

While waiting...you didn't forget to complete the survey?





## Lecture 5

# Transport Mode Decisions in Intermodal Supply Chains: Determining Factors

Organized within framework Dennie Lockefer Chair

# For the cloud: house rules



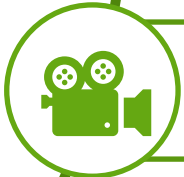
Participants other than speakers are **muted**.



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 by **raising your hand**. Keep the questions short and to the point.

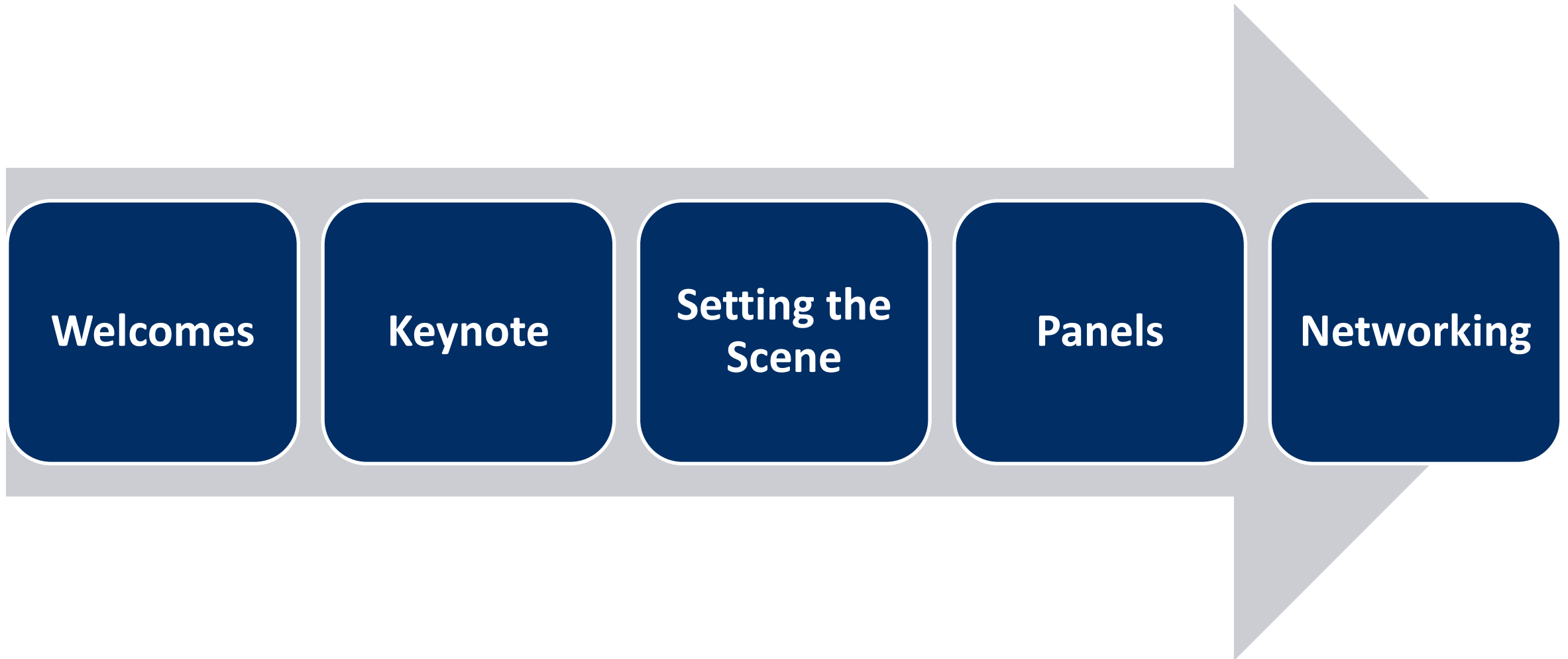


The session will be **recorded**. You will receive info on recording/presentation after the webinar



Technical issues: mail to [Katelyn.tahaney@uantwerpen.be](mailto:Katelyn.tahaney@uantwerpen.be) and/or [Christa.Sys@uantwerpen.be](mailto:Christa.Sys@uantwerpen.be)

# Flow of Event



# Welcome

Prof. dr. Christa Sys



# Welcome

- Prof. dr. Christa Sys –
  - **Holder of BNP Paribas Fortis chair** on transport, logistics, and ports at the Department of Transport and Regional Economics
  - **Promotor** of Dennie Lockefer Chair
  - **Expertise:** Transport Economics, Maritime Economics, Maritime Supply Chains & Hinterland



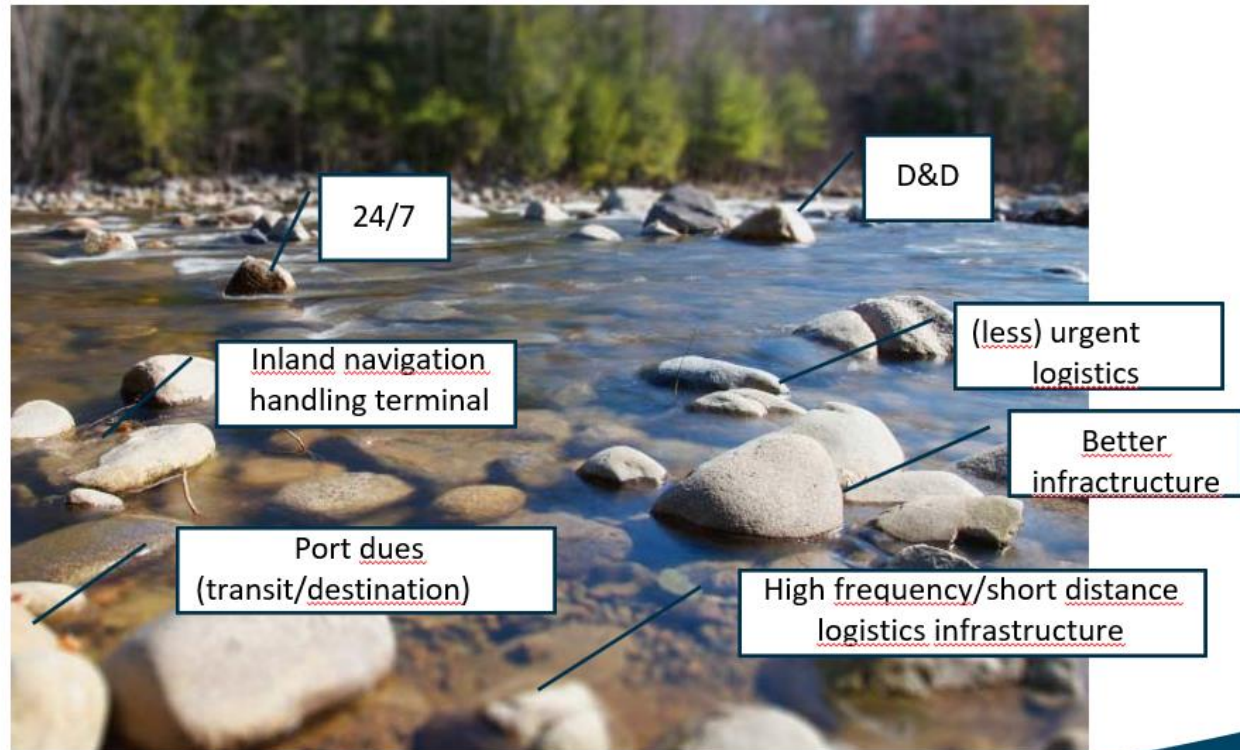
# Dennie Lockfeer Chair

## 3 pillars

- Research
  - Short-term and long-term
- Education
  - Thesis award
  - Antwerp Inland Navigation School
- Scientific services
  - Lectures
  - Webinar

# Inauguration (2020) – 5th lecture

Various stones in the river can be moved





# Partners of the Dennie Lockfeer Chair

Unique ecosystem of 23 companies + friends of the chair

## Gold



## Silver



## Bronze



# Pillar “Scientific Service”



Inauguration



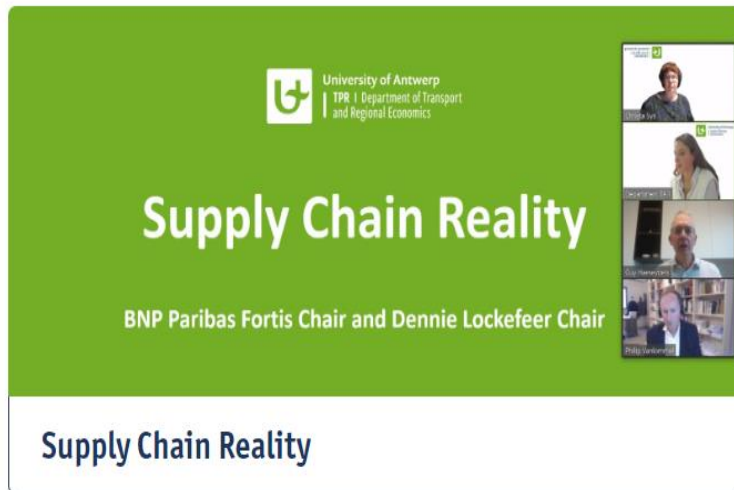
Lecture 1

Adequate data, a key step that will benefit inland shipping

Lecture 1



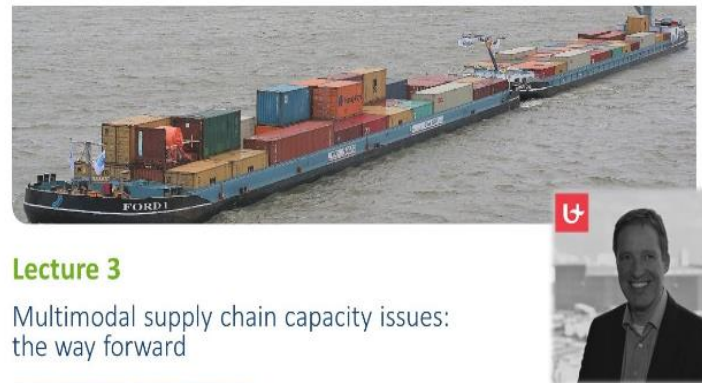
Webinar



Lecture 2



University of Antwerp  
TPR | Department of Transport  
and Regional Economics



Lecture 3

Multimodal supply chain capacity issues:  
the way forward

Organized within framework Dennie Lockfeer Chair

Multimodal Supply Chain Capacity Issues

Lecture 3



Lecture 4

Transport Mode Decisions in Intermodal Supply  
Chains: Issues and Solutions

Organized within framework Dennie Lockfeer Chair

Lecture 4

# 5<sup>th</sup> Lecture: Program

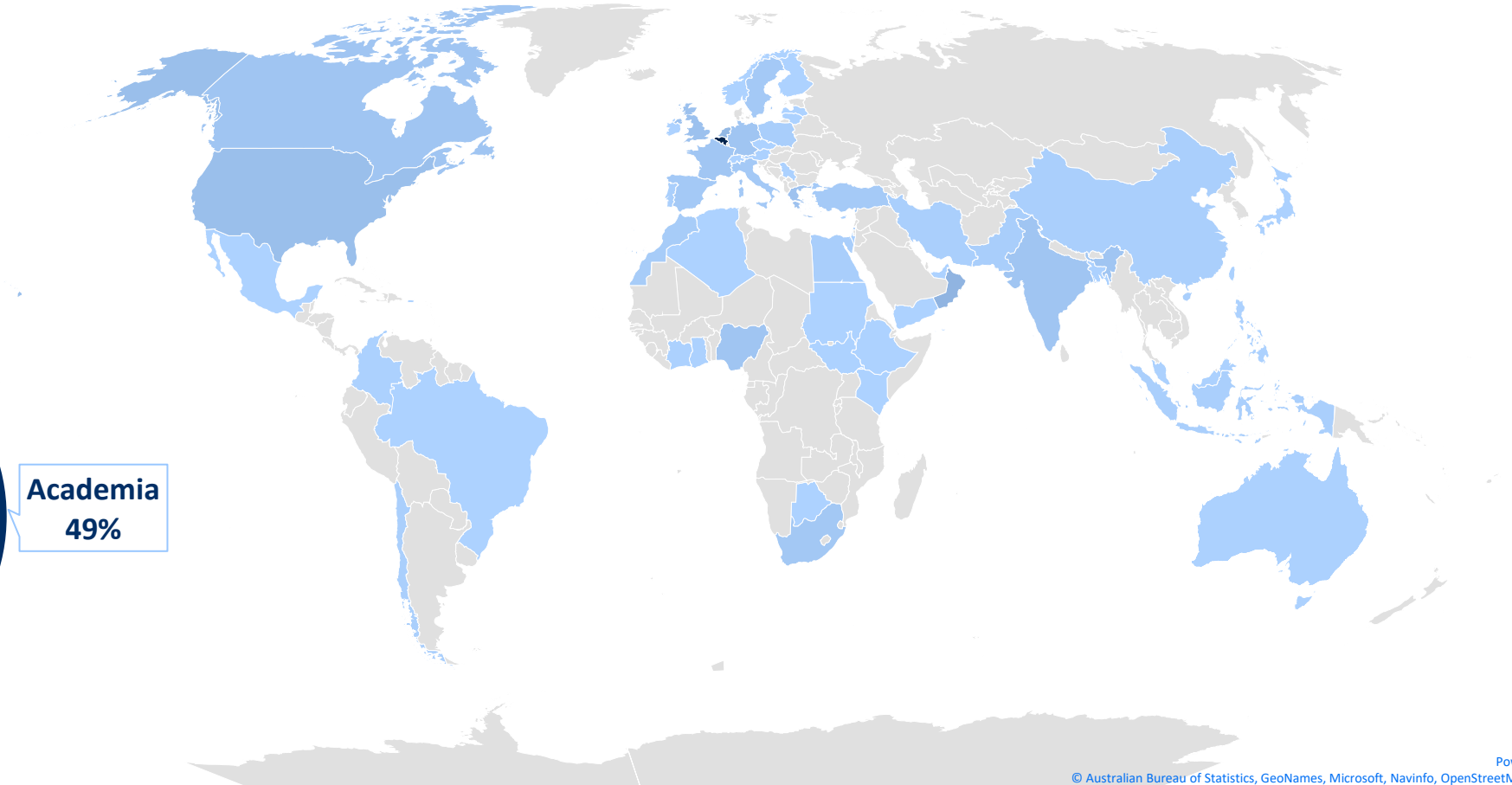
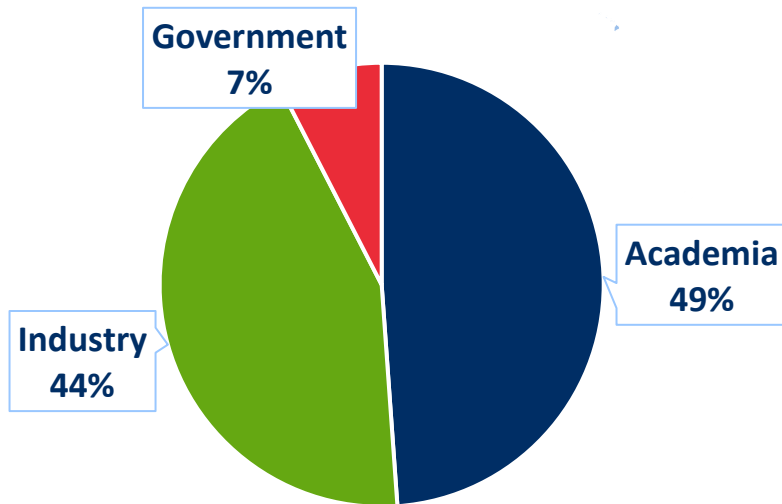
Timing	Speaker
3:30 p.m. – 4:00 p.m.	Registration with coffee
4:00 p.m. – 4:10 p.m.	Welcome by prof. dr. Christa Sys – promotor Dennie Lockefer Chair
4:10 p.m. – 4:20 p.m.	Welcome by prof. dr. Nathalie Dens – Vice-rector for Societal Engagement and International Policy
4:20 p.m. – 4:35 p.m.	Keynote by Annick De Ridder – Flemish Minister of Mobility, Public Works, Ports and Sport
4:35 p.m. – 4:45 p.m.	Setting the scene by Katie Tahaney – young researcher Dennie Lockefer Chair
4:45 p.m. – 6:00 p.m.	<b>Industry panels</b> <ul style="list-style-type: none"><li>• 4:45: Panel 1 – moderated by prof. dr. Thierry Vanelslander – promotor Dennie Lockefer Chair</li><li>• 5:25: Panel 2 – moderated by prof. dr. Christa Sys – promotor Dennie Lockefer Chair</li></ul>
6:00 p.m.	Closing by Bert Calluy, legal counsel Van Moer Logistics & networking drink

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# Registrations (397)

- 58 countries



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Count

1

136



## **Welcome – Prof. Dr. Nathalie Dens**

**Vice-rector for Societal Engagement  
and International Policy**



## **Keynote Speaker – Minister Annick De Ridder**

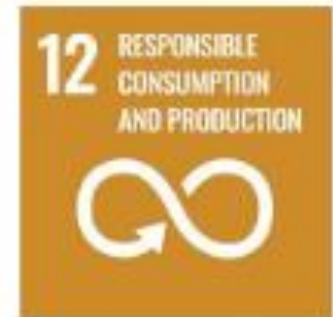
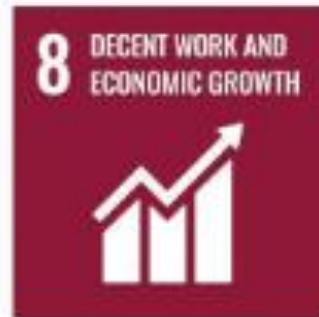
**Mobility, Public Works, Ports and Sport**



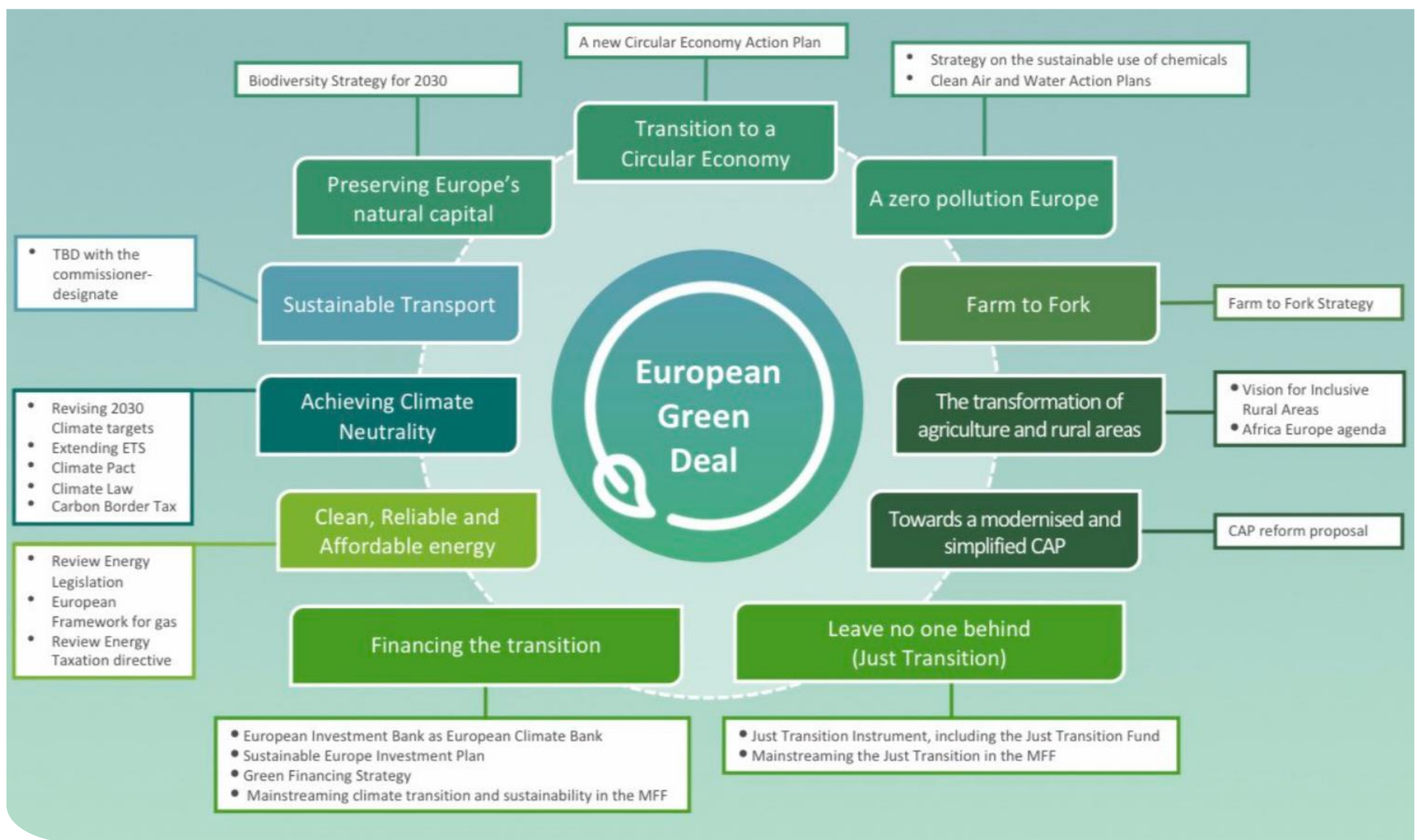
## **Setting the Scene – Drs. Katie Tahaney**

**Young Researcher  
Dennie Lockefer Chair**

# SUSTAINABLE DEVELOPMENT GOALS

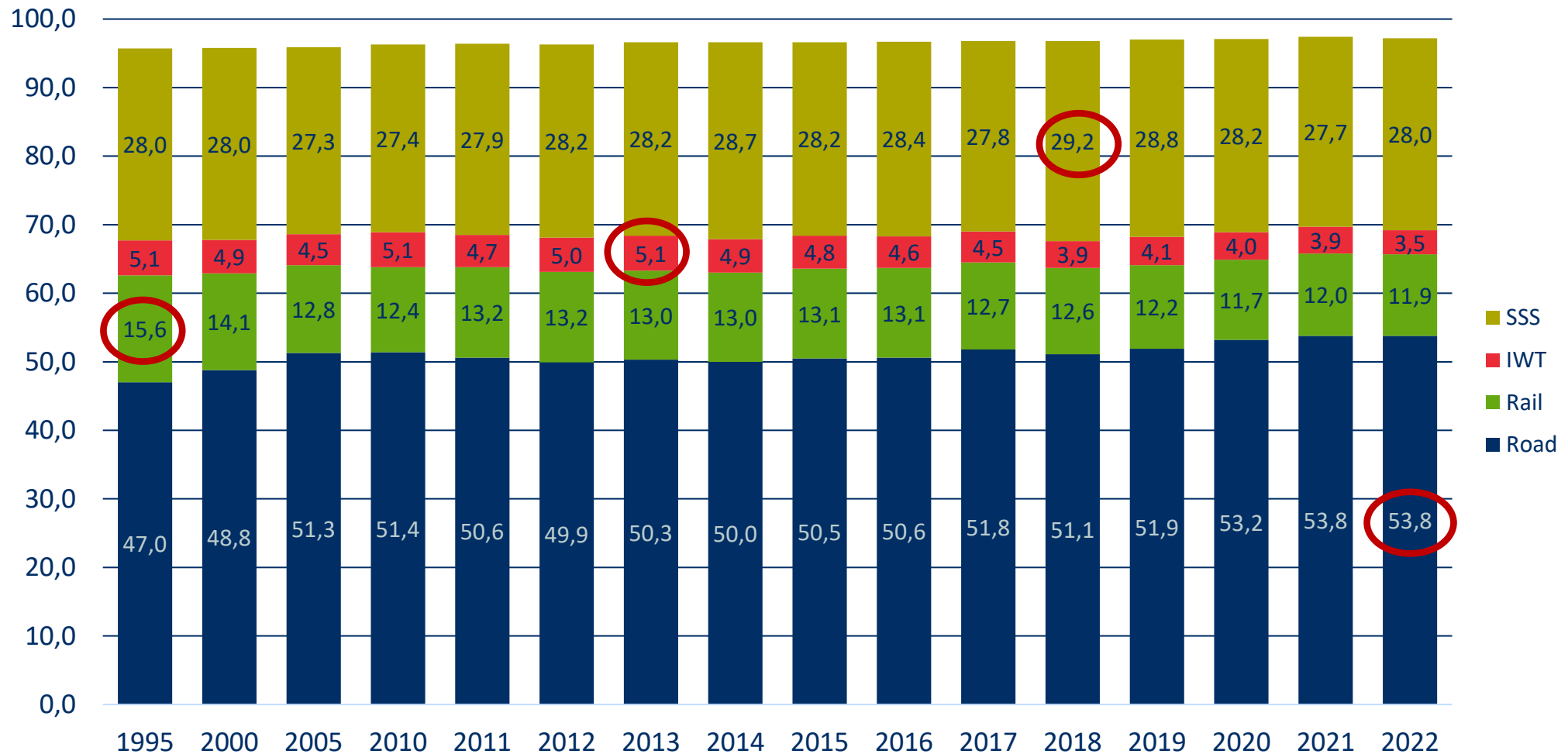







# EU-27 Freight Modal Split (%), tonne-kilometers

Mode shift reversal from rail/inland navigation back to road



# Research Question

**Why are shares of non-road modes stabilizing or declining?**



**What factors determine mode choice?**



**How can we influence the modal shift?**

# Methodology

## Literature Review

- Modes considered
- Decision maker studied
- Decision factors

## Survey

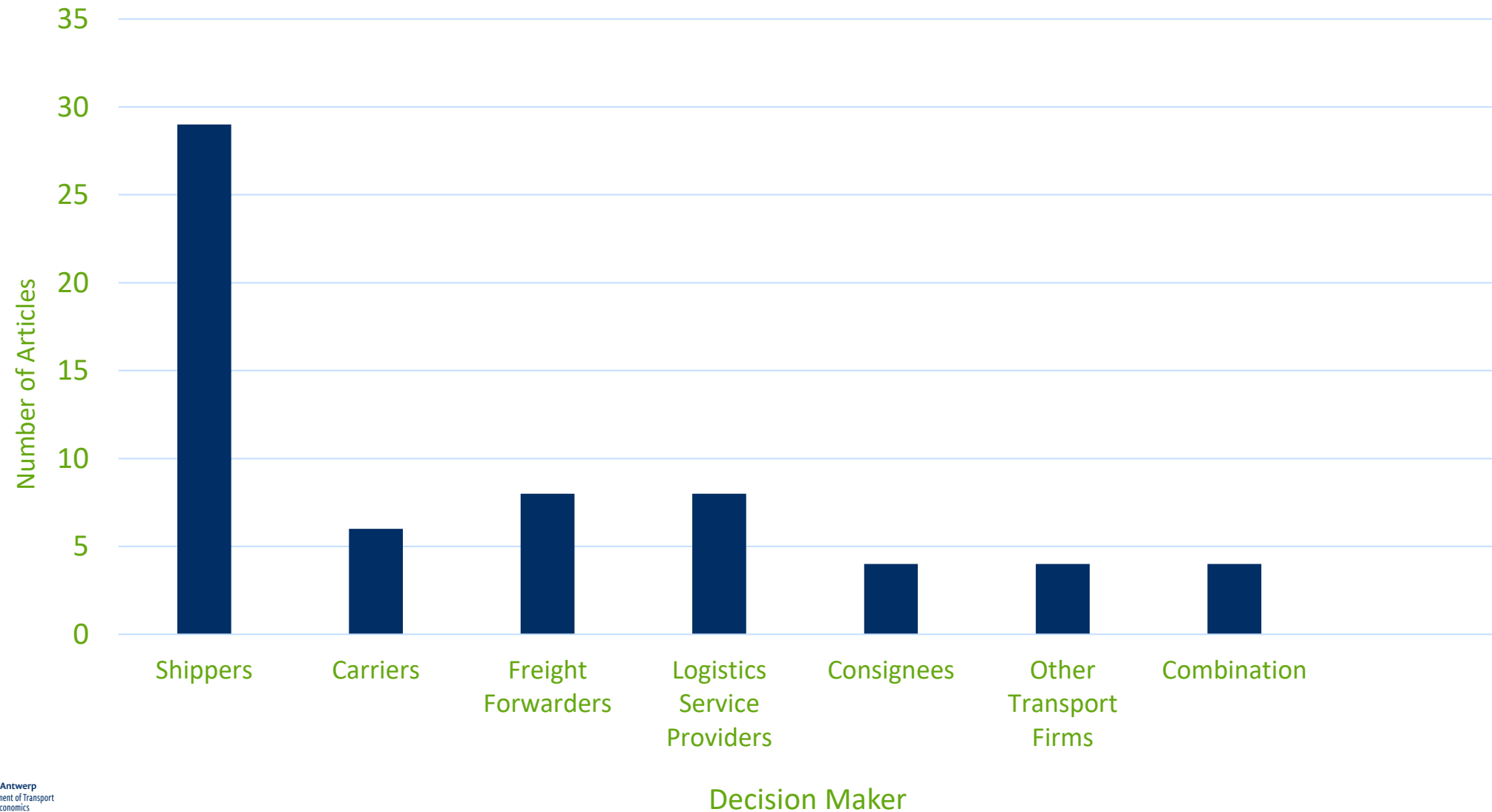
- Focus Group Test
- Launch to Lecture Participants
  - Profile – decision maker
  - Difference in decisions import/export
  - Decision factor ranking

## Discrete Choice Analysis

# Modes Considered (sample of selected papers)

Author	Year	Road	Rail	Inland Waterway	Intermodal	Short Sea Shipping	Air	Pipeline
García-Menéndez & Feo-Valero	2009	X				X		
Derakhshan & Shah	2013	X	X					
Ravibabu	2013	X	X					
de Jong	2014	X	X	X		X	X	X
Vermeiren & Macharis	2016	X	X	X	X			
Meers et al.	2017	X			X			
Kotowska et al.	2020	X	X	X				
Mommens et al.	2020	X	X	X				
Jian et al.	2022	X	X					
Nicolet et al.	2022	X	X	X				
de Almeida Rodrigues et al.	2023	X			X			
Schrobback et al.	2023	X	X			X		
Asgarpour et al.	2024	X	X	X				
<b>Count</b>		<b>13</b>	<b>10</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>1</b>

# Decision Maker



# Decision Factors in Literature



WordItOut

# Methodology

## Literature Review

- Modes considered
- Decision maker studied
- Decision factors

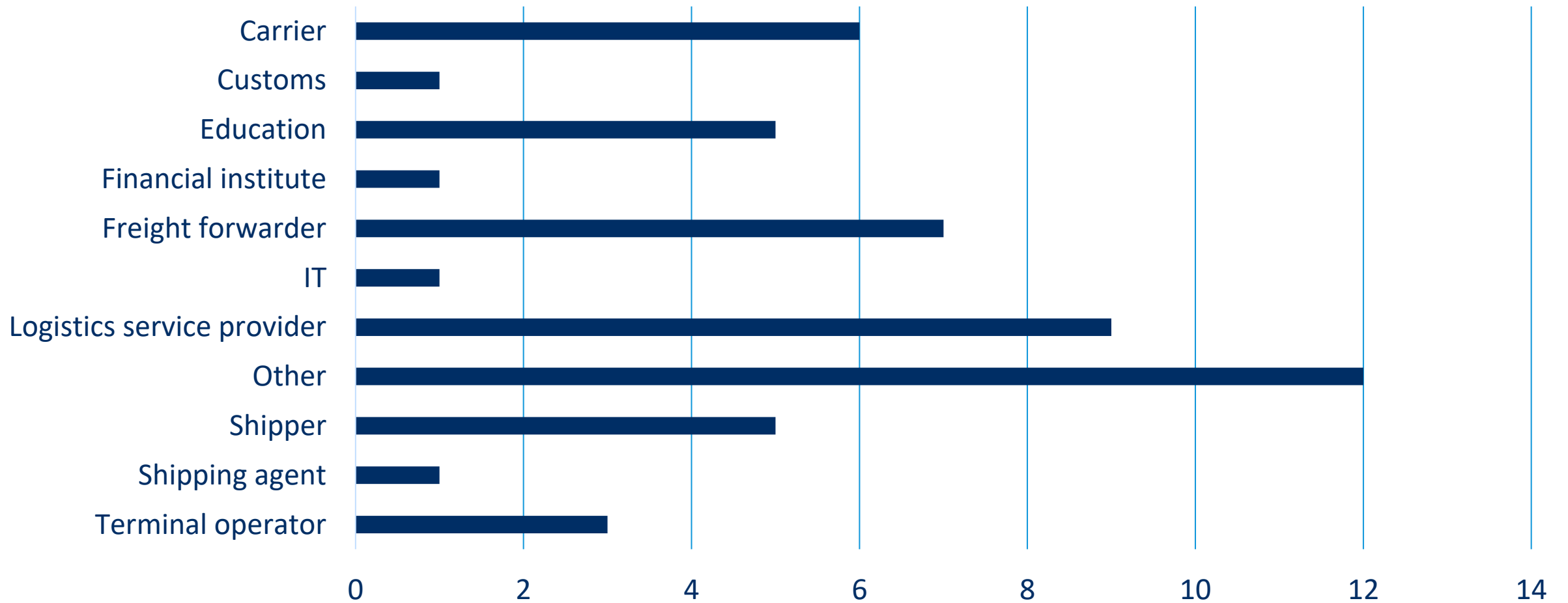
## Survey

- Focus Group Test
- Launch to Lecture Participants
  - Profile – decision maker
  - Difference in decisions import/export
  - Decision factor ranking

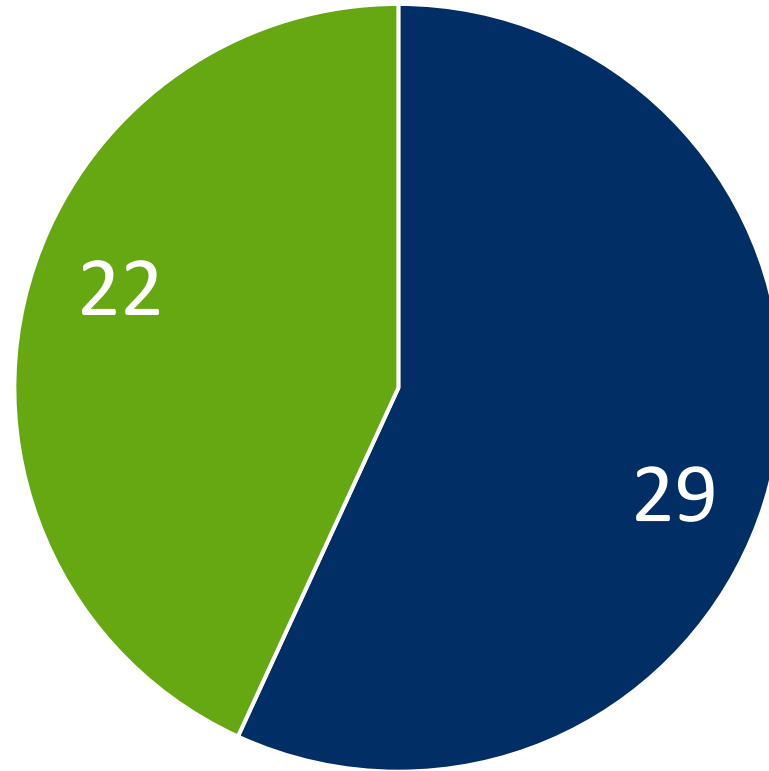
## Discrete Choice Analysis



# Survey – Respondent Profiles (51)



# Is the decision making for mode selection different for your imports and exports?



■ Same ■ Different

# Survey

24 factors across 4 categories

Modal Specifications	Monetary Factors	Shipment Specifications	Other Influencing Factors
Emissions/environment	Commission paid for road transport	Cargo value	Access to infrastructure (e.g. proximity to rail terminal)
Flexibility	Customs	Cargo weight	Infrastructure and fleet availability (e.g. rail paths)
Frequency	Demurrage/free time	Dangerous goods	Port choice (e.g. ports with more available hinterland options)
Reliability	Inventory	Inland distance	Previous experience with/knowledge of each mode
Risk of loss & damage	Port dues	Perishability	Sufficient labor
Track & trace/IT	Transport price (including handling)	Shipment size	
Transit time			

# Ranking Methodology – Modal Specifications

Factor	No difference import/export decisions		Import		Export		Overall Ranking
Emissions/environment	5,41	6	4,82	5	4,86	5	5
Flexibility	2,93	2	2,68	1	2,73	1/2	2
Frequency	3,10	4	3,59	4	3,41	3	4
Reliability	2,31	1	2,82	2	2,73	1/2	1
Risk of loss & damage	5,34	5	5,14	6	4,95	6	6
Track & trace/IT	5,83	7	5,91	7	5,77	7	7
Transit time	3,07	3	3,05	3	3,55	4	3

# Modal Specifications Ranked



- 1. Reliability**
- 2. Flexibility**
- 3. Transit time**
- 4. Frequency**
- 5. Emissions & environment**
- 6. Risk of loss & damage**
- 7. \*Track & trace/IT**

**\*Same average ranking import/export/same**

# Monetary Factors Ranked



1. **\*Transport price (including handling)**
  2. **Demurrage/free time**
  3. **Customs**
  4. **Commission paid for road transport**
  5. **\*Inventory**
  6. **\*Port dues**
- \*Same average ranking import/export/same**

# Shipment Specifications Ranked



1. **Cargo value**
2. **Cargo weight**
3. **Inland distance**
4. **Shipment size**
5. **Dangerous goods**
6. **\*Perishability**

**\*Same average ranking import/export/same**

# Other Influencing Factors Ranked

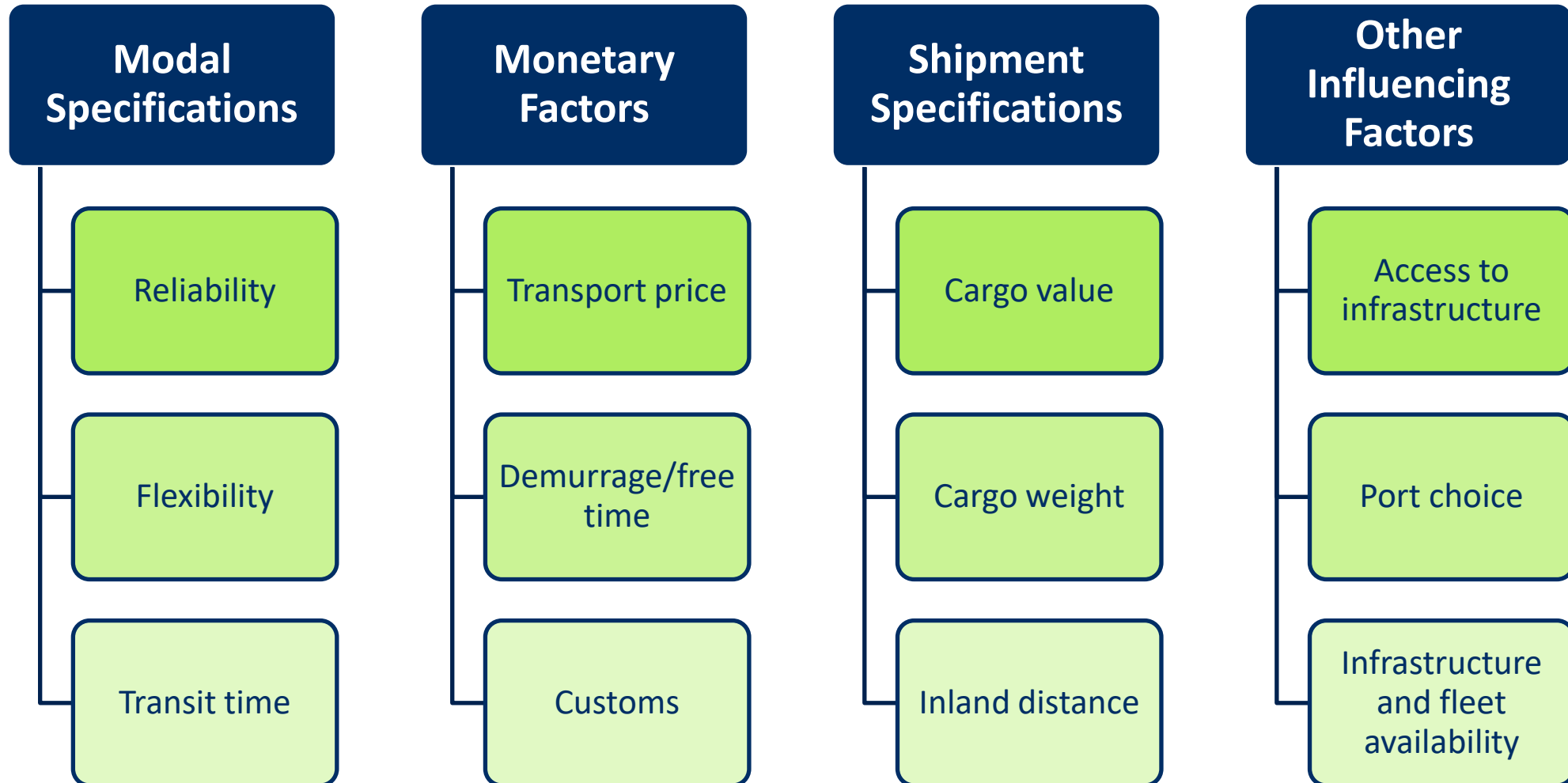


- 1. Access to infrastructure**
- 2. Port choice**
- 3. Infrastructure and fleet availability**
- 4. \*Previous experience with/knowledge of each mode**
- 5. \*Sufficient labor**

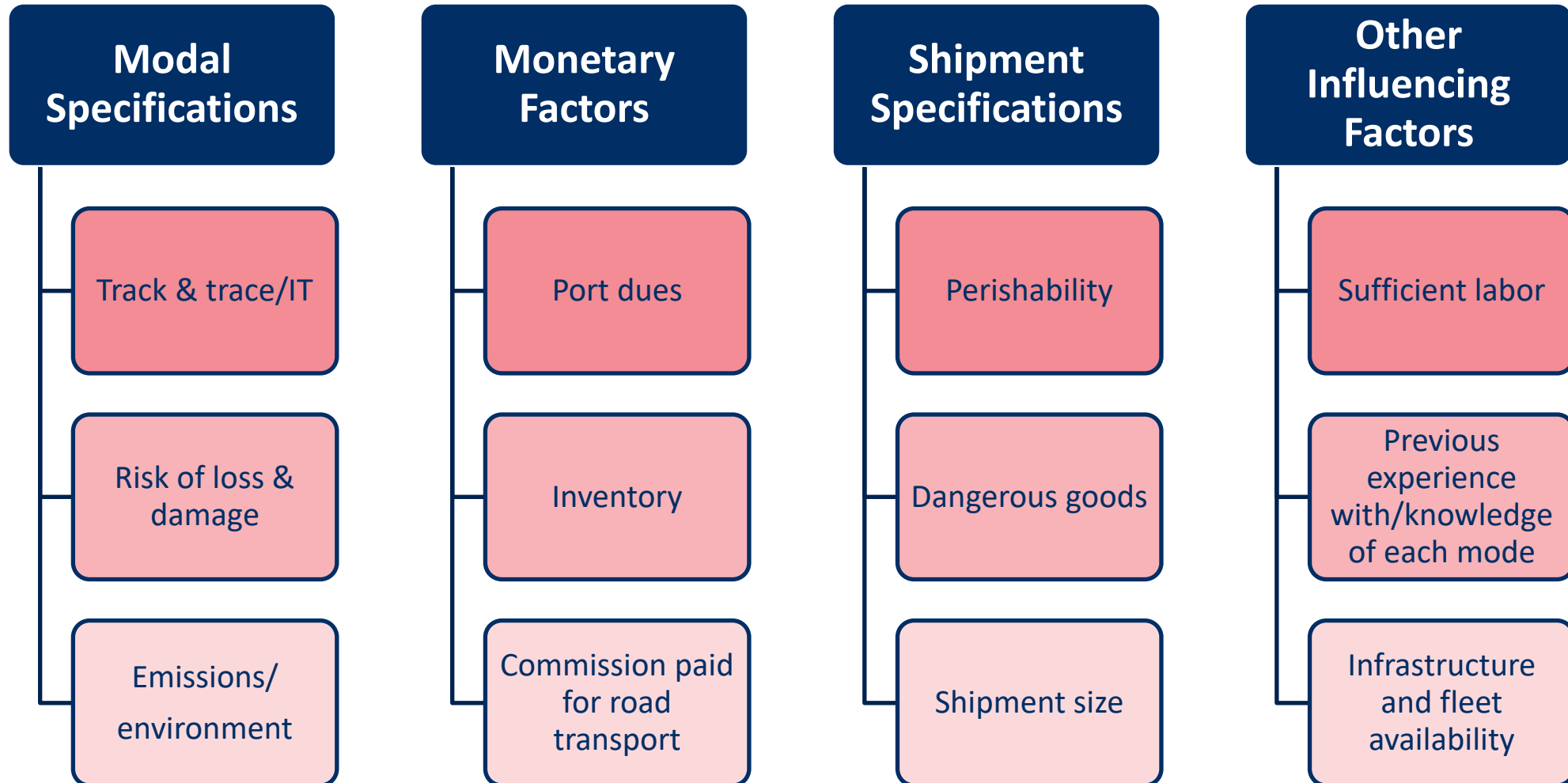
**\*Same average ranking import/export/same**



# Highest Ranked Factors



# Lowest Ranked Factors



# Industry Panels

Moderated by prof. dr. Thierry Vanellander & prof. dr. Christa Sys

# Poll Results (58 responses)

When poll is active respond at [PollEv.com/christasys665](https://PollEv.com/christasys665) Send **christasys665** to **22333**



## Would you/your customers be willing to pay more for more sustainable transport?





## **Industry Panel 1 – Prof. dr. Thierry Vanellander**

**Co-promotor Dennie Lockefer Chair**

# Panel 1



Aurubis

Bram Bellemans



Forward Belgium

Wim Gijbels



Van Moer Logistics

Nick Jolley



MSC

Ellen Meuwissen



CMA CGM

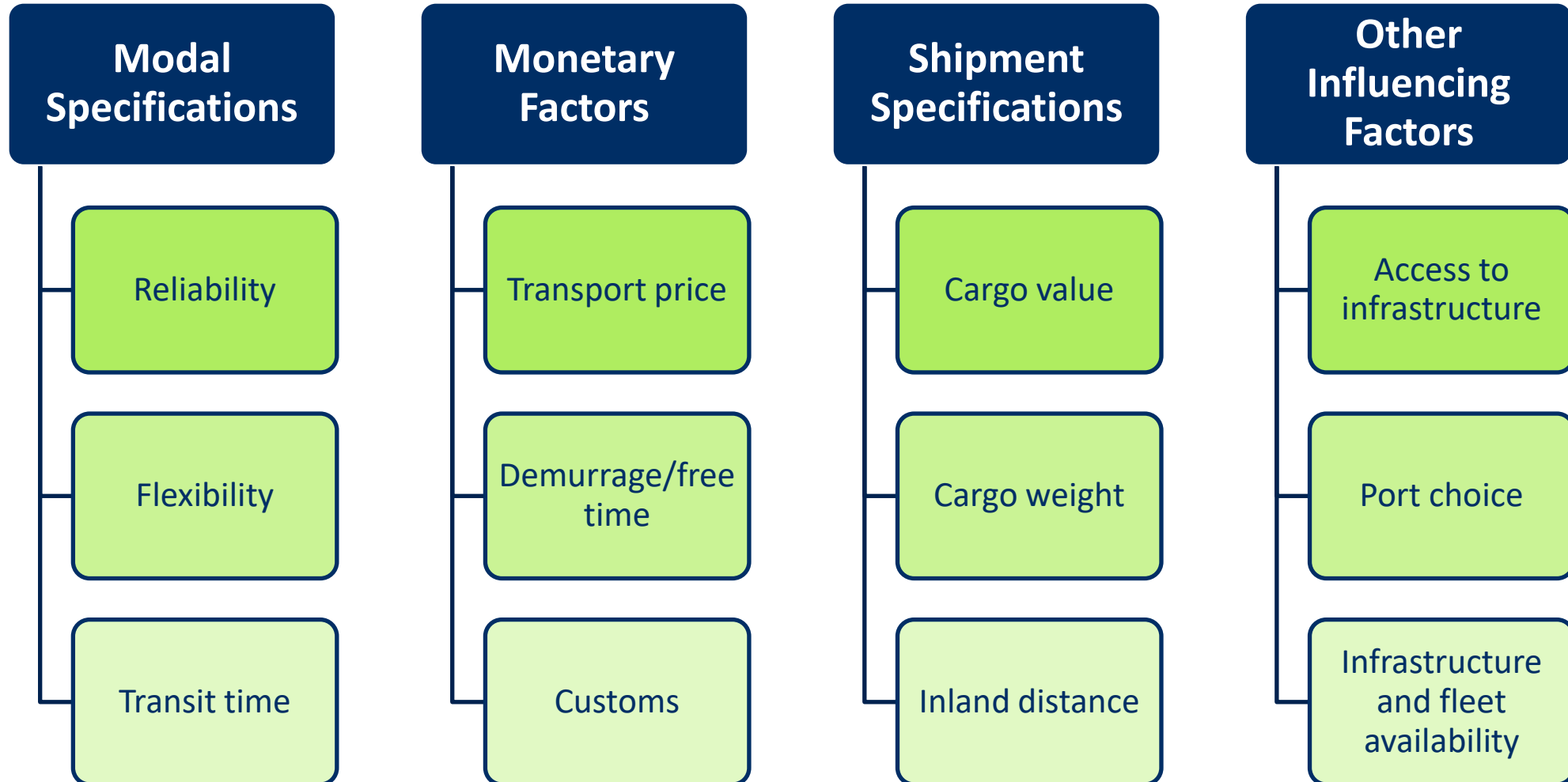
Roselien Waterschoot



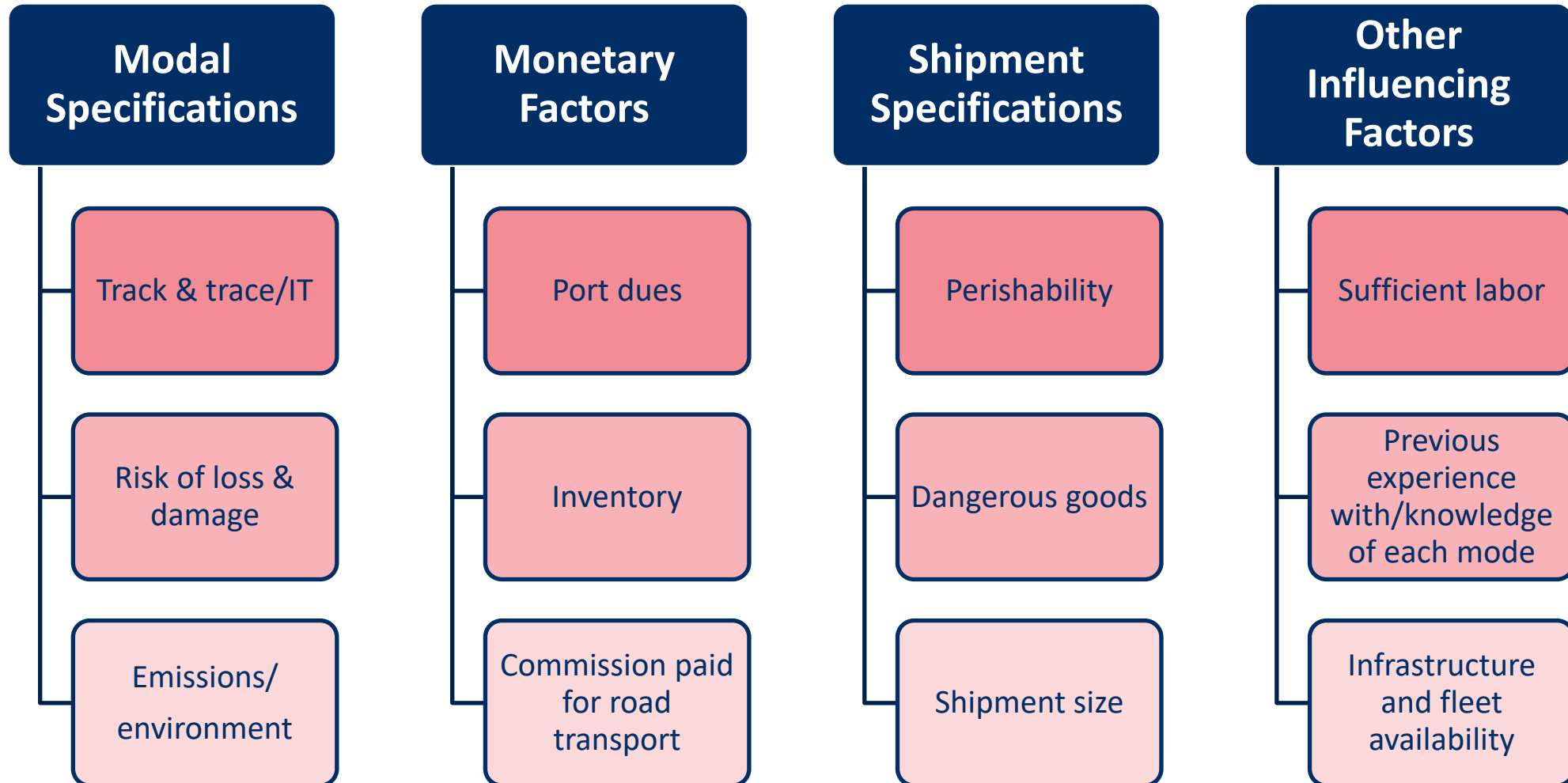
Flemish Waterway Network

Roel Peeters

# Highest Ranked Factors



# Lowest Ranked Factors







## **Industry Panel 2 – Prof. dr. Christa Sys**

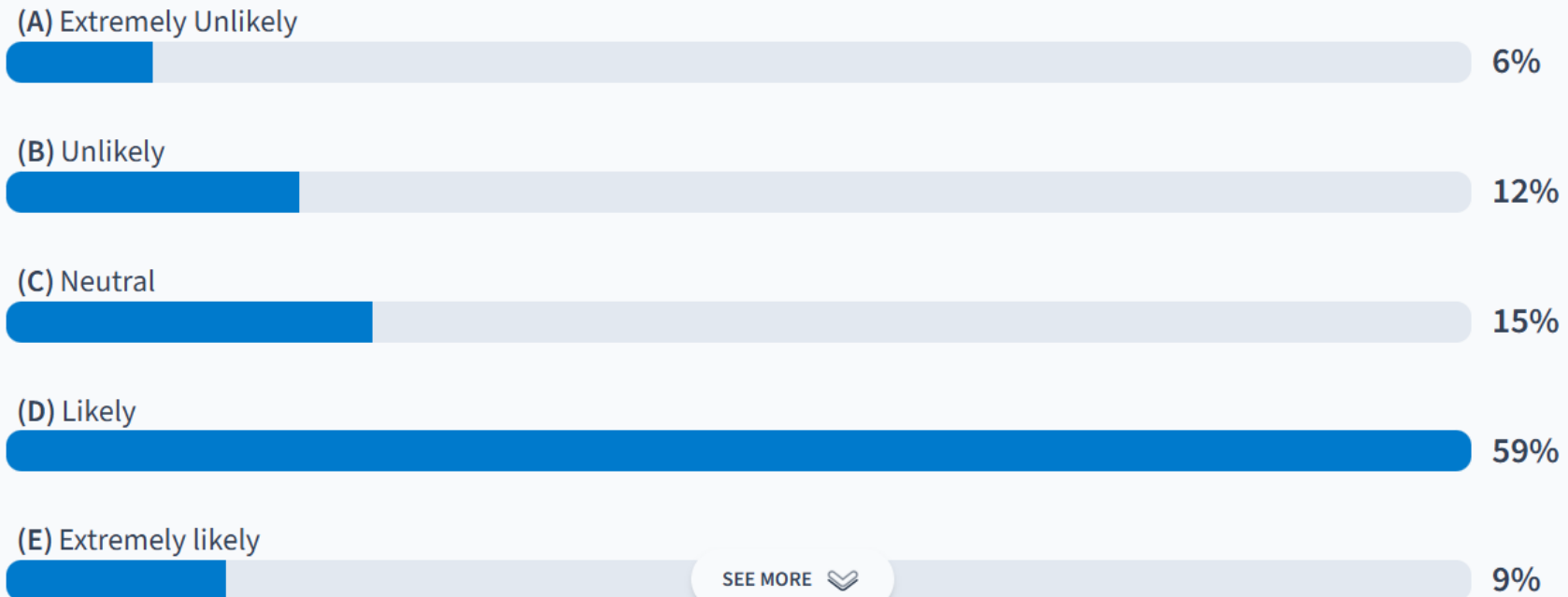
**Promotor Dennie Lockefer Chair**

# Poll Results (34 responses)

Join by Web [PollEv.com/christasys665](https://PollEv.com/christasys665) Join by Text Send **christasys665** to **22333**



## Would you be willing to share data?



# Panel 2



DP World

Michel Marstboom



MPET

Sharon Levecque



Dennie Lockefer Container Terminal

Andy Bogaerts



Thomas More & Hogent

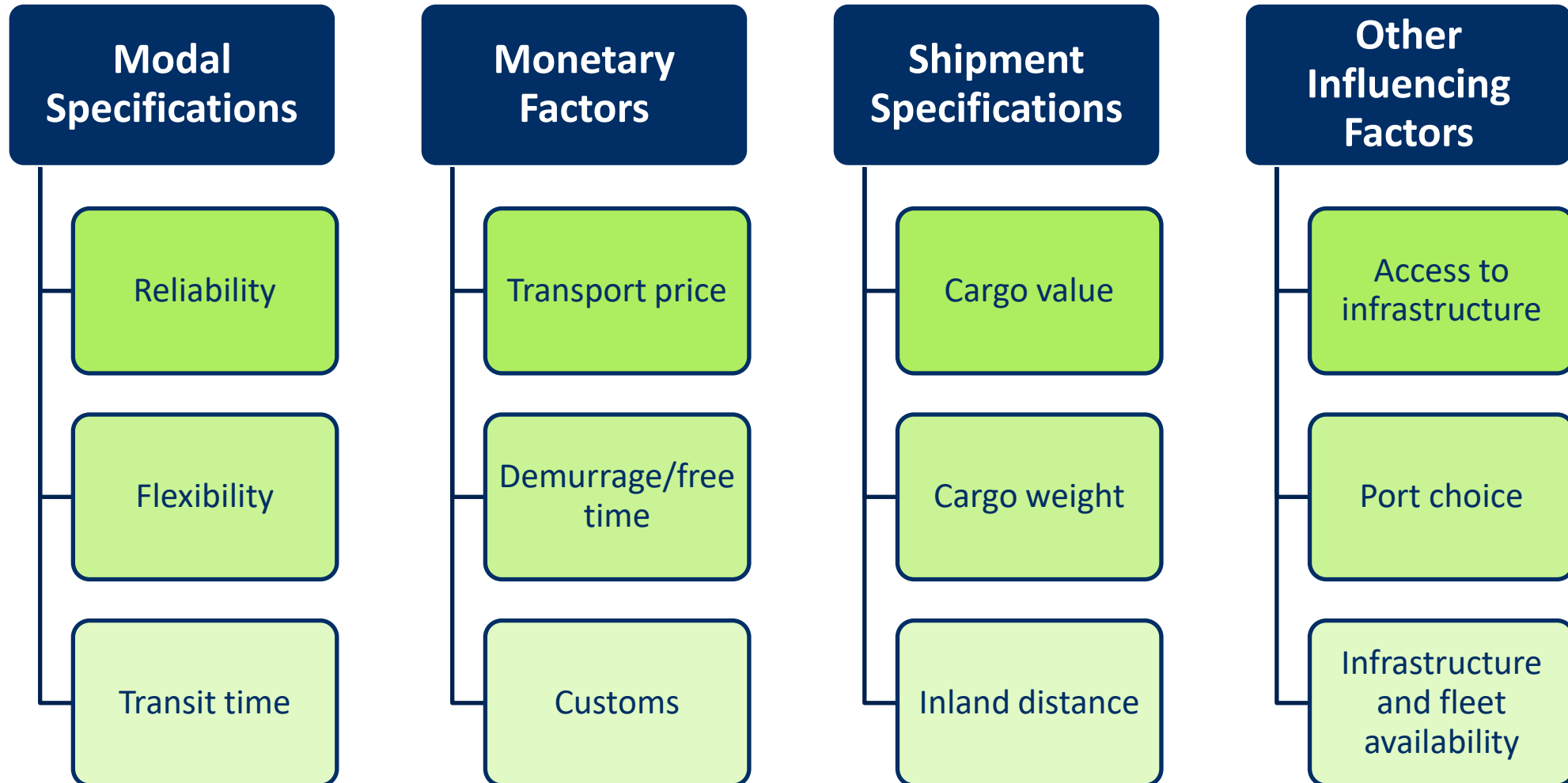
Filip Degroote



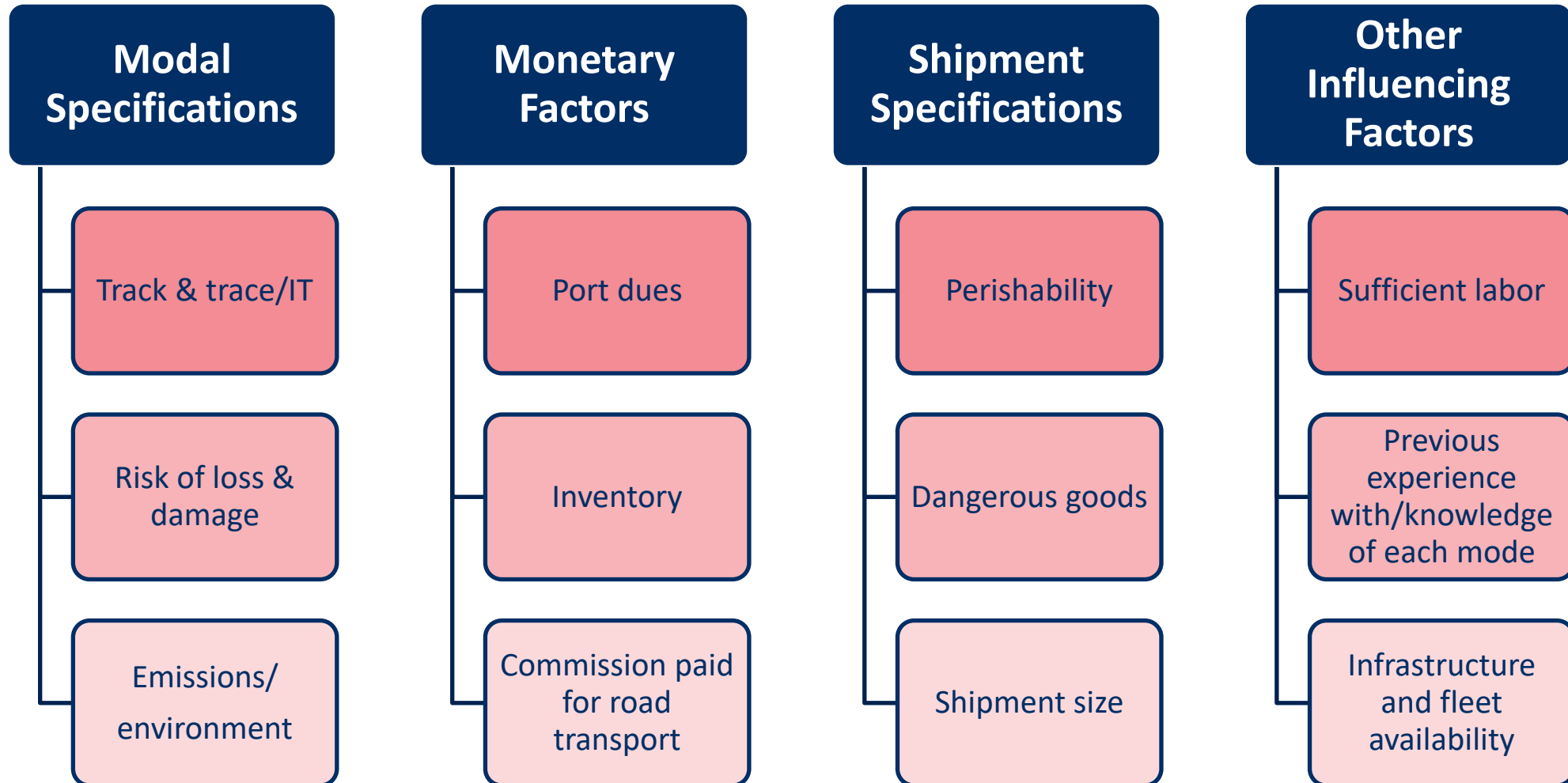
ICBO

Marc Stefanoff

# Highest Ranked Factors



# Lowest Ranked Factors





## Closing – Bert Calluy

Legal Counsel Van Moer Logistics



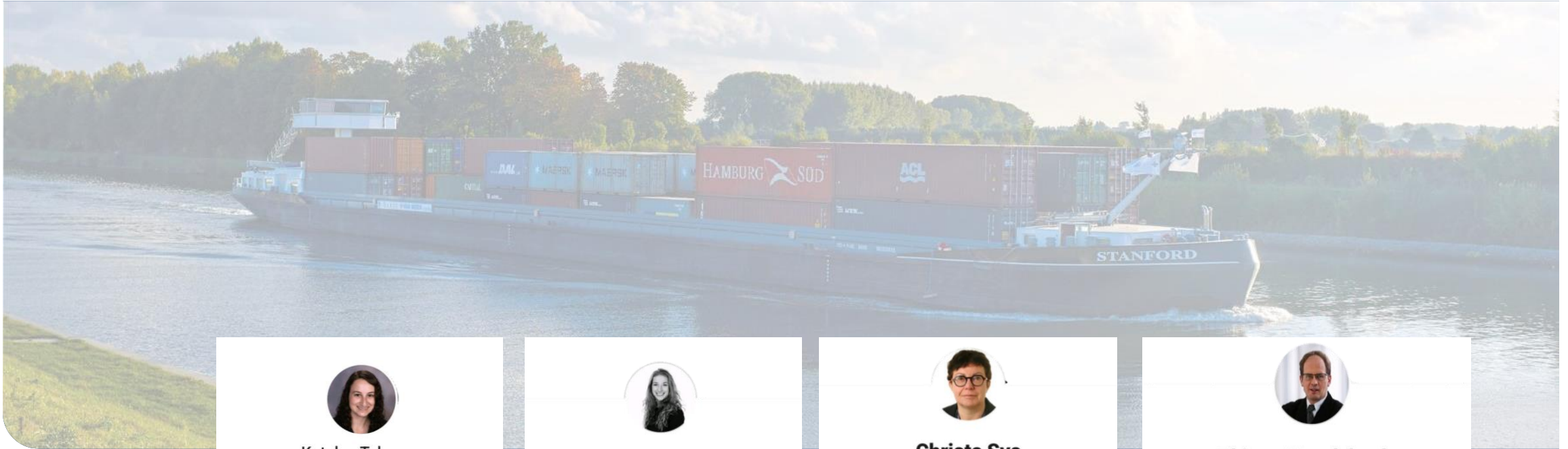
**Will your name appear on  
the certificate of the thesis  
award Chair Dennie  
Lockefeer 2026?**

# Networking





# Thank you for your attention



**Katelyn Tahaney**

PhD Student Chair Dennie Lockefer at University of Antwerp



**Katrien Storms**

PhD Student Chair Dennie Lockefer



**Christa Sys**

holder of the BNP Paribas Fortis chair on transport, logistics an...



**Thierry Vanelslander**

Professor at University of Antwerp - Faculty of Business and...

