

## TECHNICAL SPECIFICATION

### 1. DESCRIPTION OF THE OBJECT OF THE PROCUREMENT

#### 1.1. CONCEPTS

##### 1.1.1. Buyer – JSC Lithuanian Airports

**1.1.2. Supplier** – an economic entity – a natural person, a private legal entity, a public legal entity, other organizations and their subdivisions or a group of such persons with whom the Buyer/Customer concludes the Agreement.

**1.1.3. Services** – Technical specification preparation and system design services for T5 arrivals BHS (2D and 3D BIM models).

**1.1.4. T5 Arrivals BHS** – the baggage handling system for the new Arrivals Terminal T5 at Vilnius Airport.

**1.1.5. Contract** – a Contract concluded between the Supplier and the Buyer regarding Object of the Purchase.

#### 1.2. PURCHASE OBJECT AND QUANTITIES

**1.2.1. Object of Procurement means** – Technical specification preparation and system design services of T5 arrivals BHS as follows:

1.2.1.1. Expert BHS consultations during the terminal building design phase (BHS layout, design coordination with terminal design team and resolution of issues related to the arrivals baggage system);

1.2.1.2. Cooperation with the designers and architects of the T5 Arrivals Terminal in the design of the T5 Arrivals BHS;

1.2.1.3. Airport and BHS capacity requirements evaluation;

1.2.1.4. Passenger flow growth analysis;

1.2.1.5. Peak time periods analysis;

1.2.1.6. Passenger flow analysis;

1.2.1.7. BHS maintenance analysis;

1.2.1.8. Security and customs process and measures analysis;

1.2.1.9. Space analysis for passenger flow, waiting area, dedicated BHS and auxiliary area;

1.2.1.10. Baggage trolley movement and baggage loading analysis;

1.2.1.11. BHS design (layout in 2D & 3D BIM format);

1.2.1.12. Design coordination support for other design disciplines necessary to design T5 arrivals BHS in T5 arrivals terminal.

1.2.1.13. Preparation of the Technical Specification in accordance with the requirements set out in paragraph 1.2.2.

**1.2.2.** Technical specifications as minimum must include (these topics must cover in a detailed way, with a goal to do not limit product selection):

1.2.2.1. GLOSSARY OF TERMS

1.2.2.2. INTRODUCTION

1.2.2.2.1. GENERAL

1.2.2.2.2. BHS CONTRACT DRAWINGS

1.2.2.2.3. PROJECT REQUIREMENTS

1.2.2.2.4. PROJECT DOCUMENTS TO BE SUBMITTED TO THE BHS INSTALLER

1.2.2.2.5. SCOPE AND DELIVERY REQUIREMENTS

1.2.2.2.6. SITE CONSTRUCTION

1.2.2.2.7. EXECUTION REQUIREMENTS

1.2.2.3. SCOPE OF WORKS

1.2.2.3.1. SCOPE OF WORKS TABLE

- 1.2.2.4. BHS DESIGN
  - 1.2.2.4.1. GENERAL BHS REQUIREMENTS
  - 1.2.2.4.2. PHASED INSTALLATION WORKS
  - 1.2.2.4.3. ARRIVALS BAGGAGE SCREENING
  - 1.2.2.4.4. SCREENING EQUIPMENT – PROVIDED BY OTHERS
- 1.2.2.5. PERFORMANCE REQUIREMENTS
  - 1.2.2.5.1. BHS THROUGHPUT
  - 1.2.2.5.2. NORMAL IN GAUGE (IG) BAGGAGE CHARACTERISTICS
  - 1.2.2.5.3. OUT OF GAUGE BAGGAGE
  - 1.2.2.5.4. SYSTEM AVAILABILITY
  - 1.2.2.5.5. BAG JAM FREQUENCY
  - 1.2.2.5.6. NOISE LEVELS
- 1.2.2.6. EQUIPMENT AND SYSTEM KEY REQUIREMENTS
  - 1.2.2.6.1. ENVIRONMENTAL CONDITIONS
  - 1.2.2.6.2. ELECTRICITY REQUIREMENTS
  - 1.2.2.6.3. HOURS OF OPERATION
  - 1.2.2.6.4. LAYOUT REQUIREMENTS
  - 1.2.2.6.5. QUEUE CONVEYOR REQUIREMENTS
  - 1.2.2.6.6. CONVEYOR SPEEDS
  - 1.2.2.6.7. STATIC & DYNAMIC EQUIPMENT LOAD REQUIREMENTS
  - 1.2.2.6.8. EQUIPMENT FINISHES
- 1.2.2.7. DESIGN COORDINATION AND DESIGN REQUIREMENTS
  - 1.2.2.7.1. PROVIDE APPROPRIATE ACCESS
  - 1.2.2.7.2. INTERFACE WITH BUILDING STRUCTURE
  - 1.2.2.7.3. PERSONNEL SAFETY
- 1.2.2.8. MAINTAINABILITY
  - 1.2.2.8.1. DESIGN OF THE COMPONENTS
  - 1.2.2.8.2. MAXIMUM MAINTENANCE TASK TIMES
  - 1.2.2.8.3. AVAILABILITY OF CONSUMABLES AND REPLACEMENT PARTS
  - 1.2.2.8.4. LIFESPAN
  - 1.2.2.8.5. COMPONENT STANDARDIZATION AND INTERCHANGEABILITY
  - 1.2.2.8.6. NAMING CONVENTION (EQUIPMENT IDENTIFICATION)
- 1.2.2.9. CODES AND STANDARDS
  - 1.2.2.9.1. REGULATIONS
  - 1.2.2.9.2. IATA STANDARDS
  - 1.2.2.9.3. ICAO STANDARDS
  - 1.2.2.9.4. INTERNATIONAL STANDARDS ORGANISATION (ISO)
  - 1.2.2.9.5. EUROPEAN STANDARDS
  - 1.2.2.9.6. VILNIUS AIRPORT STANDARDS
- 1.2.2.10. EQUIPMENT SPECIFICATIONS
  - 1.2.2.10.1. CONVEYOR EQUIPMENT
  - 1.2.2.10.2. ANGLE RECLAIM CAROUSELS
  - 1.2.2.10.3. ROLLER SHUTTER FIRE AND SECURITY DOORS
  - 1.2.2.10.4. STEELWORK, PLATFORMS, WALKWAYS, STAIRS AND LADDERS

- 1.2.2.11. LOW LEVEL CONTROLS (LLC) SYSTEM
  - 1.2.2.11.1. KEY REQUIREMENTS
  - 1.2.2.11.2. GENERAL ELECTRICAL REQUIREMENTS
  - 1.2.2.11.3. PROGRAMMABLE LOGIC CONTROLLERS (PLC)
  - 1.2.2.11.4. WIRING DEVICES
  - 1.2.2.11.5. PHOTOCELLS (PHOTOELECTRIC SENSORS) (PEC)
  - 1.2.2.11.6. CONTROL STATIONS
  - 1.2.2.11.7. LIGHT BEACONS / TOWER LAMPS
  - 1.2.2.11.8. AUDIBLE WARNINGS
  - 1.2.2.11.9. LLC / POWER DISTRIBUTION HARDWARE REQUIREMENTS
  - 1.2.2.11.10. FIELD BUS COMMUNICATION
  - 1.2.2.11.11. REQUIREMENTS FOR LICENSES
  - 1.2.2.11.12. EMERGENCY STOP CONCEPT
  - 1.2.2.11.13. BASIC CONVEYOR SYSTEM CONTROL FUNCTIONS
  - 1.2.2.11.14. FUNCTIONAL DESIGN SPECIFICATIONS (FDS) SUBMITTAL
  - 1.2.2.11.15. BHS CONTROL AND SCREENING ROOM
  - 1.2.2.11.16. CONTROL PANEL POSITIONS
- 1.2.2.12. SUPERVISORY CONTROLS AND DATA ACQUISITION SYSTEM (SCADA)
- 1.2.2.13. SYSTEM TESTING AND HANDOVER
  - 1.2.2.13.1. GENERAL
  - 1.2.2.13.2. TEST BAGS
  - 1.2.2.13.3. FACTORY ACCEPTANCE TESTS (FAT)
  - 1.2.2.13.4. INSTALLATION TESTS AND SNAGGING
  - 1.2.2.13.5. SITE ACCEPTANCE TESTS (SAT)
  - 1.2.2.13.6. SETTLING DOWN
- 1.2.2.14. OPERATE AND MAINTENANCE (O&M) MANUALS
  - 1.2.2.14.1. GENERAL
  - 1.2.2.14.2. OPERATIONS MANUAL
  - 1.2.2.14.3. MAINTENANCE MANUALS
- 1.2.2.15. TRAINING
  - 1.2.2.15.1. GENERAL
  - 1.2.2.15.2. TRAINING SCOPE
  - 1.2.2.15.3. OPERATIONAL TRAINING
  - 1.2.2.15.4. MAINTENANCE TRAINING
- 1.2.2.16. WARRANTY AND MAINTENANCE SERVICES
  - 1.2.2.16.1. GENERAL
  - 1.2.2.16.2. SUPPLIERS RESPONSIBILITIES
  - 1.2.2.16.3. BUYER MAINTENANCE SERVICES
  - 1.2.2.16.4. REQUIREMENTS FOR SUPPLY OF SPARE PARTS
  - 1.2.2.16.5. SUPORT SERVICES
  - 1.2.2.16.6. SUPPORT SERVICE SLA
  - 1.2.2.16.7. PREVENTIVE MAINTENANCE SERVICES
  - 1.2.2.16.8. SPECIAL WARRANTY
  - 1.2.2.16.9. VIOLATIONS OF WARRANTY OBLIGATIONS

- 1.2.2.17. BHS AND XRAY SUPPLIER RESPONSIBILITY MATRIX
- 1.2.2.17.1. BHS INTEGRATION
- 1.2.2.17.2. IT INTEGRATION
- 1.2.2.18. BHS AND OTHER CONTRACTOR RESPONSIBILITY MATRIX

Table 1. List of Purchased Services

No.	Name of the service	Duration	Quantity *	Service measurement
1.	<i>Technical specification preparation and system design services for the T5 arrivals baggage handling system (BHS) at Vilnius Airport.</i>	<i>4 months</i>	<i>1</i>	Set
2.	<i>Additional consultation services as required (additional service hours dedicated to the project) (hereinafter – Additional Consultation Services)</i>	<i>During contract</i>	<i>400</i>	<i>Hours</i>

\* The quantity indicated in line 1 of Table 1 is the maximum and may not be exceeded during the validity of the Contract, while the quantity indicated in line 2 is preliminary and may increase or decrease during the validity of the Contract, without exceeding the initial Contract value, excluding the technical specification preparation and system design services for the T5 arrivals baggage handling system at Vilnius Airport.

### 1.3. GENERAL REQUIREMENTS FOR THE DESIGN OF THE T5 ARRIVALS BHS AT VILNIUS AIRPORT

- 1.3.1. During the design phase, the Supplier shall closely cooperate with the T5 Arrivals Terminal designer.
- 1.3.2. The Supplier must evaluate the premises, buildings and surrounding areas of the BHS and based on the existing constraints and restrictions, offer the most effective design solutions.
- 1.3.3. All design works by the Supplier shall be done based on IATA recommendations and good practices at other airports.
- 1.3.4. Supplier shall make a design of T5 arrivals BHS with 7 baggage claim carousels.
- 1.3.5. The Design shall be implemented in two phases – **Phase 1:** 5 baggage claim carousels (to be installed together with the main T5 Arrivals terminal construction works); **Phase 2:** 2 additional baggage claim carousels (to be installed during the navigation tower demolition works), resulting in a total of 7 baggage claim carousels.
- 1.3.6. The design for seven baggage claim carousels for both stages shall be prepared within four months as a single design task.
- 1.3.7. The BHS must be designed to handle baggage from 2,650 passengers per hour. This corresponds to approximately 1,590 bags per hour, assuming that 60% of passengers have baggage.
- 1.3.8. Throughput confirmation shall be carried out after the completion of the BHS design works.
- 1.3.9. A one-way traffic flow for baggage carts is considered in the baggage unloading area. A two-way traffic flow may also be proposed if it is to be properly integrated into the general airside roadway and traffic flow scheme around the terminal. The Supplier shall coordinate the flow movements during the BHS design stage.
- 1.3.10. The Supplier preferably design baggage vehicle lanes with stopping bays on both sides of the input belts if space permits. Alternatively, single side off-load at input belts shall be considered. Adjacent to the vehicle stopping bays, design baggage lines where bags and other items can be inspected via

Customs X-ray machines before transportation to the baggage claim hall. The Buyer shall inform the Supplier of the Customs processes and requirements within 30 days of order for design placement.

- 1.3.11.** The design shall ensure adequate working conditions for baggage handling personnel and year-round protection of the BHS equipment, considering seasonal factors.
- 1.3.12.** The design shall ensure that there is sufficient space between the input belt line and the baggage cart stopping points for staff to unload baggage from the cart onto the line. The number of input belt lines shall match the number of claim carousels.
- 1.3.13.** The design shall utilise incline-type baggage carousels, with baggage delivered to them via a belt line located at an underground level.
- 1.3.14.** The building design includes an underground level underneath the entire claim carousel area. This underground level will house the necessary technical rooms, electrical panels and provide adequate maintenance space for the underground BHS equipment. The underground level shall be planned in such a way to safeguard for the installation of 2 additional baggage belt lines and associated equipment in Phase 2 of the T5 Arrival project. The clear height of the underground level (from finished floor level to underside of the structure) can be assumed to be at least 3.7 meters (The Supplier shall review the clear height with T5 terminal design team and propose alternative clear height, if appropriate).
- 1.3.15.** Baggage shall be delivered at the middle of the narrow end of the carousel and be directed onto the rotating baggage claim carousel.
- 1.3.16.** The free space between adjacent claim carousels shall allow enough space for passengers to wait and collect their baggage without disrupting the flow of other passengers (spacing should ideally not be less than 7 meters).
- 1.3.17.** The length of each claim carousel circumference shall be 60–70 meters. The claim carousel length shall comply with IATA requirements.
- 1.3.18.** Terminal building columns shall be located within the claim carousel so that they do not interfere with passenger movements.
- 1.3.19.** Supplier shall subject to space constraint design 1 or 2 lines for out-of-gauge (OOG) baggage retrieval. Sufficient space shall be allocated adjacent to the OOG retrieval lines to allow collection of large bags without disrupting the general passenger flow.
- 1.3.20.** Supplier shall collaborate with the building design team to evaluate security measures for passengers, maintenance staff, ground handlers, conveyor system, and other persons working in the claim hall and BHS area.
- 1.3.21.** The Supplier shall cooperate with the building design team to ensure that the project meets all security requirements, especially in areas where baggage is transferred from the uncontrolled customs inspection zone to the sterile zone.
- 1.3.22.** The proposed BHS solution shall maximize the effective use of available spaces.
- 1.3.23.** The proposed BHS solution shall leave maximum space for passengers subject to terminal building constraints. The proposed BHS solution shall provide comfortable access for passengers to the claim carousels, allow comfortable movement and waiting of passengers in the baggage claim area until the baggage is delivered.
- 1.3.24.** The proposed BHS solution shall consider maintenance access and simplicity, and provide enough space to resolve BHS failures.
- 1.3.25.** The Supplier must act independently and impartially, avoiding any conflict of interest that could affect the performance of this Contract or the transparency of future procurements related to the implementation of the T5 Arrivals BHS project.

- 1.3.26.** The Supplier undertakes to inform the Contracting Authority in writing, without delay from the moment of becoming aware of such situation, about any actual or potential circumstance that could cause a conflict of interest.
- 1.3.27.** If the Supplier or an economic operator related to it participates in the preparation of the technical specification, design solutions, or other documents that will be used in subsequent procurements for the installation of the BHS system, such participation may be considered an activity giving an unfair competitive advantage.
- 1.3.28.** In accordance with the provisions of Article 46 of the Law on Public Procurement, the Contracting Authority reserves the right to exclude from future procurements related to the implementation of the BHS project any suppliers or consultants who participated in the preparation of the documents for those procurements.

<b>No.</b>	<b>Scope of the services</b>	<b>Result of the services</b>
<p><b>1. T5 arrivals BHS design services.</b></p>	<p>The BHS layout must include:</p> <ol style="list-style-type: none"> <li>1. BHS layout 2D and 3D BIM.</li> <li>2. All parts of conveying system.</li> <li>3. Integration of Customs X-rays and provision of cooling/draining.</li> <li>4. Baggage right-of-ways.</li> <li>5. Consider security barriers.</li> <li>6. Consider passenger movements flow.</li> <li>7. Consider passenger waiting area.</li> <li>8. Baggage input belt loading positions for Ground Handlers.</li> <li>9. Consider baggage trolleys movements and parking positions.</li> <li>10. The swept path trajectories of the baggage trolley's movement near the building and inside the building.</li> <li>11. E-Stop zoning, BHS control cabinets, control stations, electricity schemes, LAN schemes.</li> <li>12. BHS CCTV camera layout and associated infrastructure.</li> <li>13. Control room (primary/secondary).</li> <li>14. Server room (primary/secondary).</li> <li>15. SCADA.</li> <li>16. Customs screening room (primary/secondary).</li> <li>17. Fire zoning and fire shutter doors.</li> <li>18. Security zoning and security shutter doors.</li> <li>19. BHS Safety Signage.</li> <li>20. Preparation of Drawing Package (layouts, sections and typicals) for BHS Scope of Works (Phase 1 and Phase 2).</li> <li>21. Preparation of Technical Specification for BHS Scope of Works (one document for Phase 1 and Phase).</li> </ol>	<ol style="list-style-type: none"> <li>1. Detailed BHS layout in 2D .dwg format and 3D BIM model .isc format (more than one scheme can be provided).</li> <li>2. Electricity and LAN schemes in PDF or equivalent format.</li> <li>3. BHS 2D Drawing package (PDF, DWG)</li> <li>4. BHS Technical Specification (PDF, docx)</li> </ol>

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**1.4. GENERAL REQUIREMENTS FOR ADDITIONAL CONSULTACION SERVICES AS REQUIRED**

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- 1.4.1.** The Buyer may cancel the ordered Additional consulting services. The services provided shall be paid for by the Buyer.
- 1.4.2.** Additional consulting services shall be ordered as needed. In each individual case, the scope of services shall be agreed upon before the commencement of service provision.
- 1.4.3.** Preliminary areas where additional consultations may be required during the performance of the Contract (the list is indicative):
- 1.4.3.1. Revision of the T5 Arrivals BHS technical specifications, drawings, and 3D BIM model (if necessary) during the preparation of the T5 Arrivals Terminal detailed design, when the T5 project developer prepares the fire safety, electrical, HVAC, and other related parts of the T5 Arrivals terminal project;
- 1.4.3.2. Consultations during the procurement of the T5 construction works and the implementation of the T5 Arrivals BHS, in case of specific questions from the procurement participants;
- 1.4.3.3. Consultations during the installation of the T5 Arrivals BHS, in case of technical questions related to the installed system.

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**2. FULFILMENT OF OBLIGATIONS**

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**2.1. PLACE(S) OR PERFORMANCE**

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Vilnius Airport, Rodūnios el. 2, Vilnius

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**2.2. TERMS AND PROCEDURE FOR THE PROVISION OF SERVICES**

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- 2.2.1.** The technical specification preparation and T5 Arrivals BHS design services shall be provided within four months from the date of the order.
- 2.2.2.** The design work is considered to commence when the Buyer places an order for design services, and the Supplier confirms receipt of the order within 2 working days.
- 2.2.3.** The Buyer provides preliminary deadlines related to the T5 Arrivals Terminal: T5 Arrivals BHS design services – 2026-01-07 to 2026-05-07.
- 2.2.4.** Preparation of the T5 Arrivals Terminal technical work project (period during which it may be necessary to order additional services to update the BHS technical specifications and/or layout) – 2026-05-07 to 2027-03-26.
- 2.2.5.** T5 Arrivals Terminal construction and BHS implementation (including 1 month of BHS testing with real flights) – 2027-07-15 to 2029-01-31.

**Note:** all indicated deadlines are subject to change depending on related projects, including their procurement and execution timelines.

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**3. PRIEDAI**

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**Annex No. 1.** T5 Building Architectural Design Solution.