



AUTOBarge

**European training and research network on
Autonomous Barges for Smart Inland Shipping**

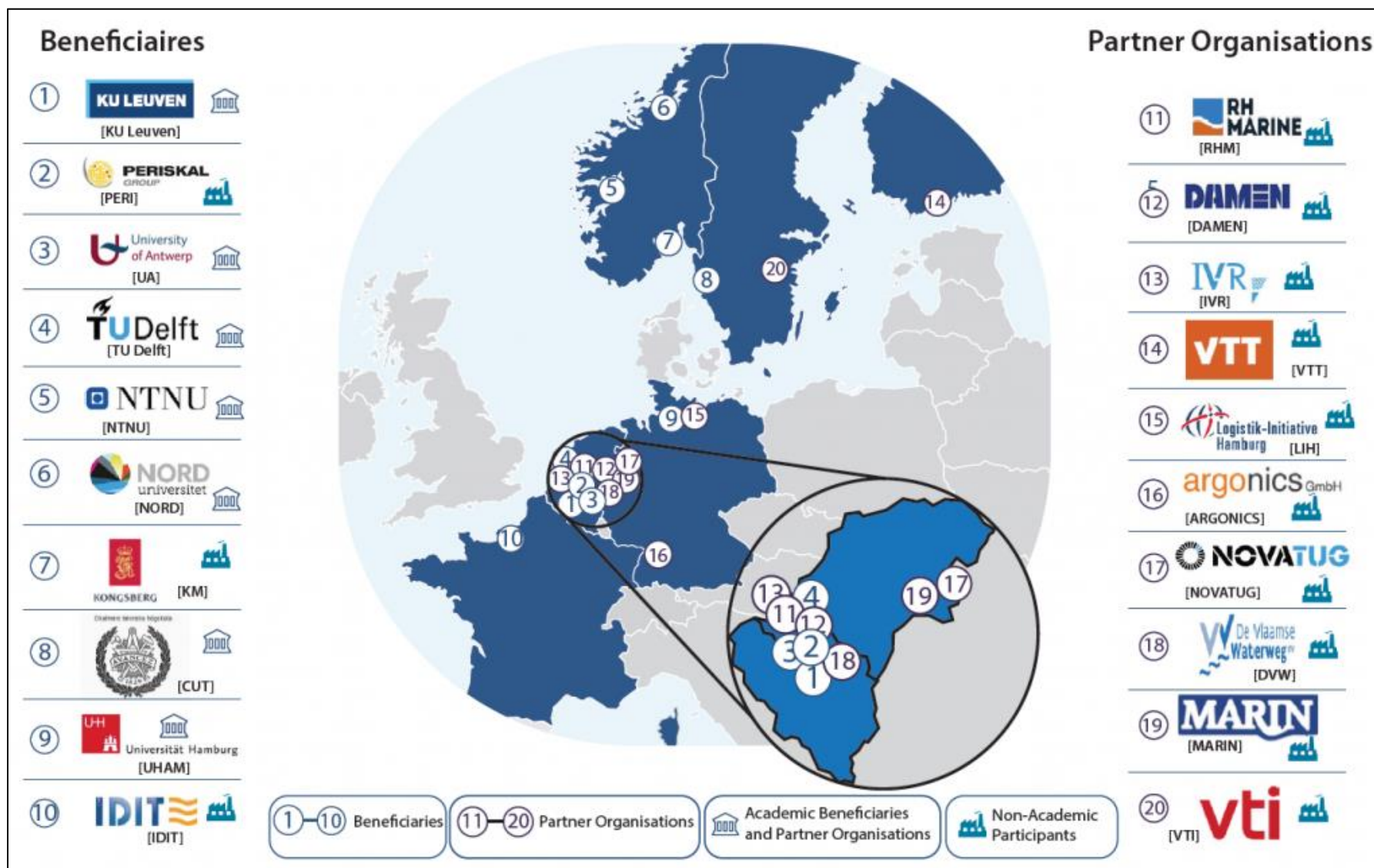
EU H2020 MSCA-ETN AUTOBARGE CONFERENCE CALL SUPERVISORS



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Thursday, October 7 2021

AUTOBarge Consortium



Challenges

- **Challenge 1 (WP1):** Maximize the situational awareness (Sense and Understand) of an unmanned or autonomous inland vessel by covering the state and manoeuvrability of the vessel itself, the location and motion of other vessels, other relevant static and moving objects in the vicinity, features like buoys or traffic signs, as well as the wireless communication of information between the different waterway actors.
- **Challenge 2 (WP2):** Exploit the above situational awareness (Decide and Act) obtained for a safe, robust and energy-efficient path planning and motion control of the autonomous inland vessel with a focus on model predictive control, control methods supported by real-time machine learning, energy-efficiency, and fault identification and isolation schemes such that those do not affect the operation of autonomous vessels in a negative way.
- **Challenge 3 (WP3):** In-depth analysis of the socio-technical, economic and legal aspects that are needed to make autonomous inland shipping a success in the near future, including safety assurance, collaborative decision making for maximized performance, logistics, economic benefits, and the required changes to the regulatory framework.

UA-IVR ESRs?

- ESR14 – Toolbox for autonomous inland shipping regulation
- ESR15 – Towards a seamless integration of autonomous inland shipping in risk distribution models

ESR14 – Toolbox for autonomous inland shipping regulation

- Host institution: IDIT (FR)
- Supervisory board: Prof. W. Verheyen (UA, BE), Prof. C. Sys (UA, BE), Prof. C. Legros (IDIT, FR)
- **Objectives:**
- Analyse regulatory obstacles against introduction unmanned shipping & policy arguments behind such obstacles (large scale research including regulations on data)
- Analysis best practices from other industries, such as the airline industry
- Proposal for regulatory innovation allowing for a market-introduction of unmanned inland shipping
- **Expected Results:**
- Impact analysis of the effects of autonomous inland shipping in order to make recommendations for Regulatory interventions upholding existing underlying policy goals
- Toolbox for unmanned shipping designers allowing to make a compliance assessment of their operational and technical designs
- **Planned secondment(s):**
- IVR (NL): Stakeholder and policy makers consultation on perceived effect of autonomous on legal framework and impact on attitude towards autonomous inland shipping (M28-30, secondment mentor: F. De Vries) (joint secondment with ESR15)
- UA (BE): Finalisation and integration of regulatory and contract law designs and preparation of policy briefs and workshops to stakeholders (M35-37, secondment mentor: W. Verheyen)

ESR15 – Towards a seamless integration of autonomous inland shipping in risk distribution models

- **Host institution:** UA (BE)

Supervisory board: Prof. W. Verheyen (UA, BE), Prof. C. Sys (UA, BE), F. De Vries (IVR, NL)

Objectives:

- Analyse the impact of autonomous inland shipping on the liability framework, underlying policy targets and stakeholders' attitude towards autonomous inland shipping
- Make recommendations to rebalance the liability framework for autonomous inland shipping

- **Expected Results:**

- Impact analysis of the effects of autonomous inland shipping on the contractual position of all parties in the contract chain
- Make recommendations for contract drafting and legislative intervention for autonomous inland shipping

- **Planned secondment(s):**

- **IDIT** (FR): Analyse the interaction between contract law and regulation and the effects of autonomous inland shipping on this interaction (M16-18, secondment mentor: L. Couturier)
- **IVR** (NL): Stakeholder and policy makers consultation on perceived effect of autonomous on legal framework and impact on attitude towards autonomous inland shipping (M28-30, secondment mentor: F. De Vries) (joint secondment with ESR14)

AUTOBarge Secondments

ESR No.	Recruiting Participant	PhD awarding entity	Seconded at	Start (Month)	Duration (months)
ESR1	KU Leuven	KU Leuven	TU Delft - NOVATUG	7	36
ESR2	NTNU	NTNU	KU Leuven - KM	7	36
ESR3	KU Leuven	KU Leuven	PERI - MARIN	7	36
ESR4	NTNU	NTNU	KM - TU Delft	7	36
ESR5	PERI	KU Leuven	ARGONICS – KU Leuven	7	36
ESR6	KM	NTNU	NTNU - CUT	7	36
ESR7	CUT	CUT	KU Leuven - PERI	7	36
ESR8	CUT	CUT	TU Delft – RH Marine	7	36
ESR9	TU Delft	TU Delft	KU Leuven – DAMEN	7	36
ESR10	KU Leuven	KU Leuven	TU Delft – RH MARINE	7	36
ESR11	CUT	CUT	LIH - VTT	7	36
ESR12	UHAM	UHAM	LIH - CUT	7	36
ESR13	NORD	NORD	VTI - CUT	7	36
ESR14	IDIT	UA	UA - IVR	7	36
ESR15	UA	UA	IDIT - IVR	7	36



Status of applications (September 6, 2021)

□ Overview of the 298 received applications per ESR/choice:

ESR positie	First choice	Second choice	Third choice	Σ
ESR1	35	25	13	73
ESR2	18	14	11	43
ESR3	7	8	9	24
ESR4	8	13	8	29
ESR5	11	12	14	37
ESR6	17	25	23	65
ESR7	43	29	31	103
ESR8	43	28	21	92
ESR9	18	17	11	46
ESR10	9	9	6	24
ESR11	12	22	15	49
ESR12	34	20	16	70
ESR13	24	15	18	57
ESR14	11	8	4	23
ESR15	8	9	11	28
No choice	0	44	87	131
Σ	298	298	298	894

Contribute to/ interested in Autobarge?

- Reach out to IVR
- Or directly to wouter.verheyen@uantwerpen.be

