ANNEX II + III: TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

Contract title:

Post-Earthquake Transport Recovery Action (PETRA) in Kahramanmaraş- Lot 2 (TR14SPL305) **p 1 /…**

Publication reference: EC-ENEST/ANK/2025/EA-LOP/0097
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 offered specifications.

Abbreviations

ABS	Anti-Lock Braking System
ASR	Acceleration Slip Regulation
CSV	Comma Separated Values
EBS	Electronic braking system
EC	European Commission
ECE	Economic Commission of Europe
ERA	End Recipient of Assistance- Kahramanmaraş Metropolitan Municipality (KMM)
ESS	Energy Storage System
EU	European Union
HVAC	Heating Ventilation Air Conditioning
IEC	International Electro technical Commission
IP	Internet Protocol
ISO	International Standards Organization
IT	Information Technology
KM	Kilo Meter
KMM	Kahramanmaraş Metropolitan Municipality
KPI	Key Performance Indicator
KW	Kilo Watt
KWH	Kilo Watt Hour
Lux	Illuminance
M	Meter
MB	Megabyte
Mm	Millimeter
Nm	Newton Meter
PVC	Polyvinyl Chloride
QR	Quick Response
RFID	Radio Frequency Identification
SORT	Standardized On Road Test
TS	Turkish Standards
UNECE	United Nations Economic Commission of Europe
XML	Extensible Markup Language
V	Volts

1. General Requirements

1.1. Offered supplies must be provided complete with necessary accessories and/or parts to ensure that the supplied items can operate to required technical and quality specifications.

1.2. The contractor is fully responsible for proper connections of supplied items to existing infrastructure for smooth installation and operation.

1.3. The type of voltage in Türkiye is 220 V (mono phase) and 380 V (tri phase + neutral). All hardware must be suitable or adapted for direct connection to the standard power outlets in Türkiye. The type of electrical outlets generally installed in Türkiye is the type with 2 side mounted earthing poles (EUROPLUG). All plugs of all goods will have to fit exactly. The contractor shall evaluate the supplied current, the quality of the current and the fluctuations of the current and take the necessary precautions to avoid damage to the equipment.

1.4. The supplies must be compliant with CE standards. Wherever reference is made in the technical specifications to specific standards and codes to be met, provisions of the latest edition or revision of the relevant standards in effect, shall apply, unless otherwise stated in this technical specification.

1.5. The supplies should comply with the regulations concerning safe operation, energy saving and environmental safety, in line with the policies or the practical measures in use within the European Union (EU) and Türkiye.

1.6. During the installation of supplied items, the contractor will be responsible for providing measures for any Health & Safety risks associated with supplies provided.

1.7. System components and whole system must be compatible with each other “as a whole”. Any compatibility problems must be resolved by the contractor at no additional cost to Kahramanmaraş Metropolitan Municipality (KMM) and the Contracting Authority.

1.8. All offered supplies must be suitable for operation in climatic conditions in place of delivery (please refer to “Draft Contract and Special Conditions, including annexes”).

2. Technical Documents to be provided during the implementation period

2.1. Please refer to Article 14 of Special Conditions of the Contract.

2.2. Please refer to Article 31 of Special Conditions of the Contract for obligatory documents needed for the Provisional Acceptance.

3. Installation and Commissioning Requirements

3.1. Please refer to the Article 25 of Special Conditions of the Contract.

3.2. The contractor shall make available all tools, materials and equipment required for transport, assembling, installation and commissioning.

3.3. The contractor shall provide all tools and equipment needed for testing of supplies.

3.4. The contractor shall perform starting-up, installation and commissioning of the supplies by trained and authorized personnel in accordance with Article 25 of Special Conditions.

3.5. Consumptions on site during the installation and commissioning shall be borne by the contractor.

3.6. Subscription for all utility connections such as internet, electricity, water, etc. to relevant authorities shall be under a responsibility of KMM.

3.7. Full assembly and complementary engineering related to the installation and put into operation will be borne by the contractor including integration of other software / hardware (already existing or to be procured under this operation).

Connection to main electrical, mechanical, water, air and/or gas supplies from the equipment to the existing infrastructure shall be done according to the rules and regulations of Türkiye. Recovering any damage to building structure that may occur during the installation of goods is under the responsibility of the contractor.

3.8. Any other components which are not explicitly mentioned but required for fully functioning of the system shall be provided by the contractor during installation and commissioning.

3.9. All software must be delivered in electronic version. All software must be licensed to KMM.

3.10. All data shall be stored in Türkiye in accordance with Presidential Decree No:2019/12 published on 30823 numbered, 06.07.2019 dated Official Gazette. All the user data entered, collected, or produced shall be the sole property and under ownership of KMM.

4. Health and Safety

4.1. The contractor shall be fully responsible for applying the Health and Safety procedures in accordance with the legislation published by Republic of Türkiye, Ministry of Labor and Social Security during the manufacturing, delivering, assembling, installation, commissioning and testing. Moreover, the contractor shall be responsible for advising KMM and the Contracting Authority of any Health and Safety risks associated with supplies provided and suitable protective measures.

4.2. Supplies shall be designed to operate safely taking into account the characteristics of the terrain and its surroundings, atmospheric and meteorological conditions, any possible structures, and obstacles located in the vicinity either on the ground or in the air in such a way as to cause no nuisance or pose no danger under operation or servicing conditions or in the event of an operation to rescue persons.

5. Warranty requirements

5.1. Please refer to Article 32 and Article 33 of Special and General Conditions of the Contract and Warranty Regulation of Turkish Law as published on Official Gazette no.29029 dated 13.06.2014 (if applicable).

5.2. Only original or approved by the manufacturer(s) spare parts should be used in any repair service.

5.3. The tenderer shall provide a list of spare parts for informative purposes only.

6. Visibility

6.1. All projects /contract implemented under this programme shall comply with the latest Visibility Guidelines for European Commission Projects in Türkiye published by the EU Delegation to Türkiye. Please refer to Article 9 of Special and General Conditions of the Contract.

6.2. Proper material and size compatible with specifications and dimensions of supplies shall be offered by contractor and approved by Contracting Authority after the commencement of the Contract.

6.3. Label shall be designed in accordance with the Article 9 and article 29 of Special and General Conditions of the Contract.

6.4. The contractor shall take the necessary measures to ensure the visibility of the European Union co-financing. These measures must comply with the latest Communication and Visibility Requirements for EU-funded external action, laid down and published by the European Commission.

ELECTRIC BICYCLE AND AUXILIARY EQUIPMENT

This Lot consists of Item 1.1 – Electric bicycle, Item 1.2 – Bicycle battery and Item 1.3 – Bicycle battery charger.

1. **General requirements**

1.1 Please refer to the Article 25 of Special Conditions of the Contract.

1.2 The contractor shall make available to himself all tools, materials and equipment required for transport, unloading and removal of packing materials from delivery location in accordance with Article 29 of Special Conditions. The contractor shall perform relevant tasks by trained and authorized personnel.

1.3 The contractor shall provide all tools and equipment needed for testing of supplies.

1.4 Purchasing and subscription of sim cards for Item 1.1.13 shall be under the responsibility of the KMM.

1.5 Any other components which are not explicitly mentioned but required for fully functioning of the system shall be provided by the contractor.

2. **Technical documents to be provided during the implementation period**

2.1. The contractor shall submit to the Contracting Authority for approval:

- The outline of design and colours of the Items 1.1 in DWG and PDF format,
- The prototype of Item 1.1 within 30 days after the commencement,

2.2. Please refer to Article 14 of Special Conditions of the Contract.

2.3. Please refer to Article 31 of Special Conditions of the Contract for obligatory documents needed for the Provisional Acceptance.

3. Installation and Commissioning Requirements

3.1. Software Integration Clause: The contractor shall ensure that the electric bicycles provided under this contract are compatible with the existing bicycle tracking software of the ERA. To this end, the following requirements shall be met:

- Unique Identification: Each bicycle shall be equipped with a unique identifier (such as a barcode, QR code, or RFID tag) that can be registered in the existing software.
- Data Submission: The contractor shall provide a complete digital list of all bicycles delivered, including serial numbers and their corresponding identification codes. This list must be submitted in a format compatible with the existing system (e.g., CSV, XML, or Excel).
- Compatibility and Support: The contractor shall coordinate with the ERA's technical team to ensure the provided data format is compatible. Limited remote technical support (e.g., e-mail or online meeting) shall be provided upon request to assist with data import into the system.
- Cost Inclusion: All costs related to tagging, data preparation, and limited integration support shall be considered included in the contractor's offer. No additional payment shall be made for fulfilling these requirements.

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
Item 1.1	**Electric bicycle**			
	Manufacturer's name; product model/type:			
	Country of origin:			
	Quantity: 50			
1.1.1	The motor of bicycle shall be with brushless engine type and have a power of min. 250W.			
1.1.2	The bicycle shall be able to achieve 25 km/h speed on straight road.			
1.1.3	The bicycle shall comply with the CE certification and EN15194 standard for electric power bicycles			
1.1.4	It shall be possible to use bicycle without an energy source/battery (with pedals only).			
1.1.5	The frame of the bicycle shall be made with 6061 or higher quality aluminium alloy.			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.1.6	The bicycle shall be in accordance with ISO 4210-2:2023 Cycles — Safety requirements for bicycles — Part 2: Requirements for city and trekking, young adult, mountain, and racing bicycles. The bicycle cables shall be protected from external access i.e. all cables shall be interlaced within the bicycle. Gear mechanism, chain, brakes and electrical components must be enclosed into the bicycle.			
1.1.7	The bicycle shall have IP 65 or higher water, dust, rust resistance.			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.1.8	The rims of the bicycle shall be 26 inches. Front and rear tires of the bicycle shall have mudguards. The material of mudguards shall be impact resistant plastic, the connection points shall be made of steel. It should have adjustable angle and position for tire coverage. Tires of the bicycle shall be tube-type and resistant to bursting in accordance with: • ISO 5775-1:2023 -Bicycle tires and rims — Part 1: Tire designations and dimensions • ISO 5775-2:2021 -Bicycle tires and rims — Part 2: Rims.			
1.1.9	The bicycle shall have front and rear roller, drum or hydraulic disc brake system.			
1.1.10	The bicycle shall have a torque sensor.			
1.1.11	The weight of the bicycle shall not exceed 35 kg.			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.1.12	1. The bicycle shall be able to integrate with the KMM's existing fleet management software to determine location via GPS system. 2. GPS system shall be compatible with Geo-fencing security measures defined of the KMM's existing fleet management software. 3. The Geo-fencing system shall use GNSS (Global Navigation Satellite System) device data. 4. The Geo-fencing system data which will be used in the bicycles shall also receive (or shall be compatible) GNSS signals. The bicycle shall be capable of receiving signals from at least two GNSS systems (GPS or Galileo or Glonass or equivalent).			
1.1.13	The bicycle shall be able to integrate with the KMM's existing fleet management software for the purpose of data transfer through sim card (M2M sim card) (see 1.6 of Installation and commissioning requirements). The KMM will be responsible of integration process of the bicycles to the existing fleet management system and any the license fee that may arise from the fleet management system however, all documentation and services that the KMM requests for the integration process shall be provided by the Contractor.			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.1.14	The bicycle shall have theft and vandalism prevention mechanisms including GPS tracking/locking, alarm, anti-theft nuts on front and rear. The vandalism prevention mechanism on bicycles shall be able to detect irregular actions and send a warning notification (signal) to the KMM's existing fleet management software. Safety / guard screws shall be used on all parts and accessories of the bicycle.			
1.1.15	The bicycle shall have auxiliary cable lock system for locking, which shall unlock through KMM's existing fleet management software with QR code or Bluetooth. Auxiliary lock system shall have rust-proof vinyl coating on the flexible braided-steel cable. 1. Cable thickness minimum 12 mm 2. Cable lock weight between 0,6 and 1,4 kg 3. Cable length minimum 120 cm 4. Minimum security standard level shall be silver or high or 4 star or 10 to 15 or 6 of 10 or equivalent.			
1.1.16	There shall be a basket in a front handlebar stem on the bicycle. Internal volume of the basket shall have a minimum volume of 3 litres. It shall be made of plastic or electrostatically painted aluminium alloy tubular frame structure. It shall have a minimum carrying capacity of 5 kg.			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.1.17	The bicycle shall have a cell phone holder.			
1.1.18	The bicycle shall be equipped with: 1. LED headlight with minimum 600 lumens. 2. At least 2 reflectors on the bike, one of them is on the rear fender. The others may be in places such as pedals, wheels or saddle. Reflectors must be visible from a minimum distance of 140 m. 3. Bell with an aluminium body.			
1.1.19	The bicycle shall have an advertisement place on the lateral sides of the fender of the rear wheel.			
1.1.20	The clamp of the bicycle saddle shall be able to be locked from the top down.			
1.1.21	The bicycle shall have 2-legged stand legs which shall be made of aluminium alloy.			
1.2.	**Bicycle battery**			
	Manufacturer's name; product model/type:			
	Country of origin:			
	Quantity: 50			
1.2.1	The bicycle battery shall be compatible with and easily swappable from the bicycle.			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.2.2	The bicycle battery shall: 1. be lithium-ion type, 2. have minimum 36V nominal voltage and minimum 11.6 Ah or higher storage capacity, 3. ensure minimum 60 km operation range with fully charged, 4. fully charge in max 6 hours, 5. be suitable for safe transport and not classified as a dangerous substance according to GHS Hazard Classification.			
1.2.3	Battery life cycle should be at least 500 charging cycles.			
1.2.4	The battery shall be protected from external access by end-users. The battery shall have a strong locking mechanism to ensure batteries cannot be removed from e-bikes by unauthorized people. The battery should be equipped with the theft and vandalism prevention mechanism that is as a minimum GPS tracking of the battery or digital lock of the battery.			
1.3.	**Bicycle battery charger**			
	Manufacturer's name; product model/type:			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	Country of origin:			
	Quantity: 50			
1.3.1.	The charger shall be compatible with the bicycle battery (Item 2.1).			
1.3.2.	The charger shall fully charge the battery in max. 6 hours.			
1.3.3.	The charger must be fuse protected against high current and short circuit.			
1.3.4.	The battery charger should be equipped with a LED indicator, whose colour changes and provides visual feedback of the charging status.			