Interreg
Baltic Sea Region

Project Acronym: HyTruck
Submission Date : 25/04/2022 09:43:13
Project Number:
Project Version Number: 1

1. Identification

Call	Date of submission
C1	25/04/2022

1.1. Full name of the project

Developing a transnational network of hydrogen refuelling stations for trucks

77 / 250 characters

1.2. Short name of the project

HyTruck

7 / 20 characters

1.3. Programme priority

3. Climate-neutral societies

1.4. Programme objective

3.3 Smart green mobility

1.6. Project duration

Contracting start	22/09/2022	**Contracting end**	31/12/2022
Implementation start	01/01/2023	**Implementation end**	31/12/2025
		Duration of implementation phase (months)	36
Closure start	01/01/2026	**Closure end**	31/03/2026

1.7. Project summary

The objective of HyTruck is to support public authorities in steering the development of a transnational network of GREEN hydrogen refuelling stations (HRS) suited for large trucks. This shall help to overcome the "chicken & egg problem" that SMEs and infrastructure providers are facing:
Haulage and logistics companies that maintain large fleets of heavy vehicles are willing to invest in fuel cell trucks to decarbonize their fleets. The prerequisite for a fuel cell truck to be able to travel from Poznan to Tartu (and back) is that it can refuel with H2 on the way – but today virtually no HRS for large trucks exist.
The developers of HRS are prepared to invest in the development of a network of filling stations. The prerequisite is that there are enough fuel cell vehicles that demand green H2 as alternative fuel – but today there are hardly any fuel cell trucks on the road.
The EU Regulation AFIR requires member states to take action and plan HRS in parallel to the ramp-up of H2 technology in the transportation sector. The build-up of a transnational HRS network is a complex process with a spatial, economic, environmental and technological dimension. HyTruck is developing solutions that equip public authorities with the capacity and tools to elaborate spatial development concepts, provide the regulatory framework, ensure common standards and design public co-funding programmes.
Ultimately HyTruck works towards zero – emission in international road freight transport in the BSR.

1,500 / 1,500 characters

1.8. Summary of the partnership

The partnership of HyTruck is composed of the five main target groups of the project:

• Regional Public Authorities responsible for spatial and regional development: The LP, the Energy and Regional Development Department of the Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern (WM M-V) is in charge of spatial planning, energy and transport issues in M-V (WP 2 coordinator). The WM is an experienced lead partner of INTERREG projects and well connected in the BSR. Vidzeme Planning Region (LV) is WP 3 coordinator and has extensive competence in the fields of transportation, mobility, energy, and information technology development. The Joint Spatial Planning Department Berlin-Brandenburg and the Ministry of Justice, European Affairs and Consumer Protection of Land Schleswig-Holstein are two associated organisations (AO) that provide the links to two well-established networks of regional authorities responsible for spatial and regional development (Scandria Alliance and STRING).

• National Public Authorities responsible for the implementation of the AFIR: The Future Mobility Policy Group of the Ministry of Transport and Communications of the Republic of Lithuania is responsible for planning HRS in LT. The Finnish Ministry of Transport and Communication and the Estonian Ministry of Economics and Communications (both as AO) are responsible for AFIR and HRS and ready to work towards uniform standards.

• Haulage and logistics companies operating large trucks (mostly SMEs): They are represented in HyTruck by the Polish Alternative Fuels Association (PSPA) and the Finnish CLIC Innovation Oy who are together representing several hundred members and partnership – including SMEs. Localiser is a SME specialised on IT development for alternative fuels infrastructure.

• Infrastructure and public service providers: Important players from this target group are among the AO of HyTruck. Polish's largest refiner and petrochemicals producer PKN Orlen that invests in HRS is AO same as H2 MOBILITY who aims at establishing a nationwide hydrogen infrastructure in Germany. P2X from Finland and GP JOULE from DE both produce green H2 and are planning to build an HRS distribution network.

• Higher education and research institutions are instrumental in preparing the solutions for the HRS build-up: The Chalmers University (SE) that runs the TechforH2 competence center is WP 1 coordinator. The Reiner Lemoine Institut (DE) conducts applied research at the interface of alternative fuel propulsion systems and renewable power generation and leads the elaboration of the guideline. The Chair of Geoinformatics of the University Tartu is in charge of the development of the digital spatial planning tool.

HyTruck and its partnership focuses primarily on the Eastern part of the North Sea-Baltic TEN-T corridor (crossing DE, PL, LT, LV, EE and FI). It possesses a good balance between experienced project partners and newcomers to the INTERREG Programme.

2,998 / 3,000 characters

1.11. Project Budget Summary

Financial resources [in EUR]		Preparation costs	Planned project budget
ERDF	ERDF co-financing	0.00	2,046,066.56
	Own contribution ERDF	0.00	511,516.64
	ERDF budget	0.00	2,557,583.20
NO	NO co-financing	0.00	0.00
	Own contribution NO	0.00	0.00
	NO budget	0.00	0.00
NDICI	NDICI co-financing	0.00	0.00
	Own contribution NDICI	0.00	0.00
	NDICI budget	0.00	0.00
RU	RU co-financing	0.00	0.00
	Own contribution RU	0.00	0.00
	RU budget	0.00	0.00
TOTAL	**Total Programme co-financing**	0.00	2,046,066.56
	Total own contribution	0.00	511,516.64
	Total budget	0.00	2,557,583.20

2. Partnership

2.1. Overview: Project Partnership

2.1.1 Project Partners

No.	LP/PP	Organisation (English)	Organisation (Original)	Country	Type of partner	Legal status	Partner budget in the project	Active/inactive	
								Status	from
1	LP	Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern	Ministerium für Wirtschaft, Infrastruktur, Tourismus und Arbeit Mecklenburg-Vorpommern	DE	Regional public authority	a)	618,000.00 €	Active	22/09/2022
2	PP	Ministry of Transport and Communications of the Republic of Lithuania	Lietuvos Respublikos susisiekimo ministerija	LT	National public authority	a)	219,200.00 €	Active	22/09/2022
3	PP	Polish Alternative Fuels Association (PSPA)	Polskie Stowarzyszenie Paliw Alternatywnych (PSPA)	PL	Interest group	b)	211,074.00 €	Active	22/09/2022
4	PP	Vidzeme Planning Region	Vidzemes plānošanas reģions	LV	Regional public authority	a)	274,600.00 €	Active	22/09/2022
5	PP	University of Tartu	Tartu Ülikool	EE	Higher education and research institution	a)	247,826.40 €	Active	22/09/2022
6	PP	Chalmers University of Technology	Chalmers tekniska högskola AB	SE	Higher education and research institution	a)	349,070.80 €	Active	22/09/2022
7	PP	Reiner Lemoine Institut gGmbH	Reiner Lemoine Institut gGmbH	DE	Higher education and research institution	b)	239,648.00 €	Active	22/09/2022
8	PP	Localiser RLI GmbH	Localiser RLI GmbH	DE	Small and medium enterprise	b)	84,864.00 €	Active	22/09/2022
9	PP	CLIC Innovation Ltd	CLIC Innovation Oy	FI	Business support organisation	b)	313,300.00 €	Active	22/09/2022

2.1.2 Associated Organisations

No.	Organisation (English)	Organisation (Original)	Country	Type of Partner
AO 1	H2 MOBILITY Deutschland GmbH & Co.KG	H2 MOBILITY Deutschland GmbH & Co.KG	DE	Infrastructure and public service provider
AO 2	PKN Orlen S.A.	Polski Koncern Naftowy ORLEN Spółka Akcyjna	PL	Infrastructure and public service provider
AO 3	P2X Solutions Ltd	P2X Solutions Oy	FI	Small and medium enterprise
AO 4	GP JOULE Hydrogen GmbH	GP JOULE Hydrogen GmbH	DE	Large enterprise
AO 5	Ministry of Economic Affairs and Communications	Majandus- ja Kommunikatsiooniministeerium	EE	National public authority
AO 6	Ministry of Transport and Communications	Liikenne-ja viestintäministeriö	FI	National public authority
AO 7	Joint Spatial Planning Department Berlin-Brandenburg	Gemeinsame Landesplanungsabteilung Berlin-Brandenburg	DE	Regional public authority
AO 8	Ministry of Justice, European Affairs and ConsumerProtection of Land Schleswig-Holstein	Ministerium für Justiz, Europa und Verbraucherschutz des Landes Schleswig-Holstein	DE	Regional public authority

2.2 Project Partner Details - Partner 1

LP/PP	Lead Partner
Partner Status	Active

Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language

Ministerium für Wirtschaft, Infrastruktur, Tourismus und Arbeit Mecklenburg-Vorpommern

86 / 250 characters

Organisation in English

Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern

81 / 250 characters

Department in original language

Abteilung Energie und Landesentwicklung

39 / 250 characters

Department in English

Energy and Regional Development Department

42 / 250 characters

Partner location and website:

Address

Johannes-Stelling-Straße 14

27 / 250 characters

Country

Germany

Postal Code

19053

5 / 250 characters

NUTS1 code

Mecklenburg-Vorpommern

Town

Schwerin

8 / 250 characters

NUTS2 code

Mecklenburg-Vorpommern

Website

www.regierung-mv.de/Landesregierung/wm

38 / 100 characters

NUTS3 code

Schwerin, Kreisfreie Stadt

Partner ID:

Organisation ID type

Tax (identification) number (Steuer(identifikations)nummer)

Organisation ID

090 / 144 / 03644

17 / 50 characters

VAT Number Format

DE + 9 digits

VAT Number

N/A ☐ DE317093825

11 / 50 characters

PIC

n/a

3 / 9 characters

Partner type:

Legal status

a) Public

Type of partner

Regional public authority   Regional council, etc.

Sector (NACE)

84.11 - General public administration activities

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities?

No

Role of the partner organisation in this project:

Lead Partner, Coordinator of WP2 and GoA 2.1 & 2.3.
Belongs to Target Group 2 (Regional Public Authorities)
Background Information: During meetings and events with haulage companies, potential HRS providers the Ministry of Economics noticed that missing guidelines and planning concepts are stopping the development of hydrogen refuelling infrastructure. In a first step a regional working group with haulage companies and stakeholder groups was funded. The companies are highly interested in operating their business with hydrogen trucks, but need a reliable HRS infrastructure to enable long distance transportation. This has been the starting point for initiating the HyTruck project.

689 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

2.2 Project Partner Details - Partner 2

LP/PP	Project Partner
Partner Status	Active

Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language	Lietuvos Respublikos susisiekimo ministerija

44 / 250 characters

Organisation in English	Ministry of Transport and Communications of the Republic of Lithuania

69 / 250 characters

Department in original language	Ateities susisieikimo politikos grupė

37 / 250 characters

Department in English	Future Mobility Policy Group

28 / 250 characters

Partner location and website:

Address	Gedimino Av. 17	**Country**	Lithuania
	15 / 250 characters		
Postal Code	LT-01505	**NUTS1 code**	Lietuva
	8 / 250 characters		
Town	Vilnius	**NUTS2 code**	Sostinės regionas
	7 / 250 characters		
Website	https://sumin.lrv.lt/	**NUTS3 code**	Vilniaus apskritis
	21 / 100 characters		

Partner ID:

Organisation ID type	Legal person's code (Juridinio asmens kodas)
Organisation ID	188620589
VAT Number Format	Please select
VAT Number	N/A ☑
	0 / 50 characters
PIC	n/a
	3 / 9 characters

Partner type:

Legal status	a) Public
Type of partner	National public authority	Ministry, etc.
Sector (NACE)	84.11 - General public administration activities

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities? No

Role of the partner organisation in this project:

Project Partner, Coordinator of GoA 2.4
Belongs to Target Group 1 (National Public Authorities)
Background Information: LT has prepared 6 guidelines for the development of hydrogen in the transport sector. It is planned to install first 4 hydrogen refueling stations (HRS) in LT by 2026 using European funds. They shall be combined with the hydrogen production planned from 2023. According to the preliminary plans by 2030 it is planned to have 10 HRS in Lithuania. It is important to ensure the unified development of HRS in acodance to EU funding obligations, the current and planned national and EU market (vechicles, infrastructure), H2 production capacity and distribution plans, national and EU legislation targets, obligations, standards, as well as forthcoming AFIR ir TEN-T changes and other parameters.

815 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

2.2 Project Partner Details - Partner 3

LP/PP	Project Partner
Partner Status	Active
	Active from 22/09/2022	**Inactive from**

Partner name:

Organisation in original language	Polskie Stowarzyszenie Paliw Alternatywnych (PSPA)
	50 / 250 characters
Organisation in English	Polish Alternative Fuels Association (PSPA)
	43 / 250 characters
Department in original language	n/a
	3 / 250 characters
Department in English	n/a
	3 / 250 characters

Partner location and website:

Address	Fabryczna 5A	**Country**	Poland
	12 / 250 characters		
Postal Code	00-446	**NUTS1 code**	Makroregion województwo mazowieckie
	6 / 250 characters		
Town	Warsaw	**NUTS2 code**	Warszawski stołeczny
	6 / 250 characters		
Website	www.pspa.com.pl	**NUTS3 code**	Miasto Warszawa
	15 / 100 characters		

Partner ID:

Organisation ID type	Tax identification number (NIP)
Organisation ID	5252684377
VAT Number Format	PL + 10 digits
VAT Number	N/A ☐ PL5252684377
	12 / 50 characters
PIC	889605431
	9 / 9 characters

Partner type:

Legal status	b) Private	
Type of partner	Interest group	Trade union, foundation, charity, voluntary association, club, etc. other than NGOs
Sector (NACE)	70.22 - Business and other management consultancy activities	

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities? Yes

Financial data	**Reference period**	01/01/2020	–	31/12/2020
	Staff headcount [in annual work units (AWU)]			20.0
	Employees [in AWU]			17.0
	Persons working for the organisation being subordinated to it and considered to be employees under national law [in AWU]			0.0
	Owner-managers [in AWU]			3.0
	Partners engaged in a regular activity in the organisation and benefiting from financial advantages from the organisation [in AWU]			0.0
	Annual turnover [in EUR]			500,000.00
	Annual balance sheet total [in EUR]			250,000.00
	Operating profit [in EUR]			70,000.00

Role of the partner organisation in this project:

Project Partner, Coordinator of GoA 1.3
Belongs to Target Group 3 and 4 (SMEs and Infrastructure and public service providers)
Background Information: The role of PSPA in this project is to contribute to its overall success by supporting and coordinating some of the activities done in Poland and provide additional support for the transregional efforts. PSPA, the Polish Alternative Fuels Association, has over 170 members, over 60 institutional partnerships – including municipalities and strategic cooperation agreements with key stakeholders on the Polish market. Next to e-mobility, hydrogen is the 2nd big topic for them. PSPA can draw on its Legislative Center as well as on the capacities of its Research and Analysis Center. The role of PSPA will be based on the Organization's natural potential of coalition building and stakeholder outreach, to support all of the goals within the project.

905 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

2.2 Project Partner Details - Partner 4

LP/PP	Project Partner			
Partner Status	Active			
	Active from	22/09/2022	**Inactive from**	

Interreg
Baltic Sea Region

Project Acronym: HyTruck
Submission Date : 25/04/2022 09:43:13
Project Number:
Project Version Number: 1

Partner name:	
Organisation in original language	Vidzemes plānošanas reģions
	27 / 250 characters
Organisation in English	Vidzeme Planning Region
	23 / 250 characters
Department in original language	n/a
	3 / 250 characters
Department in English	n/a
	3 / 250 characters

Partner location and website:			
Address	Berzaines street 5	**Country**	Latvia
	18 / 250 characters		
Postal Code	LV-4101	**NUTS1 code**	Latvija
	7 / 250 characters		
Town	Cesis	**NUTS2 code**	Latvija
	5 / 250 characters		
Website	http://www.vidzeme.lv/en/	**NUTS3 code**	Vidzeme
	25 / 100 characters		

Partner ID:	
Organisation ID type	Unified registration number (Vienotais reģistrācijas numurs)
Organisation ID	90002180246
VAT Number Format	LV + 11 digits
VAT Number	**N/A** ☐ LV90002180246
	13 / 50 characters
PIC	986260596
	9 / 9 characters

Partner type:		
Legal status	a) Public	
Type of partner	Regional public authority	Regional council, etc.
Sector (NACE)	84.11 - General public administration activities	

Partner financial data:	
Is your organisation entitled to recover VAT related to the EU funded project activities?	No

Role of the partner organisation in this project:

Project Partner, Coordinator of WP3 and GoA 2.2 and 3.2
Belongs to Target Group 2 (Regional Public Authorities)
Background Information: Vidzeme Planning Region (VPR) is one of five NUTS3 regions in Latvia comprising 11 local municipalities in the N part of LV. VPR ensures regional strategic and spatial planning and coordination, cooperation between municipalities and governmental institutions. VPR has extensive competence in fields of transportation, mobility, energy, and information technology development in the region.
Vidzeme Planning Region will participate actively in all three WPs of the HyTruck project. In particular it will run a pilot project for determining the best locations for HRS in WP2 covering the hinterland of the Riga urban agglomoration and part of the North Sea-Baltic TEN-T corridor that crosses Vidzeme.

842 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

2.2 Project Partner Details - Partner 5

LP/PP	Project Partner
Partner Status	Active

Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language	Tartu Ülikool

13 / 250 characters

Organisation in English	University of Tartu

19 / 250 characters

Department in original language	Ökoloogia ja maateaduste instituut, geograafia osakond

54 / 250 characters

Department in English	Institute of Ecology and Earth Sciences, Department of Geography

64 / 250 characters

Partner location and website:

Address	Ülikooli 18	**Country**	Estonia
	11 / 250 characters		
Postal Code	50090	**NUTS1 code**	Eesti
	5 / 250 characters		
Town	Tartu	**NUTS2 code**	Eesti
	5 / 250 characters		
Website	www.geograafia.ut.ee/en	**NUTS3 code**	Lõuna-Eesti
	23 / 100 characters		

Partner ID:

Organisation ID type	Registration code (Registrikood)
Organisation ID	74001073
VAT Number Format	EE + 9 digits

VAT Number	N/A ☐	EE100030417
		11 / 50 characters
PIC	999895013	
	9 / 9 characters	

Partner type:

Legal status	a) Public
Type of partner	Higher education and research instituti	University faculty, college, research institution, RTD facility, research cluster, etc.
Sector (NACE)	72.19 - Other research and experimental development on natural sciences and engineering

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities?

Yes

Role of the partner organisation in this project:

Project Partner, Coordinator of GoA 1.1
Belongs to Target Group 5 (Higher education and research institutions)
Background Information: University of Tartu will lead the spatial planning tool for identifying suitable locations and the development of the web app for the truck drivers (WP1); University of Tartu will be supporting also the guidance and training on spatial planning toolkit usage (WP2).

404 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

State aid relevance

For the partner type selected, the Programme sees a medium to high risk for implementing State aid relevant activities. If the partner is of the opinion that its activities are not State aid relevant, it can ask the MA/JS for a plausibility check on the State aid relevance. Does the partner want to do this?

○ Yes ○ No

2.2 Project Partner Details - Partner 6

LP/PP	Project Partner
Partner Status	Active

	Active from	22/09/2022	**Inactive from**

Partner name:

Organisation in original language	Chalmers tekniska högskola AB

29 / 250 characters

Organisation in English	Chalmers University of Technology

33 / 250 characters

Department in original language	Mekanik och maritima vetenskaper

32 / 250 characters

Department in English	Mechanics and Maritime Sciences

31 / 250 characters

Partner location and website:

Address	Hörselgången 4	**Country**	Sweden

14 / 250 characters

Interreg
Baltic Sea Region

Project Acronym: HyTruck
Submission Date : 25/04/2022 09:43:13
Project Number:
Project Version Number: 1

Postal Code	412 96	**NUTS1 code**	Södra Sverige
	6 / 250 characters		
Town	Gothenburg	**NUTS2 code**	Västsverige
	10 / 250 characters		
Website	www.chalmers.se	**NUTS3 code**	Västra Götalands län
	15 / 100 characters		

Partner ID:

Organisation ID type	Organisation number (Organisationsnummer)
Organisation ID	556479-5598
VAT Number Format	SE + 12 digits
VAT Number	**N/A** ☐ SE556479559801
	14 / 50 characters
PIC	999980373
	9 / 9 characters

Partner type:

Legal status	a) Public	
Type of partner	Higher education and research instituti	University faculty, college, research institution, RTD facility, research cluster, etc.
Sector (NACE)	85.42 - Tertiary education	

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities?	Yes

Role of the partner organisation in this project:

Project Partner, Coordinator of WP1 and GoA 1.2
Belongs to Target Group 5 (Higher education and research institutions)
Background Information: Chalmers is coordinating the TechforH2. This is a competence center aiming at the development of new technologies in hydrogen propulsion as a step towards conversion to fossil freedom. A number of industry partners are also involved in the centre's activities (incl. Volvo, Scania, and JohnsonMatthey). The center will start its work in the course of 2022. HyTruck is focusing on large trucks while TechforH2 focuses on collaboration between different modes of transport. With this background Chalmers will within the HyTruck project coordinate WP 1, lead GoA 1.2 and conduct communcations and dissemination activities as well as contribute to other work packages.

816 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

◌ Yes ◌ No

State aid relevance

For the partner type selected, the Programme sees a medium to high risk for implementing State aid relevant activities. If the partner is of the opinion that its activities are not State aid relevant, it can ask the MA/JS for a plausibility check on the State aid relevance. Does the partner want to do this?

◌ Yes ◌ No

2.2 Project Partner Details - Partner 7

LP/PP	Project Partner		
Partner Status	Active		
Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language

Reiner Lemoine Institut gGmbH

29 / 250 characters

Organisation in English

Reiner Lemoine Institut gGmbH

29 / 250 characters

Department in original language

n/a

3 / 250 characters

Department in English

n/a

3 / 250 characters

Partner location and website:

Address

Rudower Chaussee 10

19 / 250 characters

Country

Germany

Postal Code

10489

5 / 250 characters

NUTS1 code

Berlin

Town

Berlin

6 / 250 characters

NUTS2 code

Berlin

Website

www.reiner-lemoine-institut.de

30 / 100 characters

NUTS3 code

Berlin

Partner ID:

Organisation ID type

Company registration number (Handelsregisternummer)

Organisation ID

HRB 124659 B

12 / 50 characters

VAT Number Format

DE + 9 digits

VAT Number

N/A ☐ DE274491408

11 / 50 characters

PIC

953906343

9 / 9 characters

Partner type:

Legal status

b) Private

Type of partner

Higher education and research instituti | University faculty, college, research institution, RTD facility, research cluster, etc.

Sector (NACE)

72.19 - Other research and experimental development on natural sciences and engineering

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities?

Yes

Financial data	Reference period	01/01/2020	_	31/12/2020

	Staff headcount [in annual work units (AWU)]	33.0
	Employees [in AWU]	33.0
	Persons working for the organisation being subordinated to it and considered to be employees under national law [in AWU]	0.0
	Owner-managers [in AWU]	0.0
	Partners engaged in a regular activity in the organisation and benefiting from financial advantages from the organisation [in AWU]	0.0
	Annual turnover [in EUR]	3,250,000.00
	Annual balance sheet total [in EUR]	1,370,000.00
	Operating profit [in EUR]	99,506.00

Role of the partner organisation in this project:

Project Partner, Coordinator of GoA 1.4
Belongs to Target Group 5 (Higher education and research institutions)
Background Information: The Reiner Lemoine Institut is an independent non-profit research institution working towards a future with 100 % Renewable Energy. For more than 10 years it has conducted applied research to give scientific support to a long-term energy transition. In the project "Hydrogen Roadmap for Brandenburg and the Capital Region", RLI supported the federal states of Brandenburg and Berlin in issuing a roadmap to initiate the development of a hydrogen economy for the state of Brandenburg and the capital region. It supported various regions in Germany in conceptualizing the integration of hydrogen into their local value chains within the HyStarter project. With experience in international and national participation projects on hydrogen infrastructure, RLI will take the lead in GoA 1.4. It will contribute to the GoA 1.1, 1.2 and 1.3 as well as 3.4.

989 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

State aid relevance

For the partner type selected, the Programme sees a medium to high risk for implementing State aid relevant activities. If the partner is of the opinion that its activities are not State aid relevant, it can ask the MA/JS for a plausibility check on the State aid relevance. Does the partner want to do this?

○ Yes ○ No

2.2 Project Partner Details - Partner 8

LP/PP	Project Partner
Partner Status	Active

Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language	Localiser RLI GmbH
	18 / 250 characters
Organisation in English	Localiser RLI GmbH
	18 / 250 characters
Department in original language	n/a
	3 / 250 characters
Department in English	n/a
	3 / 250 characters

Partner location and website:

Address	Rudower Chaussee 12 B	**Country**	Germany
	21 / 250 characters		

Postal Code	12489	**NUTS1 code**	Berlin
	5 / 250 characters		
Town	Berlin	**NUTS2 code**	Berlin
	6 / 250 characters		
Website	www.localiser.de	**NUTS3 code**	Berlin
	16 / 100 characters		

Partner ID:

Organisation ID type	Company registration number (Handelsregisternummer)
Organisation ID	HRB 194528 B
	12 / 50 characters
VAT Number Format	DE + 9 digits
VAT Number	**N/A** ☐ DE320512446
	11 / 50 characters
PIC	n/a
	3 / 9 characters

Partner type:

Legal status	b) Private
Type of partner	Small and medium enterprise — Micro, small, medium enterprises < 250 employees, ≤ EUR 50 million turnover or ≤ EUR 43 million balance sheet total
Sector (NACE)	74.90 - Other professional, scientific and technical activities n.e.c.

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities?   Yes

Financial data	Reference period	01/01/2020 — 31/12/2020
	Staff headcount [in annual work units (AWU)]	2.6
	Employees [in AWU]	1.9
	Persons working for the organisation being subordinated to it and considered to be employees under national law [in AWU]	0.0
	Owner-managers [in AWU]	0.7
	Partners engaged in a regular activity in the organisation and benefiting from financial advantages from the organisation [in AWU]	0.0
	Annual turnover [in EUR]	112,430.00
	Annual balance sheet total [in EUR]	226,725.00
	Operating profit [in EUR]	11,361.00

Role of the partner organisation in this project:

Project Partner, Coordinator of GoA 3.1
Belongs to Target Group 3 (SMEs)
Background Information: Localiser is a software company for the automated construction of charging infrastructure for electromobility. As a spin-off from the Reiner Lemoine Institute, which is committed to the conversion of the energy supply to 100%. Localiser has developed the software "virtual H2 marketplace" that shall be used in the HyTruck project for developing the digital spatial planning toolkit. The virtual H2 marketplace is an intermediary portal for specific supply and demand requests for hydrogen. As such Localiser will be involved in GoA 1.1, 2.1 and 3.1.

653 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ○ No

2.2 Project Partner Details - Partner 9

LP/PP	Project Partner
Partner Status	Active

	Active from	22/09/2022	**Inactive from**	

Partner name:

Organisation in original language	CLIC Innovation Oy
	18 / 250 characters
Organisation in English	CLIC Innovation Ltd
	19 / 250 characters
Department in original language	n/a
	3 / 250 characters
Department in English	n/a
	3 / 250 characters

Partner location and website:

Address	Eteläranta 10	**Country**	Finland
	13 / 250 characters		
Postal Code	00130	**NUTS1 code**	Manner-Suomi
	5 / 250 characters		
Town	Helsinki	**NUTS2 code**	Helsinki-Uusimaa
	8 / 250 characters		
Website	www.clicinnovation.fi	**NUTS3 code**	Helsinki-Uusimaa
	21 / 100 characters		

Partner ID:

Organisation ID type	Business Identity Code (Y-tunnus)
Organisation ID	2689612-4
VAT Number Format	FI + 8 digits
VAT Number	**N/A** ☐ FI26896124
	10 / 50 characters
PIC	925710480
	9 / 9 characters

Partner type:

Legal status	b) Private
Type of partner	Business support organisation	Chamber of commerce, chamber of trade and crafts, business incubator or innovation centre, business clusters, etc.
Sector (NACE)	70.22 - Business and other management consultancy activities

Partner financial data:

Is your organisation entitled to recover VAT related to the EU funded project activities?

Yes

Financial data	**Reference period**	01/01/2021	_	31/12/2021

Staff headcount [in annual work units (AWU)]		9.0
Employees [in AWU]		9.0
Persons working for the organisation being subordinated to it and considered to be employees under national law [in AWU]		0.0
Owner-managers [in AWU]		0.0
Partners engaged in a regular activity in the organisation and benefiting financial advantages from the organisation [in AWU]		0.0
Annual turnover [in EUR]		788,121.00
Annual balance sheet total [in EUR]		4,259,822.00
Operating profit [in EUR]		62,145.00

Role of the partner organisation in this project:

Project Partner, Coordinator of GoA 3.3
Belongs to Target Group 3 (SMEs)
Background Information: CLIC coordinates the work of the Finnish Hydrogen Cluster. CLIC Innovation Ltd is a non-profit company based on public-private-partnership model. We address systemic challenges that arise from the scarcity of natural resources.
Within HyTruck CLIC organises a series of brief digital exchange formats like breakfast briefings, lunch Info packs, different kind of facilitated webinars and the final conference together with other partners as well as partner meetings. CLIC Innovation is an experienced facilitator of events, workshops and webinars. CLIC Innovation has also role in WP1 providing input to Tasks 1.1 and 1.2 and a minor role in Tasks 1.3 and 1.4. We have also major role in WP2 in Task 2.2 because one of the pilots will be in Finland.

851 / 1,000 characters

Has this organisation ever been a partner in the project(s) implemented in the Interreg Baltic Sea Region Programme?

○ Yes ⦿ No

Interreg
Baltic Sea Region

Project Acronym: HyTruck
Submission Date : 25/04/2022 09:43:13
Project Number:
Project Version Number: 1

2.3 Associated Organisation Details - AO 1

Associated organisation name and type:

Organisation in original language	H2 MOBILITY Deutschland GmbH & Co.KG
	36 / 250 characters
Organisation in English	H2 MOBILITY Deutschland GmbH & Co.KG
	36 / 250 characters
Department in original language	n/a
	3 / 250 characters
Department in English	n/a
	3 / 250 characters
Legal status	b) Private
Type of associated organisation	Infrastructure and public service provi / Public transport, utility company (water supply, electricity supply, sewage, gas, waste collection, airport, port, railway, etc.)

Associated organisation location and website:

Address	EUREF-Campus 10-11	**Country**	Germany
	18 / 250 characters		
Postal Code	10829		
	5 / 250 characters		
Town	Berlin		
	6 / 250 characters		
Website	www.h2.live		
	11 / 100 characters		

Role of the associated organisation in this project:

H2 MOBILITY Deutschland GmbH & Co KG is responsible for establishing a nationwide hydrogen infrastructure in Germany. The hydrogen stations are preferably integrated into existing filling stations. Further expansion will take place primarily where there is a short-term need for commercial vehicles - esp. for heavy trucks - and at the same time the hydrogen filling station network for passenger cars can be usefully supplemented. This task requires experience, time and considerable investment – which is why Air Liquide, Daimler, Hyundai, Linde, OMV, Shell and TotalEnergies jointly formed H2 MOBILITY.
In the HyTruck project H2 MOBILITY provides input and support to the planning, implementation and operation of H2 refuelling infrastructure, i.e. it contributes to WP1 (GoA 1.1 and 1.3.). In doing so it closely cooperates with its peer group from other BSR countries (like e.g. ORLEN from PL or P2X from FI).

921 / 1,000 characters

2.3 Associated Organisation Details - AO 2

Associated organisation name and type:

Organisation in original language	Polski Koncern Naftowy ORLEN Spółka Akcyjna
	43 / 250 characters
Organisation in English	PKN Orlen S.A.
	14 / 250 characters
Department in original language	Obszar Strategii i Innowacji oraz Relacji Inwestorskich
	55 / 250 characters
Department in English	Strategy, Innovation and Investor Relations Area
	49 / 250 characters
Legal status	a) Public
Type of associated organisation	Infrastructure and public service provi — Public transport, utility company (water supply, electricity supply, sewage, gas, waste collection, airport, port, railway, etc.)

Associated organisation location and website:

Address	Chemików 7, Str.	**Country**	Poland
	16 / 250 characters		
Postal Code	09-411		
	6 / 250 characters		
Town	Plock		
	5 / 250 characters		
Website	www.orlen.pl		
	12 / 100 characters		

Role of the associated organisation in this project:

PKN Orlen SA is Polish's largest refiner and petrochemicals producer. It will spend PLN 7.4bn by 2030 on low- and zero-carbon hydrogen development projects based on renewable energy sources and municipal waste conversion technology. The participation of PKN Orlen in the HyTruck project as an associated partner will enable participation in the design of the optimal HRS network on the Polish section of the North Sea - Baltic Sea TEN-T corridor, defining common norms and technical standards, as well as cooperation with other companies and institutions, acquiring and exchange of experiences and knowledge.

609 / 1,000 characters

2.3 Associated Organisation Details - AO 3

Associated organisation name and type:

Organisation in original language	P2X Solutions Oy	
		16 / 250 characters
Organisation in English	P2X Solutions Ltd	
		17 / 250 characters
Department in original language	n/a	
		3 / 250 characters
Department in English	n/a	
		3 / 250 characters
Legal status	b) Private	
Type of associated organisation	Small and medium enterprise	Micro, small, medium enterprises < 250 employees, ≤ EUR 50 million turnover or ≤ EUR 43 million balance sheet total

Associated organisation location and website:

Address	Itälahdenkatu 18 A		**Country**	Finland
	18 / 250 characters			
Postal Code	00210			
	5 / 250 characters			
Town	Helsinki			
	8 / 250 characters			
Website	www.p2x.fi/en			
	13 / 100 characters			

Role of the associated organisation in this project:

P2X Solutions is a privately held Finnish company and participating in the project as an associated (indirect) partner. The company is a green hydrogen producer and distributor. In addition, P2X produces synthethic e-fuels from green hydrogen, such as e-methane, e-ammonia and e-methanol. P2X will construct Finland's first industrial-scale green hydrogen electrolysis plant to be operational in 2024. P2X is planning to create a HRS distribution network in Finland to serve especially long-haul heavy-duty transport. Therefore, P2X will be able to provide some practical backgroung information to the Interreg project from a Finnish point-of-view. As the development of an HRS backbone in Europe demands cross-border coordination, P2X believes the cooperation will be mutually beneficial.

789 / 1,000 characters

2.3 Associated Organisation Details - AO 4

Associated organisation name and type:

Organisation in original language	GP JOULE Hydrogen GmbH
	22 / 250 characters

Organisation in English	GP JOULE Hydrogen GmbH
	22 / 250 characters

Department in original language	n/a
	3 / 250 characters

Department in English	n/a
	3 / 250 characters

Legal status	b) Private

Type of associated organisation	Large enterprise	≥ 250 employees

Associated organisation location and website:

Address	Cecilienkoog 16	Country	Germany
	15 / 250 characters		

Postal Code	25821
	5 / 250 characters

Town	Reußenköge
	10 / 250 characters

Website	www.gp-joule.de/wasserstoff
	27 / 100 characters

Role of the associated organisation in this project:

GP JOULE is producer and supplier of 100% green hydrogen. GP Joule has develoepd already own HRS and own solutions in the field of hydrogen mobility.
For the development and construction of a hydrogen filling station network in the BSR GP JOULE can provide some practical backgroung information to the Interreg project from a German point-of-view. GP JOULE believes that the cooperation in the HyTruck project will be mutually beneficial. It will enable the definition of common norms and technical standards, as well as cooperation with other companies and institutions, acquiring and exchange of experiences and knowledge.

633 / 1,000 characters

2.3 Associated Organisation Details - AO 5

Associated organisation name and type:

Organisation in original language	Majandus- ja Kommunikatsiooniministeerium
	41 / 250 characters
Organisation in English	Ministry of Economic Affairs and Communications
	47 / 250 characters
Department in original language	Transpordi arengu ja investeeringute osakond
	44 / 250 characters
Department in English	Transport development and investments department
	48 / 250 characters
Legal status	a) Public
Type of associated organisation	National public authority · Ministry, etc.

Associated organisation location and website:

Address	Suur-Ameerika 1	**Country**	Estonia
	15 / 250 characters		
Postal Code	10122		
	5 / 250 characters		
Town	Tallinn		
	7 / 250 characters		
Website	www.mkm.ee		
	10 / 100 characters		

Role of the associated organisation in this project:

Associate partner, as the ministry responsible for both energy and transport policy (including alternative fuels infrastructure), it is necessary to both give relevant input to the project as well as receive state of the art information about hydrogen's state of play (e.g. what further steps are needed on a national level to help facilitate the uptake of hydrogen).

367 / 1,000 characters

2.3 Associated Organisation Details - AO 6

Associated organisation name and type:

Organisation in original language	Liikenne-ja viestintäministeriö
	31 / 250 characters
Organisation in English	Ministry of Transport and Communications
	40 / 250 characters
Department in original language	Ilmasto-ja ympäristöyksikkö
	27 / 250 characters
Department in English	Climate and Environment Unit
	28 / 250 characters
Legal status	a) Public
Type of associated organisation	National public authority Ministry, etc.

Associated organisation location and website:

Address	Eteläesplanadi 4, PO Box 31,	**Country**	Finland
	28 / 250 characters		
Postal Code	FI-00023		
	9 / 250 characters		
Town	Helsinki		
	8 / 250 characters		
Website	http://lvm.fi		
	13 / 100 characters		

Role of the associated organisation in this project:

Associated Partner. Providing input on the national implementation of current Alternative Fuels Infrastructure Directive (2014/94/EU) and AFIR. Participation in the workshops relating to the national legislative framework and policies and the transnational pilot.

264 / 1,000 characters

2.3 Associated Organisation Details - AO 7

Associated organisation name and type:

Organisation in original language	Gemeinsame Landesplanungsabteilung Berlin-Brandenburg

53 / 250 characters

Organisation in English	Joint Spatial Planning Department Berlin-Brandenburg

52 / 250 characters

Department in original language	Referat GL2 – Europäische Raumentwicklung

41 / 250 characters

Department in English	Unit GL2 – European Spatial Development

39 / 250 characters

Legal status	a) Public
Type of associated organisation	Regional public authority / Regional council, etc.

Associated organisation location and website:

Address	Henning-von-Tresckow-Str. 2–8	**Country**	Germany

29 / 250 characters

Postal Code	14467

5 / 250 characters

Town	Potsdam

7 / 250 characters

Website	www.gl.berlin-brandenburg.de

28 / 100 characters

Role of the associated organisation in this project:

As the initiator and current chair organisation of the Scandria®Alliance, the Joint Spatial Planning Department Berlin-Brandenburg (JSPD) would like to support the HyTruck project by providing a platform for dialogue and exchange with other related initiatives and by contributing to the dissemination and transfer of the project's results via the Scandria®Alliance's communication channels. As a permanent network of cities and regions, the Scandria®Alliance can also contribute to the development of the HyTruck digital information portal on H2 for heavy duty transport and look for ways to interlink it with the Alliance's web portal beyond the project lifetime.
Being responsible for joint state spatial planning in the German Capital Region Berlin-Brandenburg, JSPD is also interested to get involved in discussions on the development of the spatial development concept for the pilot project in Rostock, as far as the transport axis between Berlin and Rostock is concerned.

978 / 1,000 characters

2.3 Associated Organisation Details - AO 8

Associated organisation name and type:

Organisation in original language	Ministerium für Justiz, Europa und Verbraucherschutz des Landes Schleswig-Holstein

82 / 250 characters

Organisation in English	Ministry of Justice, European Affairs and ConsumerProtection of Land Schleswig-Holstein

87 / 250 characters

Department in original language	Europaabteilung-Referat für Ostseeangelegenheiten

49 / 250 characters

Department in English	Unit for Baltic Sea Affairs

27 / 250 characters

Legal status	a) Public
Type of associated organisation	Regional public authority Regional council, etc.

Associated organisation location and website:

Address	Lorentzendamm 35	**Country**	Germany

16 / 250 characters

Postal Code	24103

5 / 250 characters

Town	Kiel

4 / 250 characters

Website	www.schleswig-holstein.de/DE/Landesregierung/II/ii_node.html

60 / 100 characters

Role of the associated organisation in this project:

The Ministry for Justice, European Affairs and Consumer Protection of Land S-H is the lead applicant of the GREATER4H project. The project aims at the establishment of a network of 14 HRS for heavy duty hydrogen vehicles from Hamburg to Oslo along the northern part of the EU ScanMed TEN-T corridor. As such GREATER4H is a transnational investment project proposal in the territories of DE, DK, SE and NO. The application is submitted to the "Connecting Europe Facility" (CEF) (approval pending). It is a STRING project initiative. STRING is a geographical area and a political member organisation in Northern Europe striving to be a globally acknowledged Green Hub. The Ministry for Justice, European Affairs and Consumer Protection of Land S-H is a STRING member. As such it wants to closely cooperate with HyTruck - both for the implementation of GREATER4H as well as for the STRING networking activites.

918 / 1,000 characters

3. Relevance

3.1 Context and challenge

The challenge: The public sector needs to increase its capacity to steer the build-up of GREEN hydrogen refuelling stations (HRS) suited for large trucks and to overcome the "chicken & egg" problem:
• Haulage and logistics companies that maintain large fleets of heavy vehicles are willing to invest in fuel cell trucks to decarbonize their fleets. The prerequisite is that the necessary green HRS infrastructure is in place - which does not exist today.
• The developers and operators of HRS are prepared to invest in the development of a network of filling stations. The prerequisite is that there are enough fuel cell vehicles that demand the green hydrogen (H2) – but today there are hardly any fuel cell trucks on the road.

To overcome this "chicken & egg" problem, the public sector must plan and push the development of the HRS network in parallel to the ramp-up of H2 technology in the transportation sector. The "EU Regulation for the deployment of alternative fuels Infrastructure" (AFIR) which is likely to be adopted before summer 2022, foresees that the development of the hydrogen infrastructure in the EU must be oriented towards the needs of trucks. The EU Member States are obliged to build up a HRS network. By 2030 the maximum distance between two HRS along the TEN-T corridors shall be 150 kilometres (to be fulfilled in both directions).

The planning of HRS is a complex exercise. The build-up of a HRS Network has a spatial, economic, environmental (of course only green H2) and technological dimension. All of them need to be considered in the planning process. The public sector is lacking experience and tools on how to steer this process. So far no HRS for large trucks exist. Still, public authorities need to elaborate spatial development concepts, provide the regulatory framework, ensure common standards and design public funding programmes in order to enable the ramp-up of the hydrogen technology, decarbonize international transport and to address the AFIR.

1,993 / 2,000 characters

3.2 Transnational value of the project

A prerequisite for a fuel cell truck to be able to travel from Poznan to Tartu (and back) is that it can refuel with H2 on the way. Trans-European mobility across all EU member states requires a sufficiently dense network of HRS, but also uniform norms and standards so that fuel cell trucks and HRS are compatible everywhere – regardless of countries and borders.

The large diesel trucks operating in international road freight transport are a main source for CO2 emissions. Overall, road transport was responsible for 26% of all EU CO2 emissions in 2018. International transport accounts for one quarter (24.8 %) of total road freight transport in the EU. A change to alternative fuels in international transport requires transnational solutions. Also, to avoid mistakes similar to those that were hampering the ramp-up of electromobility (lacking compatibility of charging infrastructure).

The AFIR requires the development of HRS along the TEN-T corridors. Cities and their hinterland play an important role in the TEN-T corridors. In the current consultation phase of the AFIR it has been proposed that for the initial phase until 2025 in each urban node of the TEN-T core network at least one HRS with truck capability shall be established. In HyTruck we want to exploit the synergies with other H2 anchor customers from cities and their hinterland (public transport, waste management, industry). The HyTruck pilot projects are designed around urban nodes. They allow to plan and test the compatibility of HRS solutions between cities, their hinterland and across borders along the TEN-T corridors.

The HyTruck project focuses on the Eastern part of the North Sea-Baltic TEN-T corridor (crossing DE, PL, LT, LV, EE and FI) as the STRING Network has initiated for the Northern part of the Scandinavian-Mediterranean TEN-T corridor (DE, DK, SE, NO) already transnational cooperation. HyTruck will closely cooperate with STRING and their project initiative GREATER4H (see 3.8).

1,984 / 2,000 characters

3.3 Target groups

Target group	Sector and geographical coverage	Its role and needs	
National public authority	Responsibilities: National Ministries responsible for the implementation of the AFIR (i.e. mostly Ministries for Transport / Economic Affairs / Climate). Countries: In HyTruck we have PP and AO from LT, EE and FI. 215 / 500 characters	The EU Member States need to address the requirements of the AFIR and ensure a transnational network of HRS. In HyTruck we strive to involve also the responsible Ministries that are not, yet, involved as (full / associated) partners as the AFIR is relevant for all EU MS. The National public authorities need to agree on common standards in order to ensure the compatibility of HRS also across borders and guarantee that only green H2 is used. They lack experience for performing this task as so far hardly any HRS for large trucks exist. They need to build capacity and employ tools that help them to address the technological and environmental dimension of the development of HRS. 685 / 1,000 characters	

Target group	Sector and geographical coverage	Its role and needs	
Regional public authority	Responsibilities: Regional Ministries & authorities responsible for spatial and regional development Countries: In HyTruck we have PP and AO from DE and LV. 157 / 500 characters	Regional public authorities responsible for spatial planning and regional development can address the spatial and economic dimension of the development of HRS. In HyTruck we target also regional public authorities that are not, yet, involved as (full / associated) partners. The HyTruck pilot projects cover only a part of the TEN-T corridors but the HRS should service the entire TEN-T core network in the BSR. Regional public authorities • need to ensure the future viability of their regional economy (H2 as fuel) • need to fulfil regional decarbonisation targets • can benefit from the fast ramp-up of hydrogen by integrating steps in the value chain (H2 production, supply of H2, sector coupling) Regional public authorities lack experience for performing these task as so far hardly any HRS exist. They need to build capacity and employ tools that help them to do so. 877 / 1,000 characters	
Small and medium enterprise	Economic Sector: Haulage and logistics companies operating large trucks are mostly SMEs . And so are companies converting diesel trucks to H2 propulsion systems or developers of specialised IT tools (like PP 08). Countries: In HyTruck we have PP and AO representing these SMEs from DE, PL, SE and FI. 301 / 500 characters	SMEs operating fleets of large trucks have fully accepted that the new generation of trucks that they are purchasing must be free of CO2 emissions. The "Clean Vehicles Directive" of the EU and the implementing national laws require them to purchase as of 2025 de facto only "zero-emission" trucks to fulfill the CO2 reduction targets. Otherwise they are facing – same as the truck manufacturers - severe penalties. But they need the appropriate HRS infrastructure in place in order to use fuel cell trucks on their international transport routes. That's why they happily support the HyTruck project in overcoming this "chicken & egg" problem. In the HyTruck pilot projects we target in particular SMEs that are not already involved as (full / associated) partners. 765 / 1,000 characters	
Infrastructure and public service provid	Economic Sector: Developers and operators of HRS and producers and suppliers of green H2 Countries: In HyTruck we have PP and AO from DE, PL, FI and SE 152 / 500 characters	Developers and operators of HRS and producers and suppliers of green H2 are the ones that will apply for public co-funding and actually build the HRS. In HyTruck we target all companies in this sector not only the PP and AO. For this target group it is a new market that very much depends on the demand for H2 from large fuel cell trucks. They need a stable investment framework that comprises the determination of optimal locations for building HRS, a harmonized regulatory framework across borders and the constant exchange on legal (e.g. EU) or technological (e.g. truck manufacturer) developments. 603 / 1,000 characters	

Target group	Sector and geographical coverage	Its role and needs	
3.4 Project objectives and research instituti	Economic Sector: Research on renewable energy and alternative fuels for the transport sector; geoinformatics Countries: In HyTruck we have PP and AO from DE, SE, EE and PL	The research institutions involved in the HyTruck project can equip national and regional authorities with the tools and guidance they need in order to steer the development process of HRS. The iterative process between solution development by research institutions in WP1 and solution piloting by public authorities in WP2 ensures that the tools and guidance constitute "applied science" and have practical added value. Opposed to the first four target groups research institutions are primarily providing support - this is their mission. They are not using the solutions in their daily work (as national & regional public authorities) or are the end beneficiaries of them (as SMEs and infrastructure and	

3.4 Project objectives

Your project objective should contribute to:

Smart green mobility

The objective of HyTruck is to support public authorities in steering the development of a network of hydrogen refuelling stations (HRS) suited for large trucks in the Eastern part of the North Sea-Baltic TEN-T corridor with harmonised standards across borders. Ultimately this shall contribute to overcoming the "chicken & egg problem" that SMEs and infrastructure providers are facing.

HyTruck aims at solutions enabling public authorities to address all relevant (spatial, economic, environmental and technological) dimensions when planning HRS.
HyTruck will develop tools for elaborating spatial development concepts indicating the optimal location of HRS for large trucks considering transport flows, other anchor customers, green H2 supply, other sectors using H2 (e.g. industry or housing) for the selected pilot regions.
The project develops models for assessing the techno-economic and environmental impact: Where does hydrogen come from? Imported hydrogen or onsite electrolysis? Liquid or gaseous hydrogen? At what price can the local production of hydrogen increase the geopolitical independence of EU countries in the BSR?
HyTruck addresses also the business side of developing HRS: It provides for the calculation of capital expenditures und operational expenditures of each individual HRS as well as the necessary basic capacity and expansion scenarios.
Output 1 and the related deliverables of the HyTruck project incorporate these elements.

At the same time HyTruck works towards developing common standards to harmonise technology and operating systems in order to ensure the compatibility of HRS across borders.
Output 2 and the related deliverables of the HyTruck project incorporate these elements.

Following the sequence "develop, pilot & transfer solutions" HyTruck aims at a durable impact on the involved pilot regions. At the same time all solutions are designed in a way that they are scalable and transferable to target groups outside the HyTruck partnership.

1,996 / 2,000 characters

3.5 Project's contribution to the EU Strategy for the Baltic Sea Region

Please indicate whether your project contributes to the implementation of the Action Plan of the EU Strategy for the Baltic Sea Region (EUSBSR).

⦿ Yes ○ No

Please select which Policy Area of the EUSBSR your project contributes to most.

PA Transport

Please list the action of this Policy Area that your project contributes to and explain how.

Action 2 of "PA Transport" in the Action Plan (revised 2021) of the EUSBSR is dedicated to the "development of measures towards climate-neutral and zero pollution transport". Among other actions it foresees also the "…development of regulatory framework for sustainable transport actions, considering border–crossing transport … " The aim is to develop sustainable supply chain strategies with alternative fuels like biofuels and hydrogen replacing diesel.

HyTruck is working towards the usage of green hydrogen as alternative and renewable fuel for the international road freight transport sector. As such it contributes to action 2 and in particular to the indicator "Activities towards climate neutral transport in the BSR" as it ultimately works towards a "zero – emission" international road freight transport in the BSR.
HyTruck also helps to reduce pollution from transport in cities and their hinterland as the urban nodes in the TEN-T network shall be the starting point for the HRS development.

1,008 / 1,500 characters

If applicable, please describe which other Policy Areas of the EUSBSR your project contributes to and how.

Action 1: "Strengthening territorial cohesion in the BSR through land-based spatial planning" of the "PA Spatial Planning" aims inter alia to
• Encourage transnational actions improving accessibility and connectivity of the region using potential of TEN-T for regional development and observe regional effects of the European transport infrastructure development and
• Contribute to adaptation, mitigation and resilience to climate change in land-based spatial planning process.

The approach of HyTruck is based on the TEN-T corridors and requires and encourages transnational actions that improve the accessibility of all BSR regions for fuel cell trucks.
At the same time HyTruck contributes to climate change mitigation in land-based spatial planning processes by developing spatial development concepts for HRS.
HyTruck proposes to elaborate policy recommendations for VASAB on the development of a transnational HRS network and hence contribute to the BSR-wide land-based spatial planning processes.

1,007 / 1,500 characters

3.6 Other political and strategic background of the project

Strategic documents

AFIR (EU 2021/0223(COD))

HyTruck shall contribute to the implementation of the "EU Regulation for the deployment of alternative fuels Infrastructure" (AFIR) which is likely to be adopted in the course of 2022. It foresees that the development of the hydrogen infrastructure in the EU must be oriented towards the needs of trucks (max. distance 150 km between two HRS in 2030). HyTruck plans HRS along the overall TEN-T network starting off with the urban nodes of the TEN-T core network.

491 / 500 characters

Clean Vehicles Directive

HyTruck is addressing the implications of implementing the EU 2019/1161 "Clean Vehicles Directive" (CVD). The CVD requires public purchasers and private companies operating in the transport sector to consider energy consumption and environmental impacts when purchasing and leasing road vehicles. This applies also to the manufactures and buyers of trucks. The Directive is transcribed into the national legislation of all EU member states.

467 / 500 characters

Green Deal

The European "Green Deal" aims at reducing 90% of greenhouse gas emissions by 2050. One of its main objectives is to increase the use of clean vehicles and alternative fuels, such as hydrogen. HyTruck is preparing the ground for investments in HRS that enables the use of fuel cell trucks and the ramp-up of hydrogen - a key enabler for decarbonisation in Europe as it provides valuable solutions for several independent appliances.

447 / 500 characters

3.7 Seed money support

Please indicate whether your project is based on a seed money project implemented in the Interreg Baltic Sea Region Programme 2014-2020.

☐ Yes ☑ No

3.8 Other projects: use of results and planned cooperation

Full name of the project	Funding Source	Use of the project outcomes and/or planned cooperation
GREATER4H by STRING 20 / 200 characters	Connecting Europe Facility (CEF) for Transport 47 / 200 characters	GREATER4H is a transnational investment project proposal lead by the Ministry for Justice, European Affairs and Consumer Protection of Land S-H (AO 8 of the HyTruck project) in the territories of DE, DK, SE and NO. The application is submitted to the "Connecting Europe Facility" (CEF). It is a STRING project initiative. STRING is a geographical area and a political member organisation in Northern Europe striving to be a globally acknowledged Green Hub. GREATER4H aims at the establishment of a network of 14 HRS for heavy duty hydrogen vehicles from Hamburg to Oslo along the northern part of the EU ScanMed TEN-T corridor (while HyTruck will focus on the eastern part of the North Sea – Baltic Sea corridor). GREATER4H will run in parallel with HyTruck. A close exchange and cooperation is agreed between the lead applicants of both projects. 850 / 1,000 characters

Full name of the project	Funding Source	Use of the project outcomes and/or planned cooperation
BalticGoesGreen by Scandria®Alliance: 37 / 200 characters	INTERREG Baltic Sea Region Program (core project application in 1st call 2021 - 2027) 85 / 200 characters	BalticGoesGreen is a parallel Interreg BSR project application initiated by the Scandria®Alliance (AO 7 of the HyTruck project is the initiator and current chair organisation of the Scandria®Alliance). The Scandria®Alliance is a well-established network that provides an arena for cities and regions to collaborate on climate-smart multimodal transport connectivity at the interface to sustainable regional development between Scandinavia and the Adriatic Sea. BalticGoesGreen aims at setting up a network of regions, cities and organizations to create a harmonized strategy across regions, in order to foster the production, deployment and use of green fuels for transport and mobility. It will run in parallel with HyTruck. A close exchange and cooperation is agreed with AO 7. As such HyTruck plans to integrate its "one-stop-shop" into the Scandria®Alliance network structure. 881 / 1,000 characters
TechforH2 9 / 200 characters	Grants from the Swedish Energy Agency and funding from the industry and Chalmers 80 / 200 characters	TechforH2 is a competence center aiming at the development of new technologies in hydrogen propulsion as a step towards conversion to fossil freedom. TechForH2 is coordinated and led by Chalmers University (PP 06 of the HyTruck project), which owns the center together with RISE. A number of industry partners are also involved in the centre's activities (incl. Volvo, Scania, and JohnsonMatthey). The center will start its work in the course of 2022. A close exchange and cooperation is agreed with PP 06. HyTruck is focusing on large trucks while TechforH2 focuses on collaboration between different modes of transport. 621 / 1,000 characters
Hydrogen Eagle 14 / 200 characters	Own funds and application for a grant under the EU IPCEI programme 68 / 200 characters	Hydrogen Eagle is a comprehensive infrastructure project implemented by ORLEN Group (AO 2 of the HyTruck project) in the territories of Poland, Czech Republic and Slovakia. Until 2030 ORLEN aims at building 54 HRS in Poland that are based on renewable energy sources and municipal waste conversion technology. Project will run in parallel with HyTruck. HyTruck addresses HRS planning, while Hydrogen Eagle has the means to build HRS. 433 / 1,000 characters
IDACS (ID & Data Collection for Sustainable Fuels in Europe) 60 / 200 characters	DG MOVE 7 / 200 characters	The Program Support Action IDACS (2019-2022) has been set-up by the European Commission to support Member States in setting up data collecting for alternative fuels and make the data available through the National Access Points and to develop an effective, EU-wide coordination mechanism to assign unique identification codes to charging infrastructure. Lithuania has been member of this sub-group of DG MOVE. The Ministry of Transport and Communications of the Republic of Lithuania (PP 02 of the HyTruck project) ensures the exchange. 538 / 1,000 characters

3.10 Horizontal principles

Horizontal principles	Projects's direct impact
Sustainable development	positive
Non-discrimination including accessibility	neutral
Equality between men and women	neutral

4. Management	
Allocated budget	10%

4.1 Project management

☑ **Please confirm that the lead partner and all project partners will comply with the rules for the project management as described in the Programme Manual.**

If relevant, please indicate any other important aspects of the project management, e.g. external entity supporting the lead partner in the management of the project, advisory board, steering committee, any other relevant working groups, etc.

The LP has budgeted for the procurement of an external service provider that supports the Ministry in the overall management of the project. This shall comprise also communication activities.
The project partners will establish at the kick-off meeting a project steering committee (PSC) composed of one representative per PP & chaired by the LP. The PSC shall act as the project's decision-making body with regard to the implementation (time-, budget- and content-wise) of the project.

486 / 500 characters

4.2 Project financial management

☑ **Please confirm that the lead partner and all project partners will comply with the rules for the financial management and control as described in the Programme Manual.**

If relevant, please indicate any other important aspects of the financial management, e.g. external entity supporting the lead partner, positions planned for financial management, involvement of special financial experts (e.g. for public procurement), etc.

0 / 500 characters

4.3 Input to Programme communication

☑ **Please confirm that you are aware of the obligatory inputs to Programme communication that must be submitted along the pre-defined progress reports, as described in the Programme Manual.**

If relevant, please describe other important aspects of project communication that you plan to introduce, e.g. a communication plan, opening and closing events, social media channel(s) etc.

We fully comply with the requirements for communication as descirbed in section "I. Communication in projects" (pp 87 -94 of the Programme Manual). In addition we refer to the GoA 3.1 in our work plan, where we plan to establish a one-stop shop for HRS at Scandria Alliance (durable outreach to target group beyond project duration).
Furthermore we refer to GoA 3.3 where we foresee a final conference. Almost all PPs have foreseen a communication budget.

455 / 500 characters

4.4 Cooperation criteria

Please select the cooperation criteria that apply to your project. In your project you need to apply <u>at least three</u> cooperation criteria. Joint development and joint implementation are the obligatory ones you need to fulfill in your project.

Cooperation criteria

Joint Development	☑
Joint Implementation	☑
Joint Staffing	☑
Joint Financing	☑

5. Work Plan

Number	Work Package Name
1	Preparing solutions

	Number	Group of Activity Name
	1.1	Development of toolkit for determination of optimal locations for HRS in the BSR
	1.2	Economic and environmental factors for ramp-up of HRS
	1.3	Joint elaboration of BSR-wide protocol of technological standards
	1.4	Guideline for planning HRS

Number	Work Package Name
2	WP2 Piloting and evaluating solutions

	Number	Group of Activity Name
	2.1	Joint preparation of the parallel pilots for planning HRS
	2.2	Parallel pilots: Development of a spatial planning concept for each pilot region
	2.3	A transnationally agreed spatial development concept for HRS
	2.4	Transnational Pilot: Harmonized technological standards for HRS

Number	Work Package Name
3	WP3 Transferring solutions

	Number	Group of Activity Name
	3.1	One-stop shop for HRS planning in the BSR
	3.2	Funding and policy programmes: Institutional and financial support for project outputs
	3.3	Transnational exchange channel on HRS

Work plan overview

	Period: 1	2	3	4	5	6	Leader
WP.1: Preparing solutions							**PP6**
A.1.1: Development of toolkit for determination of optimal locations for HRS in the BSR							PP5
D.1.1: Digital spatial planning toolkit		D	D				
A.1.2: Economic and environmental factors for ramp-up of HRS							PP6
D.1.2: Over-arching assessment model for HRS planning		D	D				
A.1.3: Joint elaboration of BSR-wide protocol of technological standards							PP3
D.1.3: Proposal for common technological standards			D	D			
A.1.4: Guideline for planning HRS							PP7
D.1.4: Guideline for public authorities: "Roadmap to planning HRS infrastructure"		D	D				
WP.2: WP2 Piloting and evaluating solutions							**PP1**
A.2.1: Joint preparation of the parallel pilots for planning HRS							PP1
D.2.1: Regional pilot implementation plans			D				
A.2.2: Parallel pilots: Development of a spatial planning concept for each pilot region							PP4
D.2.2: Five spatial planning concepts				D			
A.2.3: A transnationally agreed spatial development concept for HRS							PP1
O.2.3: OUTPUT 1: A transnationally agreed spatial development concept indicating the locations of the HRS					O		
A.2.4: Transnational Pilot: Harmonized technological standards for HRS							PP2
O.2.4: OUTPUT 2: Memorandum of understanding on harmonized technological standards for HRS.						O	
WP.3: WP3 Transferring solutions							**PP4**
A.3.1: One-stop shop for HRS planning in the BSR							PP8
D.3.1: One-stop shop for HRS						D	
A.3.2: Funding and policy programmes: Institutional and financial support for project outputs							PP4
D.3.2: Input to national and transnational funding and policy programmes						D	
A.3.3: Transnational exchange channel on HRS							PP9
D.3.3: Transnational exchange channel on HRS						D	

Outputs and deliverables overview

Code	Title	Description	Contribution to the output	Output/ deliverable contains an investment

D 1.1	Digital spatial planning toolkit	The toolkit will be a publicly accessible component-based web application that shall be available via the one-stop-shop attached to the Scandria Alliance (see GoA 3.1). It consists of a spatial database, a virtual H2 marketplace and an interactive web-based map with analytical GIS functions to support the planning process. The tailor-made interactive web-based map supports planning of HRS and takes into account many different variables (incl. transport flows, supply of green H2, sector coupling options, spatial planning rules, anchor customers etc.). A transnational information system for haulage companies is implemented as a hybrid web and mobile add-on to the toolkit, which could help to gap the initial shortage of HRS from 2025 - 2030 by providing route planning and navigation to the nearest suitable HRS for truck drivers. The H2 marketplace enables the data-supported, geo-referenced presentation of hydrogen locations in a selected region and thus makes specific hydrogen demand and hydrogen production visible and actionable. On-going stakeholder feedback in the H2 marketplace during the lifetime of the toolkit operation ensures the involvement of all relevant stakeholders & the identification of synergies. The digital spatial planning toolkit is applied and tested in WP2 in order to facilitate the planning process for HRS. As such, it shall enable public authorities to steer the process of ramping up the use of hydrogen as alternative fuel for trucks and at the same time involve the relevant stakeholders. The deliverable feeds into the output 1 of HyTruck. It also functions as "stand-alone" product: It is easily scalable and thus can be adopted also by the target groups outside of the HyTruck project – provided they feed the tool with their data. It has direct transnational value: It is a pre-requisite for the de-carbonisation of international transport in the EU and it helps public authorities to address the (transnational) requirements of the AFIR.	Output 1	
D 1.2	Over-arching assessment model for HRS planning	This over-arching assessment model is scalable and can be adapted to different regions. It allows the techno-economic assessments focusing on comparing different hydrogen production options as well as hydrogen distribution alternatives including large centralized facilities vs decentralized onsite production. The model also includes an environmental life-cycle assessment for the different options. It supports the planner in finding the best possible combination between maximum environmental benefit (measured in CO2 savings potential) and the most cost-effective H2 supply options for fuel cell trucks. The model will support public authorities in overcoming the chicken-and-egg problem that has an ecological and an economic dimension: Heavy goods transport in the EU must be decarbonised in order to achieve the climate targets. On the other hand, the build-up and operation of HRS must be a profitable or at least cost-covering business for the operators. High investments and operating costs and the projected delivery volume to trucks must be considered. The model is of particular transnational relevance in view of the war in Ukraine. Many regions in the BSR have the potential to produce green H2. The assessment model allows to consider the supply of green H2 across borders. This increases the independence from natural gas from Russia but also possible future dependencies on import of green H2 e.g. from North Africa. Together with the model a number of specific background reports are elaborated that feed into the development of the "Guideline for planning HRS" in GoA 1.4: • Background report on the techno-economic assessments comparing different H2 production and distribution options • Background report on the environmental life-cycle assessments of different options for the HRS (liquid vs. gaseous H2, location) • Background report on the cost-minimizing energy systems modelling • Background report on business optimization modelling	Output 1 & 2	
D 1.3	Proposal for common technological standards	A prerequisite for a fuel cell truck to be able to travel from Berlin to Vilnius (and back) is that it can refuel with H2 on the way. Trans-European mobility across all EU member states requires a sufficiently dense network of HRS (see GoA 1.1), but also uniform norms and standards so that fuel cell trucks and HRS are compatible everywhere – regardless of countries and borders. The few HRS that exist today in the BSR are designed for cars or light trucks used for local delivery traffic. HRS for heavy trucks do not exist, yet. Many countries along the north-eastern part of the North Sea-Baltic TEN-T corridor (FI, EE, LV, LT) are still at the very beginning of the development of their HRS infrastructure. They benefit from the transnationally developed proposal for common technology standards. They can take into account the experiences from other countries, ensure the compatibility with other regions in Europe and integrate them from the very beginning into their own regulatory requirements. As such this deliverable helps to cover the technological dimension of the HRS planning. A transnationally agreed protocol of technological standards is the subject of the transnational pilot that will be implemented in GoA 2.4. Hence this deliverable from GoA 1.3 will become output 2 of the HyTruck project in an iterative process with this transnational pilot.	Output 2	

D 1.4	Guideline for public authorities: "Roadmap to planning HRS infrastructure"	European regions are currently facing the same challenges when integrating hydrogen into new and present infrastructures. This can lead to a paralleled development of different standards if public authorities do not agree on standards and procedures on an early stage of development. .The ramp up of the hydrogen economy comes with the unique chance to build up a sound and sustainable HRS infrastructure in the BSR. A guideline to support the public authorities in how to develop a roadmap for planning HRS infrastructure will support the BSR to take this chance. With an easy to access and openly available guideline, public authorities will be able to streamline their undertakings and integrate their local infrastructure developments into the transnational context. The Guideline incorporates elements of GoA 1.1 – 1.3 as an "how to" • determine locations (1.1) / spatial dimension of planning • consider economic factors (1.2) / economic dimension of planning • define environmental requirements (1.2) / environmental dimension of planning • Ensure common standards (1.3) / technological dimension of planning Additionally it will give the necessary information background and discuss the implications of potential future changes to create mutually exclusive and collectively exhaustive HRS infrastructures. It will be published as a stand-alone product in the one-stop shop in GoA 3.1	Output 1	
D 2.1	Regional pilot implementation plans	The deliverable consists of five regional pilot implementation plans for the parallel pilot project in GoA 2.2. The plans are a necessary preparatory step for producing output 1 of the HyTruck project and the activities in this GoA set the stage for transnational cooperation. The implementation plans are comprehensive ToR describing the different tasks and related activities of each respective pilot project indicating also actors (e.g. regional and national authorities responsible for alternative fuels, spatial planners and transport authorities) and stakeholders (e.g. developers and operators of HRS, haulage companies and anchor customers of HRS, H2 suppliers) of the pilot projects. The transnational workshops and the study visits provide the stage for transnational cooperation. This cooperation is pivotal for increasing the institutional capacity of the public authorities that shall be in charge of building up the HRS infrastructure. Today not one single HRS suited for large trucks exists in the programme area where the five pilot projects shall take place. Hence the public authorities can't rely on institutional know-how but need to start from scratch. This is much facilitated by the coaching of the research partners, study visits to already operating HRS and the joint elaboration of the implementation plans – in short the transnational cooperation.	Output 1	
D 2.2	Five spatial planning concepts	In total five spatial planning concepts will be developed (see also above): • Rostock Region in DE • Poznan Region in PL • Kaunas Region in LT • Vidzeme Region in LV • Helsinki Region in FI The spatial planning concepts for each pilot region serve to determine the locations for HRS and to lay the foundation for a comprehensive HRS infrastructure in the BSR. The starting points for the pilot projects are cities that form urban nodes in the TEN-T corridors. Cities and their hinterland are particularly interesting as potential locations for HRS for several reasons: In the BSR, cities often also have ports and are thus the interface between road and maritime freight transport. They have industrial centres in their hinterland - i.e. the principals of the haulage companies, who often have their depots nearby. There is the possibility to identify anchor customers (e.g. public transport, waste collection) for the HRS that guarantee the initial H2 demand when there are still only few fuel cell trucks on the streets. And last but not least, there is the possibility of decentralized production of green H2 due to the grid connection to offshore wind farms and applying sector coupling. The deliverable helps public authorities to address the spatial, environmental and economic dimension of planning the HRS infrastructure. For them the spatial planning concepts are more than a project output. The involved public authorities (full and associated partners) intend to use them in their daily work and feed them into the regulatory framework (e.g. state spatial development plans) as well as input into national and European funding programmes (see GoA 3.2). They equip them with the necessary know-how and tools to address the requirements of the AFIR. Last but not least they are used in GoA 2.3. for the development of a transnational spatial planning concept.	Output 1	

O 2.3	OUTPUT 1: A transnationally agreed spatial development concept indicating the locations of the HRS	This output 1, a transnationally agreed spatial development concept for HRS, enables public authorities to steer the process of developing the HRS infrastructure for large trucks and hence to overcome the "chicken-egg problem". It is addressing the spatial, environmental and economic dimension of the HRS planning process. The fuel cell technology that requires H2 as alternative fuel is primarily an option for heavy large trucks that have to cover long distances. These vehicles are mostly used in international transport. A truck that shall be e.g. serving the Berlin-Vilnius route must also be able to refuel in Poland or Lithuania. Thus, there must be HRS in all three countries. Hence it is of core importance that – in line with the requirement of the AFIR – a transnational network of HRS is created. The process leading to a transnationally agreed spatial development concept for HRS (i.e. the sequence of GoA 2.1 – 2.3) equips public authorities with the necessary know-how on all relevant factors for steering the build-up of HRS: • They are aware of the transport volumes and flows of heavy trucks, they can consider other anchor customers for the first HRS and their demand for H2. • They can calculate and predict the volume of green H2 needed (in 2025, in 2030) and relate this to possible supply channels (de-centralized production, import, pipeline – tanks). • They can enable sector coupling for using heat from the green H2 production e.g. in community heating. • They can find the optimum match between transport requirements, environmental impact (de-carbonization) and cost minimization. • And they can identify other sectors using H2 (e.g. fertilizer production or energy-intensive industrial sectors) for possible synergies. HyTruck places initial focus on the urban nodes in the TEN-T network. Cities and their hinterland can facilitate the ramp-up of HRS infrastructure as they host other anchor customers (public transport busses or waste trucks) that can bridge the initial shortage of fuel cell trucks. At the same time this helps to reduce CO2 emissions within the cities and brings hydrogen as an energy carrier of the future closer to the population and decision makers. The output 1 comprises also the tools from WP1 (digital spatial planning toolkit and assessment model) that have been tested and evaluated in GoA 2.2. All this is made available via the one-stop-shop connected to the Scandria Alliance (see GoA 3.1) to all interested stakeholders. The recommendations to VASAB as coordinator of the PA Spatial Planning ensure that transnationally coherent planning solutions / transboundary consultations for HRS infrastructure become a standard element in all national spatial planning processes.		
O 2.4	OUTPUT 2: Memorandum of understanding on harmonized technological standards for HRS.	The memorandum of understanding on harmonized technological standards for HRS (MoU) is a common protocol on norms, technologies and standards for the Eastern part of the North Sea-Baltic TEN-T corridor. It comprises parts of DE, PL, LT, LV, EE and FI. The MoU is a project output agreed between the partners of the HyTruck project, it is not a political treaty. However, as Ministries from four BSR countries dealing with the AFIR and HRS are involved directly in the agreement of the MoU the durability of this output 2 is strong (see below). Output 2 addresses the technological dimension of the HRS planning process. The parallel introduction of different charging cables, plugs or billing systems that were not compatible with each other caused considerable problems in the ramp-up of electromobility. These problems must be avoided when setting up HRS for fuel cell trucks. The public sector must steer this process from the outset. Today hardly any fuel cell trucks are on the street and in most countries of the transnational pilot region no HRS for large trucks exist. The integration of fuel cell trucks in the fleets of the haulage companies and the creation of the necessary HRS infrastructure has to take place in parallel. A fuel cell truck travelling from Tartu to Poznan (and back) must be confident that it can refuel with H2 en route. This must not fail because of incompatible pressure levels or refuelling nozzles that are used in different countries. It requires a transnational solution – like this output 2. Otherwise the decarbonisation of international road freight transport cannot be achieved. The common protocol on norms, technologies and standards shall be used by public authorities to determine in their funding programmes the technological requirements that a company applying for co-funding needs to fulfil (financial support , see also GoA 3.2). It can be also fed into the regulatory framework applied for the approval procedure for the acceptance of an HRS (institutional support , see also GoA 3.2).		
D 3.1	One-stop shop for HRS	The deliverable is an one-stop shop for HRS planning in the BSR with cases, tools, guidelines, spatial plans. We don't want to promote the HyTruck project as such but its deliverables and outputs. Therefore we are planning to create a joint internet platform for stakeholders from the transport sector, H2 producers and filling station operators, academia & public sector that goes beyond the HyTruck project. However, we do not want to create a new organization for this purpose, where the question of durability would arise after the end of the project. Instead, we have arranged cooperation with two already existing and well established network structures during the application phase: STRING and Scandria Alliance. STRING members apply in parallel to the HyTruck project application for funds of the "Connecting Europe Facility" (CEF) in order to build HRS in the western part of the Baltic Sea Region (see parallel project GREATER4H). Part of the project is to build a "Hydrogen Alliance" for the Baltic Sea Region within STRING. Part of this Hydrogen Alliance will also be the Scandria Alliance – an arena for cities and regions to collaborate on climate-smart multimodal transport. This is where the one-stop shop shall be located. This close cooperation helps us on one hand in the elaboration of our outputs as the STRING members are e.g. already a bit more advanced in their HRS ramp-up. On the other hand we ensure a wide outreach to the HRS stakeholder community and in particular to other public authorities that can make use of our HyTruck deliverables and outputs.	Output 1 & 2	

D 3.2	Input to national and transnational funding and policy programmes	Public authorities need to elaborate spatial development concepts, provide the regulatory framework, ensure common standards and design public funding programmes in order to enable the ramp-up of the hydrogen technology, decarbonize international transport and to address the AFIR. HyTruck works towards increasing their institutional capacity to live up to these requirements. In this GoA the HyTruck partners "translate" the project outcome into input for the respective financial & political framework for HRS. The deliverable consists of a • Durability plan (overall project level) • Set of concrete measures for each country (DE; PL, LT, LV, EE, FI and SE) • Set of minimum requirements for public co-funding HRS (technological, environmetal) Possible National Funding Programmes include: • In DE: "National Hydrogen and Fuel Cell Technology Innovation Programme" (by the Ministry of Transport, operated by NOW) and "KsNI, Funding for light and heavy duty vehicles" • In SE: Funding for charging points, including hydrogen filling stations, can be granted from the Swedish Environmental Protection Agency and the policy is called "Klimatklivet" • In PL: "Support for electric vehicle charging infrastructure and hydrogen refuelling infrastructure" Possible European Funding Programmes include: • "CEF- Transport": Connecting Europe Facility for Transport Possible National Policies and Programmes include: • In M-V (DE): "LEP - State regional development program of M-V" & "Regional Spatial Development Programme of Rostock Region" • In PL: "Act on electromobility and alternative fuels"; "Polish hydrogen strategy" • In LV: Guidelines for transport development; Regional Development Guidelines; National energy and climate plan; National Industrial Policy Guidelines Possible Transnational Policy institutions include: • PACs of PA Spatial Planning and PA Transport of the EUSBSR • PSA of DG MOVE	Output 1 & 2	
D 3.3	Transnational exchange channel on HRS	This deliverable consists of a series of info events, six partner meetings and a final conference. Series of (digital) info events: • Possible formats include "breakfast briefings" or "lunch info packs" where 1-2 speakers cover a specific topic relevant for the HRS planning • Topics can be country-specific (e.g. "current state of HRS ramp-up in Sweden") or stakeholder-specific (insights from "manufacturer of fuel cell trucks " or "producers of green hydrogen"). They can address specific legal questions ("AFIR") or introduce other parallel initiatives (project "BalticGoesGreen" or STRING network) • In total a min. of 20 info events are planned, participation is open to all full and associated partners and invited stakeholders, PPTs shall be made available in the one-stop shop (see GoA 3.1) Six (face-to-face) partner meetings are planned as follows: • 1st Partner Meeting in Gothenburg, Sweden (focus on preparing solutions for spatial, socio-economic dimension) • 2nd Partner Meeting in Vidzeme, Latvia (focus on joint preparation of pilots) • 3rd Partner Meeting in Warsaw / Poznan, Poland (focus on preparing solutions for technological dimension) • 4th Partner Meeting in Rostock, Germany (focus on elaboration of BSR-wide spatial development concept) • 5th Partner Meeting in Helsinki, Finland (focus on development of policy recommendations) • 6th Partner Meeting in Vilnius, Lithuania (focus on MoU) Final conference: • One-day event (face-to-face) • Conference could form the stage for signing the Memorandum of Understanding on harmonized technological standards for HRS (Output 2) and presentation of Output 1 • The "Final" Conference shall be at the same time the forum for paving the way for continued cooperation within the Scandria / Hydrogen Alliance	Output 1 & 2	

Work package 1

5.1 Preparing solutions

5.2 Aim of the work package

The aim of this work package is to prepare solutions to help address the identified challenge. You can either develop entirely new solutions or adapt existing solutions to the needs of your target groups. Prepare your solutions in a way that you can pilot them in Work Package 2. Consider how you involve your target groups in preparation of the solutions.
Organise your activities in up to five groups of activities to present the actions you plan to implement. Describe the deliverables and outputs as well as present the timeline.

5.3 Work package leader

Work package leader 1	PP 6 - Chalmers University of Technology
Work package leader 2	PP 7 - Reiner Lemoine Institut gGmbH

5.4 Work package budget

Work package budget	25%

5.5 Target groups

	Target group	How do you plan to reach out to and engage the target group?
1	National public authority Responsibilities: National Ministries responsible for the implementation of the AFIR (i.e. mostly Ministries for Transport / Economic Affairs / Climate). Countries: In HyTruck we have PP and AO from LT, EE and FI. 215 / 500 characters	The solutions that are developed in WP 1 are primarily targeting national (and regional) public authorities, i.e. they will apply them in in their daily work. Hence their active involvement (and input) is crucial in order to design the solutions addressing their needs in the best possible way. Our approach (further elaborated in the GoA descriptions) for involving them, comprises: • questionnaires to obtain the necessary input data for tool-kit (PP and AO) • newsletter, social media information and invitation to virtual H2 marketplace (PP and AO and beyond partnership) • interactive web-based map (PP) • Iterative process (draft-piloting-feedback – revision etc.) between WP1 and WP2 (PP and AO and beyond partnership) • digital stakeholder workshops (PP and AO and beyond partnership) National public authorities (PP and AO) take an active role in WP1 but they are not coordinating / leading the GoAs. 911 / 1,000 characters
2	Regional public authority Responsibilities: Regional Ministries & authorities responsible for spatial and regional development Countries: In HyTruck we have PP and AO from DE and LV. 157 / 500 characters	Regional (and national) public authorities are the primary target group of the solutions that are developed in WP 1, i.e. they will apply them in in their daily work. Hence their active involvement (and input) is crucial in order to design the solutions addressing their needs in the best possible way. Our approach (further elaborated in the GoA descriptions) for involving them, comprises: • questionnaires to obtain the necessary input data for tool-kit (PP and AO) • newsletter, social media information and invitation to virtual H2 marketplace (PP and AO and beyond partnership) • interactive web-based map (PP) • Iterative process (draft-piloting-feedback – revision etc.) between WP1 and WP2 (PP and AO and beyond partnership) • digital stakeholder workshops (PP and AO and beyond partnership) Regional public authorities (PP and AO) take an active role in WP1 but they are not coordinating / leading the GoAs. 919 / 1,000 characters

	Target group	How do you plan to reach out to and engage the target group?
3	**Small and medium enterprise** Economic Sector: Haulage and logistics companies operating large trucks are mostly SMEs . And so are companies converting diesel trucks to H2 propulsion systems or developers of specialised IT tools (like PP 08). Countries: In HyTruck we have PP and AO representing these SMEs from DE, PL, SE and FI. 301 / 500 characters	In order to develop the solutions in WP 1 in the best possible way the active involvement of haulage and logistics companies operating large trucks is indispensable. Only if they operate trucks with alternative fuels (and here in particular fuel cell trucks fuelled with H2) the overall objective of the development of measures towards climate-neutral and zero pollution transport can be achieved. Our approach(further elaborated in the GoA descriptions) for involving them, comprises: • digital stakeholder workshops (PP and AO and beyond partnership) • newsletter, social media information and invitation to virtual H2 marketplace (PP and AO and beyond partnership) • Iterative process (draft-piloting-feedback – revision etc.) between WP1 and WP2 (PP and AO and beyond partnership) SMEs (PP and AO) take an active role in WP1 but they are not coordinating / leading the GoAs. 880 / 1,000 characters
4	**Infrastructure and public service provider** Economic Sector: Developers and operators of HRS and producers and suppliers of green H2 Countries: In HyTruck we have PP and AO from DE, PL, FI and SE 152 / 500 characters	HRS are ultimately built and operated by developers and operators of HRS. In order to develop the solutions in WP 1 in the best possible way the active involvement of them is crucial. Important players from this target group are among the PP and AO of the HyTruck project. But we strive to reach out to even more - also outside of the HyTruck cooperation region. Our approach(further elaborated in the GoA descriptions) for involving them, comprises: • digital stakeholder workshops (PP and AO and beyond partnership) • newsletter, social media information and invitation to virtual H2 marketplace (PP and AO and beyond partnership) • Iterative process (draft-piloting-feedback – revision etc.) between WP1 and WP2 (PP and AO and beyond partnership) PP 03 (that represents HRS developers) coordinates GoA 1.3. Other than that infrastructure and public service providers (PP and AO) take an active role in WP1 but they are not coordinating / leading any other GoA. 968 / 1,000 characters
5	**Higher education and research institution** Economic Sector: Research on renewable energy and alternative fuels for the transport sector; geoinformatics Countries: In HyTruck we have PP and AO from DE, SE, EE and PL 173 / 500 characters	Higher education and research institutions take a leading role in WP1. They can equip national and regional authorities with the tools and guidance they need in order to steer the development process of HRS. PP6 (Chalmers) is the WP (and GoA 1.2) coordinator. PP5 (U Tartu) is GoA 1.1 coordinator and PP7 (RLI) is GoA 1.4 coordinator. They are pivotal for elaborating and preparing the solutions. They are driving the work in WP1. Other than the PP and AO of HyTruck we aim to involve also other institutions from this target group. Our approach(further elaborated in the GoA descriptions) for involving them, comprises: • digital stakeholder workshops (PP and AO and beyond partnership) • newsletter, social media information and invitation to virtual H2 marketplace (PP and AO and beyond partnership) • Iterative process (draft-piloting-feedback – revision etc.) between WP1 and WP2 (PP and AO and beyond partnership) 920 / 1,000 characters

5.6 Activities, deliverables, outputs and timeline

No.	Name
1.1	**Development of toolkit for determination of optimal locations for HRS in the BSR**
1.2	**Economic and environmental factors for ramp-up of HRS**
1.3	**Joint elaboration of BSR-wide protocol of technological standards**
1.4	**Guideline for planning HRS**

WP 1 Group of activities 1.1

5.6.1 Group of activities leader

Group of activities leader	PP 5 - University of Tartu

A 1.1

5.6.2 Title of the group of activities

Development of toolkit for determination of optimal locations for HRS in the BSR

80 / 100 characters

5.6.3 Description of the group of activities

In order to overcome the "chicken-egg problem" and to address the AFIR the EU Member States need to start planning HRS for their TEN-T network. Public authorities need to be equipped with the necessary planning tools. In this GoA 1.1 a digital toolkit which enables them to undertake this spatial planning process is elaborated.
This toolkit comprises a virtual H2 marketplace and an interactive web-based map. The virtual marketplace brings together relevant HRS stakeholders and integrates the demand and supply of green H2. The interactive web-based map is used as a decision support and spatial information tool for the HRS infrastructure planning.

Steps include:
• Determination and collection of necessary input for the marketplace: Who are the producers / suppliers of green hydrogen and who has a demand for hydrogen – are there synergies? Outreach to target groups via project partners that have a broad network (newsletter, social media etc.)
• Starting points are the urban nodes of the TEN-T network: Identification of synergies of HRS for large trucks with possible other anchor customers (public transport / waste management) in cities and their hinterland
• Development of questionnaire to obtain the necessary input data for the spatial planning tool, e.g. regulatory differences in spatial planning between countries, transport flows (volumes, directions), registered vehicles per country
• Extension of the Localiser hydrogen market place to the BSR
• Software development of the interactive web-based map that inter alia visualises the info relevant for HRS from the marketplace
• Additional development of a hybrid web/mobile app for truck drivers (linked with the spatial planning toolkit and HRS marketplace): The app will provide GPS navigation info on the next HRS for trucks and facilitates route planning for the initial years with low density of HRS

Iterative process:
• Application of the toolkit in pilot projects in GoA 2.2
• Evaluation of feedback from pilot projects in GoA 2.2. and revision of the toolkit
•
Finalization of deliverable:
• The toolkit will be made available to all interested stakeholders (also outside the HyTruck project) via the one-stop-shop connected to the Scandria Alliance. (see GoA 3.1)
• The Guideline (see GoA 1.4) provides guidance on the spatial planning toolkit application and recommendations on how to adopt it to other regions

The toolkit is developed in a transnational team with PP5 (UTartu) being the GoA coordinator, who is also responsible for the development of the final deliverable. Next to them PP7 (RLI) and PP8 (Localiser) will contribute to establishing the virtual marketplace. The project partners from DE, PL, LT, LV and FI who use the toolkit in the GoA 2.2 pilot projects also work closely with the developers - on the one hand to provide the necessary input data and on the other hand to feed back the findings from the test phase.

2,922 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☑

D 1.1

Title of the deliverable

Digital spatial planning toolkit

33 / 100 characters

Description of the deliverable

The toolkit will be a publicly accessible component-based web application that shall be available via the one-stop-shop attached to the Scandria Alliance (see GoA 3.1). It consists of a spatial database, a virtual H2 marketplace and an interactive web-based map with analytical GIS functions to support the planning process.
The tailor-made interactive web-based map supports planning of HRS and takes into account many different variables (incl. transport flows, supply of green H2, sector coupling options, spatial planning rules, anchor customers etc.).
A transnational information system for haulage companies is implemented as a hybrid web and mobile add-on to the toolkit, which could help to gap the initial shortage of HRS from 2025 - 2030 by providing route planning and navigation to the nearest suitable HRS for truck drivers.
The H2 marketplace enables the data-supported, geo-referenced presentation of hydrogen locations in a selected region and thus makes specific hydrogen demand and hydrogen production visible and actionable. On-going stakeholder feedback in the H2 marketplace during the lifetime of the toolkit operation ensures the involvement of all relevant stakeholders & the identification of synergies.

The digital spatial planning toolkit is applied and tested in WP2 in order to facilitate the planning process for HRS. As such, it shall enable public authorities to steer the process of ramping up the use of hydrogen as alternative fuel for trucks and at the same time involve the relevant stakeholders.

The deliverable feeds into the output 1 of HyTruck. It also functions as "stand-alone" product: It is easily scalable and thus can be adopted also by the target groups outside of the HyTruck project – provided they feed the tool with their data.

It has direct transnational value: It is a pre-requisite for the de-carbonisation of international transport in the EU and it helps public authorities to address the (transnational) requirements of the AFIR.

1,994 / 2,000 characters

Which output does this deliverable contribute to?

Output 1

8 / 100 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.1: Preparing solutions							
A.1.1: Development of toolkit for determination of optimal locations for HRS in the BSR		■	■	■	■		
D.1.1: Digital spatial planning toolkit			■		■		

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 1 Group of activities 1.2

5.6.1 Group of activities leader

Group of activities leader	PP 6 - Chalmers University of Technology

A 1.2

5.6.2 Title of the group of activities

Economic and environmental factors for ramp-up of HRS

53 / 100 characters

5.6.3 Description of the group of activities

In this GoA 1.2 an overarching assessment model for HRS planning is developed that can be adapted to different regions. It comprises four different sub-categories that are described below. It allows the comparison between different green hydrogen production options as well as hydrogen distribution alternatives including large centralized facilities vs decentralized onsite production, import to Europe from low-electricity-price-countries (e.g Chile or Australia) or pipelines from North Africa.

The sub-models are:
• Techno-economic modelling of the H2 supply: Where does hydrogen come from? Imported hydrogen or onsite electrolysis? Liquid or gaseous hydrogen? Connection to renewable energy sources necessary for the evaluation of the onsite electrolysis.
• Analysis of the environmental impact depending on the distance from the place of production to the point of refuelling: Environmental life-cycle assessments for different outlines of HRS for trucks, e.g. compare 300 bar, 700 bar, or liquified H2 (depending on whether import or on-site production)
• Energy systems modelling for analysis of the future role of H2 in the energy system and for different transport modes: Under what circumstances (e.g. battery price, fuel cell price, hydrogen storage costs, fuel station cost, electrolyser cost, efficiencies, capacity factors, demand scenarios and lots of other uncertainties about the future energy system) do the model show that hydrogen plays a dominating role in the fuel mix for trucks? At what price can the local production of hydrogen increase the geopolitical independence of EU countries in the BSR?
• Business optimization model for each potential HRS location (based on proposed locations - see GoA 1.1): Technical design of the components, calculation of capital expenditures und operational expenditures and creation of a plan for basic capacity and expansion

Iterative process:
• Applying results from the models in GoA 1.2 to pilot projects in GoA 2.2
• Evaluation of feedback from pilot projects in GoA 2.2. and revision of models
• Results from the different assessment models will be fed into an over-arching assessment model for HRS planning, which will be scalable and can be adapted to different regions.

Finalization of deliverable:
• The over-arching assessment model for HRS planning will be made available to all interested stakeholders (also outside the HyTruck project) via the one-stop-shop connected to the Scandria Alliance. (see GoA 3.1)
The assessment model is developed in a transnational team with PP6 (Chalmers) being the GoA coordinator, who is also responsible for producing the final deliverable. Next to them PP7 (RLI) and PP8 (Localiser) will contribute on business optimization. The project partners from DE, PL, LT, LV and FI who use the model(s) in the GoA 2.2 pilot projects also work closely with them.

2,869 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ✔

D 1.2

Title of the deliverable

Over-arching assessment model for HRS planning

46 / 100 characters

Description of the deliverable

This over-arching assessment model is scalable and can be adapted to different regions. It allows the techno-economic assessments focusing on comparing different hydrogen production options as well as hydrogen distribution alternatives including large centralized facilities vs decentralized onsite production.
The model also includes an environmental life-cycle assessment for the different options. It supports the planner in finding the best possible combination between maximum environmental benefit (measured in CO_2 savings potential) and the most cost-effective H2 supply options for fuel cell trucks.
The model will support public authorities in overcoming the chicken-and-egg problem that has an ecological and an economic dimension: Heavy goods transport in the EU must be decarbonised in order to achieve the climate targets. On the other hand, the build-up and operation of HRS must be a profitable or at least cost-covering business for the operators. High investments and operating costs and the projected delivery volume to trucks must be considered.

The model is of particular transnational relevance in view of the war in Ukraine. Many regions in the BSR have the potential to produce green H2. The assessment model allows to consider the supply of green H2 across borders. This increases the independence from natural gas from Russia but also possible future dependencies on import of green H2 e.g. from North Africa.

Together with the model a number of specific background reports are elaborated that feed into the development of the "Guideline for planning HRS" in GoA 1.4:
• Background report on the techno-economic assessments comparing different H2 production and distribution options
• Background report on the environmental life-cycle assessments of different options for the HRS (liquid vs. gaseous H2, location)
• Background report on the cost-minimizing energy systems modelling
• Background report on business optimization modelling

1,967 / 2,000 characters

Which output does this deliverable contribute to?

Output 1 & 2

12 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.1: Preparing solutions						
A.1.2: Economic and environmental factors for ramp-up of HRS	■	■	■	■		
D.1.2: Over-arching assessment model for HRS planning		■		■		

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 1 Group of activities 1.3

5.6.1 Group of activities leader

Group of activities leader	PP 3 - Polish Alternative Fuels Association (PSPA)

A 1.3

5.6.2 Title of the group of activities

Joint elaboration of BSR-wide protocol of technological standards

65 / 100 characters

5.6.3 Description of the group of activities

In this GoA 1.3, a proposal for the standardisation of technologies for HRS for heavy trucks is being elaborated (common safety requirements already exist). This includes a broad stakeholder process within the BSR, the involvement of other European macro-regions (which are particularly important for the transport sector in the BSR) and, of course, the careful monitoring of future requirements from Brussels.

Steps
• Transnational coordination process with manufacturers of fuel cell trucks: What fuel and refuelling technology are the companies planning to use? One or two digital workshops with European and international manufacturers, but also companies converting trucks to H2 propulsion. Target group from the HyTruck consortium: PSPA, STRING members, competence centre TechforH2 (via Chalmers U)
• Transnational coordination process with companies specialised in planning, implementation and operation of H2 refuelling infrastructure: Which storage technologies, pressure levels and refuelling nozzles are used in the respective countries so far? Two digital workshops with associated partners and HRS developers from other parts of the EU. Target group from the HyTruck consortium: H2 Mobility, ORLEN, P2X and GP Joule
• Transnational coordination process with haulage companies and possible anchor customers in cities: What refuelling times are acceptable, what maintenance services are needed ? One digital workshop with associated partners and HRS developers from other parts of the EU. Target group from the HyTruck consortium: PSPA, LV M-V
EU-wide coordination process with EC (e.g. DG MOVE's sub-group on a common data approach for electromobility and other alternative fuels) and European standardisation organisations (ESOs) : Identification of minimum requirements from the AFIR (§ 19). Is a subsequent elaboration of technical specifications for HRS planned? One digital workshop with associated partners and EC / ESO representatives. Target group from the HyTruck consortium: PSPA, H2 Mobility, ORLEN, P2X and GP Joule
• Based on broad transnational coordination process elaboration of a catalogue with technical specifications for HRS for heavy trucks

Iterative process:
• Testing of the proposed technical specifications in the transnational pilot project in GoA 2.4
• Evaluation of feedback from transnational pilot in GoA 2.4. and revision of technical specifications

The BSR-wide proposal for technological standards is developed in a transnational team with PP3 (PSPA) being the GoA coordinator and a strong involvement of the above identified associated partners.
It feeds into the transnational pilot in GoA 2.4 which produces then the output 2.
Hence the project partners from FI, EE, LV, LT, PL, and DE who implement jointly the transnational pilot also work closely with the authors of the catalogue with technical specifications for HRS for heavy trucks.

2,893 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable   ☑

D 1.3

Title of the deliverable

Proposal for common technological standards

43 / 100 characters

Description of the deliverable

A prerequisite for a fuel cell truck to be able to travel from Berlin to Vilnius (and back) is that it can refuel with H2 on the way. Trans-European mobility across all EU member states requires a sufficiently dense network of HRS (see GoA 1.1), but also uniform norms and standards so that fuel cell trucks and HRS are compatible everywhere – regardless of countries and borders.
The few HRS that exist today in the BSR are designed for cars or light trucks used for local delivery traffic. HRS for heavy trucks do not exist, yet.

Many countries along the north-eastern part of the North Sea-Baltic TEN-T corridor (FI, EE, LV, LT) are still at the very beginning of the development of their HRS infrastructure. They benefit from the transnationally developed proposal for common technology standards. They can take into account the experiences from other countries, ensure the compatibility with other regions in Europe and integrate them from the very beginning into their own regulatory requirements.
As such this deliverable helps to cover the technological dimension of the HRS planning.
A transnationally agreed protocol of technological standards is the subject of the transnational pilot that will be implemented in GoA 2.4. Hence this deliverable from GoA 1.3 will become output 2 of the HyTruck project in an iterative process with this transnational pilot.

1,371 / 2,000 characters

Which output does this deliverable contribute to?

Output 2

8 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.1: Preparing solutions						
A.1.3: Joint elaboration of BSR-wide protocol of technological standards						
D.1.3: Proposal for common technological standards						

5.6.7 This deliverable/output contains productive or infrastructure investment

☐

WP 1 Group of activities 1.4

5.6.1 Group of activities leader

Group of activities leader PP 7 - Reiner Lemoine Institut gGmbH

A 1.4

5.6.2 Title of the group of activities

Guideline for planning HRS

27 / 100 characters

5.6.3 Description of the group of activities

GoA 1.4 develops a guideline for public authorities on how to integrate the results of GoA 1.1-1.3. The results of GoA 1.1 and GoA 1.2 support the spatial planning process in determining WHERE (and how many etc., hence the spatial dimension) HRS for large trucks can be build. GoA 1.3 produces a proposal for common technological standards that determine HOW they have to be built (technological dimensions). The guideline is aimed at public authorities facing the challenge of planning a future HRS infrastructure within the TEN-T network.
Partly, it is a manual on how to apply and use the tools developed in GoA 1.1 and GoA 1.2 correctly and how to consider the technological standards mentioned in GoA 1.3. But, the guideline is not only a manual. It takes the broader approach of a roadmap that includes the major steps / milestones needed to reach the desired outcome, the build up of HRS infrastructure. It will discuss the results of 1.1-1.3 and guide public authorities through the process of integrating the HRS into the hydrogen value chain. Other methodologies like RLI's methodology "ImplaN" (Initial Infrastructure for hydrogen mobility based on predictable consumers) will be included into the guideline's considerations. It will give an overview on the consequences of potential changes in legal framework. The guideline will also point out the implications of a shift in the modal split as e.g. an increasing demand for multifuel stations. The "manual" elements are embedded in this roadmap.

The guideline will be designed based on the outcomes of GoA 1.1-1.3.

Iterative process:
• Discussion of the first draft in a transnational project partner meeting
• The "testing" of the guideline takes place in GoA 2.1 where public authorities are using them in transnational exercise for developing their "pilot implementation plans"

The deliverable will be finalized based on the feedback from using the guideline in GoA 2.1 by the public authorities.

The guideline is developed in a transnational team with PP7 (RLI) being the GoA coordinator, who is also responsible for ensuring the final deliverable. Next to them PP5 (Uni Tartu) and PP8 (Localiser) will contribute from GoA 1.1, PP6 (Chalmers) from GoA 1.2 and PP3 (PSPA) from GoA 1.3. In the iterative process project described above partners from DE, PL, LT, LV and FI (who use the guideline in the GoA 2.1 for the development of their pilot implementation plans) also work closely with the authors by providing feedback and findings from working with the draft guideline.
No wider separate stakeholder workshops are planned, because stakeholder input is already collated from GoA 1.1 – 1.3 and feeds into the work here.

2,695 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable   ☑

D 1.4

Title of the deliverable

Guideline for public authorities: "Roadmap to planning HRS infrastructure"

75 / 100 characters

Description of the deliverable

European regions are currently facing the same challenges when integrating hydrogen into new and present infrastructures. This can lead to a paralleled development of different standards if public authorities do not agree on standards and procedures on an early stage of development. .The ramp up of the hydrogen economy comes with the unique chance to build up a sound and sustainable HRS infrastructure in the BSR. A guideline to support the public authorities in how to develop a roadmap for planning HRS infrastructure will support the BSR to take this chance. With an easy to access and openly available guideline, public authorities will be able to streamline their undertakings and integrate their local infrastructure developments into the transnational context.

The Guideline incorporates elements of GoA 1.1 – 1.3 as an "how to"
• determine locations (1.1) / spatial dimension of planning
• consider economic factors (1.2) / economic dimension of planning
• define environmental requirements (1.2) / environmental dimension of planning
• Ensure common standards (1.3) / technological dimension of planning

Additionally it will give the necessary information background and discuss the implications of potential future changes to create mutually exclusive and collectively exhaustive HRS infrastructures.
It will be published as a stand-alone product in the one-stop shop in GoA 3.1

1,398 / 2,000 characters

Which output does this deliverable contribute to?

Output 1

8 / 100 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.1: Preparing solutions							
A.1.4: Guideline for planning HRS			▨	▨	▨		
D.1.4: Guideline for public authorities: "Roadmap to planning HRS infrastructure"			▨		▨		

5.6.7 This deliverable/output contains productive or infrastructure investment   ☐

Work package 2

5.1 WP2 Piloting and evaluating solutions

5.2 Aim of the work package

The aim of this work package is to pilot, evaluate and adjust solutions. Plan one or several pilots to validate the usefulness of the solutions prepared in Work Package 1. Start Work Package 2 early enough to have time to pilot, evaluate and adjust solutions, together with your target groups. By the end of this work package implementation the solutions should be ready to be transferred to your target groups in Work Package 3.
The piloted and adjusted solution should be presented in one project output.
Organise your activities in up to five groups of activities. Describe the deliverables and outputs as well as present the timeline.

5.3 Work package leader

Work package leader 1	PP 1 - Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern
Work package leader 2	PP 2 - Ministry of Transport and Communications of the Republic of Lithuania

5.4 Work package budget

Work package budget	40%

5.4.1 Number of pilots

Number of pilots	2

5.5 Target groups

	Target group	How do you plan to reach out to and engage the target group?
1	National public authority Responsibilities: National Ministries responsible for the implementation of the AFIR (i.e. mostly Ministries for Transport / Economic Affairs / Climate). Countries: In HyTruck we have PP and AO from LT, EE and FI. 215 / 500 characters	National Ministries responsible for the implementation of the AFIR take a leading role in the transnational pilot (GoA 2.4 of WP2). They are responsible for the technological and environmental dimension of the built-up of HRS. PP2 (Ministry of Transport and Communications of the Republic of Lithuania) is GoA 2.4 coordinator and co-lead of WP2. In addition to the PP and AO of the HyTruck partnership we aim to involve also responsible national Ministries from PL, LV and DE. Our approach(further elaborated in the GoA descriptions) for involving all, comprises: • Transnational standardization workshops • Stakeholder validation process on the national level (digital and face-to-face workshops, interviews, digital stakeholder participation) • Partner workshops (back-to-back to HyTruck partner Meeting) • Final Conference as stage for signing the MoU (GoA 2.4) 864 / 1,000 characters
2	Regional public authority Responsibilities: Regional Ministries & authorities responsible for spatial and regional development Countries: In HyTruck we have PP and AO from DE and LV. 157 / 500 characters	Regional Ministries & authorities responsible for spatial and regional development take a leading role in WP2. They are responsible for the spatial and economic dimension of the built-up of HRS. The LP is the WP (and GoA 2.1 & 2.3) coordinator. PP 04 (VPR) is GoA 2.2 coordinator. They are driving the piloting and evaluating, on the regional and transnational level - in brief the work in WP 2. In addition to the PP and AO of the HyTruck partnership we aim to involve also responsible regional authorities from PL, FI and LV in the implementation of the parallel pilots. Our approach(further elaborated in the GoA descriptions) for involving all, comprises: • Transnational coaching seminars • Partner workshops (back-to-back to HyTruck partner Meeting) • Study visits • Collaborative stakeholder workshops in pilot regions • Transnational spatial development workshops 871 / 1,000 characters
3	Small and medium enterprise Economic Sector: Haulage and logistics companies operating large trucks are mostly SMEs . And so are companies converting diesel trucks to H2 propulsion systems or developers of specialised IT tools (like PP 08). Countries: In HyTruck we have PP and AO representing these SMEs from DE, PL, SE and FI. 301 / 500 characters	Haulage and logistics companies operating large trucks are an important target group in WP2. They are closely involved in the parallel pilot projects (GoA 2.2) and in the development of output 1. They are the (potential) end-beneficiaries of a transnational network of HRS that allows them to operate fuel cell trucks in international transport. We aim to involve SMEs (or their representatives like associations) in each parallel pilot. Our approach(further elaborated in the GoA descriptions) for involving them, comprises: • Collaborative stakeholder workshops in pilot regions • Stakeholder validation process on the national level (digital and face-to-face workshops, interviews, digital stakeholder participation) • Partner workshops (back-to-back to HyTruck partner Meeting) • Final Conference as stage for signing the MoU (GoA 2.4) 839 / 1,000 characters
4	Infrastructure and public service provider Economic Sector: Developers and operators of HRS and producers and suppliers of green H2 Countries: In HyTruck we have PP and AO from DE, PL, FI and SE 152 / 500 characters	Developers and operators of HRS are an important target group in WP2. They take a leading role in the transnational pilot (GoA 2.4). Next to them also the producers and suppliers of green H2 are key for the parallel pilots (GoA 2.2) . Important players from this target group are among the PP and AO of the HyTruck project. But we strive to reach out to even more - also outside of the HyTruck cooperation region. Our approach(further elaborated in the GoA descriptions) for involving them, comprises: • Collaborative stakeholder workshops in pilot regions • Study visits • Stakeholder validation process on the national level (digital and face-to-face workshops, interviews, digital stakeholder participation) • Partner workshops (back-to-back to HyTruck partner Meeting) • Final Conference as stage for signing the MoU (GoA 2.4) 830 / 1,000 characters

No.	Target group	How do you plan to reach out to and engage the target group?
5	Higher education and research institution Economic Sector: Research on renewable energy and alternative fuels for the transport sector; geoinformatics Countries: In HyTruck we have PP and AO from DE, SE, EE and PL 173 / 500 characters	Higher education and research institutions have been instrumental in preparing the solutions in WP1. For piloting and evaluating they form an important counterpart for the public authorities – the drivers of this WP 2. Public authorities have made provisions to sub-contract on a case-by-case basis also additional expertise for their respective pilot projects (subject to public procurement). Our approach(further elaborated in the GoA descriptions) for involving research institutions, comprises: • Transnational coaching seminars • Partner workshops (back-to-back to HyTruck partner Meeting) • Collaborative stakeholder workshops in pilot regions • Transnational standardization workshops • Stakeholder validation process on the national level (digital and face-to-face workshops, interviews, digital stakeholder participation) 833 / 1,000 characters

5.6 Activities, deliverables, outputs and timeline

No.	Name
2.1	**Joint preparation of the parallel pilots for planning HRS**
2.2	**Parallel pilots: Development of a spatial planning concept for each pilot region**
2.3	**A transnationally agreed spatial development concept for HRS**
2.4	**Transnational Pilot: Harmonized technological standards for HRS**

WP 2 Group of activities 2.1

5.6.1 Group of activities leader

Group of activities leader	PP 1 - Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern

A 2.1

5.6.2 Title of the group of activities

Joint preparation of the parallel pilots for planning HRS

57 / 100 characters

5.6.3 Description of the group of activities

In this GoA 2.1, the implementation plans for the parallel pilots in GoA 2.2 are elaborated. The pilot projects design spatial development concepts for building up the HRS infrastructure.
The implementation plans are comprehensive Terms of Reference (ToR) describing the different tasks and related activities indicating actors and target groups. They are developed jointly, as all pilot projects work with the same planning tools (the deliverables from WP1), but use them in different contexts (geographically limited pilot regions vs. the whole country) and partly pursue different goals (e.g. coordination between city/ harbour and hinterland or connection between two urban nodes).
The joint preparation allows for efficient coaching in the use of the planning instruments from WP 1. Furthermore, a complementary focus of the pilot projects contributes to a particularly comprehensive evaluation of the instruments. Last but not least, joint preparation creates a much better understanding of the projects running parallel to "one's own" pilot project and hence facilitates the pick-up of findings from them.

Steps
• Transnational coaching workshops to enhance end user skills with digital spatial planning toolkit (GoA 1.1): 2-3 transnational workshops (face-to-face if COVID-19 pandemic restrictions allow) in different geographic contexts introducing the digital toolkit primarily to public stakeholders from the pilot regions.
• Transnational coaching workshops on topic of the assessment model for HRS planning (GoA 1.2): 2 transnational digital workshops introducing the assessment model, its application possibilities and its data needs primarily to public stakeholders from the pilot regions.
• Elaboration of a joint ToR for the regional implementation plans based on the guideline from GoA 1.4. Discussion and agreement of ToR in workshop back-to-back with 2nd partner meeting.
• Organisation of study visits for preparation of own pilots (visit of already existing and operating HRS in western part of BSR)
• Elaboration of region-specific implementation plans for parallel pilot projects based on joint ToR

This GoA is the "hinge" between the deliverables from WP1 and the pilot projects in WP2. Hence there is a strong involvement of almost all partners. The LP (WM) is coordinating this GoA, the research partners that are instrumental in WP1 are involved in coaching the regional and national authorities running pilot projects. Hence the project partners from FI, LV, LT, PL and DE who are running the parallel pilots cooperate closely with each other (and the research partners) in elaborating their own implementation plans.

2,653 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☑

D 2.1

Title of the deliverable

Regional pilot implementation plans

35 / 100 characters

Description of the deliverable

The deliverable consists of five regional pilot implementation plans for the parallel pilot project in GoA 2.2. The plans are a necessary preparatory step for producing output 1 of the HyTruck project and the activities in this GoA set the stage for transnational cooperation.
The implementation plans are comprehensive ToR describing the different tasks and related activities of each respective pilot project indicating also actors (e.g. regional and national authorities responsible for alternative fuels, spatial planners and transport authorities) and stakeholders (e.g. developers and operators of HRS, haulage companies and anchor customers of HRS, H2 suppliers) of the pilot projects.

The transnational workshops and the study visits provide the stage for transnational cooperation. This cooperation is pivotal for increasing the institutional capacity of the public authorities that shall be in charge of building up the HRS infrastructure. Today not one single HRS suited for large trucks exists in the programme area where the five pilot projects shall take place. Hence the public authorities can't rely on institutional know-how but need to start from scratch. This is much facilitated by the coaching of the research partners, study visits to already operating HRS and the joint elaboration of the implementation plans – in short the transnational cooperation.

1,376 / 2,000 characters

Which output does this deliverable contribute to?

Output 1

8 / 100 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.2: WP2 Piloting and evaluating solutions							
A.2.1: Joint preparation of the parallel pilots for planning HRS							
D.2.1: Regional pilot implementation plans							

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 2 Group of activities 2.2

5.6.1 Group of activities leader

Group of activities leader | PP 4 - Vidzeme Planning Region

A 2.2

5.6.2 Title of the group of activities

Parallel pilots: Development of a spatial planning concept for each pilot region

81 / 100 characters

5.6.3 Description of the group of activities

In this GoA 2.2, five parallel pilot projects based on the implementation plans developed in GoA 2.1 are implemented:
• In DE: Starting point is the city of Rostock (port, grid connection to offshore wind farms) and its hinterland. TEN-T corridor from Rostock to Berlin, significant heavy goods traffic. Responsible partners: PP 01 with AO 9 and AO 7
• In PL: Starting point is the city of Poznan and its surrounding voivodeship: An urban node in the TEN-T corridor from Berlin to Warsaw and a region that is very active in the field of hydrogen technologies and hydrogen mobility. Responsible partners: PP 03 with AO 2 and the Wielkopolskie Province
• In LT: Starting from the city of Kaunas, which is the urban node of all TEN-T corridors in LT, the whole country forms the pilot region. Responsible partners: PP 02 with Kaunas Municipality
• In LV: Starting from the city of Riga, which is the urban node of the TEN-T corridor in LV, the northern part of E67 running through Vidzeme region with its connection to Estonia, forms the pilot region. Responsible partners: PP 04 (Vidzeme Planning Region + Ministry of Transportation)
• In FI: Starting point is the city of Helsinki: An urban node between two TEN-T corridors. Connecting maritime and road transport. Responsible partners: PP 09 with AO 3 and AO 6

The pilot projects follow the implementation plans from GoA 2.1 and typically include the following steps:
• Application of tools from WP 1 (digital spatial planning toolkit & assessment model), identification and application of regional data
• Collaborative workshops with representatives from cities and the hinterland. The hinterland might more often use H2-based public transport systems due to longer distances than cities. Within the hinterland also more green energy might be produced as a basis for green hydrogen.
• Determination of location of HRS in each pilot region (stakeholder process) based on numerous factors (see below)
• Harmonization of concepts with neighbouring regions (national / international)
• Spatial Development Concepts indicating HRS, transport flows, other anchor customers, green H2 supply, other sectors using H2 (e.g. industry or housing) for the selected pilot region

Iterative process:
• Feedback on application of tools to GoA 1.1 / 1.2
• Re-application of revised tools

Documentation
• Documentation of pilots (for evaluation in 2.3 and dissemination in WP3)

This GoA is the "heart" of the HyTruck project. PP4, Vidzeme Planning Region (VPR), is coordinating it. VPR is a regional public authority in charge of spatial planning and hence ideally suited for this role. The responsible and contributing partners for each pilot are indicated above. The primary target group are national and regional public authorities. The parallel pilots cooperate closely with each other (and the research partners) in elaborating their own implementation plans.

2,907 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☑

D 2.2

Title of the deliverable

Five spatial planning concepts

31 / 100 characters

Description of the deliverable

In total five spatial planning concepts will be developed (see also above):
• Rostock Region in DE
• Poznan Region in PL
• Kaunas Region in LT
• Vidzeme Region in LV
• Helsinki Region in FI

The spatial planning concepts for each pilot region serve to determine the locations for HRS and to lay the foundation for a comprehensive HRS infrastructure in the BSR.

The starting points for the pilot projects are cities that form urban nodes in the TEN-T corridors. Cities and their hinterland are particularly interesting as potential locations for HRS for several reasons: In the BSR, cities often also have ports and are thus the interface between road and maritime freight transport. They have industrial centres in their hinterland - i.e. the principals of the haulage companies, who often have their depots nearby. There is the possibility to identify anchor customers (e.g. public transport, waste collection) for the HRS that guarantee the initial H2 demand when there are still only few fuel cell trucks on the streets. And last but not least, there is the possibility of decentralized production of green H2 due to the grid connection to offshore wind farms and applying sector coupling.
The deliverable helps public authorities to address the spatial, environmental and economic dimension of planning the HRS infrastructure. For them the spatial planning concepts are more than a project output. The involved public authorities (full and associated partners) intend to use them in their daily work and feed them into the regulatory framework (e.g. state spatial development plans) as well as input into national and European funding programmes (see GoA 3.2). They equip them with the necessary know-how and tools to address the requirements of the AFIR.
Last but not least they are used in GoA 2.3. for the development of a transnational spatial planning concept.

1,872 / 2,000 characters

Which output does this deliverable contribute to?

Output 1

8 / 100 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.2: WP2 Piloting and evaluating solutions							
A.2.2: Parallel pilots: Development of a spatial planning concept for each pilot region				▨	▨		
D.2.2: Five spatial planning concepts					▧		

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 2 Group of activities 2.3

5.6.1 Group of activities leader

Group of activities leader PP 1 - Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern

A 2.3

5.6.2 Title of the group of activities

A transnationally agreed spatial development concept for HRS

60 / 100 characters

5.6.3 Description of the group of activities

This GoA 2.3 forms the final part of a piloting and evaluation sequence stretching from GoA 2.1. to 2.3. The five spatial planning concepts developed in GoA 2.2 form the basis for elaborating in this GoA 2.3 the transnationally agreed spatial development concept for HRS – output 1 of the HyTruck project. This output 1 is addressing the spatial, environmental and economic dimensions of the challenge that public authorities are facing in steering the process of planning HRS suited for large trucks.
The technological dimension is the subject of the transnational pilot in GoA 2.4, that produces output 2.

Steps
• 1st transnational spatial development workshop sharing (interim) results of the parallel pilots
• Integration of the regional spatial planning concepts into an interactive map covering the whole BSR (tool from GoA 1.1)
• Identification of the parts of the TEN-T corridors (Eastern part of the BSR region only) that are not covered, yet
• 2nd transnational spatial development workshop also inviting the public authorities responsible for those regions that have not been taken into account, yet
• Involvement of STRING Network and GREATER4H project for covering the western part of the BSR
• The transnational spatial development concept is developed on the basis of/ through analysis of the interactive map (indicating also white spots on the map)
• Development of recommendations for transnationally coherent planning solutions / transboundary consultations for HRS infrastructures (building on the guideline from GoA 1.4), which are in line with the needs of the companies operating in international road transport and the AFIR.

Finalization of deliverable:
• The transnational spatial development concept (as well as the interactive map covering the whole Eastern BSR) will be made available to all interested stakeholders (also outside the HyTruck project) via the one-stop-shop connected to the Scandria Alliance. (see GoA 3.1)
• The "Recommendations" are presented to the VASAB Committee on Spatial Planning and Development for the Baltic Sea Region

The LP of the HyTruck project, the Ministry of Economics MV, that is also the responsible spatial planning authority of the federal state of MV, is coordinating this GoA. The partners in charge of the parallel pilots (both full PP as well as AO) are cooperating in this transnational exercise. The primary target group are national and regional public authorities.

2,443 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☐

O 2.3

Title of the output

OUTPUT 1: A transnationally agreed spatial development concept indicating the locations of the HRS

98 / 100 characters

Description of the output

This output 1, a transnationally agreed spatial development concept for HRS, enables public authorities to steer the process of developing the HRS infrastructure for large trucks and hence to overcome the "chicken-egg problem". It is addressing the spatial, environmental and economic dimension of the HRS planning process.

The fuel cell technology that requires H2 as alternative fuel is primarily an option for heavy large trucks that have to cover long distances. These vehicles are mostly used in international transport. A truck that shall be e.g. serving the Berlin-Vilnius route must also be able to refuel in Poland or Lithuania. Thus, there must be HRS in all three countries. Hence it is of core importance that – in line with the requirement of the AFIR – a transnational network of HRS is created.

The process leading to a transnationally agreed spatial development concept for HRS (i.e. the sequence of GoA 2.1 – 2.3) equips public authorities with the necessary know-how on all relevant factors for steering the build-up of HRS:
• They are aware of the transport volumes and flows of heavy trucks, they can consider other anchor customers for the first HRS and their demand for H2.
• They can calculate and predict the volume of green H2 needed (in 2025, in 2030) and relate this to possible supply channels (de-centralized production, import, pipeline – tanks).
• They can enable sector coupling for using heat from the green H2 production e.g. in community heating.
• They can find the optimum match between transport requirements, environmental impact (de-carbonization) and cost minimization.
• And they can identify other sectors using H2 (e.g. fertilizer production or energy-intensive industrial sectors) for possible synergies.

HyTruck places initial focus on the urban nodes in the TEN-T network. Cities and their hinterland can facilitate the ramp-up of HRS infrastructure as they host other anchor customers (public transport busses or waste trucks) that can bridge the initial shortage of fuel cell trucks. At the same time this helps to reduce CO2 emissions within the cities and brings hydrogen as an energy carrier of the future closer to the population and decision makers.
The output 1 comprises also the tools from WP1 (digital spatial planning toolkit and assessment model) that have been tested and evaluated in GoA 2.2. All this is made available via the one-stop-shop connected to the Scandria Alliance (see GoA 3.1) to all interested stakeholders.

The recommendations to VASAB as coordinator of the PA Spatial Planning ensure that transnationally coherent planning solutions / transboundary consultations for HRS infrastructure become a standard element in all national spatial planning processes.

2,743 / 3,000 characters

Target groups and uptake of the solution presented in this output

Target groups	How will this target group apply the output in its daily work?	
Target group 1 National public authority Responsibilities: National Ministries responsible for the implementation of the AFIR (i.e. mostly Ministries for Transport / Economic Affairs / Climate). Countries: In HyTruck we have PP and AO from LT, EE and FI.	The AFIR is likely to be adopted in the course of 2022. It requires the EU member states to take action. Some of the PP and AO of the HyTruck project (e.g. PP 02, AO 5 or AO 6) are the national public authorities responsible for implementing the requirements of the AFIR. They will integrate output 1 in their daily work. As the deliverables contributing to the production of the output are designed in a scalable well transferable form, the output can be applied also by other national public authorities that are not part of the HyTruck partnership. STRING, Scandria Alliance and VASAB are the durable network institutions where the output can be shared with them. 666 / 1,000 characters	
Target group 2 Regional public authority Responsibilities: Regional Ministries & authorities responsible for spatial and regional development Countries: In HyTruck we have PP and AO from DE and LV.	Regional Public Authorities are in charge of spatial planning and hence for setting the regulatory frame for the regional development of the respective region. Not only the LP of HyTruck but also a number of other PP and AO of the HyTruck project (e.g. PP 04, AO 7 or AO 9) are responsible for spatial planning and regional development. They will integrate output 1 in their daily work. GoA 3.2 of HyTruck is dealing with the uptake of the project results in policy documents that set the regulatory frame for regional development. Regional Authorities need to determine (and approve) the locations of HRS. In doing so they want to maximize the positive environmental impact (de-carbonization), improve the economic feasibility and minimize the costs. Output 1 helps them to do so – that's the motivation for them to be part of HyTruck. 839 / 1,000 characters	

Durability of the output

The national (e.g. PP 02, AO5 or AO6) and regional (e.g. PP 01, PP 04, AO7 or AO9) public authorities within the partnership of the HyTruck project will integrate this output in their daily work (see GoA 3.2) - not least because the AFIR requires EU members states to take action in building up HRS. As such the public authorities are committed to provide institutional support to output 1 also beyond the end of the project.
The build -up of the HRS infrastructure requires large investments. Many AO of the HyTruck project are in the field of the development and operation of such infrastructure and prepared to invest. However, it is mutual understanding that the (initial) HRS infrastructure build-up requires public co-funding. This financial support is already foreseen in European funding programmes (like CEF) and national funding programme (like NOW-managed programmes from the German Ministry of Transport). This necessary financial support is addressed in GoA 3.2 of the HyTruck project.

999 / 1,000 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.2: WP2 Piloting and evaluating solutions							
A.2.3: A transnationally agreed spatial development concept for HRS							
O.2.3: OUTPUT 1: A transnationally agreed spatial development concept indicating the locations of the HRS							

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 2 Group of activities 2.4

5.6.1 Group of activities leader

Group of activities leader | PP 2 - Ministry of Transport and Communications of the Republic of Lithuania

A 2.4

5.6.2 Title of the group of activities

Transnational Pilot: Harmonized technological standards for HRS

63 / 100 characters

5.6.3 Description of the group of activities

The transnational pilot project in GoA 2.4 is evaluating and adjusting the common technological standards developed for HRS in GoA 1.3 in order to ensure the compatibility of this green solution (H2 for large trucks) between cities, their hinterland and across borders. As such it addresses the technological dimension of the HRS planning process.
In the HyTruck project, Ministries from four BSR countries dealing with the AFIR and HRS are working together: The Lithuanian Ministry of Transport and Communications is coordinating this GoA 2.4. The Finnish Ministry of Transport and Communication, the Estonian Ministry of Economics (both as AO) and the (regional) Ministry of Economics from Mecklenburg-Vorpommern (as LP) and the (regional) Joint Spatial Planning Department Berlin-Brandenburg (as AO) are among the project partners that work towards a transnational memorandum of understanding on harmonized technological standards for HRS.

Steps:
• 1st Transnational workshop introducing the proposal for common technologies to the involved public authorities (the responsible Ministries from PL and LV that are not already within the HyTruck partnership are invited to participate)
• Joint planning of evaluation process in respective countries: Identification of stakeholders that are involved in the validation (from all four target groups of HyTruck) , validation questions and techniques, formats (e.g. digital and face-to-face workshops, interviews, digital stakeholder participation), timeline
• Implementation of the stakeholder validation process in DE, PL, LT, LV, EE and FI: Identification of elements that need to be revised / refined in the proposal for common HRS standards and technologies among private and public stakeholders in FI; EE, LV, LT, PL and DE (iterative process with 1.3)
• 2nd Transnational workshop sharing and discussing the elements that need revision with the aim to arrive at a common protocol
• Cross-check of agreed technological standards with EU / DG MOVE and – if applicable - European standardisation organisations (ESOs)
• Drafting the text of the MoU

Finalization of deliverable:
• Signing of the MoU in the framework of the final conference (see GoA 3.3)

The Lithuanian Ministry of Transport and Communications, that is the responsible national authority in LT for building up the HRS infrastructure and for addressing the requirements of the AFIR, is coordinating this GoA and the transnational team in this pilot. This team involves the above-mentioned Ministries but also the other public authorities in the HyTruck partner consortium. The representatives of target group 3 (SMEs, e.g. haulage companies) and target group 4 (e.g. developers and operators of HRS) in the partnership (e.g PP3, PP9 and AO1, AO2 or AO3) are involved in the stakeholder validation process.

2,825 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☐

O 2.4

Title of the output

OUTPUT 2: Memorandum of understanding on harmonized technological standards for HRS.

84 / 100 characters

Description of the output

The memorandum of understanding on harmonized technological standards for HRS (MoU) is a common protocol on norms, technologies and standards for the Eastern part of the North Sea-Baltic TEN-T corridor. It comprises parts of DE, PL, LT, LV, EE and FI. The MoU is a project output agreed between the partners of the HyTruck project, it is not a political treaty.

However, as Ministries from four BSR countries dealing with the AFIR and HRS are involved directly in the agreement of the MoU the durability of this output 2 is strong (see below).

Output 2 addresses the technological dimension of the HRS planning process. The parallel introduction of different charging cables, plugs or billing systems that were not compatible with each other caused considerable problems in the ramp-up of electromobility. These problems must be avoided when setting up HRS for fuel cell trucks. The public sector must steer this process from the outset. Today hardly any fuel cell trucks are on the street and in most countries of the transnational pilot region no HRS for large trucks exist. The integration of fuel cell trucks in the fleets of the haulage companies and the creation of the necessary HRS infrastructure has to take place in parallel.

A fuel cell truck travelling from Tartu to Poznan (and back) must be confident that it can refuel with H2 en route. This must not fail because of incompatible pressure levels or refuelling nozzles that are used in different countries. It requires a transnational solution – like this output 2. Otherwise the decarbonisation of international road freight transport cannot be achieved.

The common protocol on norms, technologies and standards shall be used by public authorities to determine in their funding programmes the technological requirements that a company applying for co-funding needs to fulfil (financial support , see also GoA 3.2). It can be also fed into the regulatory framework applied for the approval procedure for the acceptance of an HRS (institutional support , see also GoA 3.2).

2,038 / 3,000 characters

Target groups and uptake of the solution presented in this output

Target groups	How will this target group apply the output in its daily work?	
Target group 1 Infrastructure and public service provider Economic Sector: Developers and operators of HRS and producers and suppliers of green H2 Countries: In HyTruck we have PP and AO from DE, PL, FI and SE	The ordering of fuel cell trucks and the planning of the HRS infrastructure should and must run in parallel. To ensure that the future HRS are also suitable for the delivered vehicles, the infrastructure and service providers of HRS must rely on a transnationally coordinated planning process. Otherwise, their HRS are not an option for fuel cell trucks and their business model is at risk. That is why the big HRS developers, e.g. from DE (AO1 and AO4), Poland (AO2) and FI (AO3), are so interested in the HyTruck project. A transnational agreement provides them with planning security. They will use the technological specifications for building the HRS. 656 / 1,000 characters	
Target group 2 Small and medium enterprise Economic Sector: Haulage and logistics companies operating large trucks are mostly SMEs . And so are companies converting diesel trucks to H2 propulsion systems or developers of specialised IT tools (like PP 08). Countries: In HyTruck we have PP and AO representing these SMEs from DE, PL, SE and FI.	Haulage companies in the Eastern Baltic Sea Region are mostly SMEs. They have to make serious investment decisions. The purchase of a single new fuel cell truck is a large investment of several hundred thousand euros. Let alone the complete renewal of their entire truck fleet. They cannot take the risk that they will not be able to use new fuel cell trucks on their international routes after delivery. For SMEs, the specifics of the harmonized technological standards are not so important. What is important is that they have planning security for their investments. This is the purpose of the MoU. 601 / 1,000 characters	
Target group 3 National public authority Responsibilities: National Ministries responsible for the implementation of the AFIR (i.e. mostly Ministries for Transport / Economic Affairs / Climate). Countries: In HyTruck we have PP and AO from LT, EE and FI.	As outlined in GoA 2.3 some of the PP and AO of the HyTruck project (e.g. PP 02, AO 5 or AO6) are the national public authorities responsible for implementing the requirements of the AFIR. This responsibility comprises next to the spatial, environmental and economic dimension also the technological dimension. They must avoid the coexistence of incompatible HRS systems (as happened with the ramp-up of electromobility), which would jeopardise the major goal of decarbonising road freight transport. They will integrate output 2 in their daily work as it covers the technological dimension of the HRS planning. 614 / 1,000 characters	
Target group 4 Regional public authority Responsibilities: Regional Ministries & authorities responsible for spatial and regional development Countries: In HyTruck we have PP and AO from DE and LV.	The LP of HyTruck but also a number of other PP and AO of the HyTruck project are responsible for the planning and also the approval procedure for the acceptance of an HRS. Before a HRS can be built and put into operation regional public authorities need to grant their approval. Regional public authorities use the specifications from the national and European authorities on the technological standards of HRS for the performance of their tasks. They will integrate output 2 in their daily work. GoA 3.2 of HyTruck is dealing with the uptake of the project results in policy documents that set the regulatory frame for regional development. 644 / 1,000 characters	

Durability of the output

Ministries from four BSR countries dealing with the AFIR and HRS are working together in the HyTruck project. If they agree together with the other public authorities in the project on common technological standards and sign (as project partners) a MoU then the probability is very high that this common protocol on norms, technologies and standards is also picked up in their respective national and regional regulatory framework for HRS (see also GoA 3.2). As such the public authorities are committed to provide institutional support to output 2 also beyond the end of the project.
Kick-starting the (initial) HRS infrastructure build-up requires public co-funding. This financial support is already foreseen in European funding programmes (like CEF) and national funding programme (like NOW-managed programmes from the German Ministry of Transport), but needs to be specified. This necessary financial support is addressed in GoA 3.2 of the HyTruck project.

962 / 1,000 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.2: WP2 Piloting and evaluating solutions							
A.2.4: Transnational Pilot: Harmonized technological standards for HRS							
O.2.4: OUTPUT 2: Memorandum of understanding on harmonized technological standards for HRS.							

5.6.7 This deliverable/output contains productive or infrastructure investment

☐

Work package 3

5.1 WP3 Transferring solutions

5.2 Aim of the work package

In Work Package 3, communicate and transfer the ready solutions to your target groups. Plan at least one year for this work package to transfer your solutions to the target groups, considering their respective needs. Select suitable activities to encourage your target groups to use the solutions in their daily work.
Organise your activities in up to five groups of activities. Describe the deliverables and outputs as well as present the timeline.

5.3 Work package leader

Work package leader 1	PP 4 - Vidzeme Planning Region
Work package leader 2	PP 9 - CLIC Innovation Ltd

5.4 Work package budget

Work package budget	25%

5.5 Target groups

	Target group	How do you plan to reach out to and engage the target group?
1	National public authority Responsibilities: National Ministries responsible for the implementation of the AFIR (i.e. mostly Ministries for Transport / Economic Affairs / Climate). Countries: In HyTruck we have PP and AO from LT, EE and FI. 215 / 500 characters	In WP3 we reach out to national public authorities responsible for the implementation of the AFIR and not part of HyTruck. They shall learn about HyTrucks's solutions for building up a HRS network and use them in their daily work. In GoA 3.2. we address PP and AO and also responsible national authorities from PL, LV and DE. In GoA 3.1 and 3.3 we target national public authorities beyond the HyTruck cooperation area (also beyond the BSR). Our approach(further elaborated in the GoA descriptions) for reaching out to them, comprises: • Setting-up a one-stop shop for HRS at internet platform of Scandria Alliance • Establishment of social media presence • Workshops / working meetings with authorities (national & regional level) • Participation in EU & EUSBSR events • "Breakfast briefings" and "Lunch info packs" • Partner meetings (only PP and AO) • Final Conference 875 / 1,000 characters

	Target group	How do you plan to reach out to and engage the target group?
2	**Regional public authority** Responsibilities: Regional Ministries & authorities responsible for spatial and regional development Countries: In HyTruck we have PP and AO from DE and LV. 157 / 500 characters	We also reach out in WP3 to two well-established networks of primarily regional authorities responsible for spatial and regional development: The Scandria Alliance ("an arena for cities and regions to collaborate on climate-smart multimodal transport connectivity") and the STRING Network ("a political member organisation in Northern Europe and a Green Hub"). They shall learn about HyTrucks's solutions for building up a HRS network and use them in their daily work. Our approach(further elaborated in the GoA descriptions) for reaching out to them, comprises: • Setting-up a one-stop shop for HRS at internet platform of Scandria Alliance • Establishment of social media presence • Workshops / working meetings with authorities (national & regional level) • "Breakfast briefings" and "Lunch info packs" • Partner meetings (only PP and AO) • Final Conference PP 04 (VPR) is coordinator of WP 3 (and GoA 3.2). 916 / 1,000 characters
3	**Small and medium enterprise** Economic Sector: Haulage and logistics companies operating large trucks are mostly SMEs . And so are companies converting diesel trucks to H2 propulsion systems or developers of specialised IT tools (like PP 08). Countries: In HyTruck we have PP and AO representing these SMEs from DE, PL, SE and FI. 301 / 500 characters	Haulage and logistics companies operating large trucks are an important target group in WP3. We reach out to them via the "one-stop-shop" (GoA 3.1) and the transnational exchange channel (GoA 3.3). Our approach(further elaborated in the GoA descriptions) for involving them, comprises: • A Transnational Exchange Channel on HRS with "Breakfast briefings" and "Lunch info packs" • Setting-up a one-stop shop for HRS at internet platform of Scandria Alliance • Establishment of social media presence • Partner meetings (only PP and AO) • Final Conference PP 08 (Localiser) is also an SME and coordinator of the one-stop-shop (GoA 3.1). 637 / 1,000 characters
4	**Infrastructure and public service provider** Economic Sector: Developers and operators of HRS and producers and suppliers of green H2 Countries: In HyTruck we have PP and AO from DE, PL, FI and SE 152 / 500 characters	Infrastructure and public service providers have stressed in the preparatory phase their high interest in exchanging and learning exchange about legal or technological developments related to HRS. The transnational exchange channel (GoA 3.3) is specifically dedicated to them. As such they are an important target group in WP3. Our approach(further elaborated in the GoA descriptions) for involving them, comprises: • A Transnational Exchange Channel on HRS with "Breakfast briefings" and "Lunch info packs" • Setting-up a one-stop shop for HRS at internet platform of Scandria Alliance • Establishment of social media presence • Partner meetings (only PP and AO) • Final Conference PP 09 (CLIC) is coordinator of the Transnational Exchange Channel (GoA 3.3). 764 / 1,000 characters
5	**Higher education and research institution** Economic Sector: Research on renewable energy and alternative fuels for the transport sector; geoinformatics Countries: In HyTruck we have PP and AO from DE, SE, EE and PL 173 / 500 characters	The PP and AO from HyTruck contribute to communicating and transferring the solutions to the first four target groups. Higher education and research institutions themselves are not a target group for WP3 to whom we plan to reach out. 233 / 1,000 characters

5.6 Activities, deliverables, outputs and timeline

No.	Name
3.1	One-stop shop for HRS planning in the BSR
3.2	Funding and policy programmes: Institutional and financial support for project outputs
3.3	Transnational exchange channel on HRS

WP 3 Group of activities 3.1

5.6.1 Group of activities leader

Group of activities leader	PP 8 - Localiser RLI GmbH

A 3.1

5.6.2 Title of the group of activities

One-stop shop for HRS planning in the BSR

41 / 100 characters

5.6.3 Description of the group of activities

The aim of this GoA is to create ONE point of contact for ALL relevant target groups of the HyTruck project. All project results as well as all other relevant information (e.g. PPTs from the breakfast briefings in GoA 3.3) on the topic of HRS in the BSR should be available here in an one-stop shop. This one-stop shop will continue to fulfil its function beyond the end of the project. After all, most HRS for trucks will only be built in the period 2025 - 2030 - i.e. after the end of the project.

Steps:
• Elaboration of a communication strategy for the HyTruck project
• Identification and analysis of other macroregional cooperation structures & internet platforms in the EU dealing with HRS, their information content, input and usability for the BSR
• Possible link to DG MOVE and the Program Support Action (PSA) on data collection related to recharging/refuelling points for alternative fuels and the unique identification codes related to e-Mobility (IDACS)
• Cooperation with the Scandria Alliance (especially the parallel project BalticGoesGreen – if approved) and STRING (especially the parallel project GREATER4H – if approved): Participation in workshops and working groups
• Conceptual framework for an one-stop shop within the Scandria Alliance internet platform: CMS, Corporate Identity, Programming
• Editing and integration of deliverables and outputs from WP1, WP2 and WP3, e.g.

i. Digital spatial planning toolkit
ii. Assessment model for HRS planning
iii. Proposal for common technology standards
iv. Spatial development concepts for HRS
v. Videos and Stories on good practice examples for the BSR

• Establishment of social media presence
• Continuous maintenance and integration of information from "breakfast briefings" and "lunch info packs" (see GoA 3.3)

The one-stop shop is developed in a transnational team where literally all partners will be involved (and have foreseen resources in their budget). PP8 (Localiser) is the GoA coordinator backed by a strong involvement of the LP (WM). PP8 is well placed to coordinate the editing and integration of deliverables and outputs. The LP will closely cooperate with AO 8 (Min SH, STRING Member and LP of the GREATER4H project) and AO 7 (GL, Host of the Scandria Alliance Secretariat and partner in the BalticGoesGreen project) and ensure the integration of the one-stop shop in their internet platform.

2,389 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☑

D 3.1

Title of the deliverable

One-stop shop for HRS

21 / 100 characters

Description of the deliverable

The deliverable is an one-stop shop for HRS planning in the BSR with cases, tools, guidelines, spatial plans.
We don't want to promote the HyTruck project as such but its deliverables and outputs. Therefore we are planning to create a joint internet platform for stakeholders from the transport sector, H2 producers and filling station operators, academia & public sector that goes beyond the HyTruck project.
However, we do not want to create a new organization for this purpose, where the question of durability would arise after the end of the project. Instead, we have arranged cooperation with two already existing and well established network structures during the application phase: STRING and Scandria Alliance.
STRING members apply in parallel to the HyTruck project application for funds of the "Connecting Europe Facility" (CEF) in order to build HRS in the western part of the Baltic Sea Region (see parallel project GREATER4H). Part of the project is to build a "Hydrogen Alliance" for the Baltic Sea Region within STRING. Part of this Hydrogen Alliance will also be the Scandria Alliance – an arena for cities and regions to collaborate on climate-smart multimodal transport. This is where the one-stop shop shall be located.
This close cooperation helps us on one hand in the elaboration of our outputs as the STRING members are e.g. already a bit more advanced in their HRS ramp-up. On the other hand we ensure a wide outreach to the HRS stakeholder community and in particular to other public authorities that can make use of our HyTruck deliverables and outputs.

1,581 / 2,000 characters

Which output does this deliverable contribute to?

Output 1 & 2

12 / 100 characters

5.6.6 Timeline

Period:	1	2	3	4	5	6
WP.3: WP3 Transferring solutions						
A.3.1: One-stop shop for HRS planning in the BSR		▨	▨	▨	▨	▨
D.3.1: One-stop shop for HRS						▨

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 3 Group of activities 3.2

5.6.1 Group of activities leader

Group of activities leader | PP 4 - Vidzeme Planning Region

A 3.2

5.6.2 Title of the group of activities

Funding and policy programmes: Institutional and financial support for project outputs

86 / 100 characters

5.6.3 Description of the group of activities

The aim of this GoA is to ensure financial and institutional support for outputs and deliverables of HyTruck by feeding them into relevant funding programmes and the relevant political and regulatory framework. Most HRS for trucks will only be built in the period 2025 - 2030 - i.e. after the end of the project. The HyTruck partnership is ideally placed to ensure the upscaling of project results to the political level as it includes – next to other responsible spatial planning authorities - three national ministries and three regional ministries alone. In other words these PP and AO have developed HyTruck in order to jointly create the capacity they need for steering the development of a HRS network. Hence their financial and institutional support is self evident.

Steps for ensuring institutional support:
• Development of a durability plan
• Recommendations/ input for regional and national spatial development plans / national programmes and action plans
• On national / regional level: Workshops / working meetings with authorities / departments dealing with different dimensions of HRS planning (awareness building / promotion of pilot project results)
• On European/ transnational level: Presentation of recommendations to the VASAB Committee on Spatial Planning and Development for the Baltic Sea Region (PA Spatial Planning) and the two PACs of PA Transport

Steps for ensuring financial support:
• Formulation of concrete measures / calls (e.g. for HRS locations, green H2 supply) to be co-financed by funding programmes (per country)
• Elaboration of technical and environmental requirements for measures that are co-financed by funding programmes
• Support for public procurement needed to build the infrastructure (requirements in the technical specifications with the means of verification) compliant to the requirements of the Green Taxonomy
• Possibly include a proposal for a transnational investment project for building up HRS
• On European level: Communication of project results to TEN-T coordinators and the CEF programme (responsible for large scale infrastructure investments)

This GoA is coordinated by PP4, Vidzeme Planning Region (VPR), with a strong support of the LP, the Ministry of Economics M-V (who resumes responsibility for the European / transnational part). Both partners are intending to integrate the project results into their daily work and are well aware of the kind of input that is needed on the political level in order to ensure the institutional and financial support for the HyTruck project outputs.
The primary target group are national and regional public authorities. The partners responsible for the pilots in WP2 are responsible here in GoA 3.2. for communicating project outputs / deliverables and providing input to their relevant political bodies. They cooperate closely with each other (and the research partners) in elaborating their input to funding programmes and the relevant political and regulatory framework.

2,985 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☑

D 3.2

Title of the deliverable

Input to national and transnational funding and policy programmes

65 / 100 characters

Description of the deliverable

Public authorities need to elaborate spatial development concepts, provide the regulatory framework, ensure common standards and design public funding programmes in order to enable the ramp-up of the hydrogen technology, decarbonize international transport and to address the AFIR.
HyTruck works towards increasing their institutional capacity to live up to these requirements. In this GoA the HyTruck partners "translate" the project outcome into input for the respective financial & political framework for HRS.
The deliverable consists of a
• Durability plan (overall project level)
• Set of concrete measures for each country (DE; PL, LT, LV, EE, FI and SE)
• Set of minimum requirements for public co-funding HRS (technological, environmetal)

Possible National Funding Programmes include:
• In DE: "National Hydrogen and Fuel Cell Technology Innovation Programme" (by the Ministry of Transport, operated by NOW) and "KsNI, Funding for light and heavy duty vehicles"
• In SE: Funding for charging points, including hydrogen filling stations, can be granted from the Swedish Environmental Protection Agency and the policy is called "Klimatklivet"
• In PL: "Support for electric vehicle charging infrastructure and hydrogen refuelling infrastructure"

Possible European Funding Programmes include:
• "CEF- Transport": Connecting Europe Facility for Transport

Possible National Policies and Programmes include:
• In M-V (DE): "LEP - State regional development program of M-V" & "Regional Spatial Development Programme of Rostock Region"
• In PL: "Act on electromobility and alternative fuels"; "Polish hydrogen strategy"
• In LV: Guidelines for transport development; Regional Development Guidelines; National energy and climate plan; National Industrial Policy Guidelines

Possible Transnational Policy institutions include:
• PACs of PA Spatial Planning and PA Transport of the EUSBSR
• PSA of DG MOVE

1,910 / 2,000 characters

Which output does this deliverable contribute to?

Output 1 & 2

12 / 100 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.3: WP3 Transferring solutions							
A.3.2: Funding and policy programmes: Institutional and financial support for project outputs						▨	▨
D.3.2: Input to national and transnational funding and policy programmes							▨

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

WP 3 Group of activities 3.3

5.6.1 Group of activities leader

Group of activities leader | PP 9 - CLIC Innovation Ltd

A 3.3

5.6.2 Title of the group of activities

Transnational exchange channel on HRS

37 / 100 characters

5.6.3 Description of the group of activities

During the preparatory phase of the HyTruck project, it became clear that there is a huge demand in the transnational exchange of information. The topic of green hydrogen is today on everyone's lips. Legislative projects are being prepared at the European level (e.g. the AFIR), Russia's war in Ukraine has also put the focus on the dependence of individual states on Russian gas imports and many states are preparing large investments in the hydrogen sector (e.g. within the framework of IPCEI projects).
At the same time, there is a great deal of uncertainty, as of today hardly any fuel cell trucks are on the streets and in most countries of the BSR no HRS for large trucks exist. This is why all relevant target groups for HRS (national and regional public authorities, infrastructure and service providers of HRS, haulage companies and other relevant private sectors) happily joined the HyTruck project as full or associated partners. All stressed their particular interest in this transnational exchange of information. No one wants to be left behind when hydrogen technology in transport ramps up to full speed.

That's why HyTruck is planning a series of info events:
• Joint development of info formats: Format should be brief (1-2 hours) and mostly digital, they should be scheduled at fixed dates and times (e.g. every first Thursday of a month in the morning).
• Hosts take turn (not only full partners but also associated partners)

Another important forum for the transnational information exchange are the partner meetings:
• Full and associated partners meet, exchange information and work jointly on specific topics of the HyTruck project.
• In addition to the Kick-off Meeting which has a managerial organisational character one partner meeting per reporting period is planned.
A bi-lateral option for the information exchange are study visits. Here it is planned that representatives of public authorities visit HRS already in operation.
Last but not least HyTruck plans to organize a final conference in 2025:
• Identification of best suited location: Dependent on relevant back-to back events (like e.g. major international hydrogen or alternative fuels conferences) and political factors (in 2025 Poland and Denmark hold the Presidency of the EU Council). Important are also accessibility and cost.
• The HyTruck partners want to prepare and finance the conference jointly: This doesn't mean cost sharing but the distribution of different cost items (venue, catering, moderator etc.) across different partners

PP9 (CLIC) is coordinating the numerous activities that form together the transnational exchange channel. The project partners are taking turns in hosting the partner meetings and the "breakfast briefings". This GoA 3.3 sees also a strong involvement from the associated partners that are also hosting info events and provide input at the partner meetings. They will also cooperate as hosts of study visits.

2,947 / 3,000 characters

5.6.4 This group of activities leads to the development of a deliverable ☑

D 3.3

Title of the deliverable

Transnational exchange channel on HRS

37 / 100 characters

Description of the deliverable

This deliverable consists of a series of info events, six partner meetings and a final conference.

Series of (digital) info events:
• Possible formats include "breakfast briefings" or "lunch info packs" where 1-2 speakers cover a specific topic relevant for the HRS planning
• Topics can be country-specific (e.g. "current state of HRS ramp-up in Sweden") or stakeholder-specific (insights from "manufacturer of fuel cell trucks " or "producers of green hydrogen"). They can address specific legal questions ("AFIR") or introduce other parallel initiatives (project "BalticGoesGreen" or STRING network)
• In total a min. of 20 info events are planned, participation is open to all full and associated partners and invited stakeholders, PPTs shall be made available in the one-stop shop (see GoA 3.1)

Six (face-to-face) partner meetings are planned as follows:
• 1st Partner Meeting in Gothenburg, Sweden (focus on preparing solutions for spatial, socio-economic dimension)
• 2nd Partner Meeting in Vidzeme, Latvia (focus on joint preparation of pilots)
• 3rd Partner Meeting in Warsaw / Poznan, Poland (focus on preparing solutions for technological dimension)
• 4th Partner Meeting in Rostock, Germany (focus on elaboration of BSR-wide spatial development concept)
• 5th Partner Meeting in Helsinki, Finland (focus on development of policy recommendations)
• 6th Partner Meeting in Vilnius, Lithuania (focus on MoU)

Final conference:

• One-day event (face-to-face)
• Conference could form the stage for signing the Memorandum of Understanding on harmonized technological standards for HRS (Output 2) and presentation of Output 1
• The "Final" Conference shall be at the same time the forum for paving the way for continued cooperation within the Scandria / Hydrogen Alliance

1,782 / 2,000 characters

Which output does this deliverable contribute to?

Output 1 & 2

12 / 100 characters

5.6.6 Timeline

	Period:	1	2	3	4	5	6
WP.3: WP3 Transferring solutions							
A.3.3: Transnational exchange channel on HRS		▣	▣	▣	▣	▣	
D.3.3: Transnational exchange channel on HRS							▣

5.6.7 This deliverable/output contains productive or infrastructure investment ☐

Interreg
Baltic Sea Region

Project Acronym: HyTruck
Submission Date : 25/04/2022 09:43:13
Project Number:
Project Version Number: 1

6. Indicators

Indicators

Output indicators				Result indicators		
Output indicators	Total target value in number	Project outputs	Please explain how the solution presented in this output serves the target group(s).	Result indicator	Total target value in number	Please explain how organisations in the target groups within or outside the partnership will take up or upscale each solution.
RCO 84 – Pilot actions developed jointly and implemented in projects	2	N/A	N/A	**RCR 104 - Solutions taken up or up-scaled by organisations**	2	For the involved public authorities (full and associated partners) output 1 is more than a project output. They intend to use the spatial planning concepts in their daily work and feed them into the regulatory framework (e.g. state spatial development plans) as well as input into national and European funding programmes (see GoA 3.2). They equip them with the necessary know-how and tools to address the requirements of the AFIR.
		O.2.3: OUTPUT 1: A transnationally agreed spatial development concept indicating the locations of the HRS	National and regional public authorities within the partnership of the HyTruck project will integrate this output in their daily work. A transnationally agreed spatial development concept for HRS (i.e. the sequence of GoA 2.1 – 2.3) equips public authorities with the necessary know-how on all relevant factors for steering the build-up of HRS. This comprises the spatial, environmental and economic dimension of the HRS development process. The output 1 comprises also the tools from WP1 (digital spatial planning toolkit and assessment model) that have been tested and evaluated in GoA 2.2. All this is made available via the one-stop-shop connected to the Scandria Alliance (see GoA 3.1) also to all interested public authorities outside the HyTruck partnership. 766 / 1,000 characters			HyTruck doesn't cover the entire territory of the TEN-T corridors in the BSR. Hence also public authorities outside the partnership can use the tools developed in WP1 for identifying the optimal locations of the HRS. The two target groups that are affected by the "chicken & egg problem" are infrastructure and service providers of HRS on one side and haulage companies operating large trucks (mostly SMEs in the Eastern part of the BSR). For them the two HyTruck outputs have the potential to solve the "chicken & egg problem" by creating a stable regulatory framework for developing the HRS network and guaranteeing a stable investment environment. They can use the outputs for their investment decisions. In this way the parallel ramp-up of fuel cell truck fleets and HRS infrastructure can succeed. 1,234 / 2,000 characters
RCO 116 – Jointly developed solutions	2					

Output indicators	Total target value in number	Project outputs	Please explain how the solution presented in this output serves the target group(s).		
Output indicators				Result indicators	
		O.2.4: OUTPUT 2: Memorandum of understanding on harmonized technological standards for HRS.	This output serves national and regional public authorities as well as infrastructure and service providers of HRS and SMEs. National public authorities are responsible for implementing the requirements of the AFIR. They will integrate output 2 in their daily work as it covers the technological dimension of the HRS planning. Regional public authorities are responsible for the planning and also the approval procedure for the acceptance of an HRS. Regional public authorities use the specifications of the technological standards of HRS for the performance of their tasks. Infrastructure and service providers of HRS are dependent on a stable regulatory framework for their (considerable) investments. This is the goal of the MoU. Haulage companies in the Eastern Baltic Sea Region are mostly SMEs. For them the specifics of the harmonized technological standards are not so important. What is important is that they have planning security for their investments. This is the purpose of the MoU.		

996 / 1,000 characters

Output indicator	Total target value in number	Result indicator	Total target value in number	Please describe what types of organisations are planned to actively participate in the project. Explain how this participation will increase their institutional capacity. These types of organisations should be in line with the target groups you have defined for your project.	
RCO 87 - Organisations cooperating across borders	17	**PSR 1 - Organisations with increased institutional capacity due to their participation in cooperation activities across borders**	30	Project partners and associated organisations	National and Public Authorities are the main target groups of HyTruck and actively involved in both the elaboration and the piloting of the solutions. PP 02, AO5 or AO6 are National Ministries responsible for implementing the requirements of the AFIR. Their participation in the piloting ensures the tailor-made elaboration of the solutions and increases their institutional capacity. The same holds true for the involved regional public authorities (e.g. PP1, PP4, AO7 or AO9). They will integrate output 1 in their daily work by feeding the project results into policy documents that set the regulatory frame for regional development. The broad transnational stakeholder involvement process for the elaboration of solutions targets also target groups 3 & 4: Infrastructure and service providers of HRS (from the project AO 1, AO 2, AO 3 and AO 4) and producers and suppliers of H2 (from the project AO 2, AO 3 and AO 4) – both falling into the target group "infrastructure and public service providers". The target group "SMEs" comprises haulage & logistics companies and possible anchor customers from cities (from the project represented by PP 02, PP 09 and AO 14) and manufacturers of truck propulsion systems (from the project represented by PP 03 and PP 06). These organisations will actively participate in the project (e.g. GoA 1.3, 2.2). The transnational exchange channel is a format for both – active participation and institutional capacity building. 1,468 / 1,500 characters
				Other organisations	The HyTruck project represent well the identified target groups for the planning and development of a network of HRS in the BSR. Still, the project will attract more organisations (that are not part of the project) from these target groups. They will actively engage e.g. in the elaboration of a proposal for common technological standards. Here it will important to involve also organisations from outside the HyTruck pilot region- hence e.g. from the STRING area (the northern part of the EU ScanMed TEN-T corridor) or from other parts of the EU that are particular relevant for the international transport routes (e.g. from the INTERREG B regions Northwest and Central). In the transnational pilot we strive to involve also the relevant national public authorities that are not among the HyTruck partnership. The more signatories the MoU has the better. Also these organisations would benefit from the HyTruck outputs. In each parallel pilot we expect the active participation from organisations from target groups 1-4 (beyond the HyTruck partnership). They would all benefit from the respective pilot project (in particular TG 3 and 4) and increase their institutional capacity (in particular TG 1 and 2). 1,211 / 1,500 characters

7. Budget

7.0 Preparation costs 67

Preparation Costs

Would you like to apply for reimbursement of the preparation costs? | Yes

Other EU support of preparatory cost

Did you receive any other EU funds specifically designated to the development of this project application? | No

7.1 Breakdown of planned project expenditure per cost category & per partner

No. & role	Partner name	Partner status	CAT0 - Preparation costs	CAT1 - Staff	CAT2 - Office & administration
1 - LP	Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern	Active 22/09/2022	24,000.00	260,000.00	39,000.00
2 - PP	Ministry of Transport and Communications of the Republic of Lithuania	Active 22/09/2022	0.00	124,000.00	18,600.00
3 - PP	Polish Alternative Fuels Association (PSPA)	Active 22/09/2022	0.00	139,288.00	20,893.20
4 - PP	Vidzeme Planning Region	Active 22/09/2022	0.00	170,000.00	25,500.00
5 - PP	University of Tartu	Active 22/09/2022	0.00	163,328.00	24,499.20
6 - PP	Chalmers University of Technology	Active 22/09/2022	0.00	258,516.00	38,777.40
7 - PP	Reiner Lemoine Institut g GmbH	Active 22/09/2022	0.00	168,960.00	25,344.00
8 - PP	Localiser RLI GmbH	Active 22/09/2022	0.00	65,280.00	9,792.00
9 - PP	CLIC Innovation Ltd	Active 22/09/2022	0.00	201,000.00	30,150.00
Total			24,000.00	1,550,372.00	232,555.80

No. & role	Partner name	CAT3 - Travel & accommodation	CAT4 - External expertise & services	CAT5 - Equipment	Total partner budget
1 - LP	Ministry of Economics, In	39,000.00	254,500.00	1,500.00	618,000.00
2 - PP	Ministry of Transport and	18,600.00	58,000.00	0.00	219,200.00
3 - PP	Polish Alternative Fuels A	20,893.20	29,999.60	0.00	211,074.00
4 - PP	Vidzeme Planning Region	25,500.00	52,000.00	1,600.00	274,600.00
5 - PP	University of Tartu	24,499.20	28,000.00	7,500.00	247,826.40
6 - PP	Chalmers University of T	38,777.40	13,000.00	0.00	349,070.80
7 - PP	Reiner Lemoine Institut g	25,344.00	20,000.00	0.00	239,648.00
8 - PP	Localiser RLI GmbH	9,792.00	0.00	0.00	84,864.00
9 - PP	CLIC Innovation Ltd	30,150.00	52,000.00	0.00	313,300.00
Total		232,555.80	507,499.60	10,600.00	2,557,583.20

7.1.1 External expertise and services

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
1. Ministry of Econo	Events/meetings	CAT4-PP1-A-0	Organisation of meetings (workshops, stakeholder & partner meetings) 68 / 100 characters	No	1.3 2.1 2.2 2.3 3.2 3.3	15,000.00	
1. Ministry of Econo	Other	CAT4-PP1-G-0	Travel costs for stakeholders (not employed by the partner) 59 / 100 characters	No	1.3 2.2 3.3	6,000.00	
1. Ministry of Econo	Communication	CAT4-PP1-C-0	Cost for Communication and graphic design (incl. one stop shop) 65 / 100 characters	No	3.1 3.3	38,500.00	
1. Ministry of Econo	Project management	CAT4-PP1-D-0	External Project Management and Administration Support for LP 61 / 100 characters	No	1.1 1.2 1.3 1.4 2.1 2.2 2.3 2.4 3.1 3.2 3.3 N/A	150,000.00	
1. Ministry of Econo	Specialist support	CAT4-PP1-E-0	External support and expertise for the preparation and implementation of the pilot projects in DE 98 / 100 characters	No	2.1 2.2 2.3 2.4	45,000.00	
2. Ministry of Trans	Specialist support	CAT4-PP2-E-0	External Service support for the preparation and implementatiion of the pilot project in LT 91 / 100 characters	No	2.1 2.2 2.3	20,000.00	
2. Ministry of Trans	Specialist support	CAT4-PP2-E-0	Scientific and organisational support for the transnational pliot project 73 / 100 characters	No	2.4	20,000.00	
2. Ministry of Trans	Events/meetings	CAT4-PP2-A-0	Organisation of events, workshops and partner meetings 54 / 100 characters	No	2.2 2.4 3.3	7,000.00	
	Total					507,499.60	

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
2. Ministry of Trans	Other	CAT4-PP2-G-0	Travel costs for stakeholders (not employed by the partner), study visits 73 / 100 characters	No	1.3 2.2 2.4	4,000.00	
2. Ministry of Trans	Communication	CAT4-PP2-C-1	Cost for Communication and graphic design 41 / 100 characters	No	2.4 3.1	5,000.00	
2. Ministry of Trans	National control	CAT4-PP2-F-1	Cost for vildation of CAT4 expenses 35 / 100 characters	No	N/A	2,000.00	
3. Polish Alternative	Communication	CAT4-PP3-C-1	Communication (video,web, graphic design) 41 / 100 characters	No	1.3 3.1	4,999.60	
3. Polish Alternative	Specialist support	CAT4-PP3-E-1	Legal Consulting for pilots 27 / 100 characters	No	1.3 2.2 2.4	10,000.00	
3. Polish Alternative	Events/meetings	CAT4-PP3-A-1	Conference, workshops, partner meeting 38 / 100 characters	No	1.3 2.2 2.4 3.3	15,000.00	
4. Vidzeme Plannin	Events/meetings	CAT4-PP4-A-1	Organisation of meetings 24 / 100 characters	No	2.2 2.4 3.3	5,000.00	
4. Vidzeme Plannin	Communication	CAT4-PP4-C-1	Cost for project communication means 37 / 100 characters	No	3.1 3.3	4,000.00	
4. Vidzeme Plannin	Other	CAT4-PP4-G-1	Travel costs for stakeholders, study visits 43 / 100 characters	No	1.3 2.2 2.4	3,000.00	
4. Vidzeme Plannin	Specialist support	CAT4-PP4-E-1	Support for region-specific implementation plans and pilot project in LV 72 / 100 characters	No	2.1 2.2 2.4	35,000.00	
4. Vidzeme Plannin	Communication	CAT4-PP4-C-1	Translation costs 17 / 100 characters	No	3.1 3.2	2,000.00	
	Total					507,499.60	

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
4. Vidzeme Plannin	Communication	CAT4-PP4-C-2	Visual design for marketing materials and communication materials 66 / 100 characters	No	3.1 3.2	3,000.00	
5. University of Tart	IT	CAT4-PP5-B-2	Cloud computing resources for server, web platform, storage, maps services (Google or Mapbox) 93 / 100 characters	No	1.1	10,000.00	
5. University of Tart	Events/meetings	CAT4-PP5-A-2	Organisation of workshop / conference 37 / 100 characters	No	1.1 2.1 3.3	7,000.00	
5. University of Tart	Other	CAT4-PP5-G-2	Travel costs for stakeholders If Tartu pay for e.g. Ministries 62 / 100 characters	No	1.1 2.4	5,000.00	
5. University of Tart	Communication	CAT4-PP5-C-2	Promotional video, roll-up banner, printed materials 52 / 100 characters	No	1.1 3.1 3.3	6,000.00	
6. Chalmers Univer	Events/meetings	CAT4-PP6-A-2	Workshop, webinar/seminar, partner meeting, conference 54 / 100 characters	No	1.1 1.2 3.3	8,000.00	
6. Chalmers Univer	Communication	CAT4-PP6-C-2	Visual design and communication costs 37 / 100 characters	No	3.1	5,000.00	
7. Reiner Lemoine I	Events/meetings	CAT4-PP7-A-2	Conference, Workshops, Partner Meetings 39 / 100 characters	No	1.1 1.4 3.3	14,000.00	
7. Reiner Lemoine I	Communication	CAT4-PP7-C-2	Visual design and communication costs 37 / 100 characters	No	1.4 3.1	5,000.00	
7. Reiner Lemoine I	National control	CAT4-PP7-F-2	Cost for vildation of CAT4 expenses 35 / 100 characters	No	N/A	1,000.00	
9. CLIC Innovation	Events/meetings	CAT4-PP9-A-3	external costs for stakeholder workshops, partner meetings, conference 70 / 100 characters	No	1.3 2.2 3.3	15,000.00	
	Total					507,499.60	

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
9. CLIC Innovation	National control	CAT4-PP9-F-3	designated controller services 30 / 100 characters	No	N/A	2,000.00	
9. CLIC Innovation	Other	CAT4-PP9-G-3	travel of invited speakers to events locations 46 / 100 characters	No	1.3 3.3	5,000.00	
9. CLIC Innovation	Specialist support	CAT4-PP9-E-3	Expertise for the Finnish Pilot project 39 / 100 characters	No	2.1 2.2	30,000.00	
	Total					507,499.60	

7.1.2 Equipment

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
4. Vidzeme Plannin	IT hardware and soft	CAT5-PP4-B-0	Laptop for staff member 23 / 100 characters	No	1.1 1.2 1.3 1.4 2.1 2.2 2.3 2.4 3.1 3.2 3.3 N/A	1,600.00	
	Total					10,600.00	

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
5. University of Tart	IT hardware and soft	CAT5-PP5-B-0	MacBook and Iphone for app development for Iphone users 55 / 100 characters	No	1.1	3,000.00	
5. University of Tart	IT hardware and soft	CAT5-PP5-B-0	PC-s 4 / 100 characters	No	1.1 3.1	4,500.00	
1. Ministry of Econo	IT hardware and soft	CAT5-PP1-B-0	Laptop for project coordinator 30 / 100 characters	No	1.1 1.2 1.3 1.4 2.1 2.2 2.3 2.4 3.1 3.2 3.3 N/A	1,500.00	
	Total					10,600.00	

7.1.3 Infrastructure and works

Contracting partner	Group of expenditure	Item no.	Specification	Investment item?	Group of activities no.	Planned contract value	
Please select	Please select	CAT6-PP--01	0 / 100 characters	Please select		0.00	
	Total					0.00	

7.2 Planned project budget per funding source & per partner

No. & role	Partner name	Partner status	Country	Funding source	Co-financing rate [in %]	Total [in EUR]	Programme co-financing [in EUR]	Own contribution [in EUR]	State aid instrument
1-LP	Ministry of Economics, Infrastructure, Tourism and Labour Mecklenburg-Vorpommern	Active 22/09/2022	DE	ERDF	80.00 %	618,000.00	494,400.00	123,600.00	For each partner, the State aid relevance and applied aid measure are defined in the **State aid section**
2-PP	Ministry of Transport and Communications of the Republic of Lithuania	Active 22/09/2022	LT	ERDF	80.00 %	219,200.00	175,360.00	43,840.00	
3-PP	Polish Alternative Fuels Association (PSPA)	Active 22/09/2022	PL	ERDF	80.00 %	211,074.00	168,859.20	42,214.80	
4-PP	Vidzeme Planning Region	Active 22/09/2022	LV	ERDF	80.00 %	274,600.00	219,680.00	54,920.00	
5-PP	University of Tartu	Active 22/09/2022	EE	ERDF	80.00 %	247,826.40	198,261.12	49,565.28	
6-PP	Chalmers University of Technology	Active 22/09/2022	SE	ERDF	80.00 %	349,070.80	279,256.64	69,814.16	
7-PP	Reiner Lemoine Institut gGmbH	Active 22/09/2022	DE	ERDF	80.00 %	239,648.00	191,718.40	47,929.60	
8-PP	Localiser RLI GmbH	Active 22/09/2022	DE	ERDF	80.00 %	84,864.00	67,891.20	16,972.80	
9-PP	CLIC Innovation Ltd	Active 22/09/2022	FI	ERDF	80.00 %	313,300.00	250,640.00	62,660.00	
Total ERDF						2,557,583.20	2,046,066.56	511,516.64	
Total						2,557,583.20	2,046,066.56	511,516.64	

7.3 Spending plan per reporting period

	EU partners (ERDF)		Total	
	Total	**Programme co-financing**	**Total**	**Programme co-financing**
Preparation costs	24,000.00	19,200.00	24,000.00	19,200.00
Period 1	200,000.00	160,000.00	200,000.00	160,000.00
Period 2	260,000.00	208,000.00	260,000.00	208,000.00
Period 3	360,000.00	288,000.00	360,000.00	288,000.00
Period 4	430,000.00	344,000.00	430,000.00	344,000.00
Period 5	495,000.00	396,000.00	495,000.00	396,000.00
Period 6	788,583.20	630,866.56	788,583.20	630,866.56
Total	2,557,583.20	2,046,066.56	2,557,583.20	2,046,066.56