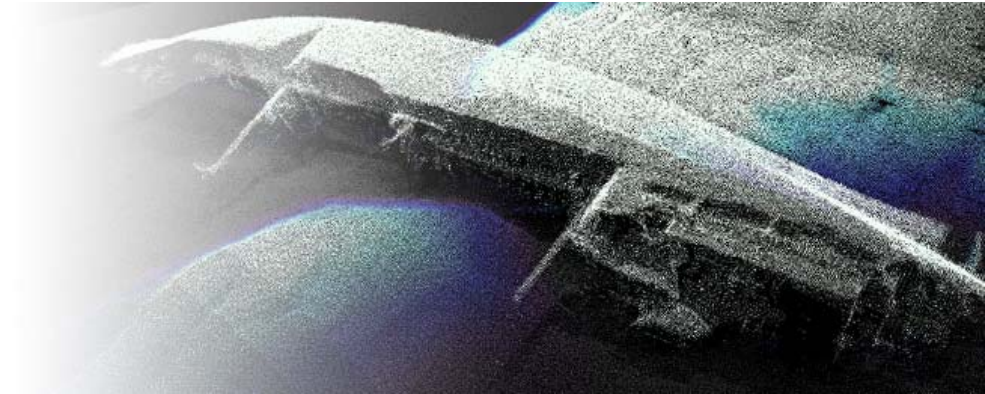
“The strict framework regulating the marine sector clearly defines the scope of public tasks and therefore allows clear conditions for the private sector to produce value added services by reusing public sector information (PSI).”



Research method

- Single case study of the Dutch Hydrographic Service (DHS) and distributors of its data
 - Semi-structured interviews with questions related to:
 - Accessibility of DHS's data & products
 - Knowledge of EU & marine legal framework
 - Relation public sector and private sector
 - Interviews with producers of hydrographic data:
 - the DHS
 - other hydrographic public sector organisations
 - Rotterdam Port Authority (private sector with public task)
 - Interviews with private sector
 - Value Added Resellers (VARs)
 - Distributors

Hydrographic information



Nautical products deemed to be a public task

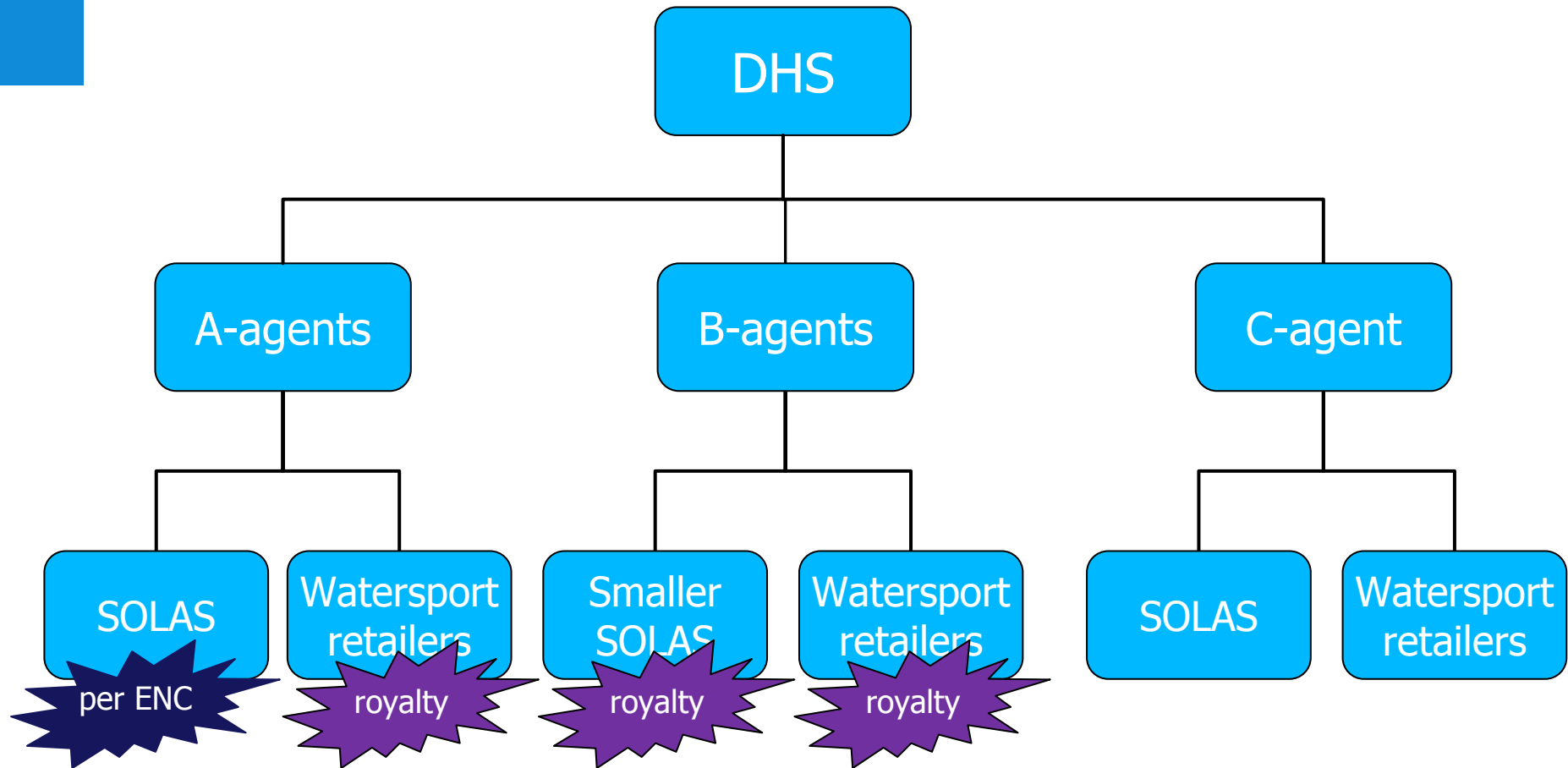
Paper products → mandatory for SOLAS

- Paper charts
- Tidal tables
- Books
- Logs
- ...

Electronic products

- RNCs – digitised (raster) paper charts → optional for SOLAS
- ENC – databases with vector information → mandatory for SOLAS
- Notices to Mariners → mandatory for SOLAS
- ECSs (non-official ENCs) for pilots, coastal shipping

Dutch Hydrographic Service distribution network



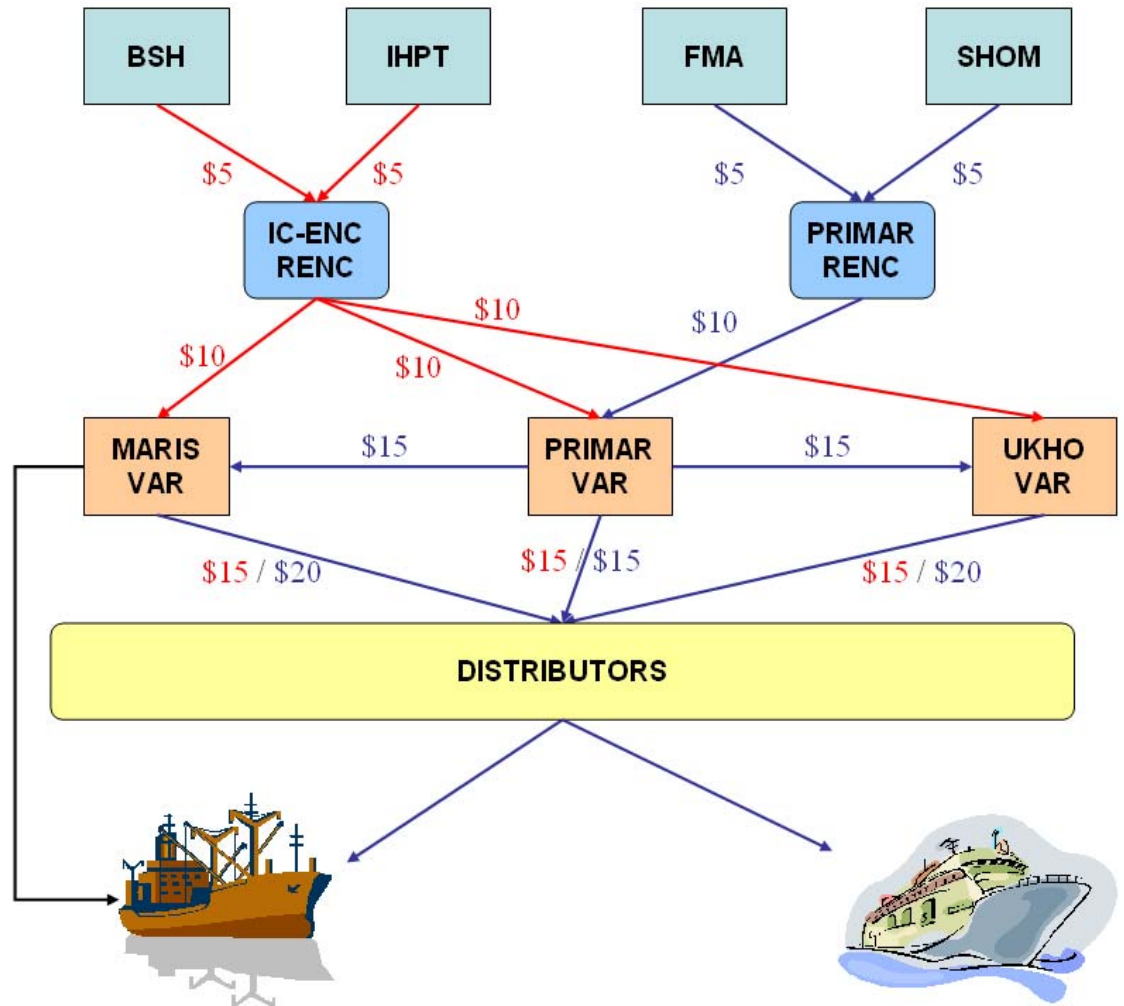
Framework Hydrographic Sector

- International Maritime Organisation (IMO)
 - UN organisation for setting maritime standards & regulations
 - Safety of Life at Sea (SOLAS) Convention
 - Have mandated use of ECDIS & ENCs
- International Hydrographic Organisation
 - Set up by National Hydrographic Offices to standardise HI
 - ENC standards
 - S-52: updating processes, colours & symbols for charts
 - S-57: data format, product specification of ENC data
 - S-63: security, incl. encryption for digital rights management
- European Commission
 - Environmental Directives (Natura 2000, Marine Strategy Framework)
 - River Information Services Directive (2005/44/EC)

Regional ENC Coordinating Centres

- PRIMAR (1999)
 - Operated by Norwegian Hydrographic Service (NHS)
 - 11 members
 - Emphasis on online data management & delivery
 - 50+ distributors of encrypted ENCs, no VARs
- IC-ENC (2002)
 - Operated by United Kingdom Hydrographic Office (UKHO)
 - 28 members
 - Emphasis on data quality assurance
 - 7 Value Added Resellers (VARs) of unencrypted ENCs
 - Many distributors of encrypted ENCs

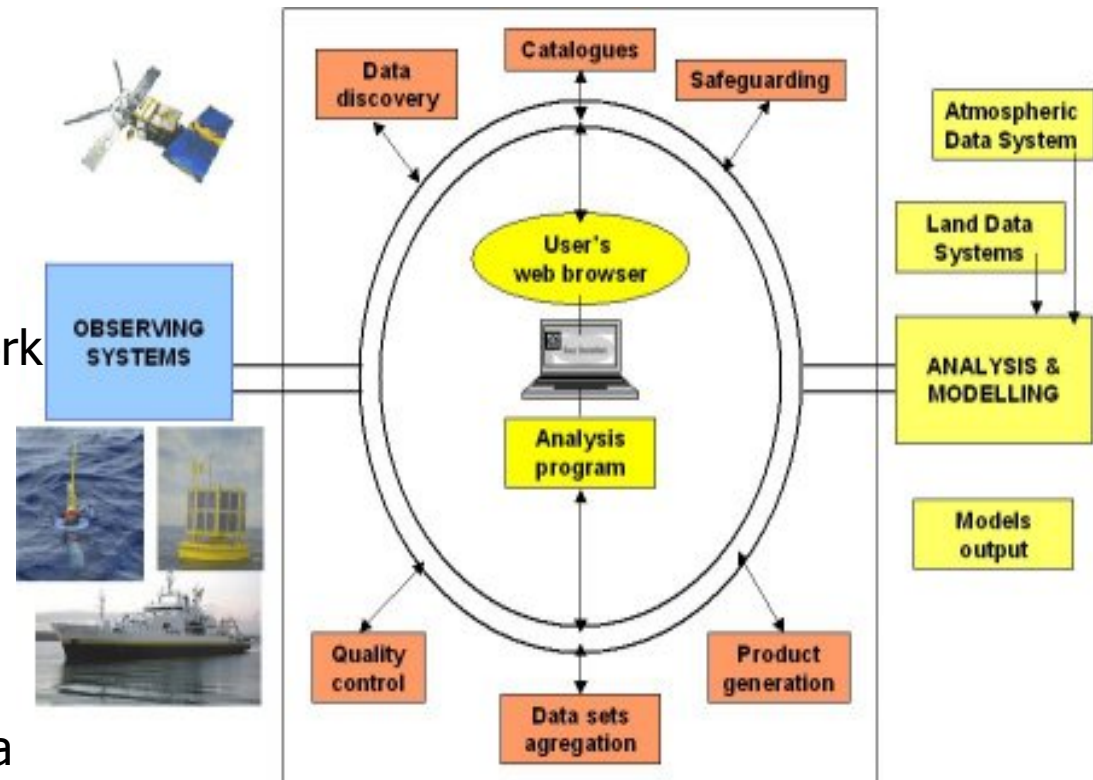
Distribution network



Source: IC-ENC (2010)

SeaDataNet

- Integrated infrastructure initiative of EU 6th Framework Programme
- Coordinated by IFREMER
- Operated by MARIS
- 49 partners
- Open digital repository of marine & observational data
- Construct standardised system for managing datasets, including standard licenses
- Network & enhance existing infrastructures
- Do not provide data downloads but a right to develop value added products



Preliminary Case Study Observations

- International Shipping sector (SOLAS)
 - Private sector satisfied with accessibility & availability
 - Private sector satisfied with quality & fees
 - distributors satisfied with current market division & conditions
 - VARs dissatisfied with S-63 license restrictions
- Inland Shipping sector / Recreational sector
 - Private sector less satisfied with accessibility & availability
 - Too many local authorities, no (N)SDI
 - Private sector less satisfied with quality, (fees less problematic)
 - Private sector less satisfied with current market division
 - Competing with public sector for Inland ENCs
- SeaDataNet
 - Not widely known by private sector

Provisional case study findings

	Marine sector	Land-based sector
Access (viewing)	ENC: yes SeaDataNet: yes	Under development
Available (re-use)	ENC: only approved VARs SeaDataNet: yes, unless restricted	Depends on data provider
License harmonisation	ENC: single EU-license 3 to 12mth SeaDataNet: 12 licenses	No standard licences (yet)
Fees	ENC: dissemination costs SeaDataNet: free (preferably)	Ranging from free to full recovery costs (many €€€)
Interoperability	ENC: fully interoperable SeaDataNet: being implemented	Standards being developed
Market potential	ENC: limited to SOLAS ships SeaDataNet: unlimited	unlimited
VGI alternatives	e.g. OpenSeaMap; TeamSurv	e.g. OpenStreetMap; Waze

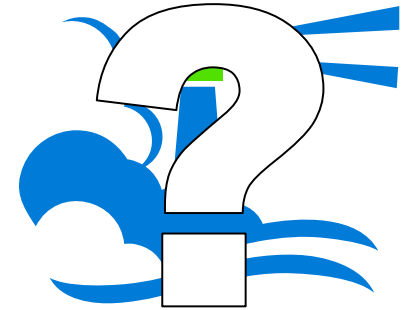
Conclusions

- Re-use of hydrographic information
 - IMO & IHO framework sets clear rules
 - Safety at sea improved
 - Public tasks are clearly defined
 - Value adding limited to date
 - Little knowledge of EU framework on PS(H)I
 - Distributors are satisfied with status quo
 - VARs see triple roles of UKHO & PRIMAR (HO/RENC operator/VAR) as market distortion
 - VARs see DRM as obstacle to value adding
 - Dynamic market that has yet to grow



Conclusions

- Re-use of hydrographic information
 - IMO & IHO framework sets clear rules
 - Safety at sea improved
 - Public tasks are clearly defined
 - Value adding limited to date
 - Little knowledge of EU framework on PS(H)I
 - Distributors are satisfied with status quo
 - VARs see triple roles of UKHO & PRIMAR (HO/RENC operator/VAR) as market distortion
 - VARs see DRM as obstacle to value adding
 - Dynamic market that has yet to grow



Further research proposed

- Dutch market for Inland ENCs & RIS
 - Interviews with private sector
 - Parties re-using public sector information
 - Parties collecting own data
- International ENC market
 - IC-ENC & PRIMAR operators
 - IC-ENC VARs
 - Other private sector
- SeaDataNet

Thank you for your attention

f.m.welledonker@tudelft.nl

