



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 backup power unit 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 turnkey rental service for a complete, safe and operational hydrogen fuel cell backup power system with a continuous net electrical output of at least 5 kW. The system shall be mobile or semi-mobile, suitable for temporary deployment at an airport demonstration site and capable of supplying an agreed critical load during a grid interruption.

The procurement covers the equipment, all required accessories, engineering, transport, installation, hydrogen connection, commissioning, operator training, technical support, performance monitoring, decommissioning and removal. The base offer shall cover a rental period of at least 30 consecutive calendar days from successful commissioning. The exact deployment dates will be confirmed before contract signature.

For comparable pricing, the base offer shall include sufficient hydrogen and hydrogen storage logistics for commissioning, the site acceptance test and one demonstration run of at least one hours at the rated 5 kW output. The applicant shall quote any additional hydrogen and rental-extension costs separately.

Estimated contract value: 16 500 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 implemented at least one project that is analogous or similar in terms of content, technical complexity 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 fuel cell system as backup power solution for consumers of grid supplied energy. A client reference and concise project description shall be provided.
- 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 hydrogen fuel cell backup power unit meeting the minimum requirements in Section 2.
- Hydrogen storage or connection to an external gaseous hydrogen source, including all required pressure regulators, shut-off and non-return valves, relief devices, hoses, compatible connectors and supports.
- Electrical distribution, protection devices, cables, connectors and, where required, an automatic transfer switch and/or short-duration UPS/battery buffer for load transfer.
- Weather protection, ventilation, earthing/bonding, barriers, warning signs and other temporary site equipment required for safe operation.
- Any load bank or test equipment needed to demonstrate the guaranteed 5 kW output if the agreed airport load cannot be used for the acceptance test.

1.2. Engineering, installation and commissioning

- A site survey and confirmation of the electrical, hydrogen, spatial, environmental, access and safety interfaces.
- A site-specific layout, connection diagram, installation method statement, lifting plan where relevant, operation manual and emergency response instructions.
- Transport to and from the demonstration site, unloading, positioning, installation, connection, functional testing and commissioning by qualified personnel.
- Coordination with the Contracting Authority and airport representatives regarding access permits, work windows, security rules and operational restrictions.
- Training for nominated personnel covering normal operation, alarm response, emergency shutdown, daily checks and safe isolation.

1.3. Pilot operation, support and removal

- Technical support throughout the rental period, including remote diagnostics and on-site intervention when required.
- Monitoring and recording of operating hours, electrical output, generated energy, hydrogen use, alarms, interruptions, maintenance and test results.
- Safe shutdown, disconnection, removal of equipment and restoration of the demonstration area after the pilot.
- Submission of a final technical report and an electronic data set

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 to be provided
1	System technology	Hydrogen fuel cell-based electrical generator using gaseous hydrogen as the primary energy carrier. A battery/UPS may be included for start-up, load transfer and control functions. A battery-only system or a combustion generator as the primary source is not acceptable.
2	Continuous net output	At least 5.0 kW net continuous electrical output after internal auxiliary consumption at the agreed site conditions.
3	Electrical interface	230 V AC, 50 Hz, single-phase output suitable for standard loads.
4	Backup function and transfer	The system shall be capable of supplying power to the agreed consumer after loss of grid supply. State cold-start, warm-start and load-transfer times should be indicated. Where an uninterrupted or short-break transfer is required, the applicant shall include the necessary automatic transfer switch and/or UPS buffer.
5	Autonomy	The base configuration shall support at least eight hours of continuous operation at 5 kW without loss of supply, either through installed hydrogen storage or a safe storage-changeover arrangement. State usable hydrogen capacity and guaranteed runtime.
6	Operating environment	Suitable for temporary outdoor or sheltered-outdoor deployment at an airport. An outdoor enclosure shall provide at least IP54 or equivalent protection. Any arrangement required to maintain 5 kW output in the proposed conditions shall be included.
7	Mobility and footprint	Transportable and removable without permanent civil works unless specifically approved.
10	Controls and data logging	Local status display and data logging for electrical power, voltage, current, frequency, generated energy, operating hours, key temperatures, hydrogen pressure and/or calculated consumption, warnings and alarms. Data shall be exportable in a commonly used electronic format.
11	Communications	Available remote-monitoring and communication interfaces, such as Ethernet, Modbus TCP/RTU or equivalent. Remote monitoring is desirable; local export of the required data is mandatory.
12	Compliance and documentation	Provide CE marking and an EU Declaration of Conformity where applicable. The complete installation shall comply with all applicable electrical, EMC, pressure-equipment, machinery, fire-safety, hazardous-area and hydrogen-safety requirements. Provide manuals, schematics, certificates, inspection records and safety data sheets for supplied consumables.

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, load profile, connection point and operational window will be confirmed following the site survey.

The system shall be positioned and operated without disrupting 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

Proposal price shall include hydrogen, storage-container or cylinder/bundle rental, delivery and exchange services sufficient for commissioning, the acceptance test and at least one hour demonstration at 5 kW output. The tenderer shall state the estimated quantity in kilograms and all assumptions used.

Where additional hydrogen is required, it shall be priced separately per kilogram and per delivery/exchange. Hydrogen supplied by the applicant shall be suitable for the offered fuel cell. The applicant shall identify the hydrogen grade and, where available, provide information on renewable/green origin.

3.3. Contracting Authority responsibilities

- Provide available site information, the intended load profile and a suitable electrical connection point or access to the agreed consumer.
- 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 installation, operation, monitoring and removal - subject to airport rules.

3.4. Service provider responsibilities

- Verify all site information and identify any missing data before mobilisation.
- Supply all equipment, temporary works, trained personnel, transport, insurance and consumables necessary for the turnkey service.
- Support the Contracting Authority with permits, notifications and safety reviews that relate to the offered equipment and hydrogen installation.
- 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.
- Manufacturer and model, technical data sheets, information about key components production and commissioning dates, system architecture, electrical single-line diagram, hydrogen connection concept and a list of included equipment.
- Guaranteed continuous and peak output, start-up/transfer time, autonomy, hydrogen capacity and consumption, efficiency, operating range, noise, dimensions and mass.
- A proposed implementation plan covering site survey, design, safety review, delivery, installation, commissioning, training, pilot support, reporting and removal.
- A preliminary safety approach, including the proposed leak-detection, ventilation, shutdown, emergency and site-control measures.
- Project references, the proposed team 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 rental extension rate
- Additional hydrogen price per kg and delivery/exchange charge if demonstration is extended
- 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 load, electrical interface, location, hydrogen logistics, access, safety constraints and implementation schedule. Submit a site-survey record and action list.
2	Detailed design and safety review	Submit layout, electrical and hydrogen connection diagrams, method statement, risk assessment/HAZID, emergency instructions, lifting plan if relevant, certificates and final equipment list.
3	Delivery and installation	Transport, unload, position, connect, label and prepare the complete system for operation in the approved location.
4	Site acceptance test	Verify documentation, leak tightness, alarms, emergency stop, automatic isolation, electrical protection, grid-loss/transfer function, data logging and a continuous output of at least 5 kW for not less 10 minutes.
5	Training and handover	Train nominated personnel and provide operating, daily-check, shutdown and emergency-response instructions. Record attendance and handover.
6	Pilot operation	Operate/support the unit for the agreed rental period. Record output, energy, hydrogen use, uptime, alarms, maintenance and interruptions.
7	Final report and data set	Within ten working days after the pilot, submit an electronic report and data set summarising configuration, tests, energy generated, hydrogen consumption, efficiency, availability, incidents, maintenance, photographs and recommendations.
8	Decommissioning and removal	Safely isolate, disconnect and remove all rented equipment and waste/consumables, and restore the demonstration area to the condition agreed with the Contracting Authority.

Final acceptance will occur after the Contracting Authority has approved the site acceptance test, received the agreed pilot data and final report, and confirmed that the equipment has been removed and the site restored. Any non-conformity identified during acceptance shall be corrected by the service provider at no additional cost.

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. 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.