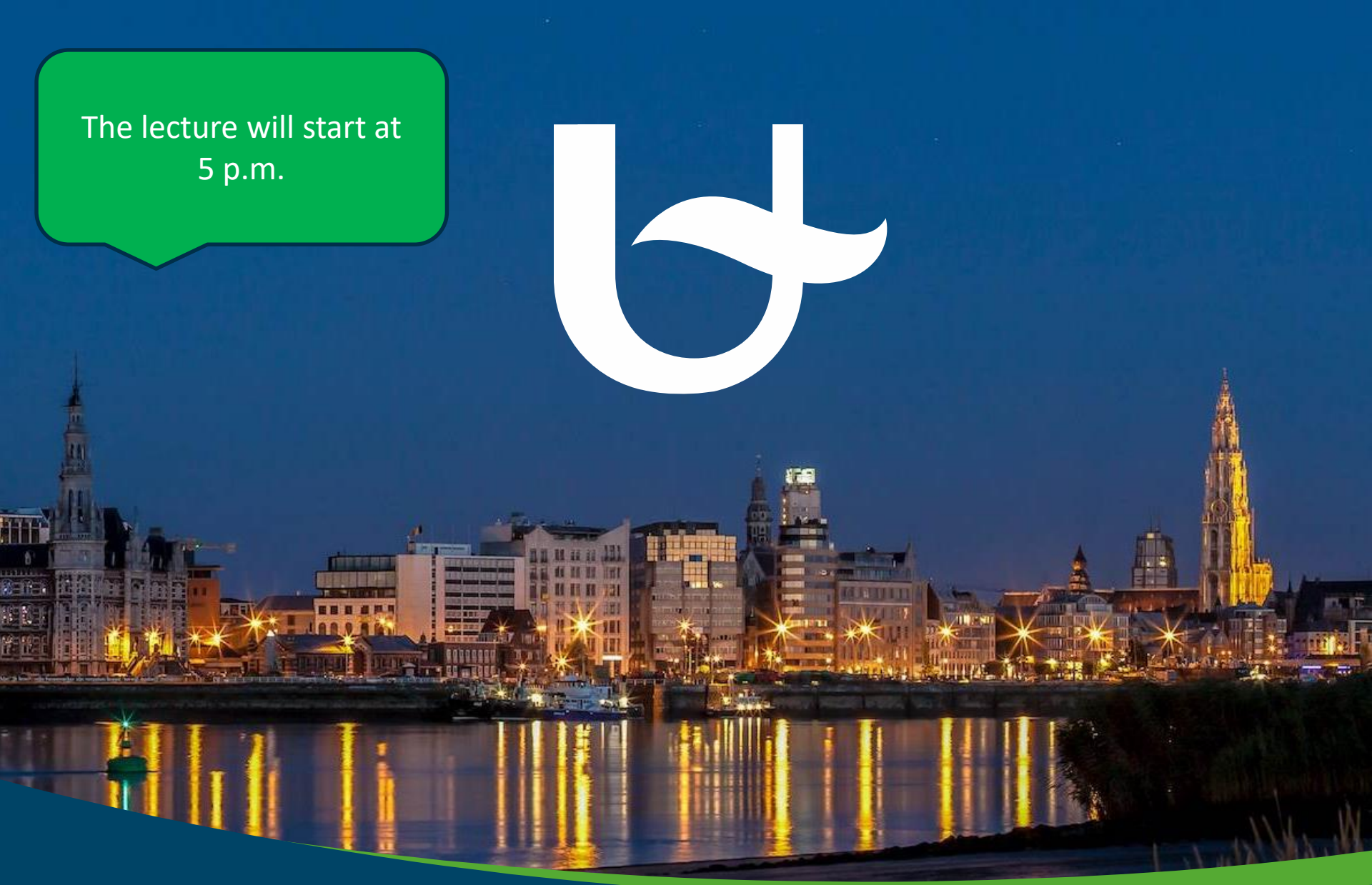
The lecture will start at 5 p.m.



TPR
Department of Transport and Regional Economics
University of Antwerp

20 January 2021

Dennie Lockefeer Chair

Towards a vision for sustainable inland container shipping

Lecture 1

Adequate data, a key step that will benefit inland shipping

Dennie Lockefeer Chair

House rules

Participants other than speakers are **muted**.

Please write **questions** as the talk is progressing in the Q&A. The chair of the session will then serve as host and call upon you to ask your questions directly (allowing speaking/ microphone privileges) at the end. Do not ask the question in an anonymous mode as we will not be able to find you to give you microphone access.

If you have no microphone capabilities and still would like the question to be read out for you, please indicate this. Keep the questions short and to the point.

The session will be **recorded**

You will receive info on recording/presentation after the webinar

Technical issues: mail to katrien.storms@uantwerpen.be

Program

5 pm – 5.10 pm	Welcome by Dean Koen Vandenbempt, Faculty Business, and Economics
5.10 pm – 5.30 pm	Research “What is the impact of a disruption (read COVID-19 and climate) on the inland navigation sector” by Noemi van Meir, researcher University of Antwerp and Katrien Storms, holder Dennie Lockefeer Chair
5.30 pm – 6 pm	Pitch: • Dr. Norbert Kriedel (CCR) • Mr. Frederic Swiderski (ITB) • Ms. Herlinde Liégeois (De Vlaamse Waterweg nv)
6 pm – 6.40 pm	Panel Discussion ‘Data collection’ moderated by prof. Thierry Vanelslander, promotor Dennie Lockefeer Chair • Dr. Norbert Kriedel (CCR) • Dr. Martijn van der Horst (KiM) • Dr. Theresia Hacksteiner (EBU) • Prof. Dr. Christa Sys (UA)
6.40 pm	Closing by prof. Christa Sys, promotor Dennie Lockefeer Chair

Welcome

Koen Vandenbempt

Dean Faculty of Business and Economics (FBE), University of Antwerp

Dennie Lockefeer Chair: what?

Unique crowdfunding through a contract (companies) or gift (‘Friends of the chair Dennie Lockefeer’)

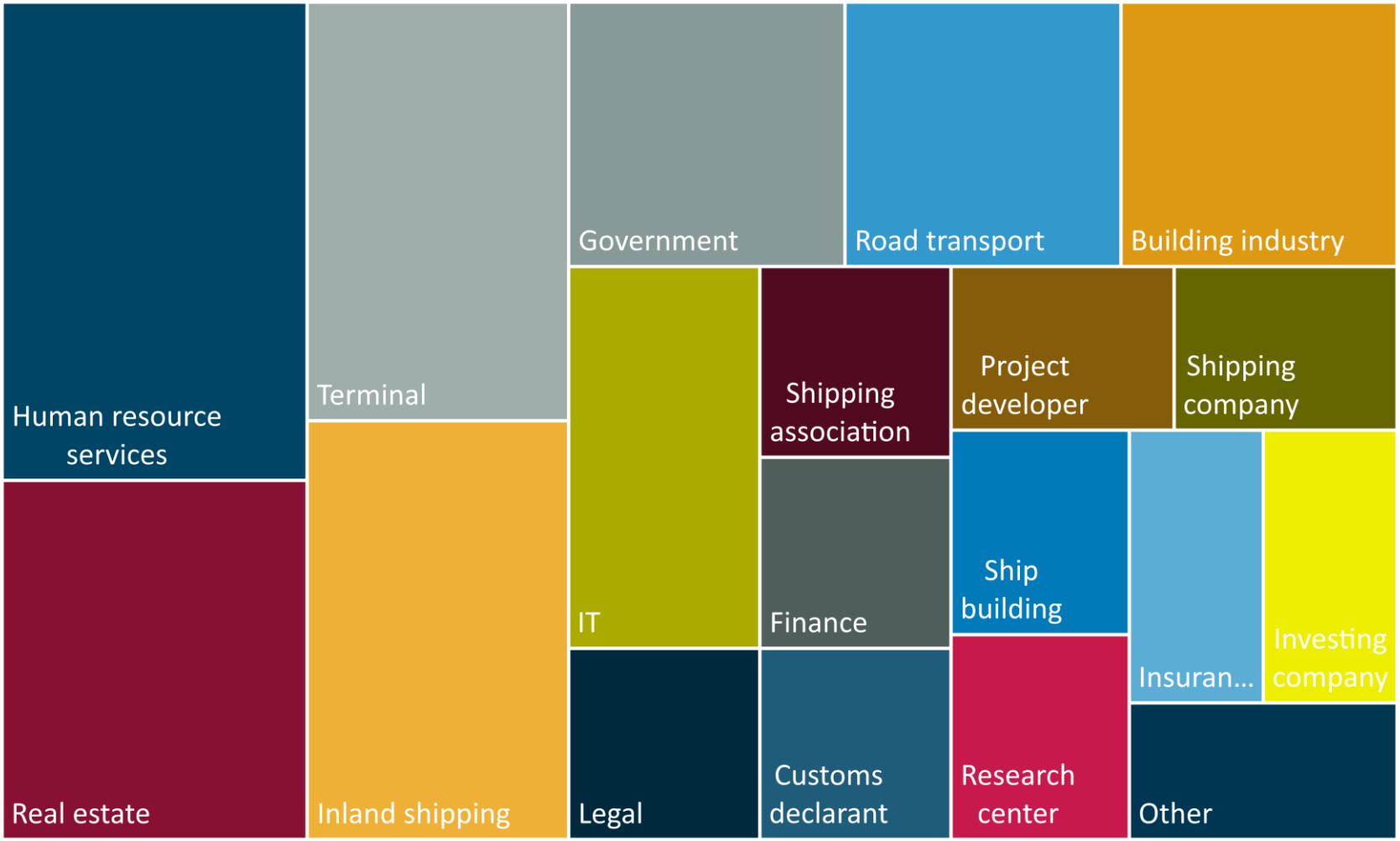
Gold

Silver

Bronze

Dennie Lockefeer Chair: what?

Unique ecosystem of 32 companies (2020: + 3/2021: +1)



Dennie Lockefeer Chair: three pillars

Supporting the container inland shipping and developing innovative inland navigation concepts

Research

- PhD research: container inland shipping and capacity
- Short term research
  - ➢ Research ‘Impact of COVID-19’
  - ➢ Demurrage & detention

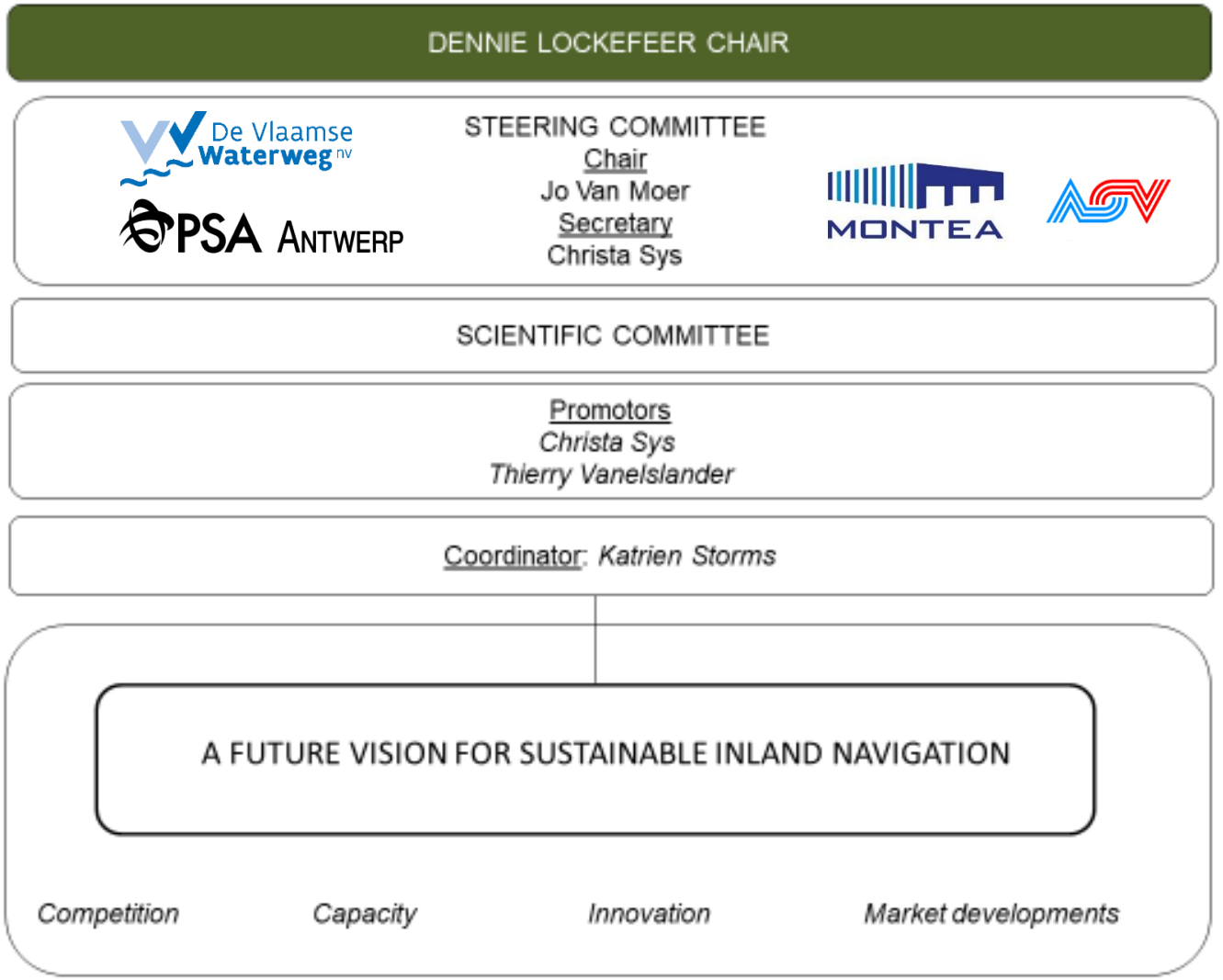
Education

- Annual best thesis award
- Biennial Antwerp Inland Navigation School

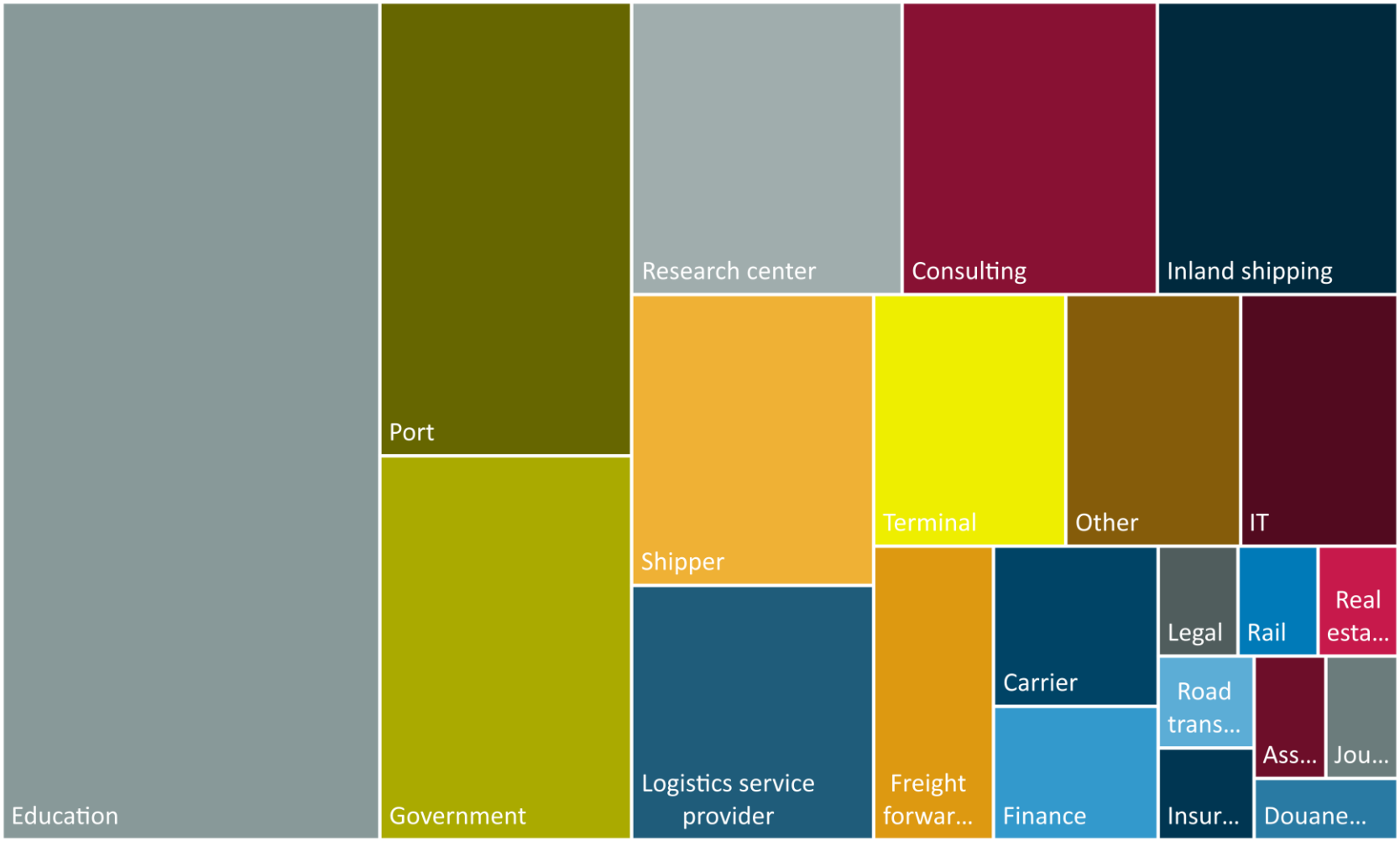
Services

- Lecture 1 ‘Adequate data’

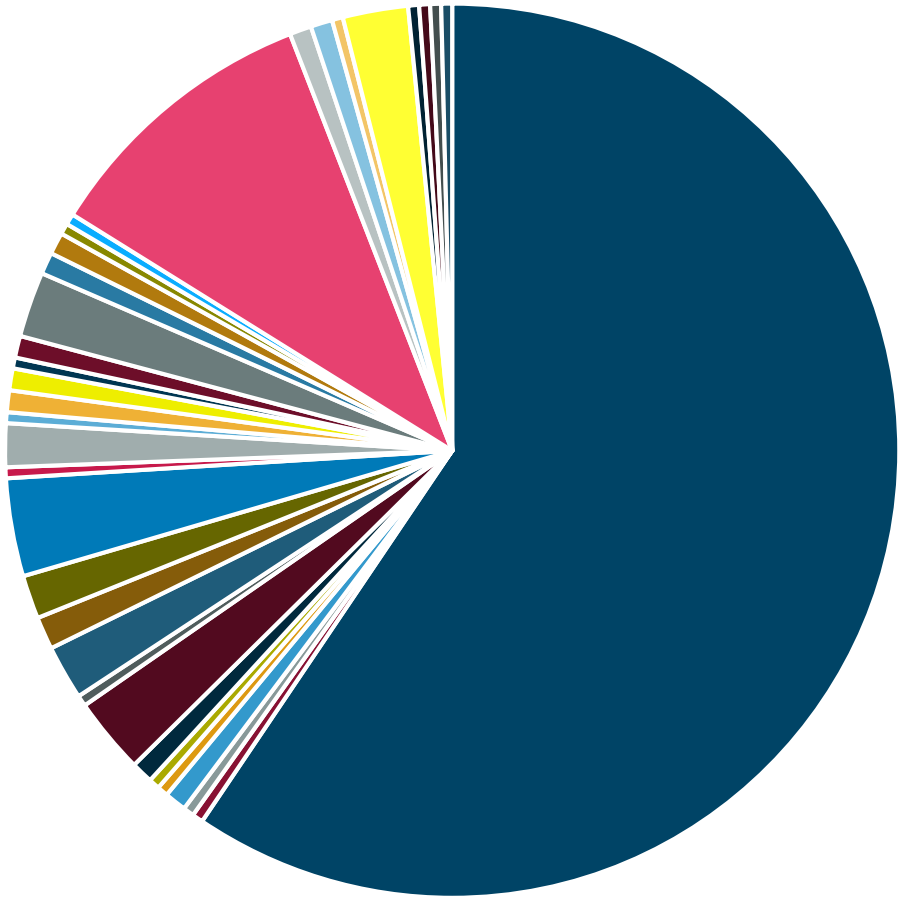
Dennie Lockefeer Chair: organizational structure



Participants (266 registrations)



Participants (33 countries)



- Belgium
- Belgium/Nigeria
- Benin
- Brazil
- Bulgaria
- Croatia
- Denmark
- France
- Georgia
- Germany
- Greece
- India
- Italy
- Kenya
- Luxembourg
- Malta
- Nigeria
- Norway
- Oman
- Poland
- Portugal
- Russia
- Serbia
- Spain
- Sri Lanka
- The Netherlands
- Turkey
- UK
- Ukraine
- USA
- Nepal
- Switzerland
- Saudi Arabia
- Egypt

What is the impact of a disruption on the inland navigation sector?

Van Meir, N., Storms, K.,
Rashed, Y., Sys, C.,
Vanelslander, T., van Hassel, E.
and Verberght, E.

TPR
Department of Transport and Regional Economics
University of Antwerp

Context

Interested in

- the relation between maritime container transport and inland navigation
- the impact of COVID-19 on maritime shipping and particularly on inland navigation
- corridor: Port of Antwerp towards and from the hinterland

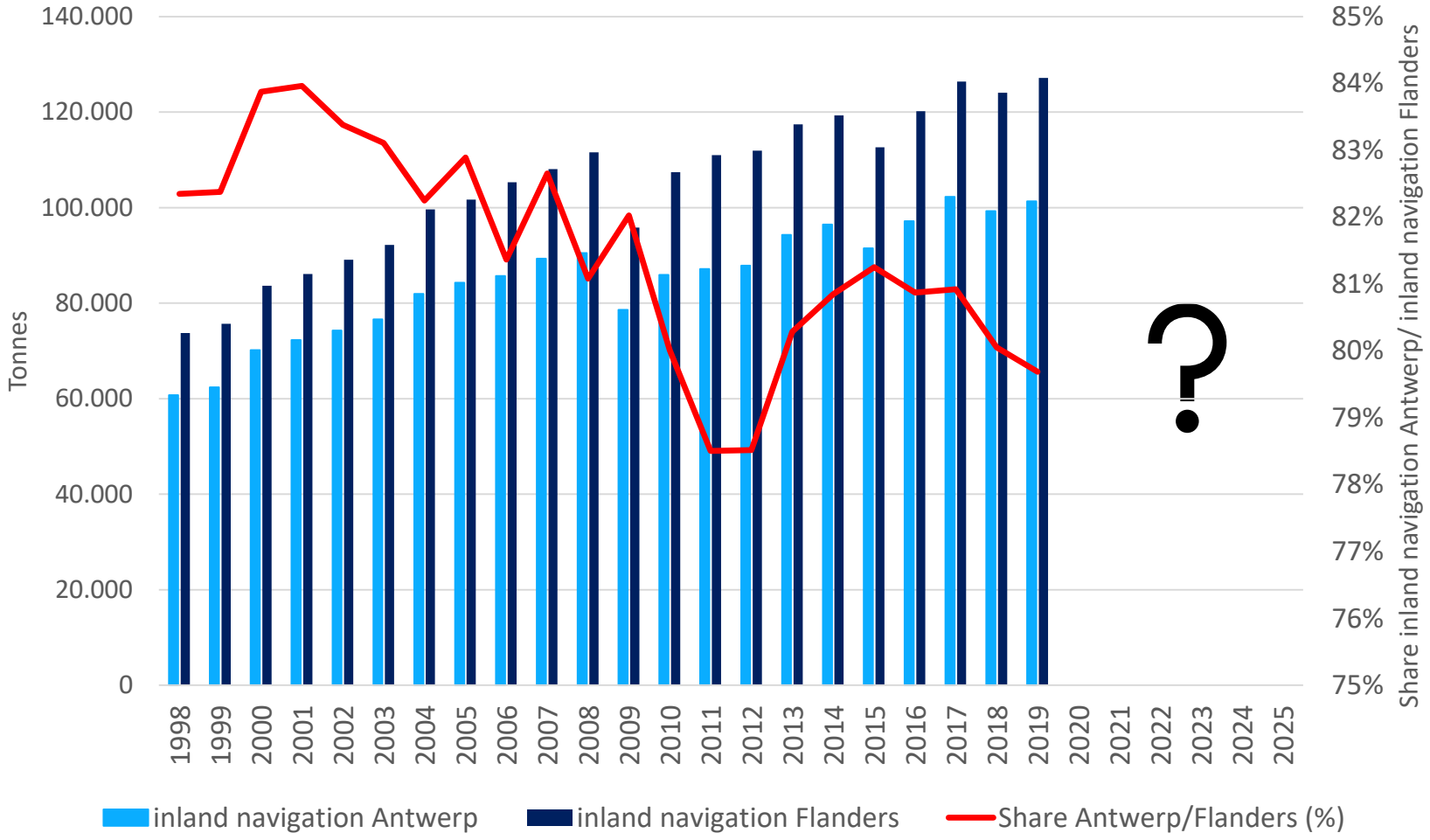
→ too early to make a statement as things may evolve in the next five years

Objective: to measure is to know for

- policy decisions
- business decisions

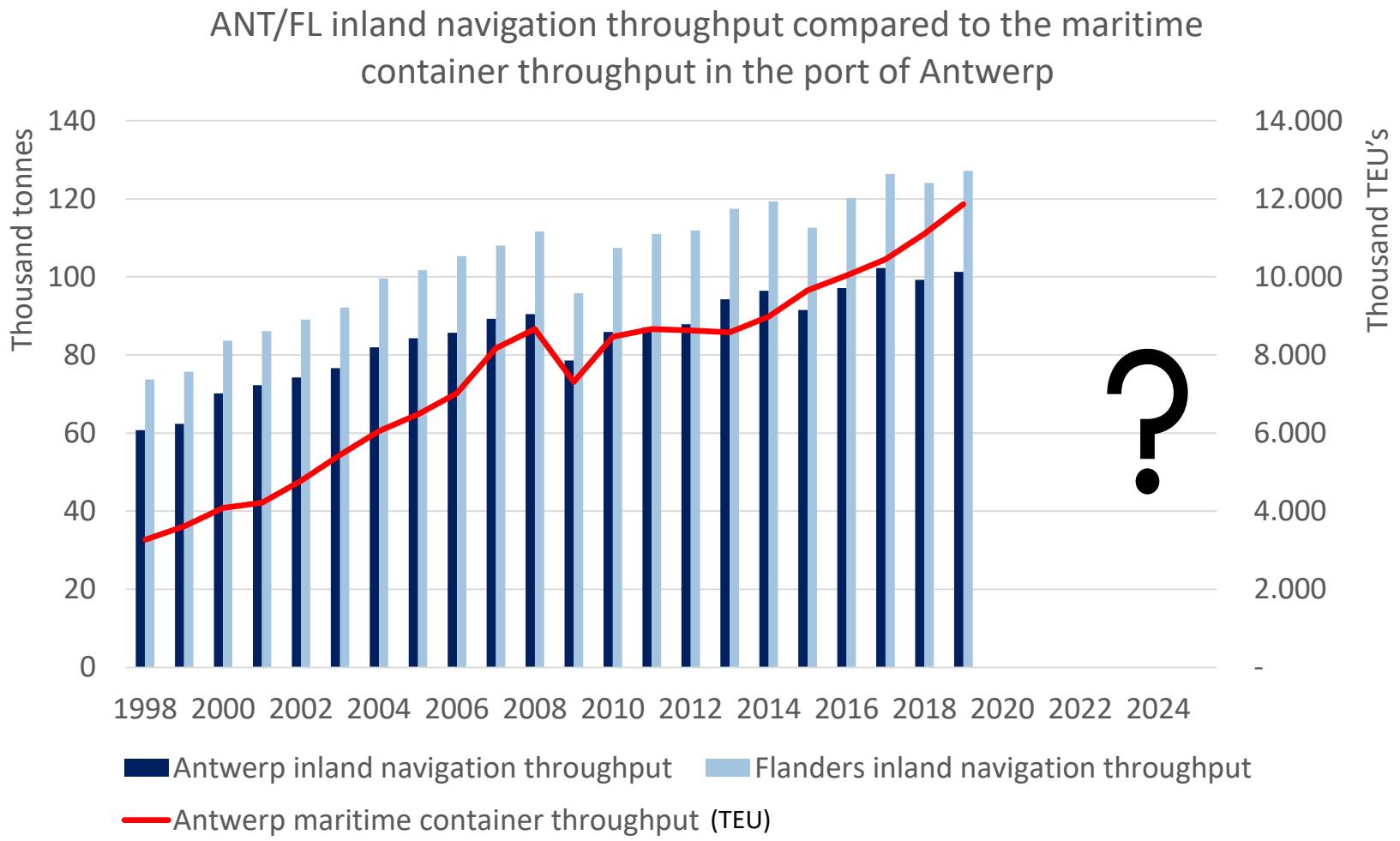
COVID-19 > maritime container transport and particularly on inland navigation

Rationale (1/2)



Source: Sys& Hellebosch, 2021

Example (2/2): Include maritime container throughput POA



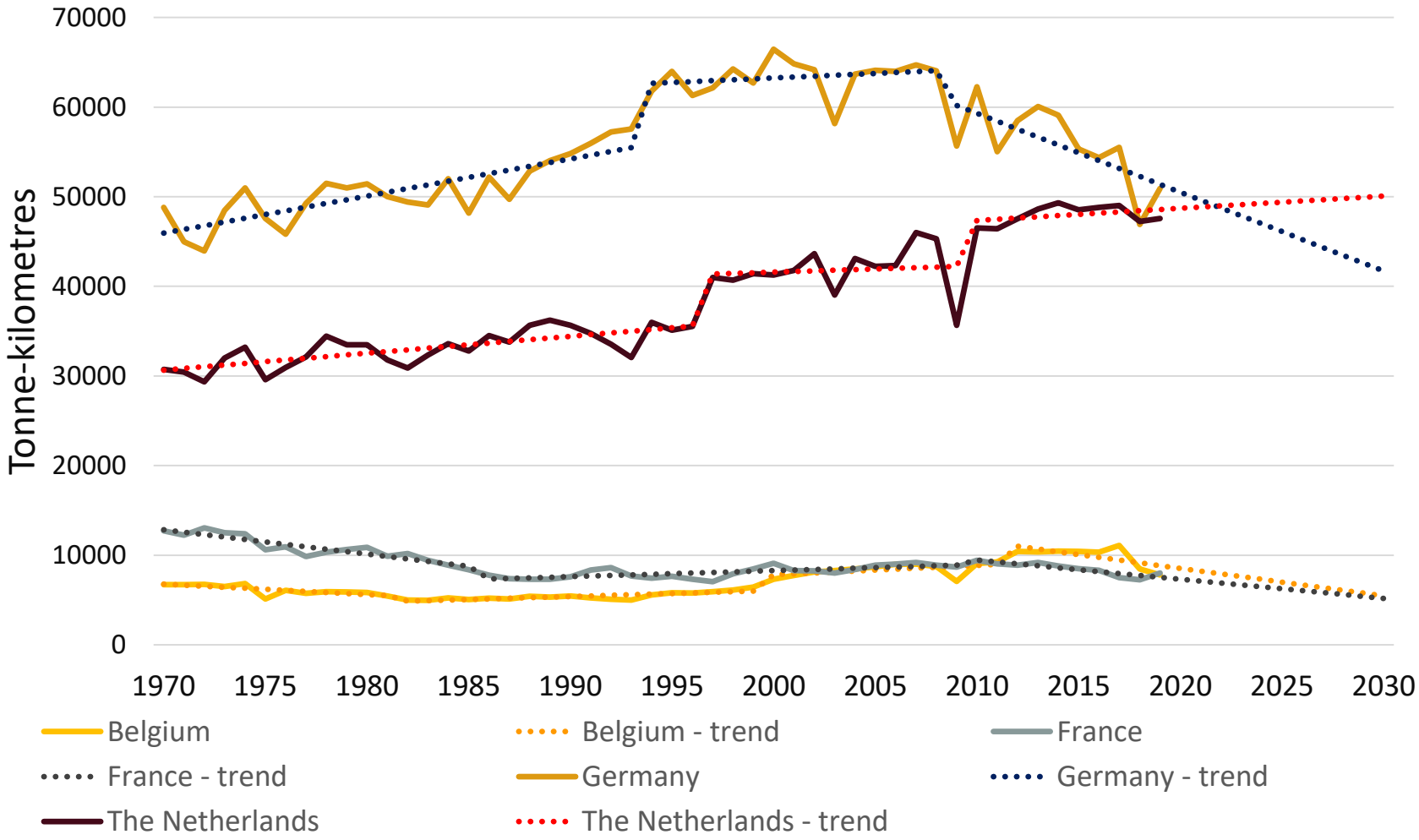
Source: Own composition of Sys & Hellebosch, 2021 & Port of Antwerp, 2020

Data collection: a challenge

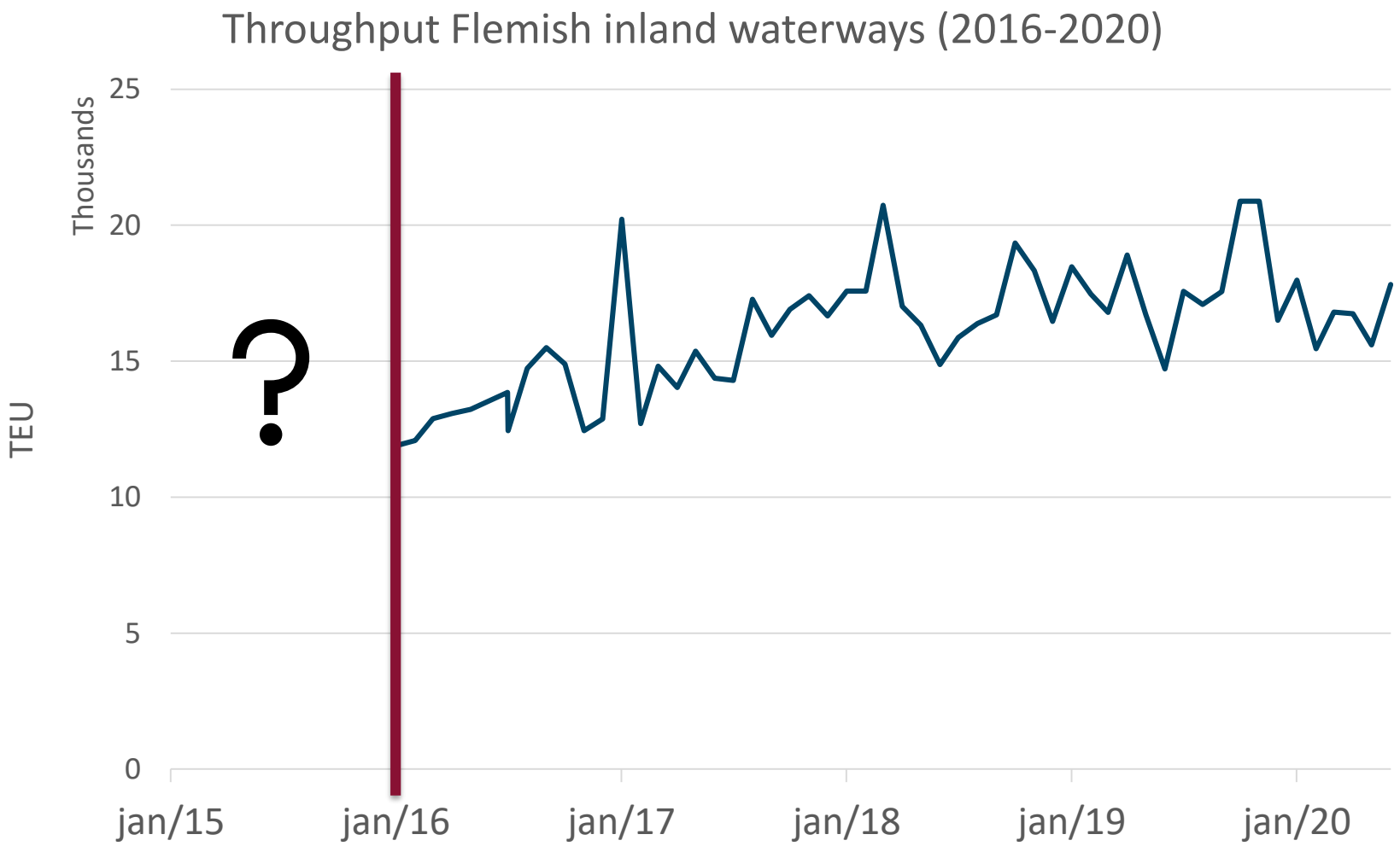
Data collection: challenges

- Confidentially/limited open access data
- Gaps in time series
- Level of frequency & level of aggregation
- No (access to) long time series
- Different institutions, different definitions, different methodologies

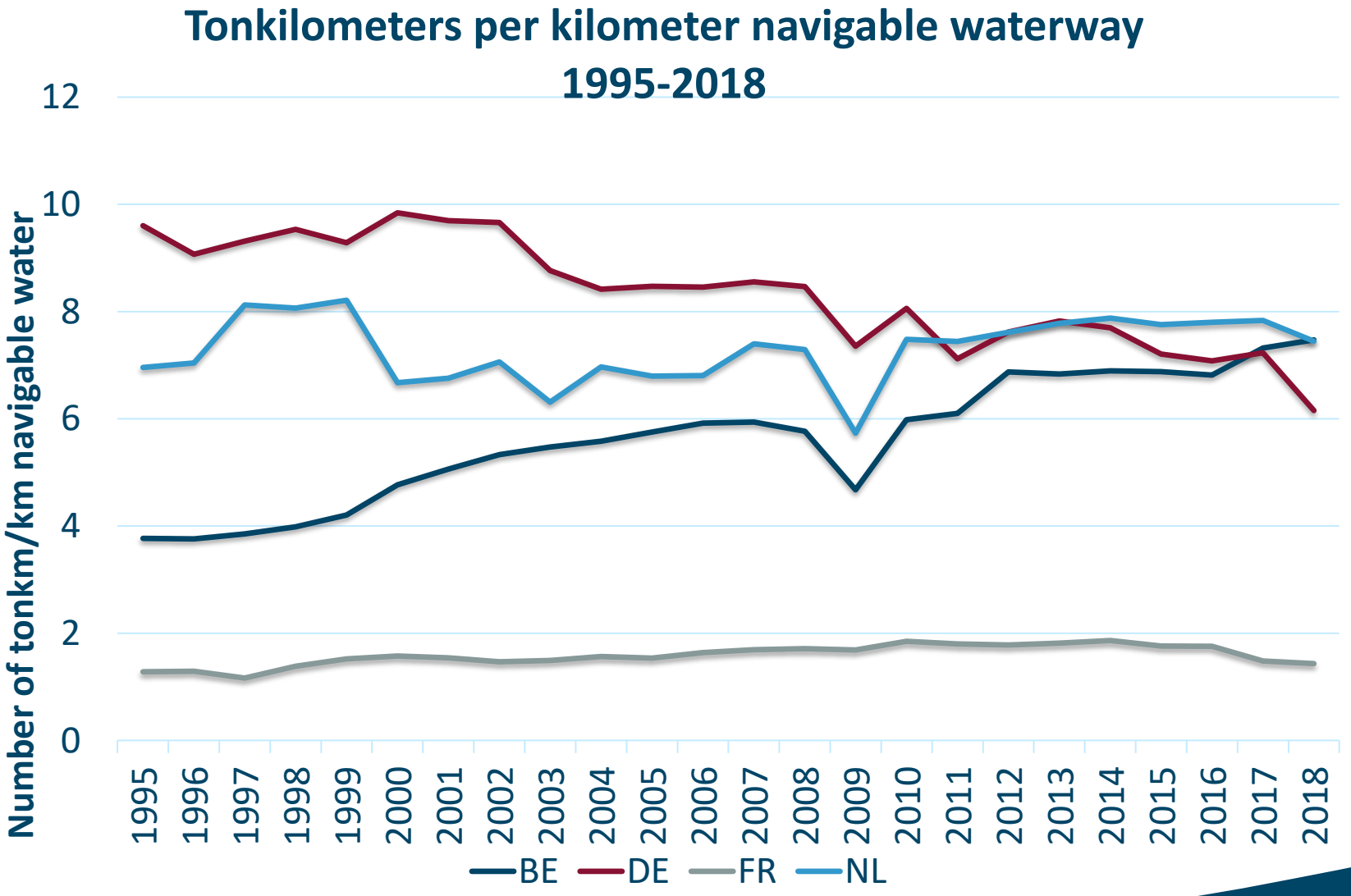
Example 1: too aggregated



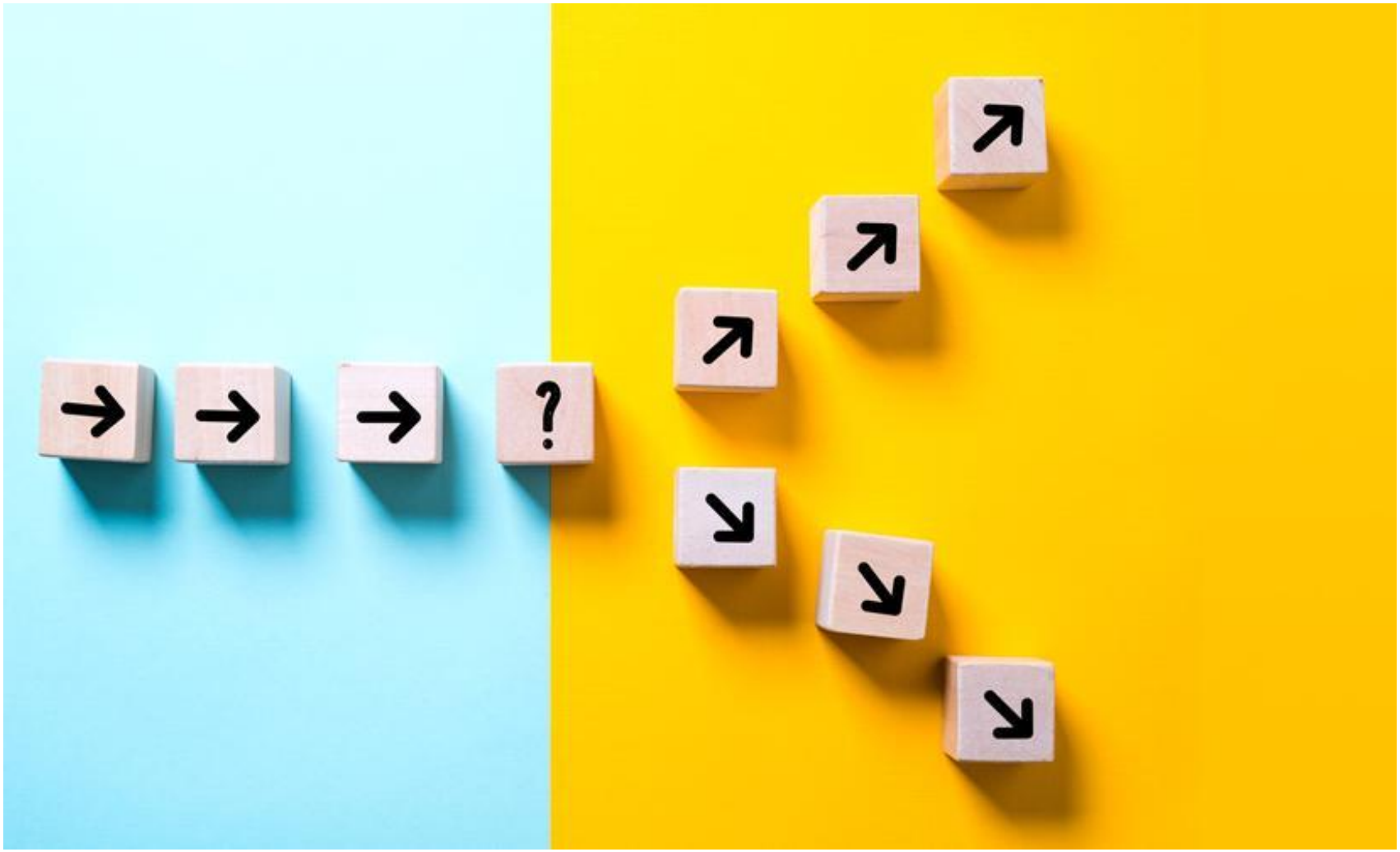
Example 2: no accessibility to long time series



Example 3: definition navigable waterway



Research



Aim

- To study the relation between maritime shipping and inland navigation container traffic
- To conduct a trend extrapolation → possible and probable future developments of trends

Research question

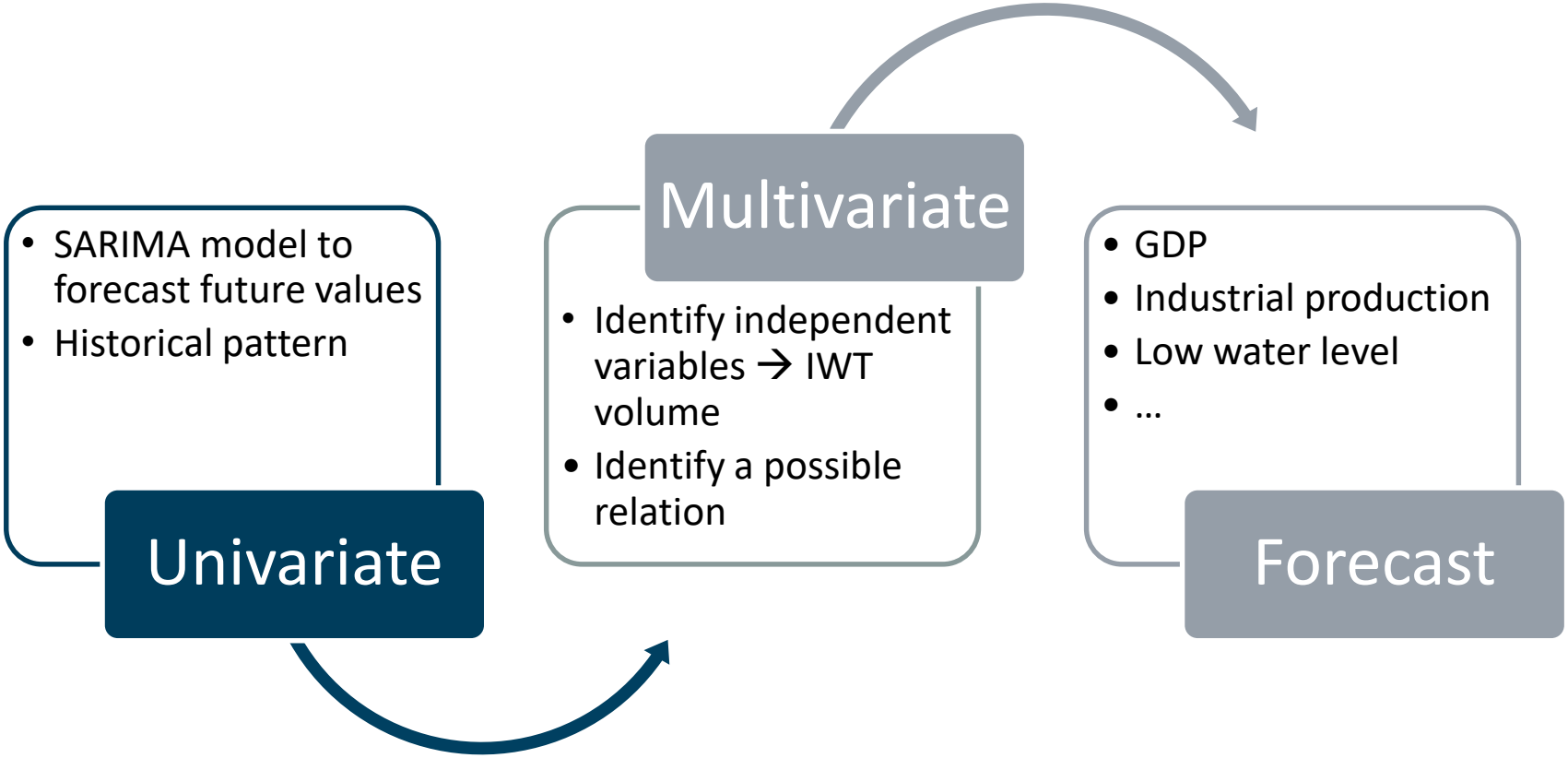
What are the future perspectives of container inland navigation?

Empirical research: scope

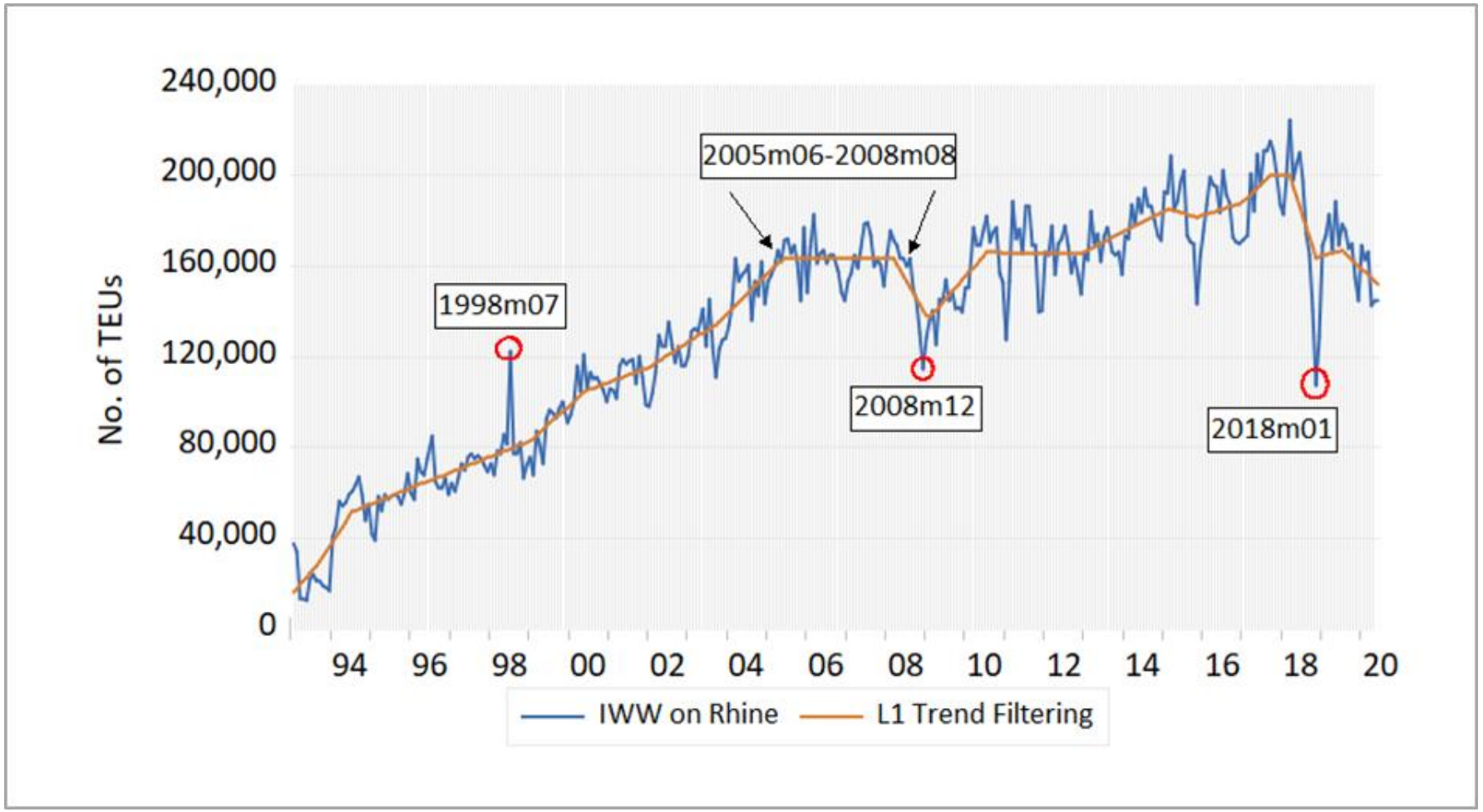
- Container throughput → collected by Destatis (01.1993-06.2020)
- Port data → container throughput

Source: CCRN (2019)

Conceptual scheme / research process

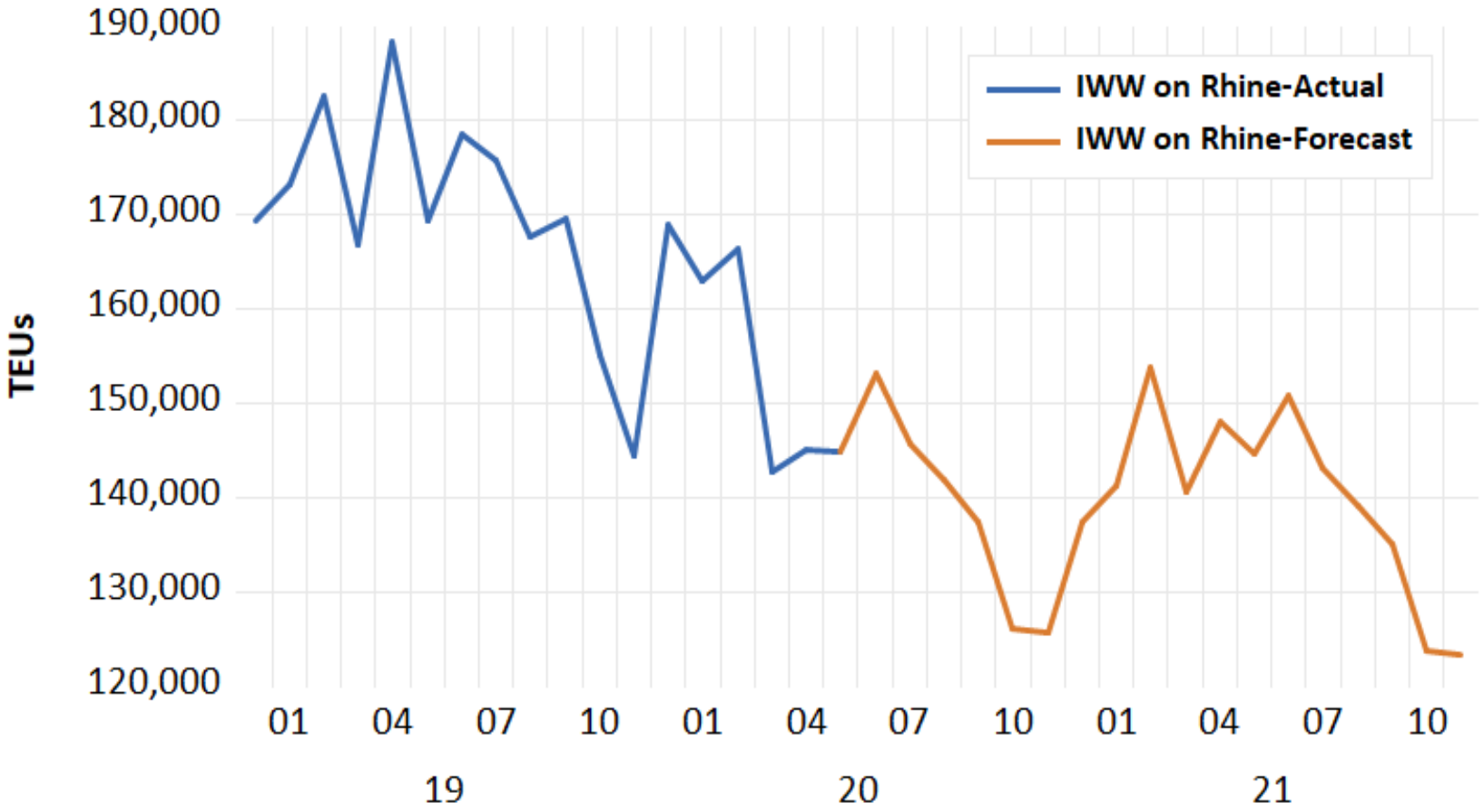


Results



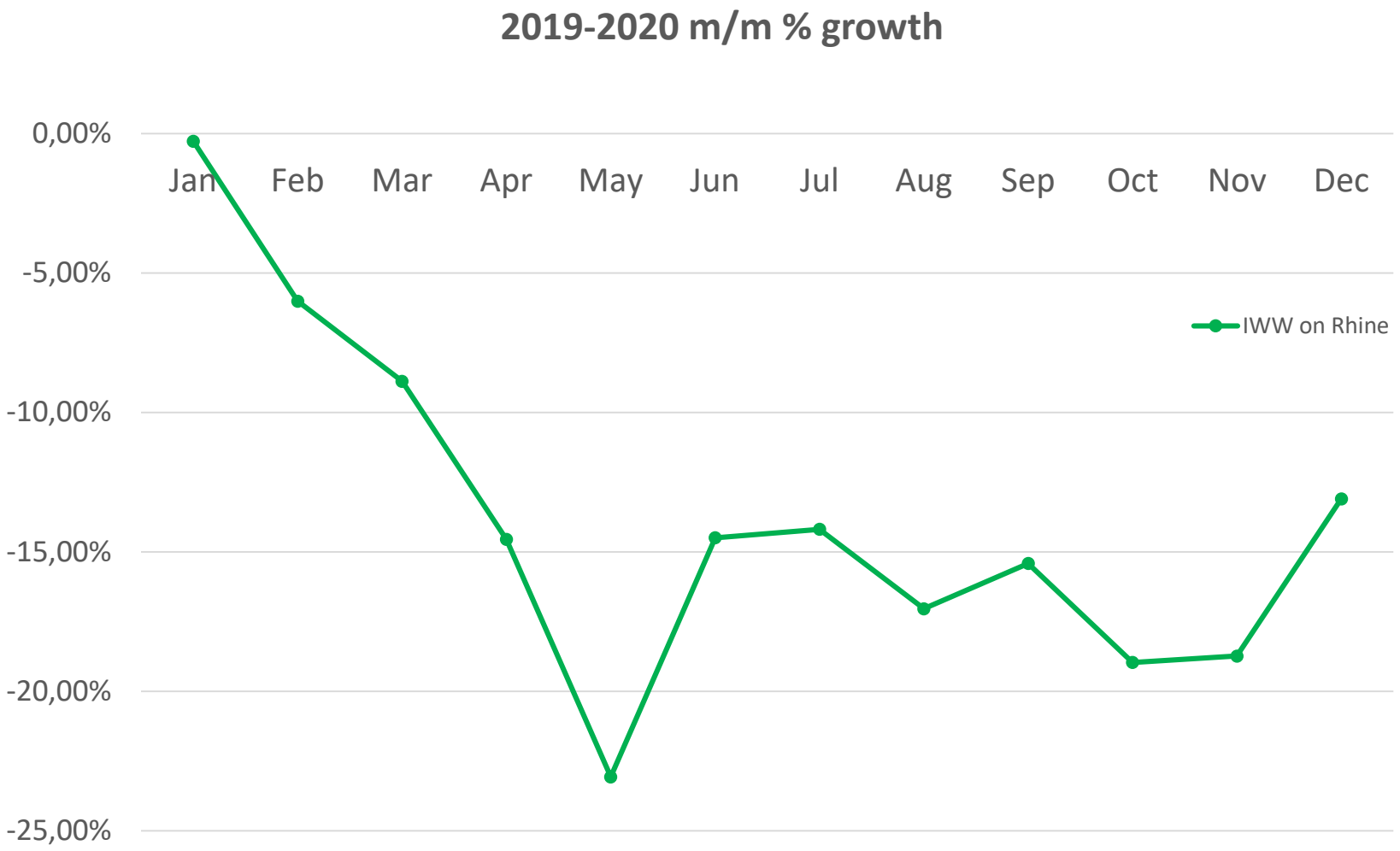
Source: own composition based on data from Destatis

Forecast (05.2020-12.2020)

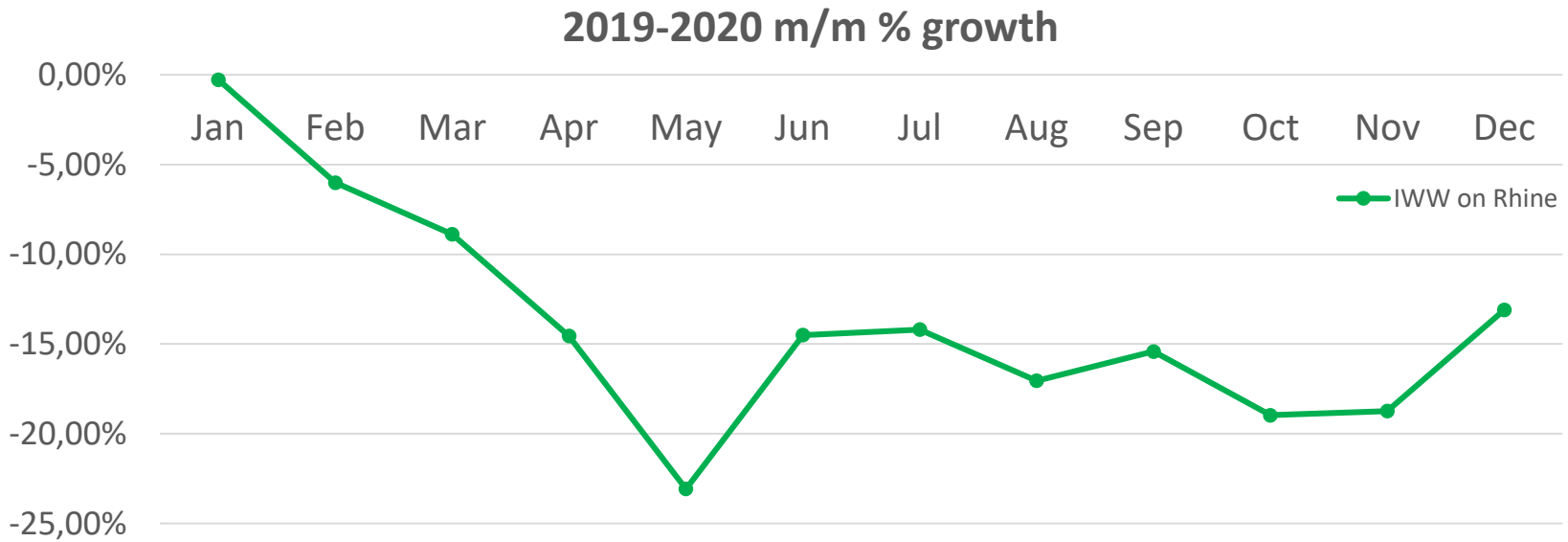


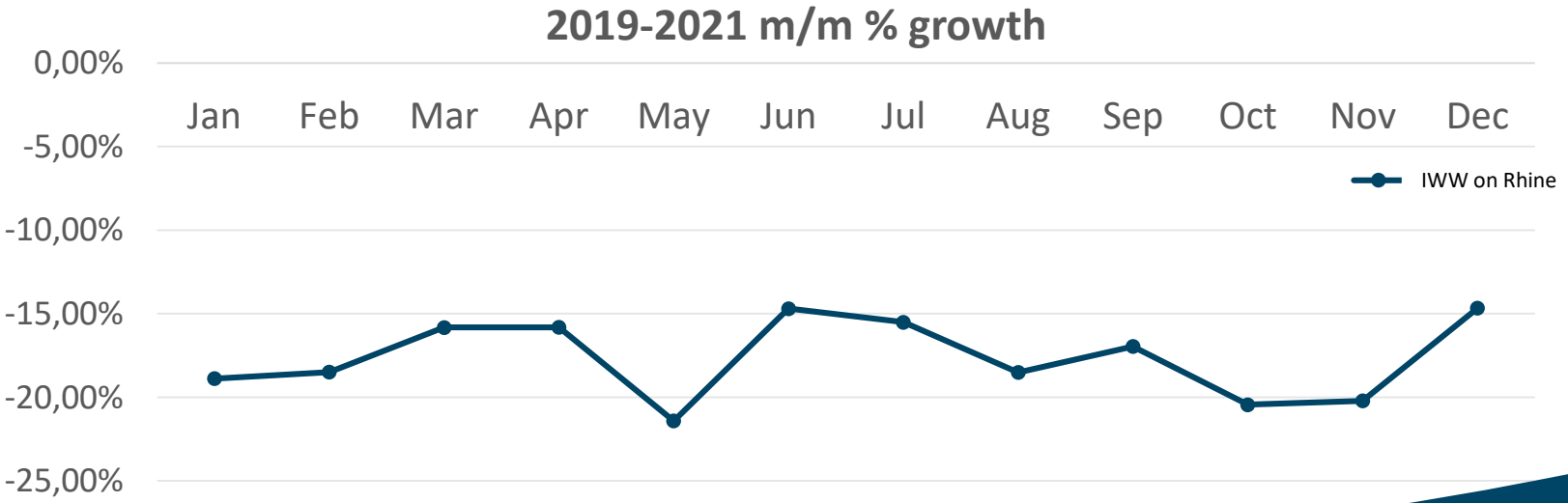
Based on the long-time data set of Destatis (starting from 01.1993)
Based on the historical pattern, includes seasonalities

Month-over-month growth



Month-over-month growth

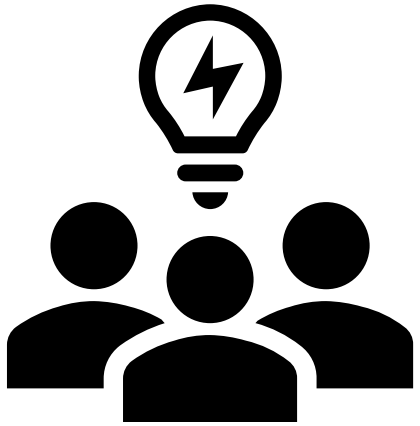




Conclusion

- If you have good time series datasets, you can get interesting results
  - Policy decisions
  - Business decisions
- Impact of low water level
- Further research
  - Include exogenous factors (GDP, industrial production, low water level,…)
  - Include scenarios

➔ Set-up a data centre is necessary



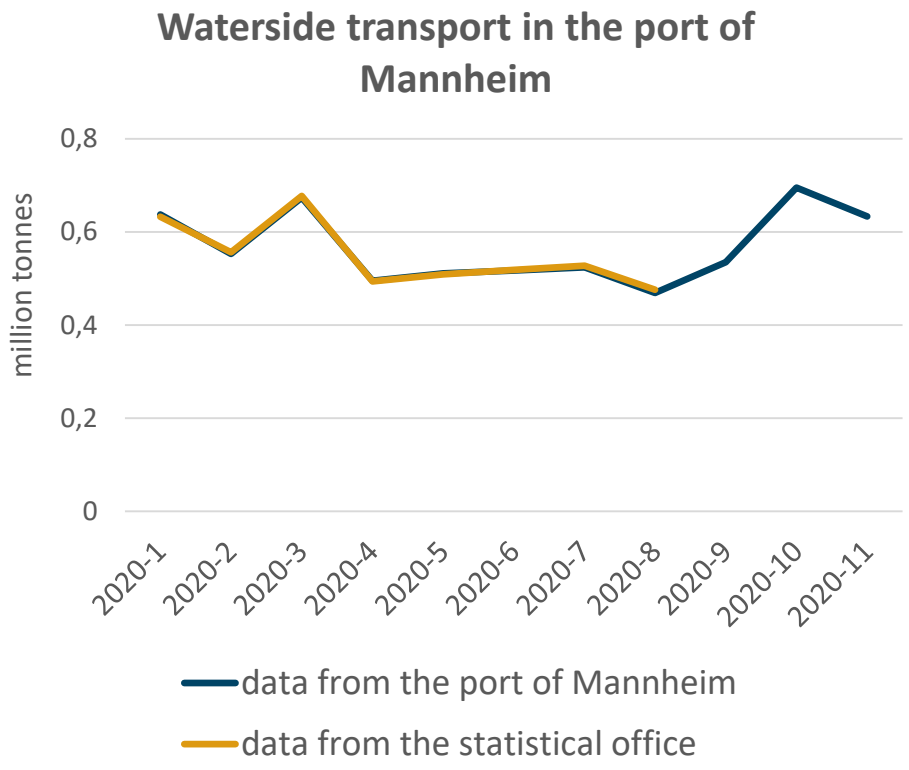
Pitch 1

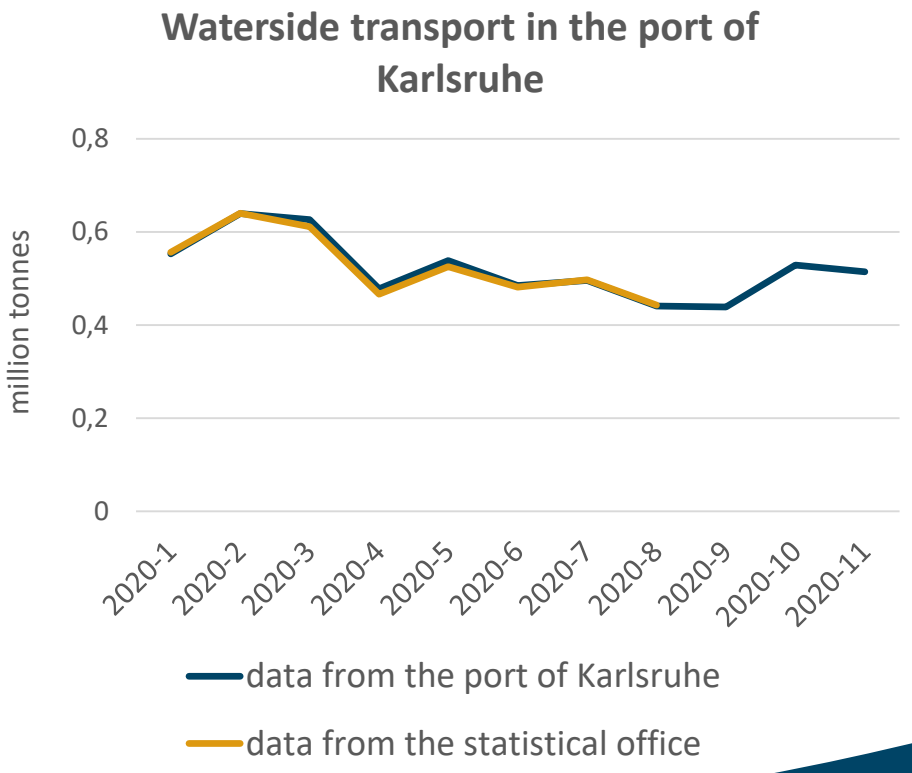
Dr. Norbert Kriedel

Administrator for Statistics and Market Observation, CCR

Data availability – Timeliness and Granularity

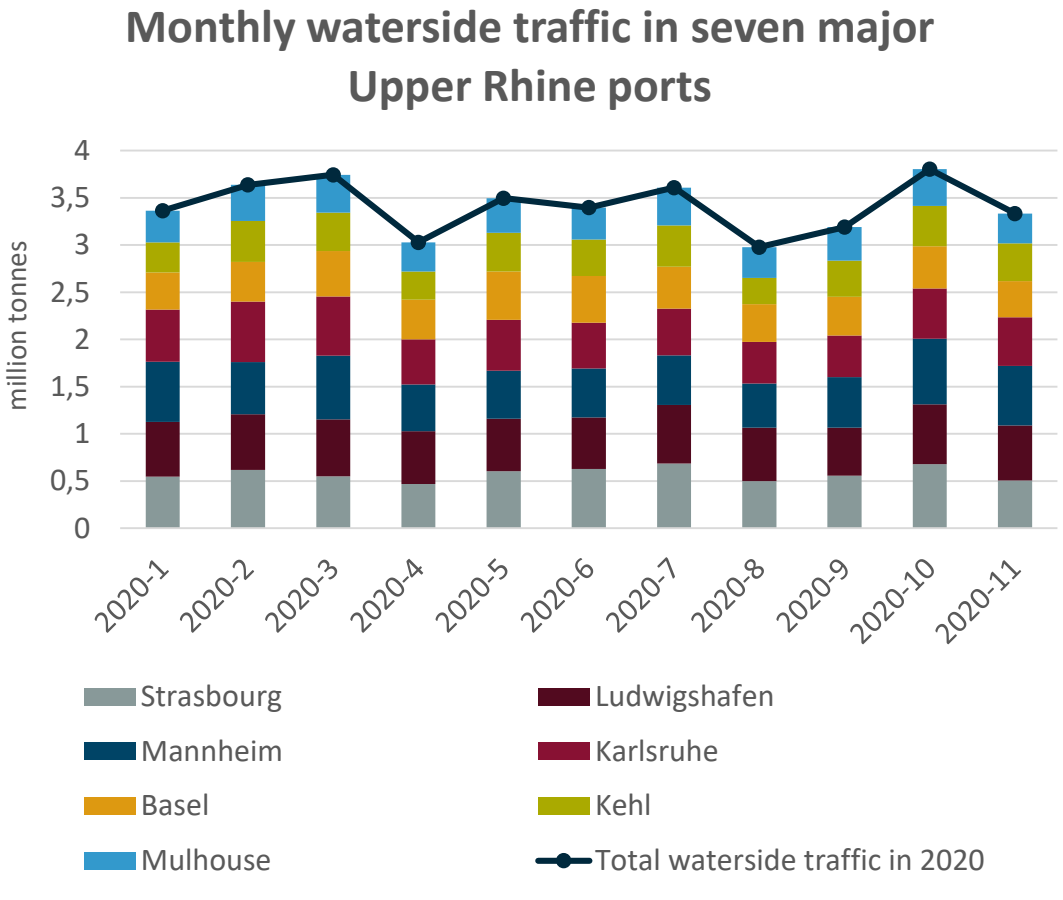
- Data from statistical offices have considerable timely delays
- Data from waterway administrations and from inland ports are available earlier and in greater detail (granularity)

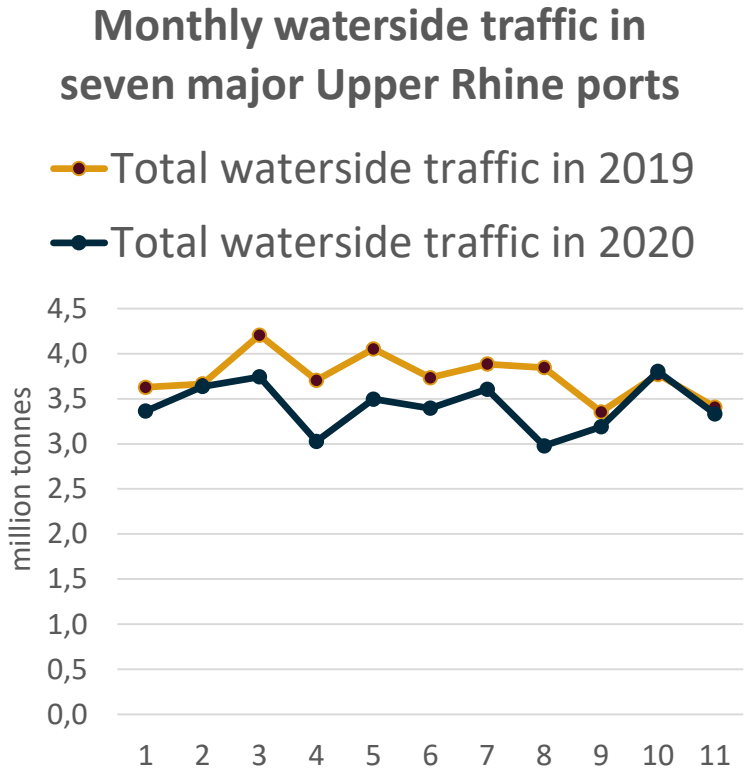




Data availability – Timeliness and Granularity

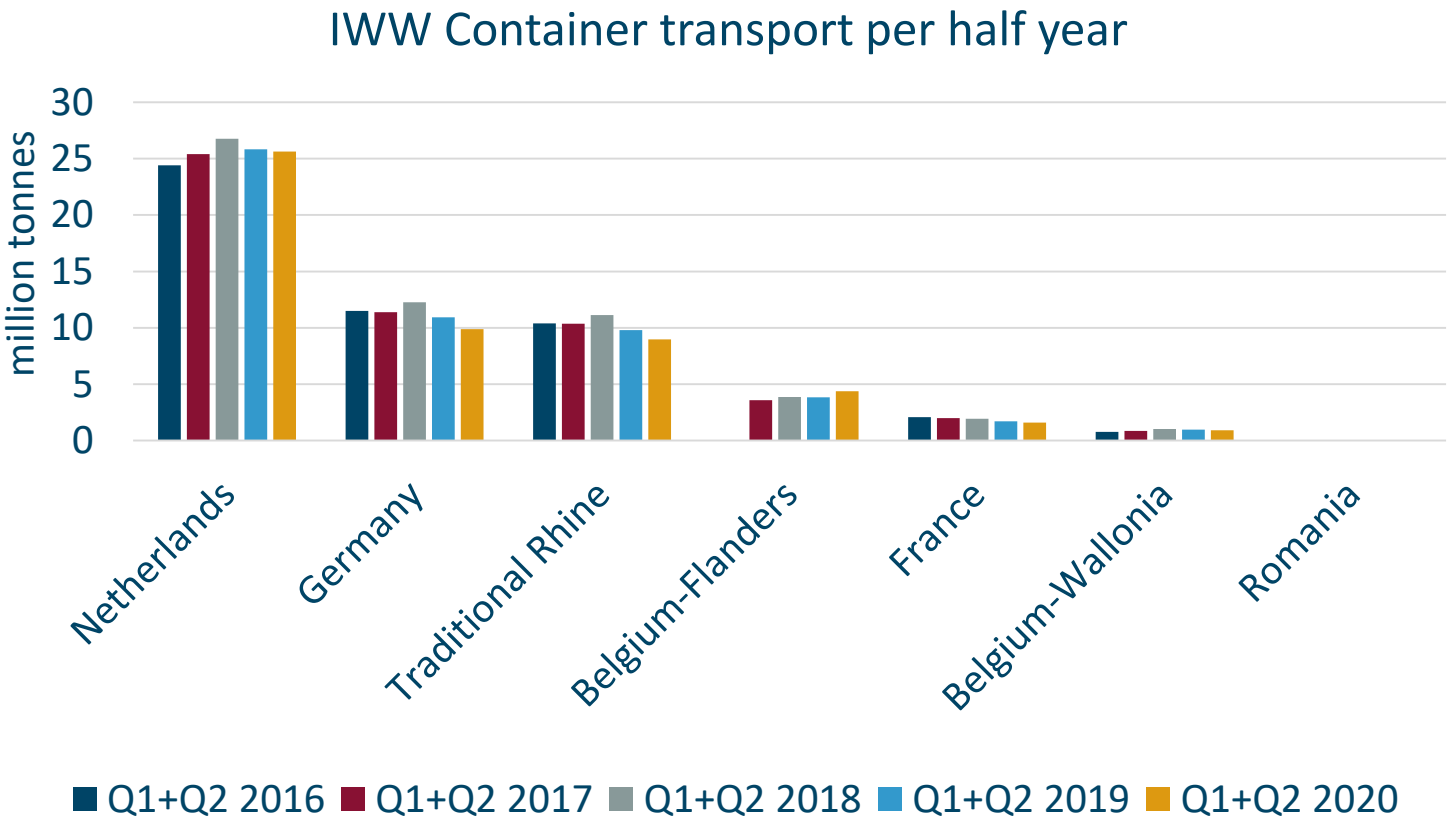
If monthly ports data are available for several major ports, this allows to “scale up” the result and draw conclusions regarding the evolution of Rhine transport:





Data availability – Dry bulk, liquid bulk, container transport

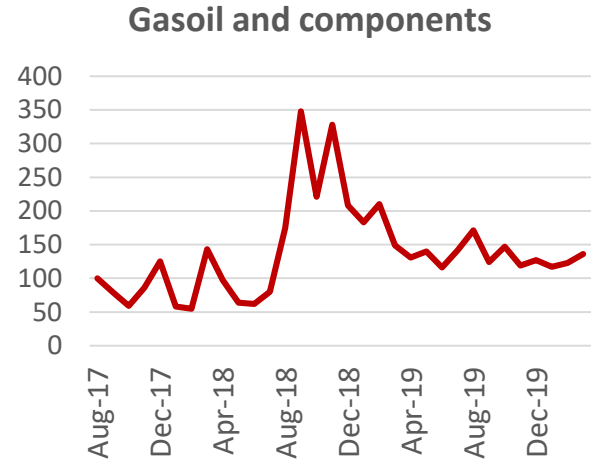
The source of these quarterly data are waterway administrations (BE-Flanders, BE-Wallonia, France), statistical offices (NL, DE, ROM) and Eurostat.

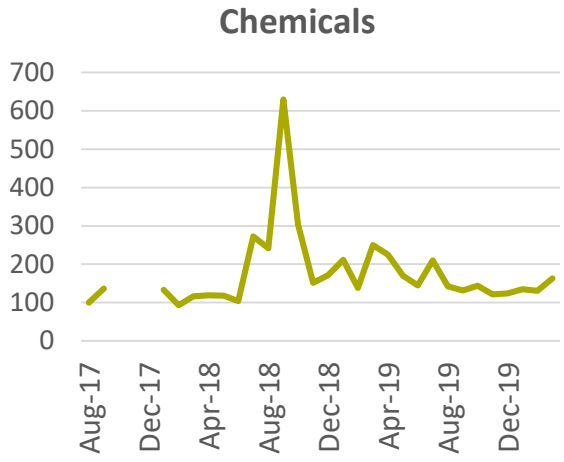


Container transport on a large scale is only present in Rhine countries, but not in Danube countries.

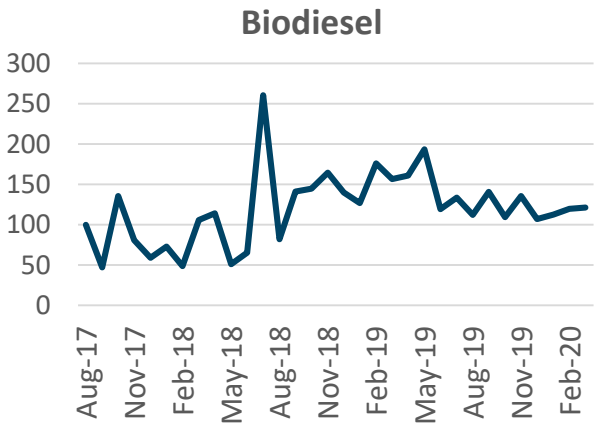
Data availability – Freight Rates

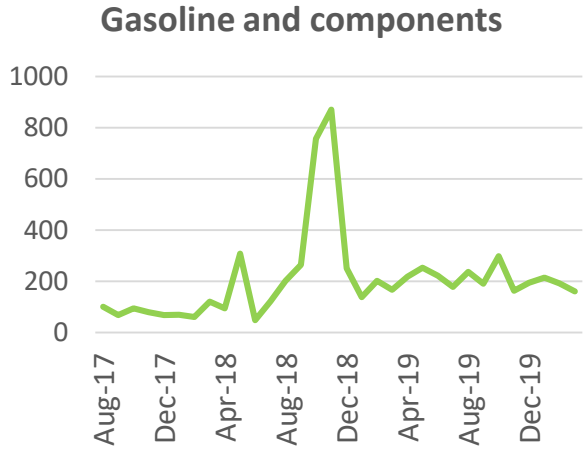
Cooperation between CCNR and the CITBO tanker barging corporation allows to make monthly analysis of spot market (and time charter) rates in the region Flushing – Antwerp – Rotterdam – Amsterdam - Ghent:





Calculation of an index (August 2017=100)





Low water effects on freight rates in August and September 2018

Pitch 2

Frédéric Swiderski

Director and Economic Advisor

INSTITUUT VOOR HET TRANSPORT LANGS DE BINNENWATEREN v.z.w. (ITB)

INSTITUT POUR LE TRANSPORT PAR BATELLERIE a.s.b.l.

Institute for Transport by Barge (ITB)

Representatives of Federal and regional Administrations

Inland navigation private organizations representatives

FPS Mobility and Transport

Ports and regional agencies

FPS Economy

Universities and Research centres

Accountants

Inland navigation schools

Insurance Companies

Trade unions

International and national Networks (IWT platform (ESO-EBU), FBB, EDINNA, COMPETING, IVR, CCNR, VNF, SAB, …)

Data collection networks

INSTITUUT VOOR HET TRANSPORT LANGS DE BINNENWATEREN vzw
INSTITUT POUR LE TRANSPORT PAR BATELLERIE asbl
Rue de la Presse 19 Drukpersstraat BRUSSEL 1000 BRUXELLES
Tél. : + 32 (0) 2 217 09 67 – fax : + 32 (0)2 219 91 86 – email : itb-info@itb-info.be

http://www.itb-observatorium.be

MACRO-ECONOMIC DATA

FUEL price
Day to day - index

! Open data !

Portail de la Navigation intérieure

Un des objectifs principaux de l'Institut pour le Transport par batellerie asbl consiste en la fourniture périodique d'informations économiques sur l'activité de transport de marchandises par voie navigable.

Sur base de ces données, on peut procéder à une analyse des paramètres primordiaux de l'évolution du secteur de la navigation intérieure que constituent tant l'offre de cale que les prestations de transport de marchandises.

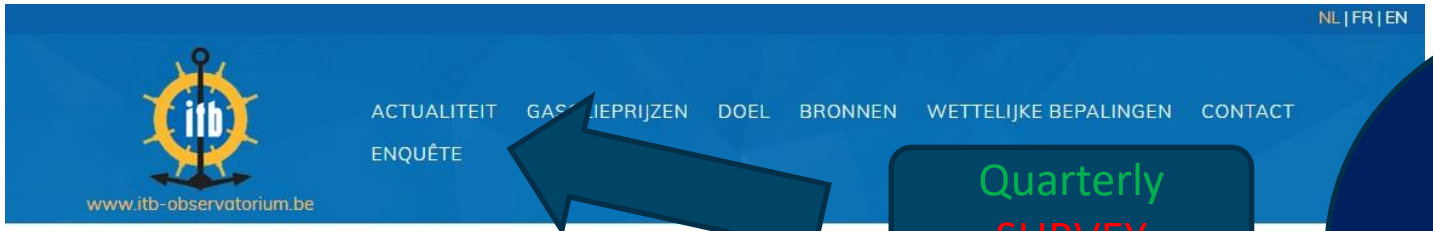
B-FLEET
quarterly
evolution

Inland Navigation
goods transport
(quarterly
transport volume
of goods)

INSTITUUT VOOR HET TRANSPORT LANGS DE BINNENWATEREN vzw
INSTITUT POUR LE TRANSPORT PAR BATELLERIE asbl
Rue de la Presse 19 Drukpersstraat BRUSSEL 1000 BRUXELLES
Tél. : + 32 (0) 2 217 09 67 – fax : + 32 (0)2 219 91 86 – email : itb-info@itb-info.be

http://www.itb-observatorium.be

MICRO-ECONOMIC DATA



Quarterly SURVEY

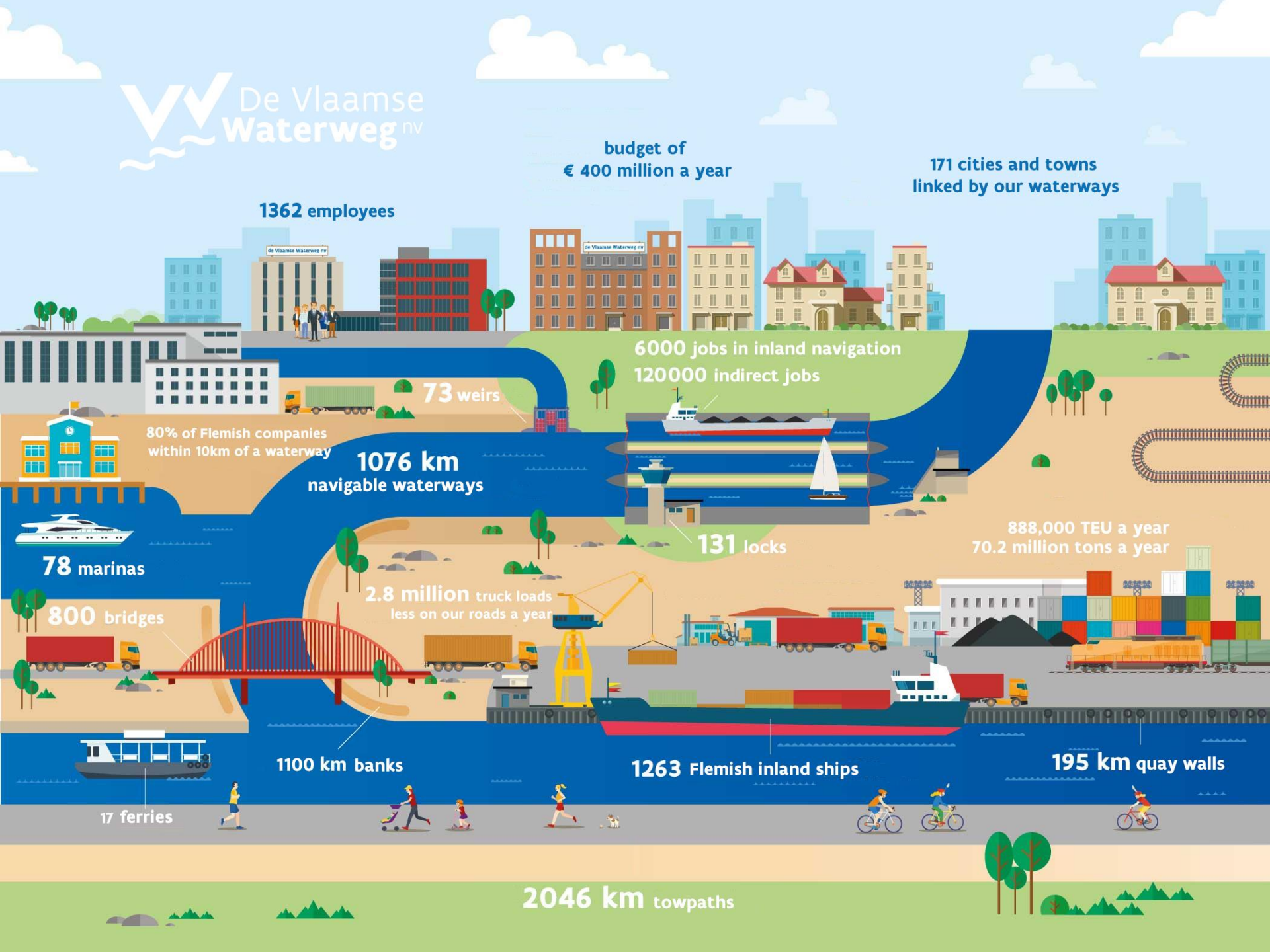
! BAROMETER !
Yearly turnover
& cost evolution
since 2006
No open data

Freight rates :
Evolution with
FPS Economy in
the future ?

Pitch 3

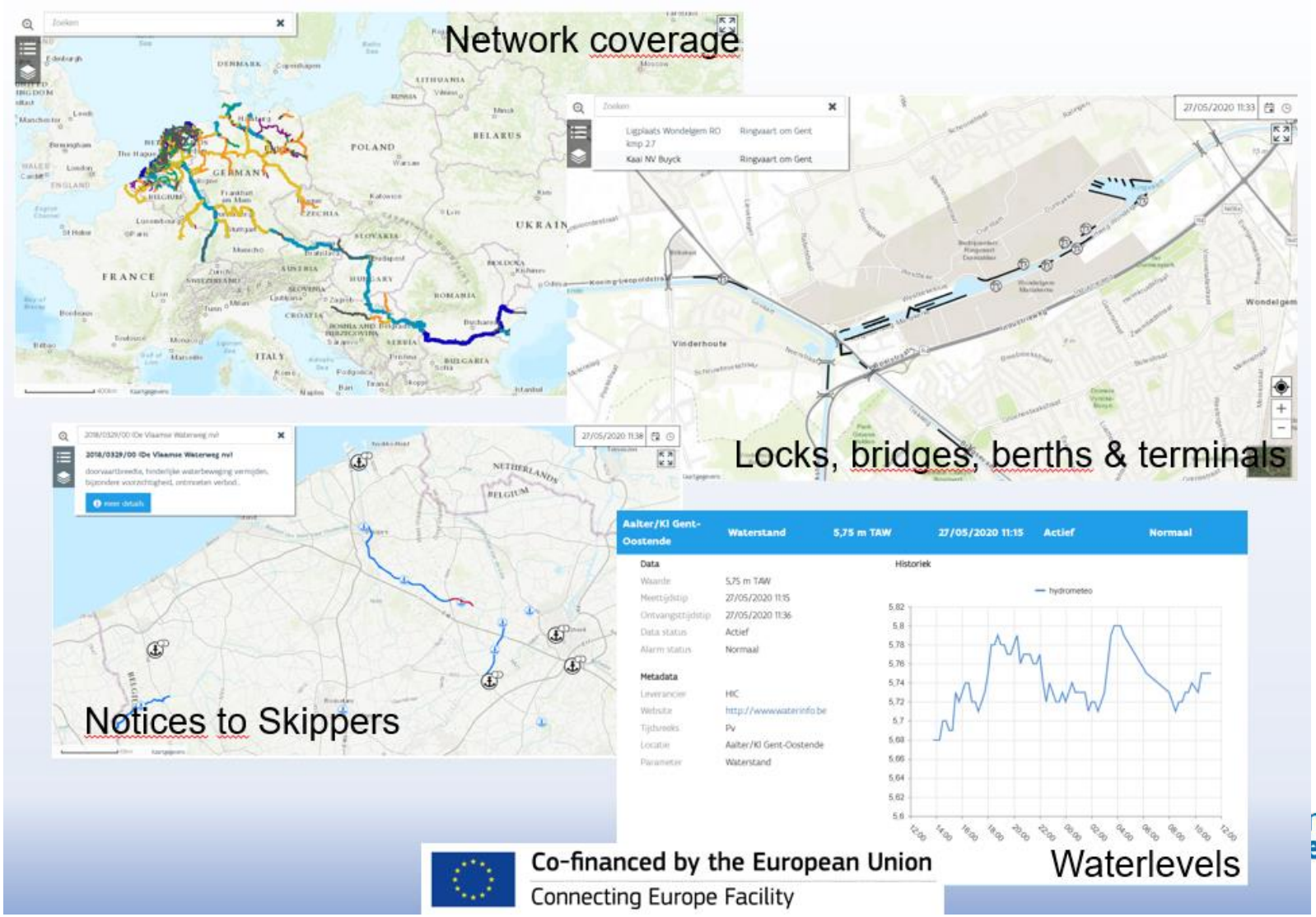
Herlinde Liégeois

Head of the unit steering exploitation, *De Vlaamse Waterweg nv*


De Vlaamse Waterweg nv
budget of
€ 400 million a year
171 cities and towns
linked by our waterways
1362 employees
6000 jobs in inland navigation
120000 indirect jobs
73 weirs
80% of Flemish companies
within 10km of a waterway
1076 km
navigable waterways
131 locks
888,000 TEU a year
70.2 million tons a year
78 marinas
2.8 million truck loads
less on our roads a year
800 bridges
1100 km banks
1263 Flemish inland ships
195 km quay walls
17 ferries
2046 km towpaths

Challenges in data collection

1. To inform the users of the waterway for safe navigation -> VisuRIS.be -> www.riscomex.eu



Co-financed by the European Union
Connecting Europe Facility

Challenges in data collection

2. Harmonization of data

Example: Corona comparison between countries

Example: Benchmark comparison number of exams and qualification certificates in inland navigation

New directive on crew qualifications 2017/2397 - monitoring

Other examples: Greening, accidents reporting, …

De Vlaamse Waterweg nv

3. Make innovations possible

Automated navigation: we need data to develop policy and regulation

- Technical requirements of vessels
- Crew qualifications
- Manning requirements
- Navigation rules
- Levels of autonomy

Pilotprojects: important to share information between countries

Panel

Thierry Vanelslander

Professor University of Antwerp

Copromotor Dennie Lockefeer Chair

Panel members

Dr. Theresia Hacksteiner

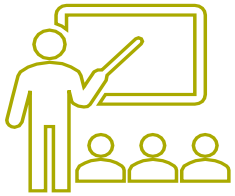
Dr. Norbert Kriedel

Dr. Martijn van der Horst

Prof. dr. Christa Sys

Which IWT data is needed?

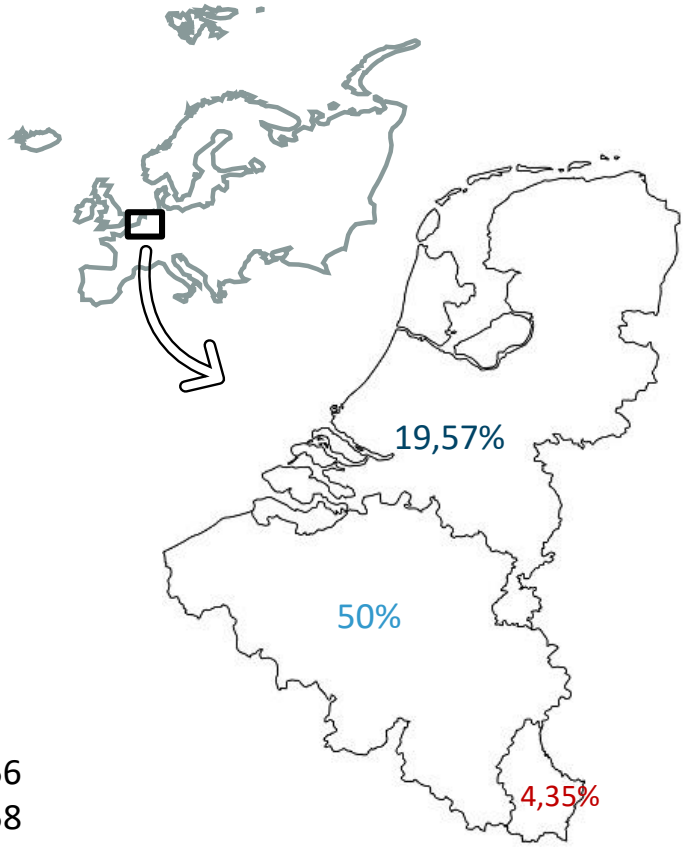
Survey: 28 questions



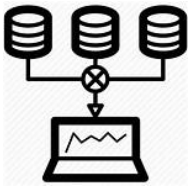
Education, research centre & consulting 39,13%

Government 19,57%

Logistics service provider 6,52%



Missing data



Needed data

♂ 78,26%

♀ 17,39%

Problems

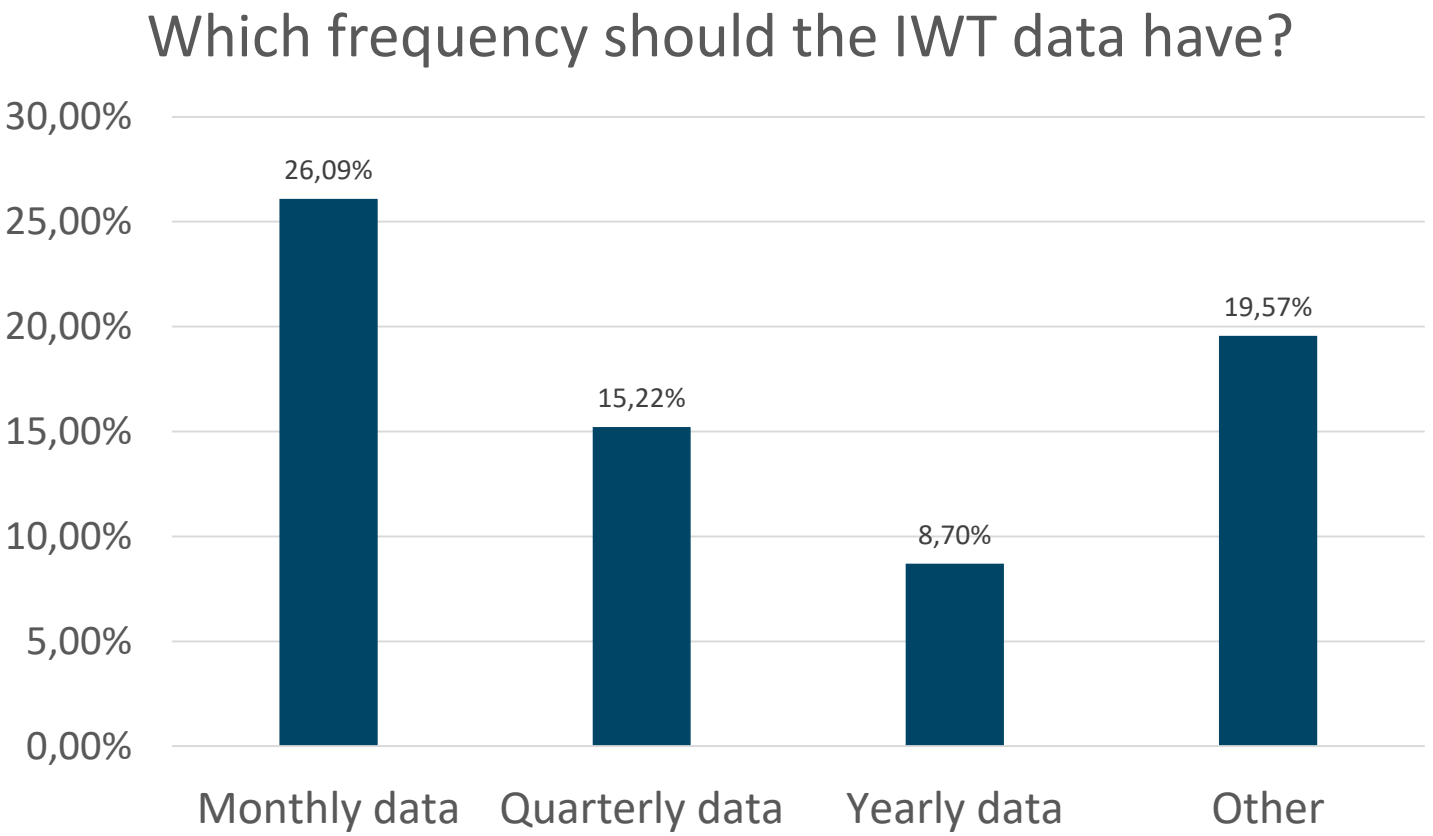
Solutions

Audience size: 256
Surveys started: 58
Responses: 48
18% response rate

Survey: Which data is needed?

Education, research centre, consulting	- Long time series - Costs - Inland ports - Real-time inland navigation flows	- Planning - Fleet data - RIS data - Emissions data
Government	- Operational capacity - Technical data on alternative fuels	- (Cargo) traffic - Eu standardisation
Logistics service provider	- Intra Port of Antwerp - Operational data: ETA, possible events on the inland	
Shipper	- ETA/ ATA - Confirmation container on board, discharged - Temperature of the cargo	
Finance & insurance	- Claims data (specified per type of claim)	
Association	- Registration of accidents	- Active fleet
Freight forwarder	- Sailing schedules	- Freight charges
Carrier	- Level playing field inland shipping – road	
Other	- Movement of ships between terminals	- Cargo data - Waste collection

Survey



Real – time data

Which crucial IWT data is missing and what are the challenges?

What are the gaps?

Survey

Which IWT data is missing according to you?

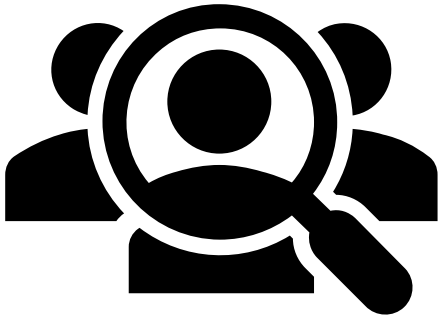
- Costs
- Timeslots
- Inland AIS data from official sources (Germany)
- EU data
- IWT data outside NL/BE/DE/FR

Survey

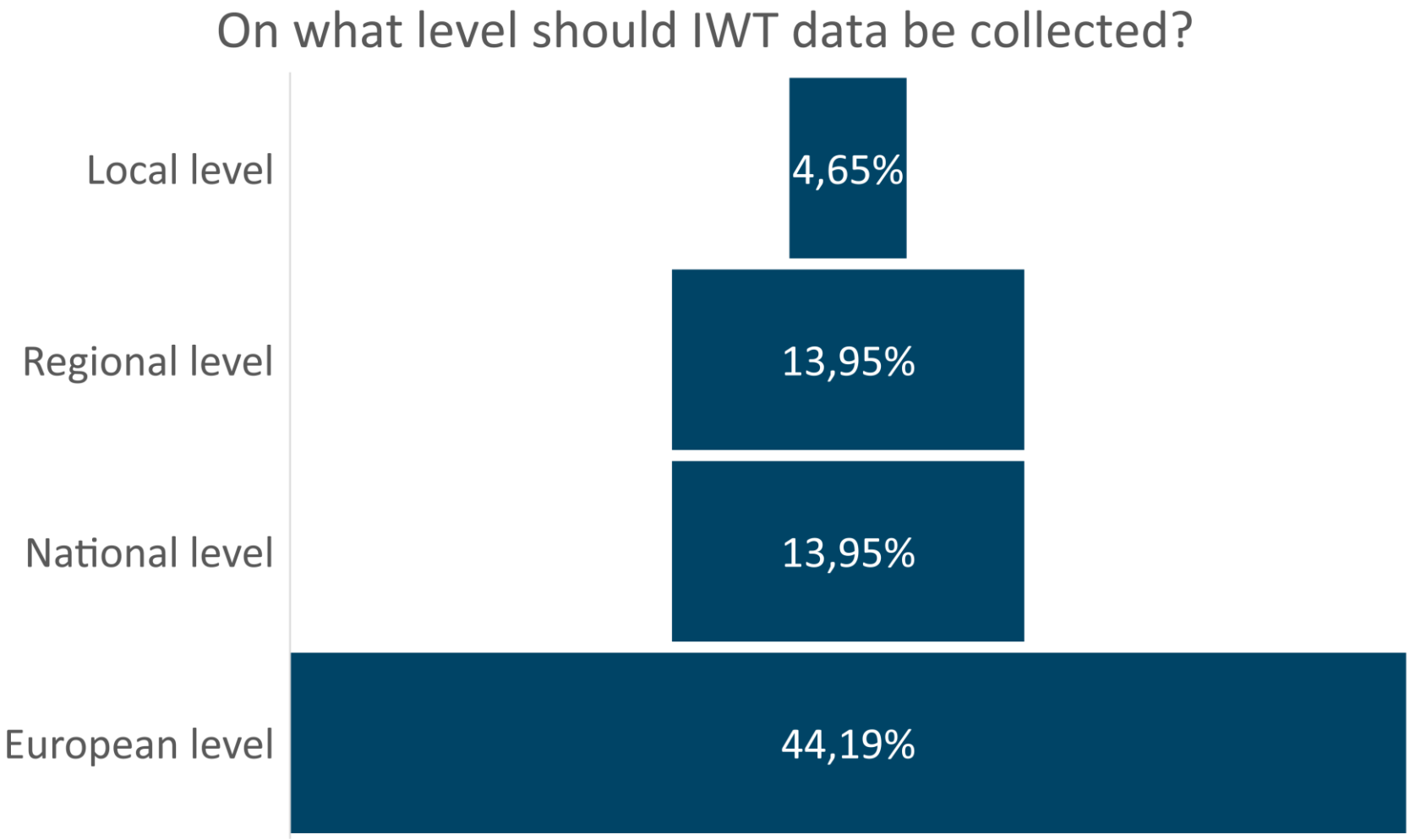
What challenges & problems with IWT data do you experience?

- Untransparent
- Availability
  - No data available
  - Scattered
  - Different institutions collect and distribute data
- Accuracy
  - Missing & outdated data
  - No detailed data
- Access
  - GDPR
  - Ownership of data and privacy
- No harmonization

Who should collect data?



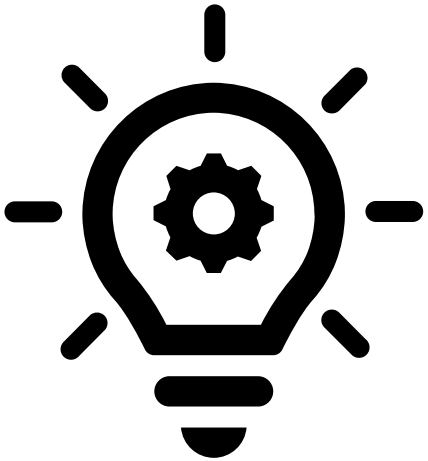
Survey:


On what level should IWT data be collected?
Local level
4,65%
Regional level
13,95%
National level
13,95%
European level
44,19%

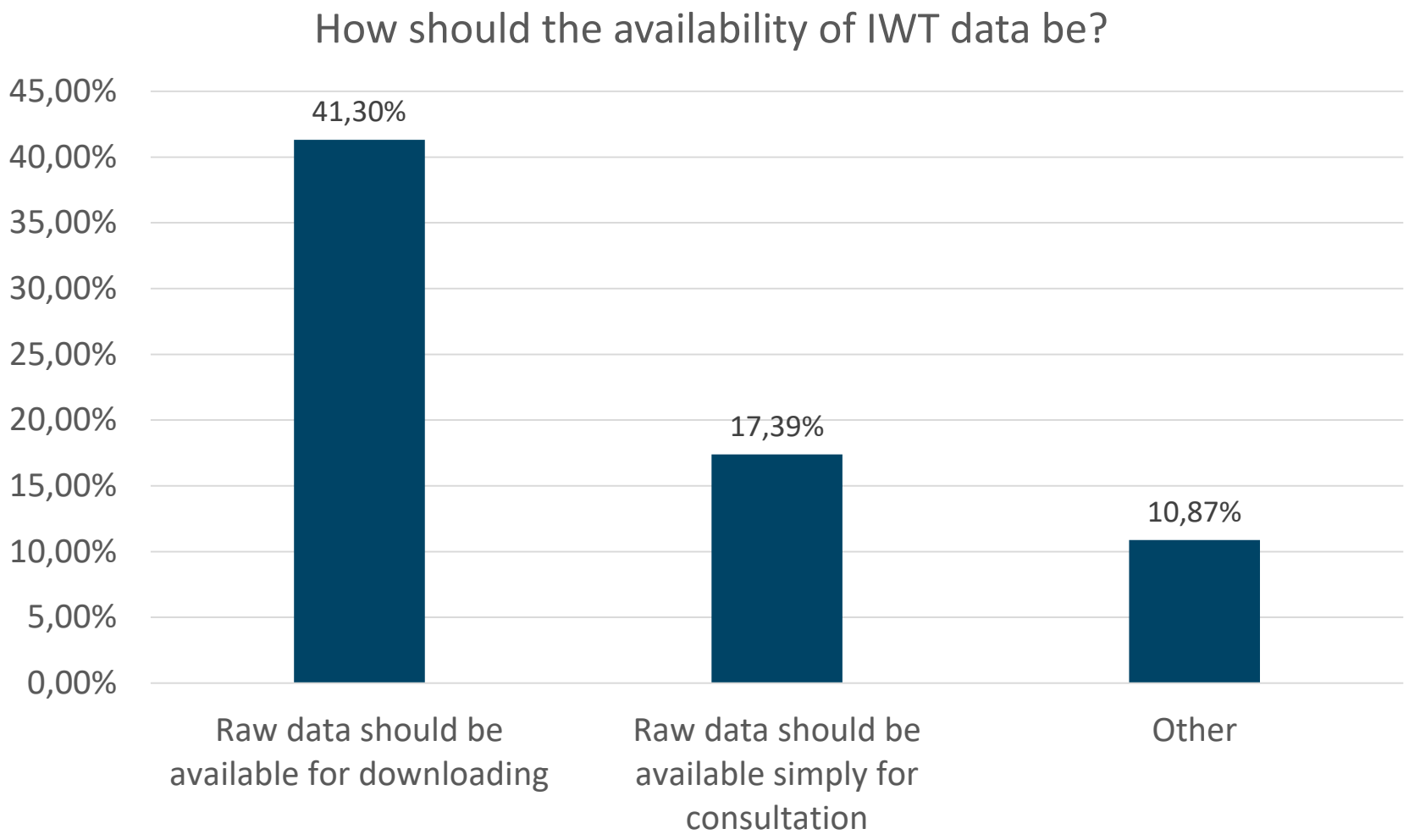
What are the solutions?

How should the data be available?

Who should take the next step?



Survey

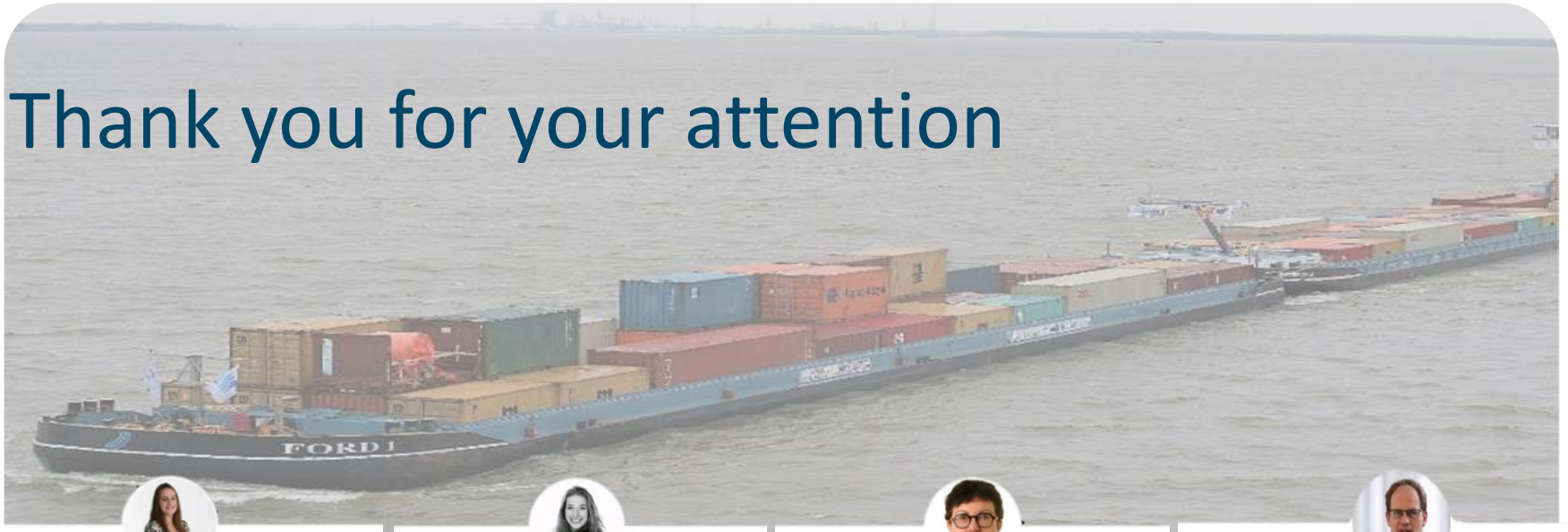

How should the availability of IWT data be?
45,00%
40,00%
35,00%
30,00%
25,00%
20,00%
15,00%
10,00%
5,00%
0,00%
41,30%
17,39%
10,87%
Raw data should be available for downloading
Raw data should be available simply for consultation
Other

Survey

Which solutions do you suggest?

- Open access (platform)
- Harmonization
- EU data standards
- Digitization
- Digitalization

Thank you for your attention



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