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

**Contract title: Supply of waste removal trucks and mobile recycling yard**

**Lot 1 - Vehicles for collecting and transporting waste**

**Ref. Number: HR-BA-ME00184 / 3**

**Columns 1-2 should be completed by the Project partner**

**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 Project partner 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.

The requirements set out in the technical specifications represent the minimum technical characteristics which offered goods must satisfy, unless stated otherwise, and tenderers are not allowed to modify technical specification in any way.

For each item for which it is not explicitly stated that it is allowed to offer goods of the equal characteristics, i.e. for each item where it is not stated “or equivalent”, for the purposes of this tender documentation it is assumed that words “or equivalent” are stated, and tenderer is allowed to offer equivalent goods / goods of equivalent characteristics.

**Project description**

The purpose of this contract is purchase of vehicles for collecting and transporting sorted waste, vehicle for collecting of bulky waste and mobile recycling yard, in order to enable local Public Utility Company to organize collection and transport of waste in Tuzi municipality. This procurement consist of two lots: Lot 1 - Vehicles for collecting and transporting waste and Lot 2 - Mobile recycling yard.

**This document refers to Lot 1 - Vehicles for collecting and transporting waste.**

**1. GENERAL REQUIREMENTS**

1.1. The tenderer shall ensure that the functions and features of the equipment meet the listed minimum conditions and should submit equipment brochures or catalogues showing the specification and technical description of the offered equipment issued by the manufacturer.

1.2. All the equipment shall be provided complete with the necessary accessories and/or parts such as to ensure that the unit is capable of operating to the required technical and quality specifications.

1.3. The supplies shall be provided with an original set of manuals for all equipment. These manuals shall be supplied in English and/or Montenegrin.

1.4. The vehicles considered to include both the truck and superstructure to be supplied and must conform to the detailed Technical Specification given below.

1.5. The vehicles shall be suitable for operation in all climatic conditions in the territory of Tuzi in Montenegro.

1.6. The vehicles have to be fully assembled, new (produced in 2024 or later) and unused with enclosed documentation for traffic registration and normal traffic usage. Both production and assembly must fully comply with all relevant and necessary Montenegrin laws and regulations.

1.7. All specification details listed for each item are the minimum requirements. Any improvements on the specifications or additional features offered should be clearly identified in the tenderer’s offer.

1.8. The tenderer should provide list of authorized services for the offered equipment, in the territory of Montenegro, with addresses and contact telephone, issued by the manufacturer or the authorized representative of the manufacturer for the territory of Montenegro.

1.9. The Tenderer shall prove that the superstructure proposed (items 1.2 and 2.2) is produced by a manufacturer who has ISO 9001:2015 or newer certificate, and EN ISO 3834-2 or newer certificate, issued by accredited institutions. In addition, the Tenderer shall provide a valid "Hardox in my body" certificate or equivalent issued for the superstructure manufacturer (items 1.2 and 2.2), as proof that the superstructure manufacturer uses Hardox or equivalent material in its products.

1.10. The Tenderer shall provide confirmation of the required technical characteristics of the crane (item 2.3), verified and signed by the crane manufacturer, with the mandatory indication of the model of the crane being offered.

**2.** **SERVICE PROVISIONS**

2.1. Delivering and installation: The Contractor will be responsible for installation, configuration and start-up of the supplies delivered in accordance with the directions provided by the contracting authority. Delivery address for the equipment is Street Tuzi No.3 93, Tuzi, Montenegro. The contractor shall agree the delivery and installation schedule with the Contracting Authority.

2.2. Testing: Items shall be tested during the takeover event, where all the required specifications and features shall be accounted for, and full functionality of the items shall be presented.

2.3. Training: The Tenderer shall provide appropriate basic training for the operation and maintenance of the vehicles to the end user. The training will be organized at the place of acceptance, in Montenegrin language. Further details are in the detailed Technical Specification given below.

**3. WARRANTY CONDITIONS**

3.1. Warranty is as defined in Article 32 of the Special Conditions. Warranty for the vehicle and superstructure is 12 months, starting from the date of issuance of Provisional Acceptance Certificate

3.2. Commercial warranty only for superstructure is minimum 24 months, starting from the date of issuance of Final Acceptance Certificate. This additional warranty period is separately defined directly in description of the item.

3.3. The contractor is responsible for the provision of “maintenance” and “repair” of the supplies within the warranty period without any charge.

3.4. The contractor shall guarantee the proper operation of the supplies. In the event of failure of the supplies' operability during the warranty period, the contractor shall restore it, and in case of impossibility to do so, shall replace it with equivalent supplies in terms of the technical characteristics. The contractor at his own expense shall perform the replacement.

**4. VISIBILITY REQUIREMENTS**

The Contractor shall take the necessary measures to ensure the visibility. These measures must comply with the Programme visibility rules available at: <https://interreg-hr-ba-me.eu/documents/implementation/> . All equipment shall have a fixed durable label, approved by the contracting authority.

**LOT 1: VEHICLES FOR COLLECTING AND TRANSPORTING WASTE**

| **1.**  **Item Number** | **2.**  **Specifications Required** | **3.**  **Specifications Offered** | **4.**  **Notes, remarks,  ref to documentation** | **5.**  **Evaluation Committee’s decision (Y/N)** |
| --- | --- | --- | --- | --- |
| **1** | **Vehicles for collecting and transporting sorted waste**  **Quantity: 2** |  |  |  |
| **1.1** | **Truck:** |  |  |  |
|  | New and unused chassis, minimum production year 2024 |  |  |  |
|  | Total vehicle mass maximum 12 t |  |  |  |
|  | Drive/wheel configuration 4x2 |  |  |  |
|  | Wheelbase minimum 3,400 mm, maximum 3,600 mm |  |  |  |
|  | Diesel engine, four cylinders in line |  |  |  |
|  | Engine displacement minimum 5.0 l, maximum 5.5 l |  |  |  |
|  | Engine power minimum 210 HP |  |  |  |
|  | Torque minimum 800 Nm |  |  |  |
|  | Exhaust emissions minimum EURO 6 |  |  |  |
|  | Engine brake minimum power 130 kW |  |  |  |
|  | Manual transmission minimum 6+1 speeds |  |  |  |
|  | Front axle load capacity minimum 4.5 t |  |  |  |
|  | Rear axle air suspension with a maximum of two air cushions |  |  |  |
|  | Rear axle load capacity minimum 8.5 t |  |  |  |
|  | Disc brakes front and rear |  |  |  |
|  | EBS and ESP |  |  |  |
|  | Front collision warning system with emergency braking |  |  |  |
|  | Vehicle trajectory monitoring system |  |  |  |
|  | Driver alertness system DAS |  |  |  |
|  | Traffic sign recognition system |  |  |  |
|  | Electrical system voltage 24 V |  |  |  |
|  | Alternator minimum 110 A |  |  |  |
|  | Batteries 2 pcs minimum 170 Ah |  |  |  |
|  | Main switch mechanical |  |  |  |
|  | Plastic diesel tank minimum capacity 200 l |  |  |  |
|  | Ad Blue tank minimum 30 l |  |  |  |
|  | High air intake |  |  |  |
|  | Electrically heated fuel filter |  |  |  |
|  | Power take-off for superstructure from the transmission |  |  |  |
|  | Left hand drive |  |  |  |
|  | Day cab, short with a minimum of 1+2 seats |  |  |  |
|  | All seats with seat belts and headrests |  |  |  |
|  | Driver's seat air suspension, adjustable |  |  |  |
|  | Electric window lifts |  |  |  |
|  | Central door locking with remote control |  |  |  |
|  | Rear movement alarm |  |  |  |
|  | Tachograph |  |  |  |
|  | Hydraulic jack minimum 6 t |  |  |  |
|  | Tire inflation hose |  |  |  |
|  | Tire pressure monitoring |  |  |  |
|  | Tires minimum 245/70R17.5 |  |  |  |
|  | Spare wheel |  |  |  |
|  | Daytime LED lights |  |  |  |
|  | Rotating lights on the cab |  |  |  |
|  | Electrically heated and controlled mirrors |  |  |  |
|  | Front mirror |  |  |  |
|  | Sunroof |  |  |  |
|  | Air conditioning |  |  |  |
|  | Radio FM, USB, AUX, Bluetooth |  |  |  |
|  | Electric adjustment of front headlights |  |  |  |
| **1.2** | **Superstructure:** |  |  |  |
|  | The superstructure is new and unused, with a minimum production year of 2024 |  |  |  |
|  | Superstructure for rear loading based on a push plate principle, adapted for use with garbage bins from 120 to 1100 litters |  |  |  |
|  | Volume of the cargo box of the superstructure 10 m³ |  |  |  |
|  | Compression ratio minimum 4:1 |  |  |  |
|  | Rear doors with a compression mechanism |  |  |  |
|  | Floor made from wear-resistant material, minimum HARDOX 450 or equivalent, with a minimum thickness of 5 mm |  |  |  |
|  | Fixed acceptance trough volume minimum 1.3 m³ |  |  |  |
|  | Rear doors must automatically lock and unlock when closing and opening using two hydraulic cylinders with double action and vertical rods |  |  |  |
|  | Blocking valves on hydraulic cylinders for lifting doors to prevent the doors from falling in case of hydraulic hose rupture |  |  |  |
|  | Compression mechanism consists of a sliding plate and a pressing plate driven by two hydraulic cylinders each, located within the acceptance area (rear door) |  |  |  |
|  | The sliding plate facing the cargo box made from material minimum HARDOX 450 or equivalent with a minimum thickness of 4 mm |  |  |  |
|  | The pressing plate facing the cargo box made from material minimum HARDOX 450 or equivalent with a minimum thickness of 3 mm |  |  |  |
|  | Sealing between the acceptance area and the cargo box with a rubber profile that prevents any leakage |  |  |  |
|  | Automatic movement of the push plate with a telescopic double-acting cylinder along the cargo box |  |  |  |
|  | Provision for drainage collection in the cargo box |  |  |  |
|  | The bottom of the box made from steel sheet with a thickness of at least 4 mm |  |  |  |
|  | Sides of the box made from steel sheet with a minimum thickness of 3 mm |  |  |  |
|  | Control of all superstructure functions is electro-hydraulic via a special PLC controller system or equivalent, powered by 24 V |  |  |  |
|  | Control box with PLC or equivalent installed at the top of the cargo doors near the hydraulic blocks |  |  |  |
|  | Control box with commands for pressing and lifting functions located on the rear right side of the door at ergonomic height |  |  |  |
|  | Control box for raising-lowering the rear doors and operating the push plate on the rear left side of the box as close as possible to the rear doors |  |  |  |
|  | Single and continuous automatic operating cycle of the compaction mechanism |  |  |  |
|  | Time for one compaction cycle a maximum of 25 seconds |  |  |  |
|  | Hydraulic pump allows independent operation of the waste compaction device and for lifting the container |  |  |  |
|  | The container lifting device is adapted for working with garbage bins from 120 to 1100 liters |  |  |  |
|  | Operation of the bin lifting device based on vertical translational lifting of the bin and rotational emptying |  |  |  |
|  | Lifting capacity of the bin and container lifter minimum 600 kg |  |  |  |
|  | The box is waterproof up to a height of 300 mm |  |  |  |
|  | Press door elements are 100% welded |  |  |  |
|  | Orange rotating light on the left rear side with protection |  |  |  |
|  | At least two LED work lights for illuminating the work area |  |  |  |
|  | Protection against undercutting on the sides and mudguards on the rear wheels |  |  |  |
|  | Superstructure to be double layer colour coated and protected according to standards (noticeable in all conditions). |  |  |  |
|  | Two-foot pedals at the rear on both sides of the vehicle with indication of the presence of workers. Speed limit in this case to max 30 km/h and no possibility of moving in reverse |  |  |  |
|  | Camera on the rear of the superstructure with a colour LCD monitor in the driver's cabin allowing monitoring of the superstructure's condition and communication with the driver in the cabin via the LCD monitor |  |  |  |
|  | Other lighting equipment on the vehicle according to ECE regulations |  |  |  |
|  | Technical documentation for use and maintenance with all hydraulic and electrical schematics in Montenegrin/English at the time of vehicle delivery |  |  |  |
|  | Vehicle certification (attest) at the time of delivery |  |  |  |
| **2** | **Vehicle for collecting of bulky waste**  **Quantity: 1** |  |  |  |
| **2.1** | **Truck:** |  |  |  |
|  | New and unused chassis, minimum production year 2024 |  |  |  |
|  | Total vehicle mass maximum 12 t |  |  |  |
|  | Drive/wheel configuration 4x2 |  |  |  |
|  | Wheelbase minimum 3,800 mm, maximum 4,100 mm |  |  |  |
|  | Diesel engine, four cylinders in line, SCR and EGR technology with a particulate filter |  |  |  |
|  | Engine displacement minimum 5.0 l, maximum 5.5 l |  |  |  |
|  | Maximum engine power minimum 210 HP |  |  |  |
|  | Torque minimum 800 Nm |  |  |  |
|  | Exhaust emissions minimum EURO 6 |  |  |  |
|  | Engine brake minimum power 130 kW |  |  |  |
|  | Manual transmission minimum 6+1 speeds |  |  |  |
|  | Front axle suspension with parabolic springs |  |  |  |
|  | Front axle load capacity minimum 4.5 t |  |  |  |
|  | Rear axle suspension with parabolic springs |  |  |  |
|  | Rear axle stabilizer |  |  |  |
|  | Rear axle load capacity minimum 8.5 t |  |  |  |
|  | Disc brakes front and rear |  |  |  |
|  | EBS and ESP |  |  |  |
|  | Front collision warning system with emergency braking |  |  |  |
|  | Vehicle trajectory monitoring system |  |  |  |
|  | Driver alertness system DAS |  |  |  |
|  | Traffic sign recognition system |  |  |  |
|  | Single-cylinder air compressor minimum 360 ccm |  |  |  |
|  | Thickness of the chassis longitudinal beam minimum 6 mm |  |  |  |
|  | Electrical system voltage 24 V |  |  |  |
|  | Alternator minimum 110 A |  |  |  |
|  | Batteries 2 pcs minimum 170 Ah |  |  |  |
|  | Main switch mechanical |  |  |  |
|  | Plastic diesel tank minimum capacity 200 l |  |  |  |
|  | Ad Blue tank minimum 30 l |  |  |  |
|  | High air intake |  |  |  |
|  | Electrically heated fuel filter |  |  |  |
|  | Power take-off for superstructure from the transmission |  |  |  |
|  | Day cab, short with a minimum of 1+2 seats |  |  |  |
|  | All seats with seat belts and headrests |  |  |  |
|  | Driver's seat air suspension, adjustable |  |  |  |
|  | Electric window lifts |  |  |  |
|  | Central door locking with remote control |  |  |  |
|  | Rear movement alarm |  |  |  |
|  | Tachograph |  |  |  |
|  | Hydraulic jack minimum 6 t |  |  |  |
|  | Tire inflation hose |  |  |  |
|  | Tire pressure monitoring |  |  |  |
|  | Tires minimum 245/70R17.5 |  |  |  |
|  | Spare wheel |  |  |  |
|  | Daytime LED lights |  |  |  |
|  | Rotating lights on the cab |  |  |  |
|  | Electrically heated and controlled mirrors |  |  |  |
|  | Front mirror |  |  |  |
|  | Air conditioning |  |  |  |
|  | Radio FM, USB, AUX, Bluetooth |  |  |  |
|  | Electric adjustment of front headlights |  |  |  |
| **2.2** | **Superstructure:** |  |  |  |
|  | New and unused superstructure, minimum production year 2024 |  |  |  |
|  | Superstructure volume 5 m³ |  |  |  |
|  | Three-way tipping superstructure |  |  |  |
|  | Tipping superstructure hydraulics driven by a hydraulic pump from the auxiliary power take-off on the chassis transmission |  |  |  |
|  | Single-piece side walls made of steel with a minimum thickness of 3 mm |  |  |  |
|  | Floor of the superstructure made of Hardox steel or equivalent, with a minimum thickness of 3 mm |  |  |  |
|  | Auxiliary frame made of steel, with profiles of minimum thickness 6 mm |  |  |  |
|  | Manual opening of the side walls upwards and downwards |  |  |  |
|  | Manual unlocking of side walls |  |  |  |
|  | Height of the side walls minimum 400 mm |  |  |  |
|  | Wire extensions on side walls up to a height of 600 mm |  |  |  |
|  | Fixed front wall |  |  |  |
|  | Opening of the rear and side walls downwards |  |  |  |
|  | Control of the tipping superstructure operation from the vehicle cabin |  |  |  |
|  | Side underrun protection |  |  |  |
|  | Mudguards on the rear wheels with splash guards |  |  |  |
| **2.3** | **Crane** |  |  |  |
|  | New and unused hydraulic crane, minimum production year 2024 |  |  |  |
|  | Swivel hook with a load capacity of at least 3000 kg |  |  |  |
|  | Lifting moment of the crane minimum 6.1 tm |  |  |  |
|  | Lifting capacity of the crane minimum 820 kg at a distance of 7.1 m |  |  |  |
|  | Lifting capacity of the crane minimum 3200 kg at a distance of 1.8 m |  |  |  |
|  | Crane powered via power take-off from the transmission |  |  |  |
|  | Crane rotation angle minimum 400° |  |  |  |
|  | Remote control operation of the crane |  |  |  |
|  | Manually swivel and extendable hydraulic stabilizers for the crane |  |  |  |
|  | System indicating the crane is not in transport position |  |  |  |
|  | Warning that the stabilizers are not locked |  |  |  |
|  | The lower part of the column and the base of the crane are cast |  |  |  |
|  | Quick couplings and additional functions for connecting a rotator and grapple |  |  |  |