



Interreg Baltic Sea Region Programme project

“BSR Hydrogen Air Transport – Preparation of Baltic Sea Region Airports for Green Hydrogen” (“BSR HyAirport”)

Group of Activities 2.3 Airport Equipment

21st July 2026

Terms of Reference for rent of a fuel cell electric airport baggage / equipment tractor with GPU functionality for demonstration in airport

Summary

Project background

The need for sustainable aviation in the Baltic Sea Region. Given the geo-economic structure of the region, efficient and reliable air transport is of great importance for the mobility of people and businesses in the Baltic Sea Region (BSR). Air transport not only provides access to peripheral areas but also helps to connect regions on all sides of the Baltic Sea. As many flights cover short distances in an environmentally sensitive area, the BSR has great potential to benefit from the introduction of (gaseous) hydrogen-powered aircraft, which are expected to come onto the market in the coming years.

The BSR HyAirport project: a vision for hydrogen aviation. The Interreg Baltic Sea Region Program's project BSR HyAirport (BSR Hydrogen Air Transport - Preparation of Baltic Sea Region Airports for Green Hydrogen) aims to facilitate the early adoption of this key technology (GH2) in the BSR by preparing airports for storing, handling, and delivering gaseous green hydrogen (GH2) as a future energy source in aviation. Common challenges to be addressed by the partnership include the evaluation of options and elaboration of concepts for the regional supply of green hydrogen (GH2) to airports according to local demand, legal and safety requirements related to GH2 storage and handling at airports, and the development and testing of equipment and procedures for refuelling and handling hydrogen-powered aircraft. With a partnership of airports, technology partners, airlines, and research institutions from across the programme area, the project will create a unique (maybe leading) platform for the joint development, implementation, and testing of practical solutions serving the common challenges and specific needs of hydrogen-powered aviation in the BSR region.

Additional information is available on the project website <https://interreg-baltic.eu/project/bsr-hyairport/>

Description of WP2 of project BSR HyAirport

The aim of this work package is to pilot, evaluate and adjust solutions. Several pilots are to be demonstrated to validate the usefulness of the solutions prepared in Work Package 1.

Work Package 2 intend to pilot, evaluate and adjust solutions together with target groups of stakeholders. By the end of this work package implementation the solutions should be ready to be transferred to target groups in Work Package 3.

The piloted and adjusted solution should be presented in one project output.

Description of Group of activities 2.3 in WP2

Group of activity 2.3 builds on the insights gained from the feasibility study on using green hydrogen for airport ground equipment and terminal operations. Subject to the earlier findings from WP 1, it is currently planned to equip an airport ground equipment with a hydrogen propulsion/power source and test it during ongoing airport operations.

The pilot operations are also expected addition to gaining insights into the reliability, performance, and reduction of emissions of hydrogen-powered heavy airport equipment, the pilot operations are also expected to have a general demonstration effect regarding other possible fields of application for green hydrogen as a sustainable energy source in airport operations, especially in to have a general demonstration effect regarding other possible fields of application for green hydrogen as a sustainable energy source in airport operations, especially in areas where other alternative solutions are difficult to implement due to technical constraints.

Pilot tests and operational performance of airport equipment will be analyzed.

According to the current planning status, pilot tests are planned in Riga airport and possibly also at a other partnership airport locations, whereby other project partners are to be involved in the preparation, implementation, and follow-up. Testing the airport ground equipment using (semi-temporary) refueling systems also represents a link to piloting the preparation, implementation, and follow-up. Testing the converted airport ground equipment using (semi-temporary) refueling systems also represents a link to piloting the developed supply chain solutions for green hydrogen at these locations.

The findings gained during pilot operations, along with the feasibility study results from the previous group of activity 1.4, will be documented and made available to the target groups and the interested public. For this purpose and within WP 3, two seminars and press conferences are planned at the project locations in Helsinki and Riga parallel to the planned pilot operations. In addition, the findings gained during pilot operations may also provide input for a final planned update of the developed business case analyses under group of activity 2.4.

Object of the procurement.

The Contracting Authority intends to procure a rental service for one complete, safe and fully operational hydrogen fuel cell electric airport baggage / equipment towing tractor with GPU functionality. The vehicle shall be suitable for temporary deployment at an operational airport and for towing baggage carts, mail and light-cargo trailers in sorting, apron and engineering-technical areas.

The procurement covers the vehicle, onboard fuel-cell and hydrogen-storage systems, all required accessories, operator training, technical support, performance monitoring. The base offer shall cover a rental period of at least 30 consecutive calendar days of standart operation. Exact deployment dates will be confirmed before contract signature.

Estimated contract value: 50 000 EUR

Service provider requirements (minimum eligibility criteria). Service provider (or consortium) must demonstrate:

- The applicant must not have any tax obligations, including mandatory state social insurance contributions, debts or other outstanding public payment obligations
- The applicant must have successfully supplied, rented or operated at least one gaseous-hydrogen powered fuel cell electric baggage tractor or comparable heavy-duty vehicle during the last three years. A client reference and concise project description shall be provided.
- The applicant shall demonstrate ownership of the vehicle or written authorisation from the owner/manufacture to rent and deploy it for the proposed demonstration activities.
- The applicant must demonstrate Capacity to ensure technical support of provided vehicle with required qualification staff
- The applicant must demonstrate availability of vehicle for delivery to Riga Airport for demonstration activities no later than 21st August 2026.
- The applicant must demonstrate capacity to ensure technical support of OEM.
- Subcontracting is permitted if clearly disclosed. The lead applicant remains fully responsible for compliance, coordination and delivery of the complete service.

Evaluation Criteria

Tenders will be evaluated on the basis of the best price

1. Scope of supply and services

1.1. Vehicle, hydrogen system and accessories

- One hydrogen powered fuel cell electric airport baggage/equipment tractor with GPU functionality meeting the minimum requirements in Section 2
- A complete onboard fuel-cell electric powertrain, buffer battery, onboard hydrogen storage supply system, control and safety systems.
- Airport-compatible front and/or rear towing couplings and any adapters required for the agreed baggage carts, cargo trailers and tow bars.
- An enclosed or weather-protected driver cabin, lights, beacon, mirrors, wipers, heating/defrosting and other equipment required for safe airport use.

1.2. Delivery and commissioning

- Transport to and from the demonstration site, including any cross-border logistics, unloading, positioning, inspection, functional testing and commissioning by qualified personnel.
- Coordination with the Contracting Authority and airport representatives regarding airside access, security checks, driving permits, work windows, escort requirements and operational restrictions.
- Training for nominated drivers, technical staff and emergency-response representatives covering normal operation, daily checks, alarms, refuelling, emergency shutdown and safe isolation.

1.3. Pilot operation and support

- Technical support throughout the rental period, including remote diagnostics and on-site intervention when required.
- Monitoring and recording of operating hours, fuel-cell and battery performance, hydrogen use, alarms, interruptions, maintenance and test results.
- Safe shutdown, depressurisation where required after demonstration.
- Submission of a final technical report and electronic data set

2. Minimum technical requirements

Proposal that does not meet a requirements may be rejected as non-compliant. The tenderer shall state the offered value and provide supporting data sheets or certificates for each requirement.

No.	Requirement	Minimum requirement / information to be provided
1	Vehicle technology	Self-propelled airport baggage / equipment tractor with a electric drive. Gaseous hydrogen shall be the primary onboard energy carrier. A battery-electric, plug-in hybrid diesel or CNG vehicle is not acceptable as the primary offered solution
2	Reference model / equivalence	MULAG Comet 4E with GLOBE XLP80 fuel-cell system, or another proven equivalent vehicle meeting all requirements. Equivalent characteristics should be stated
3	Airport application	Suitable for baggage, mail and light-cargo trailer towing in airport sorting areas, apron zones and engineering-technical areas. The vehicle shall be suitable for repeated stop-start operation and low-speed manoeuvring
4	Traction motor and powertrain	Minimum traction motor power 30 kW. Electric drive control shall include regenerative braking or an equivalent energy-recovery function
5	Drawbar pull	At least 20 kN rated drawbar pull
6	Trailing load	Rated trailing load of at least 10 t at up to 30 km/h and at least 30 t at low speed of approximately 6 km/h on dry, level ground
7	Driving speed	Maximum speed at least 25 km/h. The vehicle shall support safe low-speed operation in sorting and apron areas

No.	Requirement	Minimum requirement / information to be provided
8	Buffer battery and degraded mode	An integrated traction/buffer battery shall support power supply, safe start-up and controlled return or shutdown. The vehicle shall remain manoeuvrable for a safe recovery procedure if hydrogen is depleted or the fuel-cell system is unavailable
9	Onboard hydrogen storage	Usable hydrogen capacity of at least 1.5 kg
10	GPU (Ground Power Unit) functionality	Vehicle shall be equipped with necessary certified converter to be able at stand by mode provide electrical power 400 Hz AC at 115 / 200 Volts and/or 28 Volts DC
12	Cold start and operating environment	Suitable for outdoor airport operation in Latvia. Minimum declared operating range shall be at least -10 °C to +40 °C. Cold start at -10 °C shall be possible within 60 seconds or the applicant shall include an approved pre-conditioning arrangement.
13	Cabin and ergonomics	Weather-protected driver cabin with at least one certified seat, seat belt where applicable, adjustable seat, clear controls, mirrors, windscreen, wiper/washer, heating and defrosting.
14	Towing equipment	Provide airport-compatible towing couplings and verify compatibility
15	Brakes, steering and tyres	Hydraulic dual-circuit or equivalent service braking system, parking brake, safe steering system and tyres suitable for airport operation
16	Airport vehicle safety equipment	Front/rear work and road lights, brake and direction indicators, amber beacon, horn, reversing warning and clearly marked emergency stop
17	Controls and data logging	Local status display and data logging for operation info like distance, speed, fuel-cell power, battery state of charge, hydrogen pressure or state of fuel, calculated/recorded hydrogen consumption, temperatures, warnings and alarms. Data shall be exportable in CSV, XLSX or another commonly used format
18	Emissions	No local pollutant exhaust emissions during normal operation other than vapour/liquid water and heat
19	Compliance and documentation	Provide CE marking and EU Declaration of Conformity where applicable. The vehicle shall comply with applicable EU and Latvian machinery, EMC, pressure-equipment/transportable-pressure-equipment, ATEX, occupational-safety, fire-safety and hydrogen requirements. Compliance with EN 1915 series and EN 12312-15 or equivalent shall be stated. Provide manuals, schematics, certificates, inspection records and safety data sheets
20	Maintenance and condition	The rental vehicle shall be fully serviced, inspected, calibrated where relevant, free from defects and ready for operation. Preventive maintenance, consumables, fault rectification and replacement of defective components during the rental period shall be included, except where damage is caused by proven misuse
21	Technical support and site approval	Critical faults shall receive remote support within four working hours and, where remote recovery is not possible, on-site support within 24 hours unless otherwise agreed

3. Demonstration site, hydrogen supply and responsibilities

3.1. Demonstration site

The primary demonstration site is Riga Airport. A second demonstration at another BSR HyAirport partner airport may be agreed as an option. The exact location, usage profile and operational window will be confirmed following the site survey.

The vehicle shall be able to operate without disrupting airport operations. All personnel shall comply with airside access, security, occupational safety, fire-safety, driving and operational requirements. Work in restricted areas may be subject to permits, escorts and limited working hours.

3.2. Hydrogen supply

Hydrogen and refuelling equipment will be provided by Contracting Authority.

3.3. Contracting Authority responsibilities

- Provide available site information, the intended load profile and operation profile.
- Coordinate airport access and facilitate communication with the relevant site representatives.
- Review the proposed technical and safety documentation and confirm the deployment window.
- Provide reasonable access for delivery, operation, monitoring and pick-up - subject to airport rules.

3.4. Service provider responsibilities

- Verify all site information and identify any missing data before mobilisation.
- Supply vehicle, trained personnel, transport, insurance, tools and consumables necessary for the turnkey service.
- Support the Contracting Authority with permits, notifications and safety reviews that relate to the offered equipment.
- Remain responsible for the safe condition and correct operation of the rented equipment throughout the contract period.

4. Required content of the proposal

The proposal shall be submitted in English and shall remain valid for at least 60 calendar days from the submission deadline. It shall contain at least the following:

- A signed financial offer identifying the total price excluding VAT, VAT where applicable and the total price including VAT.
- A technical compliance statement responding to every requirement in Section 2, including offered values, deviations and references to supporting documents.
- Vehicle manufacturer and model, technical data sheets, information about key components production and commissioning dates, propulsion architecture, electrical diagram, hydrogen storage and refueling connection concept and a list of included equipment.
- Guaranteed drawbar pull, towing capacity, driving speed, operating autonomy, hydrogen capacity and consumption, refuelling time, operating range, dimensions, mass, noise and safety features.
- A proposed implementation plan covering site survey, delivery, training, pilot support, reporting and pickup.
- Project references, the proposed technical support team, manufacturer/owner authorisation and the service/support arrangement.
- Lead time, earliest deployment date, proposed rental period, payment terms, offer validity, exclusions and assumptions.
- Copies or a list of relevant declarations, certificates and manuals that will be supplied before mobilisation.
- Weekly and/or monthly rental-extension rate
- Costs for optional deployment for demonstration at another partner airport

5. Implementation methodology, acceptance and deliverables

Stage	Activity	Minimum output / acceptance evidence
1	Kick-off and site survey	Confirm routes, loads, towing interfaces, parking, refuelling location, hydrogen logistics, access, safety constraints and implementation schedule. Submit a action list.
3	Delivery and inspection	Transport, unload and inspect all systems functionality of the vehicle
5	Training and handover	Train nominated personnel and provide operating, daily-check, shutdown and emergency-response instructions. Record attendance and handover.
6	Pilot operation	Support the vehicle operation for the agreed rental period, Record performance characteristics of propulsion, distance, hydrogen consumption, refuelling, availability, alarms and interruptions. Ensure maintenance support for the agreed rental period.
7	Final report and data set	Within ten working days after the pilot, submit an electronic report and data set summarising configuration, performance characteristics of propulsion, hydrogen consumption, refuelling, availability, alarms and interruptions as also recommendations.
8	Decommissioning and pickup	Safely prepare vehicle for transportation, disconnect and remove all additional equipment. If applicable restore the demonstration area to the condition agreed with the Contracting Authority.

Final acceptance will occur after the Contracting Authority has received the agreed demonstration data and final report.

6. Timeframe

- 6.1. Proposals for the service delivery should be submitted by August 5th, at 18.00 o'clock EET
- 6.2. Proposal validity should be at least 60 calendar days from the submission deadline
- 6.3. Expected delivery of equipment after demonstration site survey, but no later than 21st August 2026
- 6.4. The report about provided system operation in real life environment at partner airport should be provided no later than 21st October 2026

7. Contracting procedure and payment information

- 7.1. Tenderers may suggest their preferred details of the contracting and payment information
- 7.2. The price for the evaluated scope shall be fixed and all-inclusive, except for optional services or quantities ordered under the separately quoted unit rates
- 7.3. Applicant shall propose a milestone-based payment schedule. Payments will be made only against a valid invoice and acceptance of the corresponding milestone. The final instalment shall be linked to approval of the final report and completion of demonstration
- 7.4. Applicant retains ownership of the rental vehicle and is responsible for its insurance, maintenance and safety condition. Allocation of risk for damage caused by misuse, airport operations or force majeure will be specified in the contract
- 7.5. The Contracting Authority shall have the right to use and publish demonstration results, non-confidential operational data, photographs and the final report for BSR HyAirport project purposes. Pre-existing intellectual property in the equipment and proprietary control software remains with its owner
- 7.6. VAT shall be applied in accordance with the applicable tax rules.

8. Clarifications and submission

Requests for clarification and completed proposals shall be sent to the contact and electronic address stated in the procurement invitation. Applicant are responsible for identifying any ambiguity, conflict or missing interface information before the submission deadline. The Contracting Authority may request clarification of a tender but is not obliged to accept material changes after the deadline.