



WPE tracking ships

Implementation Track Kick Off

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Overview

- The previous ESSnet
- Introduction: aim and participants
- Tasks
- Deliverables and milestones
- Challenges
- Questions/Discussion

The previous ESSnet

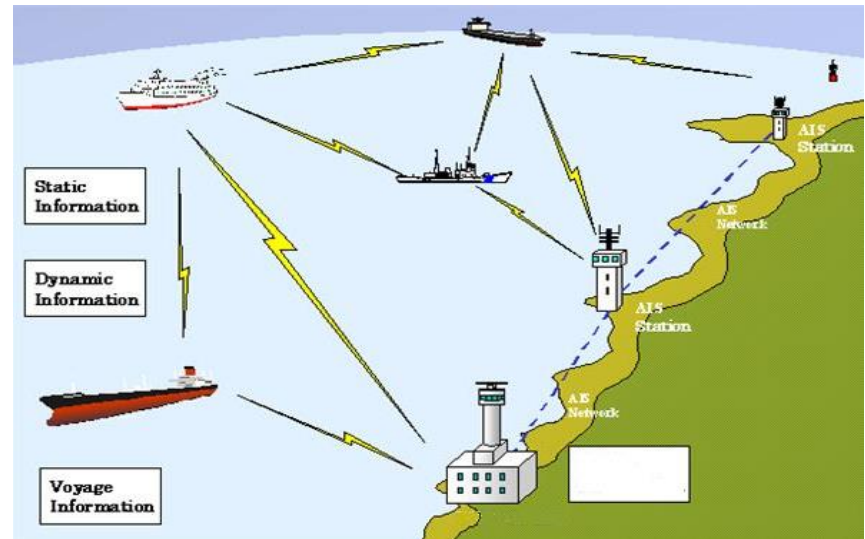
AIS helps improving information on:

1. number of ships in the port
2. next destination
3. distances travelled per ship and for national-owned ships (emission statistics)
4. routes of a ship
5. location of (temporally) ports
6. relationship between maritime and inland waterway transport



Introduction

- Implement AIS data in official statistics to improve these statistics...
- Develop new statistics based on AIS...





Tasks

1. Interaction with WPF
2. Data access
3. Definition
4. Prototypes
5. Experimental statistics
6. Implementation
7. Future perspective





Track 2: data access

1. Ships in European oceans/seas

Including long term collaboration for future use



2. National AIS data of Dutch Inland Waterways



Rijkswaterstaat

3. Worldwide AIS data from ONS



Task 3: definition

Define specific outcome of this WP

- What statistical products will be delivered?
- In what statistical processes AIS will be implemented?
- How will stakeholders be involved?





Ideas for implementing AIS

Current statistics:

- Validation of port visits
- Compile air emissions and energy used from international shipping and fishing
- Inland waterways statistics

New statistics:

- Process of transport and activity fishing fleet

“ Ideas are easy,
implementation is hard.”
- Guy Kawasaki



Validation of port visits

Activities

- Validate port visits by using AIS data
- Combine information on type and capacity of ships using data from maritime statistics and AIS data for the production of F2 table

Results:

- (Validation of) F2 table
- Increase reliability of the information from the port authorities

Benefits:

- Decrease responsburden of ports
- Decrease time and resources needed for processing data from paper questionnaires
- Increase the quality of statistics



Pos.	Fields	Format and size	Data sets									
			A1	A2	A3	B1 ⁰	C1	C2	D1	E1	F1	F2
1	Data set Identification	An2	M	M	M	M	M	M	M	M	M	M
2	Reference year	n4	M	M	M	M	M	M	M	M	M	M
3	Reference Quarter	n1	M	M	M	M	M	M	M	M	M	M
4	Reporting port	an5	M	M	M	M	M	M	M	M	M	M
5	Direction	n1	M	M	M	M	M	M	M	M	M ⁰	M ¹²
6	Port of loading/unloading	an5	M ⁰²	M ³		M ¹³	M ²		M ²	M ³		
7	Relation (Maritime Coastal Area)	an4	M	M		M	M		M	M		
8	Type of cargo	an1 or an2	M1	M2		M1	M2	M2		M1		
9	Commodity (nature of goods)	an2				M						
10	Nationality of registration of vessel	an4							O ¹¹	M		
11	Type of vessel	an2									M	M
12	Size of vessel Deadweight	an2									M	
13	Size of vessel Gross Tonnage	an2										M
14	Gross weight of goods in tonnes	n..15	M	M	M	M	M			M		
15	Number of passengers (excluding cruise passengers)	n..15			M					M		
16	Number of units	n..15					M	M				
17	Number of units without cargo	n..15					M					
18	Number of vessels	n..15									M	M
19	Deadweight of vessels in tonnes	n..15									M	
20	Gross tonnage of vessels	n..15										M
21	Number of cruise passengers starting and ending a cruise	n..15			M							
22	Number of cruise passengers on cruise passenger excursion: direction: inwards (1) only - (optional)	n..15			O ¹²							



Compile air emissions and energy used

Aim:

Improving the compilation of air emissions and energy used from international shipping and fishing in the Air Emission and Energy Account

Current problem:

Data of energy used/air emissions in the area outside of the Dutch territory is not available

This data is needed to complete and improve the compilation of the total air emissions and total energy used from the Dutch economy.

Benefits

- Distance travelled by international shipping and fishing outside of Dutch territory will be available
- These distances combined with technical data make it possible to calculate energy use and air emissions of the ships

Challenges

- other information needed to calculate the energy used/air emissions such as ship characteristics, location of fishing grounds etc.



Inland waterway statistics

Aim:

Improving/solving the incompleteness of ships in Inland Waterway statistics

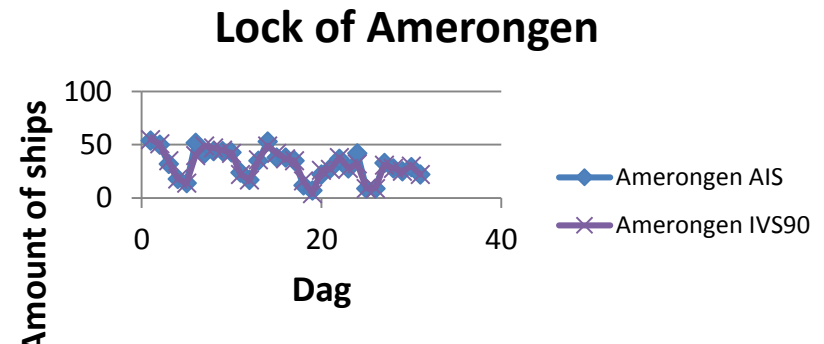


Current problem:

In the current statistical process on Inland waterways we know the amount of ships is incomplete

Benefits

- (More) complete information on ships travelling on Inland Waterways



Process of transport and activity fishing fleet

Activities:

- Examine and implement the intensity of fishing fleet traffic and fishing activities depending on the season, weather or specific fishing area
- Investigate speed distributions and distances during fishing and non-fishing activities
- Develop methods to detect potential fishing behavior based on AIS data

Results:

- New process
- Universal approach based on AIS data
- Statistics on the transport and activity fishing fleet (monitoring SDG indicators)
- Analyze and visualize fishing fleet behaviour (assessment of environmental protection)
- Maps of traffic intensity of the fishing fleet: identify areas where the risk of collision with other vessels is higher

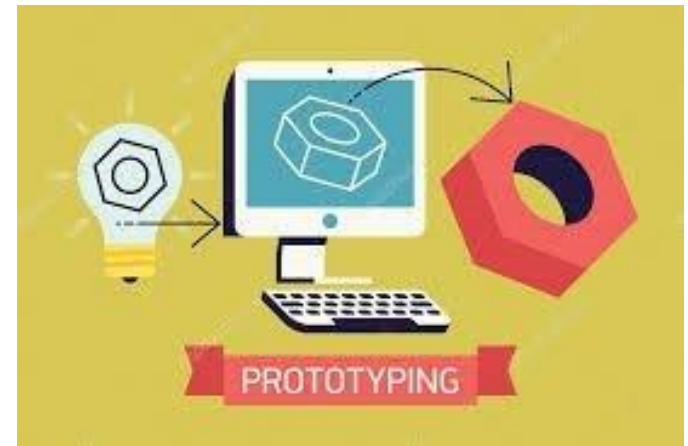


Task 4: prototypes

Development of fully functional prototypes of identified processes in task 3

Including description of:

- used methodology
- procedures and tools for collecting
- Developed software
- Testing of prototypes (software, architecture, technical requirements, etc.) by other countries in this WP

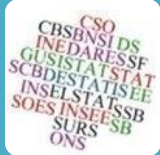




Task 4: further investigation

- Combine AIS with other sources to provide more reliable information on the type and capacity of ships
 - Develop an algorithm for signalling anomalies in the movements of ships to get information on disruptions or (changed) regulations in ports and fairways
- outcomes helpful for further implementation of AIS in official statistics
- Develop an algorithm that can construct a reference frame of ports
 - Improve the port to port distance matrix by Investigating more journeys and factors
 - Use AIS as a fast indicator of international trade
- Implementation of outcomes not foreseen during this ESSnet





Task 5: Experimental statistics

Produce experimental statistics by visualising the first results on the prototypes

Beta products in development



Innovation in small businesses

27/08/2018 12:06



Towards motives behind mobility

27/08/2018 12:02



Linked open data

27/08/2018 11:56



Pregnancy as an indicator of economic recessions?



Sensor data improves flash estimate for inland shipping



Hay fever index

20/06/2018 10:12



Task 6: Implementation



(Preparation of) implementing AIS in statistical processes

Minimal results:

- Description (process model) on the future process
- Report describing activities needed for coming from the experimental statistic to future process
- At least one statistical process where AIS is fully implemented, including:
 - Production of tools and software (source code) that can be applied by other NSI's, description of used methodologies, a developer's and user's handbook, a procedure for testing and maintenance
- Description of issues related to sustainability of data sources, data use and sharing by NSIs
- Development and evaluation of scenarios for data governance and data management

Task 7: future perspectives

Summarise project results in a final detailed report with the outcomes of this WP

→ Including results of setting a long term collaboration with EMSA





Deliverables and milestones

- E1 (April 2019): results of definition process
- E2 (November 2019): outcomes of prototypes
- E3 (March 2020): interim technical report
- E4 (November 2020): final detailed report

- EM1 (March 2019): report on 1st face to face meeting
- EM2 (August 2020): report on 2nd face to face meeting



Challenges ahead

- Getting access to data of EMSA
- Replacement Sandbox
- Information on type and capacity of ships (webscraping/ HIS)





DISCUSSION/QUESTIONS

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