

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 the Rental of a Mobile Hydrogen Refuelling Unit for an Airport Demonstration

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 essential for the mobility of people and businesses throughout the Baltic Sea Region (BSR). Air transport provides access to peripheral areas and connects regions on all sides of the Baltic Sea. Because many routes are comparatively short and operate in an environmentally sensitive region, the BSR has substantial potential to benefit from the introduction of gaseous-hydrogen-powered aviation and related ground-support technologies.

The BSR HyAirport project: a vision for hydrogen aviation. The Interreg Baltic Sea Region Programme project BSR HyAirport (BSR Hydrogen Air Transport – Preparation of Baltic Sea Region Airports for Green Hydrogen) aims to facilitate the early adoption of gaseous green hydrogen (GH₂) by preparing airports to store, handle and deliver GH₂ as a future energy source for aviation and airport operations. The partnership addresses common challenges including regional hydrogen supply concepts, applicable legal and safety requirements, and the development and testing of equipment and procedures for handling and refuelling hydrogen-powered equipment. By bringing together airports, technology providers, airlines and research institutions from across the programme area, the project establishes a joint platform for developing, implementing and testing practical hydrogen solutions for airports in the BSR.

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

Description of WP2 of project BSR HyAirport

Work Package 2 is intended to pilot, evaluate and refine solutions prepared in Work Package 1 together with relevant stakeholder groups. By the end of Work Package 2, the piloted solutions are expected to be sufficiently validated and documented for transfer to target groups under Work Package 3. The piloted and adjusted solution shall be presented in a project output.

Description of Group of Activities 2.3 in WP2

Group of Activities 2.3 builds on the feasibility study concerning the use of green hydrogen for airport ground equipment and terminal operations. Subject to the findings of Work Package 1, the project plans to operate and assess hydrogen-powered airport ground equipment during live airport operations.

The pilot is intended to generate evidence on reliability, operational performance and emissions reduction, while also demonstrating other potential uses of green hydrogen in airport operations, particularly where alternative decarbonisation solutions are difficult to implement because of technical or operational constraints.

Pilot activities are planned primarily at Riga Airport and may, subject to agreement, also be carried out at another BSR HyAirport partner airport. The use of a temporary or semi-temporary mobile hydrogen refuelling solution is an integral part of the pilot and provides a practical link to the green-hydrogen supply-chain concepts developed under the project. The results of the pilot will be analysed, documented and made available to project target groups and the interested public in accordance with the project's dissemination obligations.

Object of the procurement

The Contracting Authority intends to procure a turnkey rental service for a complete, safe, compliant and operational mobile or semi-mobile gaseous-hydrogen refuelling unit capable of refuelling the agreed hydrogen-powered airport ground equipment at the H35 pressure class (nominal working pressure 35 MPa at 15 °C) by means of a cascade filling arrangement. The refuelling unit, source storage, ancillary equipment and associated services are collectively referred to in these Terms of Reference as the “Unit” or the “Rental Service”.

The procurement includes the Unit, high-pressure hydrogen storage in cylinder bundles or equivalent transportable storage, hydrogen required for the agreed base demonstration, all pressure and safety equipment, engineering, transport, unloading, positioning, installation, site-specific safety documentation, operator training, qualified operational support, performance monitoring, removal and restoration of the deployment area. The base offer shall cover a rental period of at least 30 consecutive calendar days commencing on successful site acceptance, unless a different commencement date is agreed in writing.

For comparable pricing, the base offer shall include sufficient hydrogen and storage logistics for at least one complete demonstration refuelling operation. The Applicant shall state all assumptions concerning receiving-tank volume, initial pressure, target pressure, expected transferred mass, source-tank pressures and residual pressure.

Estimated contract value: 35 000 EUR

Service provider requirements (minimum eligibility criteria)

The Applicant or the consortium collectively shall demonstrate the following:

- 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 implemented at least one project that is analogous or similar in terms of content, technical content and nature of services provided within the last three years. An analogous project is a project that includes the installation, testing, commissioning and technical maintenance of a gaseous-hydrogen refuelling system, hydrogen dispenser or equivalent hydrogen-transfer system. A client reference and concise project description shall be provided.
- Availability of suitably qualified personnel for high-pressure hydrogen systems, pressure equipment, hazardous-area electrical equipment and safe hydrogen transfer. The Tenderer shall identify at least one responsible technical lead and the personnel proposed for site installation, commissioning and operation, together with relevant qualifications and experience.
- The applicant must demonstrate Capacity to ensure technical support of provided equipment with required qualification staff
- The applicant must demonstrate availability of equipment 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

Proposals will be evaluated on the basis of the best price

1. Scope of supply and services

1.1. Equipment and accessories

- One complete mobile or semi-mobile H35 gaseous-hydrogen refuelling Unit meeting all minimum requirements in Section 2.
- High-pressure hydrogen source storage cylinder bundles, banks or an equivalent transportable storage configuration, together with all supports, restraints, isolation arrangements and changeover equipment required for cascade filling.
- Hydrogen-compatible high-pressure regulators, manifolds, shut-off valves, non-return valves, excess-flow protection, filters, pressure-relief devices, vent lines, pressure gauges and transmitters, temperature sensors, flow or mass-measurement equipment, and all interconnecting pipework or hoses required for a complete system.
- A refuelling hose assembly with a suitable H35LF nozzle, hose-breakaway protection, nozzle parking and protective caps.

- Earthing and bonding equipment, weather protection, stabilisers or wheel chocks, barriers, impact protection, warning signs, exclusion-zone markings, lighting and any other temporary site equipment required for safe operation
- All electrical power supplies, cables, certified hazardous-area equipment and communications equipment required for operation
- All consumables, special tools, calibrated test instruments, spare parts and personal protective equipment required for installation, commissioning, operation and removal.

1.2. Engineering, installation and commissioning

- A site survey and confirmation of the electrical, hydrogen, spatial, environmental, access and safety interfaces.
- Written confirmation of compatibility between the Unit and the receiving equipment, including the receiving-tank nominal working pressure, maximum allowable pressure, water capacity, permitted temperature range, connector type, maximum permitted mass flow, required refuelling protocol and any OEM restrictions.
- A site-specific layout, connection diagram, process and instrumentation diagram (P&ID), installation method statement, lifting plan where relevant, operation manual and emergency response instructions, proposed safety distances.
- Support for permits, notifications, work authorisations and airport safety reviews that relate to the offered equipment, hydrogen delivery, installation and operation.
- Transport to and from the demonstration site, unloading, positioning, securing, installation, bonding/earthing, connection, leak testing, functional testing and commissioning by qualified personnel.
- Coordination with the Contracting Authority and airport representatives regarding access permits, escorts, work windows, security requirements and operational restrictions.
- Training for nominated personnel covering normal operating conditions, pre-use checks, alarms, emergency shutdown, safe isolation, prohibited actions and incident reporting. The Service Provider shall remain responsible for operating or directly supervising every hydrogen-transfer operation unless otherwise agreed in writing following documented competence assessment.

1.3. Pilot operation, support and removal

- Qualified technical support throughout the rental period, including on-site intervention where required to maintain safe operation.
- Pre-use inspections and confirmation that the Unit, storage bundles, hoses, nozzle, safety devices, detector calibration and statutory inspection status remain valid throughout the rental period.
- Safe shutdown, depressurisation or isolation as appropriate, disconnection, removal of all equipment and residual consumables, and restoration of the demonstration area after the pilot.
- Submission of a final technical report in accordance with Section 5.

2. Minimum technical requirements

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

No.	Requirement	Minimum requirement / information and evidence to be provided
1	System configuration and intended use	A complete mobile or semi-mobile gaseous-hydrogen refuelling Unit suitable for temporary outdoor deployment at an airport and for controlled refuelling of the agreed demonstration equipment. The principal filling method shall be cascade pressure transfer from transportable storage banks. A compressor may be included but is not mandatory, provided the guaranteed target pressure, transferred mass and safety requirements are achieved. No permanent civil works are permitted unless approved in writing.
2	Refuelling pressure class	H35 pressure class: nominal working pressure 35 MPa at 15 °C. Equipment with a higher pressure rating is acceptable only where it is positively configured, pressure-limited, labelled and documented for safe H35 operation and cannot expose the receiving system to a pressure above its approved limit.
3	Cascade function	Sequential filling from not fewer than two independently isolatable source banks, with manual or automatic bank selection/changeover. The Applicant shall state the number of banks, water volume, nominal and initial pressure, minimum

No.	Requirement	Minimum requirement / information and evidence to be provided
		residual pressure, usable hydrogen mass, changeover logic and expected transferred mass.
4	Hydrogen source storage	High-pressure cylinder bundle(s), bank(s) or equivalent transportable storage with a nominal filling/working pressure of at least 350 bar. The complete source configuration shall be capable of achieving the guaranteed receiving pressure; where a 350 bar source alone is insufficient, the Applicant shall include the necessary higher-pressure bank, booster/compressor or alternative compliant arrangement. Transportable pressure equipment shall have valid inspections and marking where required.
5	Operating environment	Safe operation and declared performance at hydrogen-process-medium temperatures from –25 °C to +40 °C and ambient temperatures from –25 °C to +40 °C. Any performance derating, heat tracing, enclosure heating, ventilation or other environmental limitation shall be stated and included in the offer.
6	Inlet pressure	The inlet manifold and all upstream pressure-bearing components shall be suitable for gaseous hydrogen and have a maximum allowable pressure (PS) of not less than 400 bar(g). The Tenderer shall state the normal operating pressure range, connection type and all pressure limitations.
7	Outlet pressure and control	Controlled and adjustable outlet pressure up to 350 bar(g), subject always to the lower of the receiving-equipment limit and the approved refuelling procedure. Pressure-control tolerance and measurement accuracy shall be stated.
8	Hydrogen flow	Adjustable or automatically controlled hydrogen mass flow. The maximum permitted mass-flow setting shall not exceed 30 g/s. The Tenderer shall state the available control range, guaranteed maximum continuous and peak flow, measurement accuracy and expected fill duration for the stated assumptions.
9	Refuelling connector compatibility	The nozzle and receiving-equipment interface shall comply with ISO 17268-1:2025 (including applicable corrigenda) and be compatible with SAE J2600_201510 for the H35 pressure class, or equivalent. H35LF compatibility shall be provided where confirmed as necessary for the receiving equipment. The exact nozzle configuration shall be confirmed during the site survey and included in the base price.
10	Refuelling protocol and OEM compatibility	Before mobilisation, the Service Provider shall issue a written compatibility statement identifying the applicable refuelling protocol and confirming compliance with the receiving-equipment OEM requirements. Where protocol-controlled refuelling is required, the Unit shall implement the relevant SAE J2601-series protocol, an OEM-approved protocol or an equivalent validated protocol. Simple pressure-equalisation/cascade filling without protocol-based temperature compensation is acceptable only where expressly approved by the receiving-equipment operator/owner.
11	Pressure regulation and isolation	Hydrogen-compatible high-pressure regulator(s), manual shut-off valves and other control equipment shall be provided as required by regulations. Materials and seals shall be suitable for hydrogen service and the stated pressure/temperature range.
12	Pressure relief and safe venting	Relief, purge and vent discharge shall be routed to a safe outdoor location
13	Hose assembly and breakaway	A hydrogen-rated refuelling hose suitable for H35 service, with appropriate electrical conductivity/anti-static properties, strain relief, protective measures and a certified breakaway device. The hose assembly shall comply with the applicable requirements of ISO 19880-5 or equivalent and shall have valid inspection/test evidence.
14	Hazardous areas, electrical safety and enclosure	Electrical and instrumentation equipment installed in classified areas shall be suitable and certified for the applicable zone and gas group. The outdoor or sheltered-outdoor arrangement shall provide at least IP54 protection for relevant enclosures, or equivalent. The Unit shall include a designated earthing/bonding point and all required bonding leads. Any external electrical supply requirement shall be stated; where required, the interface shall be 230 V AC, 50 Hz unless otherwise agreed.
15	Mobility, securing and site footprint	Trailer-mounted, skid-mounted, containerised or otherwise readily transportable and removable without permanent works. The Unit shall include safe lifting/tie-down points, stabilisers or wheel chocks as applicable, and provision for protection against unintended vehicle impact. The Applicant shall state transport

No.	Requirement	Minimum requirement / information and evidence to be provided
		dimensions, deployed footprint, mass, axle loads where relevant, lifting requirements and minimum safety/exclusion distances.
16	Instrumentation and calibration	Local indication of at minimum source-bank/inlet pressure, outlet pressure, should be provided. Measurement instruments used for acceptance evidence shall have current calibration certificates traceable to recognised standards.
17	Compliance and documentation	Provide CE marking and an EU Declaration of Conformity where applicable, together with the applicable conformity-assessment documentation. Components and the complete installation shall comply, as applicable, with Directive 2014/68/EU (Pressure Equipment), Directive 2010/35/EU (Transportable Pressure Equipment), Directive 2014/34/EU (ATEX equipment), Directive 1999/92/EC (workplace explosive atmospheres), Directive 2006/42/EC (Machinery), ADR requirements, applicable Latvian law and airport rules. The design and operation shall follow ISO 19880-1:2020, ISO 19880-2:2025 and relevant parts of the ISO 19880 series, or equivalent, to the extent applicable to a mobile demonstration unit. Provide manuals, P&ID, schematics, declarations, certificates, inspection records, maintenance status, calibration certificates and safety data sheets before start of operation.

3. Demonstration site, hydrogen supply and responsibilities

3.1. Demonstration site and receiving equipment

The primary demonstration site is Riga Airport. An optional second deployment at another BSR HyAirport partner airport may be agreed through a written contract amendment as an option. The exact location, access route, operating window, refuelling bay, receiving-equipment details and interface requirements will be confirmed through the site survey.

The Unit shall be positioned and operated without unreasonable disruption to airport operations. All personnel shall comply with site access, security, occupational safety, fire-safety and operational requirements. Work in restricted areas may be subject to permits, escorts and limited working hours.

3.2. Hydrogen supply and logistics

The base price shall include hydrogen, cylinder-bundle or storage rental, delivery, collection and exchange services sufficient for training process and at least one demonstration refuelling operation. The Applicant shall state the included hydrogen quantity in kilograms, source pressure, usable quantity and all assumptions used. Additional hydrogen shall be priced separately per kilogram, and each additional delivery or bundle exchange shall be priced as a separate unit rate.

3.3. Contracting Authority responsibilities

- Provide the available site information, intended receiving-equipment data, expected fill profile and any known operational restrictions.
- Coordinate airport access and facilitate communication with relevant airport, safety, security, fire-service and operational representatives.
- Identify the proposed deployment area and, where agreed, provide access to a suitable 230 V AC, 50 Hz electrical connection and other agreed site utilities.
- Review the Service Provider's technical and safety submissions within a reasonable time and confirm the approved deployment and operating windows.
- Provide reasonable access for installation, commissioning, operation, monitoring and removal, subject to airport rules and availability.
- Nominate an authorised representative for acceptance, operational coordination and incident communications.

3.4. Service Provider responsibilities

- Verify all information supplied by the Contracting Authority, identify missing or inconsistent interface data before mobilisation, and refrain from relying on unverified assumptions where they may affect safety or performance.
- Supply all equipment, temporary works, transport, insurance, consumables, tools and qualified personnel necessary for a complete turnkey Rental Service.
- Prepare and maintain all equipment-related permits, declarations, certificates, inspection records, operating procedures and safety documentation required for lawful and safe performance.

- Remain responsible for the safe condition, maintenance, calibration and correct operation of the rented equipment throughout the Contract period.
- Operate or directly supervise each refuelling operation and maintain an attendance if not agreed differently
- Notify the Contracting Authority immediately of any incident, near miss, unplanned hydrogen release, safety-system activation, damage or regulatory concern, and cooperate with any investigation.
- Comply with all instructions issued by the airport for immediate safety or operational reasons, without prejudice to the Service Provider's independent duty to stop work where conditions are unsafe.

4. Required content of the proposal

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

- A signed financial offer identifying the total base price excluding VAT, VAT where applicable and the total price including VAT.
- A completed technical compliance statement responding to every requirement in Section 2, including offered values, declared deviations and precise references to supporting documents.
- Manufacturer, model, serial-number range where available, year of manufacture, major-component manufacture/commissioning dates, system architecture, P&ID, hydrogen connection concept, layout and a complete list of included equipment.
- Details of the cascade-bank arrangement, initial and residual pressures, total and usable hydrogen capacity, estimated transferred mass, flow-control range, target pressure, expected fill duration and all calculation assumptions.
- Details of the proposed H35/H35LF connector, hose and breakaway device, applicable refuelling protocol, receiving-equipment compatibility approach and any pre-cooling or communication requirements.
- A proposed implementation plan covering site survey, compatibility confirmation, design and safety review, permits, delivery, installation, commissioning, acceptance, training, pilot support, reporting and removal.
- A preliminary safety approach addressing hazardous-area classification, hydrogen detection, ventilation, bonding/earthing, pressure relief and venting, fire-service coordination and emergency response.
- Comparable project references, proposed personnel qualifications, OEM support arrangements, subcontractors and the technical-support response plan.
- Lead time, earliest deployment date, proposed rental period, offer validity, payment terms, exclusions, assumptions and any conditions precedent.
- Copies of, or an indexed list identifying, the declarations, certificates, manuals, inspection records and calibration certificates that will be supplied before mobilisation.
- Weekly and monthly rental extension rate
- If available separate unit rates for: additional hydrogen per kilogram; each additional cylinder-bundle/storage delivery or exchange.
- 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 the receiving equipment, connector, tank data, target fill, hydrogen logistics, site layout, access, utilities, safety constraints and implementation schedule. Submit a signed site-survey record and action list.
2	Detailed design and safety review	Submit the site layout, P&ID, connection details, compatibility statement, refuelling procedure, emergency instructions, delivery/lifting plan, certificates and final equipment list.
3	Delivery and installation	Transport, unload, position, secure, bond/earth, connect, label and prepare the complete Unit at the approved location. Verify storage inspection status, exclusion zones, barriers, vent discharge and emergency access.
4	Site acceptance test	Verify documentation, visual condition, statutory markings, calibration status, leak tightness, pressure-control function, source-bank changeover, gas detection,

Stage	Activity	Minimum output / acceptance evidence
		alarms, emergency stops, automatic isolation, breakaway function or test evidence, bonding/earthing. Complete a controlled functional refuelling test to the agreed stop condition. No safety-critical non-conformity may remain open.
5	Training and handover	Train nominated personnel in operating limitations, pre-use checks, exclusion-zone control, alarm response, emergency shutdown, safe isolation and incident reporting. Record attendance and issue concise operating/emergency instructions.
6	Pilot operation	Operate or support the Unit operation by accepted staff for the agreed rental period.
7	Final report and data set	Within ten working days after completion of the pilot, submit an electronic report and data set summarising the configuration, compatibility basis, tests, fills, hydrogen delivered, performance, availability, alarms/incidents, maintenance, photographs and recommendations. Clearly identify any data limitations or assumptions.
8	Decommissioning and removal	Safely stop, isolate, disconnect and remove all rented equipment, residual consumables and waste, and restore the demonstration area to the condition agreed with the Contracting Authority. Submit a removal and site-restoration record.

Site acceptance shall be documented in a protocol signed by authorised representatives of both parties. The Contracting Authority may grant conditional acceptance subject to a written punch list only where the outstanding items do not affect safety, legal compliance, compatibility or the agreed demonstration performance. Any non-conformity attributable to the Service Provider shall be corrected promptly and at no additional cost. Final acceptance will occur after approval of the agreed pilot data and final report, removal of the Unit and confirmation that the site has been restored.

6. Timeframe

- 6.1. Tenders shall be submitted no later than 5th August 2026 at 18:00 Riga time (EEST, UTC+3).
- 6.2. The tender shall remain valid for at least 60 calendar days from the submission deadline.
- 6.3. The site survey and detailed implementation schedule shall be agreed promptly after contract award.
- 6.4. The Unit shall be delivered to Riga Airport and ready for commissioning no later than 21st August 2026, unless the parties agree an earlier date in writing.
- 6.5. The base rental period shall be at least 30 consecutive calendar days from successful site acceptance, subject to the final deployment schedule agreed in the Contract.
- 6.6. The final report and operational data set shall be submitted within ten working days after completion of the pilot and in any event no later than 21st October 2026, unless otherwise agreed in writing.

7. Contracting procedure and payment information

- 7.1. Applicant 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 removal/site restoration
- 7.4 Applicant retains ownership of the rental equipment and is responsible for its insurance, maintenance and safe 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 pilot 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.