# *ANNEX II + III:* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

**Contract title: Procurement of Equipment - SPECIAL VEHICLE WITH CAMERA SYSTEM FOR PIPELINE INSPECTION p 1 /…**

**Publication reference:** **HUSRB/23R/12/047/P1/02**

**Columns 1-2 should be completed by the contracting authority**

**Columns 3-4 should be completed by the tenderer**

**Column 5 is reserved for the evaluation committee**

Annex III - the contractor's technical offer

The tenderers are requested to complete the template on the next pages:

* Column 2 is completed by the contracting authority shows the required specifications (not to be modified by the tenderer),
* Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words ‘compliant’ or ‘yes’ are not sufficient)
* Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offeredspecifications.

| **1.**  **Item number** | **2.**  **Specifications required** | **3.**  **Specifications offered** | **4.**  **Notes, remarks,  ref to documentation** | **5.**  **Evaluation committee’s notes** |
| --- | --- | --- | --- | --- |
| **1** | **One** **SPECIAL VEHICLE WITH CAMERA SYSTEM FOR PIPELINE INSPECTION**  **The detailed specification is attached to this document's bottom SPECIAL VEHICLE WITH CAMERA SYSTEM FOR PIPELINE INSPECTION (1 PC.)**  **Please fill in the detailed Specifications Offered and the remarks in the attached document, and also fill out Columns 3-4 based on the attached document.**  **(For better understanding and overview)** |  |  |  |

**Item Number 1 Specification**

**SPECIAL VEHICLE WITH CAMERA SYSTEM FOR PIPELINE INSPECTION (1 PC.)**

**1. PURPOSE:**

The vehicle with built-in equipment described in the offer is used for the video inspection of the sewage pipeline. Ability to inspect pipelines' diameter from 200 mm up to 1000 mm with pipe crawler system and pipes from 80 mm to 400 mm with push rod camera. Perform recording video material with photo capture during insertion of camera head inside pipeline. Camera head with transmission of tracking signal for on-ground position verification. Software for camera manipulation and storage space for measurement information and captions.

**TECHNICAL REQUIREMENTS:**

**2.0 TECHNICAL REQUIREMENTS FOR VEHICLE**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| Brand and type of vehicle and country of origin | The vehicle is delivered with built-in original factory parts, homologated, year of production min. 2023 |  |  |  |
| Vehicle type | Combi (Furgon) |  |  |  |
| Size | Min. L2H2 |  |  |  |
| Gas consumption | Diesel |  |  |  |
| Engine power | Min. 90 kW |  |  |  |
| Gearbox transmission | Manual – 6 speed |  |  |  |
| Max. load. capacity | 3500 kg |  |  |  |
| Seating places (with driver) | 3 persons |  |  |  |
| Minimum side slider door size | 1000 mm |  |  |  |
| Harmful gases emission standard | EUR 6 |  |  |  |

**2.1 TECHNICAL REQUIREMENTS FOR VEHICLE UPGRADE – RECORDING ROOM**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| Thermal insulation | Minimum 5 cm. |  |  |  |
| Floor type | Non-slipping safety flor |  |  |  |
| Control unit storage | Cabinet with rack mount type |  |  |  |
| Storage cabinet | 3 drawers with traversing and automatic smooth closing |  |  |  |
| PC monitor | Minimum size 19” |  |  |  |
| Camera monitor | Minimum size 19” |  |  |  |
| Printer | Color inkjet with catridge |  |  |  |
| Power inverter | 1500W real sinus |  |  |  |
| Battery charging | 230V50Hz power or from van engine |  |  |  |
| Camera operation command | Joystick bult-in working desk with keyboard |  |  |  |
| Control PC | Industrial type rack mount PC with Windows OS or equivalent (2 core CPU with minimum 4GB RAM memory) |  |  |  |

**2.2 TECHNICAL REQUIREMENTS FOR VEHICLE UPGRADE – CAMERA OPERATION ROOM**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| Thermal insulation | Minimum 5 cm. |  |  |  |
| Drawer for tools and accessories storage | Loading capacity min. 135 Kg |  |  |  |
| Drawer for camera crawler storage with water drain | Loading capacity min. 135 Kg with automatic arrestment |  |  |  |
| Water tank with reservoir and pump | Capacity minimum 30 litres |  |  |  |
| Monitor for camera recording view | Minimum size 19” |  |  |  |
| Power socket | 230V/50Hz |  |  |  |
| Telescopic crane arm for camera lifting | 12V operating voltage, horizontal and vertical locking, maximum lifting weight 50 kg |  |  |  |

**2. 3 TECHNICAL REQUIREMENTS FOR CAMERA WITH CRAWLER SYSTEM**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| Pipe size recording | From DN200 up to DN1000 |  |  |  |
| Cable connector | Swinging in 2 axis |  |  |  |
| Air pressurization | Air port with internal pressure sensor |  |  |  |
| Camera head lifting | Motorized |  |  |  |
| Wheel | 3 sets for range from DN200 to DN1000 |  |  |  |
| Pipe water impact detection sensor | Built-in inside crawler chassis |  |  |  |
| Cable drum | Automatic motorized synchronisation with crawler moving, including min. 120m of cable |  |  |  |
| Software | Windows OS program or equivalent with inclinometer chart and captions for pipes section in video |  |  |  |
| Camera head | Chip 2 Mpx (Full HD) |  |  |  |
| Optical zoom | 10 x |  |  |  |
| Camera head pressurization | Direct from crawler chassis |  |  |  |
| On-ground tracking transmitter | Integrated inside camera head 33KHz 512Hz |  |  |  |
| Pipe diameter and ovality and splits measuring | Laser integrated in camera head |  |  |  |
| Camera headlight | LED type min. 1000 lumen |  |  |  |
| Head rotation | 2 axis |  |  |  |

**2.4 TECHNICAL REQUIREMENTS FOR PUSH CAMERA**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| Cable drum | Detachable with min. 60m cable length and one-way braking system |  |  |  |
| Power supply | Battery type with min. 3 working hour autonomy |  |  |  |
| Data transmission | Wireless with streaming service for multi-user view |  |  |  |
| Camera head | Chip 2Mpx FullHD |  |  |  |
| Camera head pressurisation | Air port with built-in pressure sensor |  |  |  |
| Camera headlight | LED with min. 800 lumen |  |  |  |
| Head rotation | 2 axis |  |  |  |
| On-ground tracking transmitter | Integrated inside camera head 33KHz 512Hz |  |  |  |
| Control unit | Handheld device, Windows OS or equivalent, screen size 7”, joystick for head rotation and focus adjustment, RAM memory 8GB, storage 256GB |  |  |  |
| Software | Head pressure and battery status indicator, recording and photo taking in FullHD, marking captions during recording process, Digital ZOOM 5x |  |  |  |
| Fixed skid with wheels | From pipe DN150 |  |  |  |
| Adjustable skid with wheels | For pipes DN200 up to DN400 |  |  |  |

**4. TECHNICAL DOCUMENTATION, TRAINING AND WARRANTY**

**4.1 TECHNICAL DOCUMENTATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| Instructions for handling and maintenance of the complete vehicle in Serbian. | 1 printed copy |  |  |  |
| All necessary accompanying documentation and confirmation from the performed technical inspection so that the vehicle can be registered for the intended purpose (with certificates). | Yes |  |  |  |

**4.2 TRAINING**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| One-day training for staff who will operate the vehicle. | Yes |  |  |  |
| Training of technical and supervisory staff for maintenance of all assemblies and devices on the vehicle. | Yes |  |  |  |

**4.3 WARRANTY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description** | **Specifications Required** | **Specifications Offered** | **Notes, remarks, ref to documentation** | **Evaluation Committees notes** |
| Warranty period for the entire vehicle minimum | 24 months |  |  |  |
| Entry into force of the warranty period | From the moment of signing the qualitative - quantitative record |  |  |  |