Technical Specifications

Project	Support to Nature Protected Areas in Ukraine", BMZ No.:2011.6612.3 and 2013.6588.1
Title	Procurement of rugged smartphones for monitoring work of rangers and research staff of protected areas
Short title	Rugged smartphones
Reference number	NT-2021-14-LCB-Rugged Smartphones

1. Type of Procurement

This procurement of goods will be conducted in 2 Lots:

Lot 1: Rugged smartphones

Lot 2: Rugged powerbanks

Market research showed that the equipment to be procurement is not widely available on the Ukrainian market, particularly not in the required quantities. A common national competitive bidding process would therefore likely not result in a favorable number of bids from potential suppliers and the risk of a failed tender would be substantial. Therefore, this procurement will be conducted using **Limited Competitive Bidding,** which will maximize the likelihood of a successful procurement while maintaining a transparent procedure and high value for money.

This procurement is linked to the following sections of the project's Overall Procurement Plan:

Output 4. The administration and management of the national protected area management system (MENR) is strengthened.

SA.4.3. The ranger service of the protected areas sector in Ukraine is reformed and operates according to improved and upgraded standards

T.4.3.4. The components of the reform are implemented through targeted procurements

ST.4.3.4.2. Digital and mobile ranger activities monitoring schemes are elaborated, tested in pilot areas and (if successful) expanded

2. Context

Accurate and reliable monitoring systems are prerequisites for effective management of protected areas worldwide. In particular, data derived from biodiversity monitoring plays an

important role for effective PA management as it provides essential information for guiding decision-making and allows for adaptive management as changes in biodiversity can be tracked over time. Without accurate and reliable monitoring data, assessing the effectiveness of conservation measures tends to be error-prone and important conservation issues can more easily remain unnoticed for long periods of time.

Besides the monitoring of biodiversity, the specific monitoring of individual conservation measures is of high importance. This is particularly the case for law enforcement operations inside the protected areas aiming to prevent illegal activities such as timber extraction or poaching. As resources for law enforcement are generally limited, the resources that are available need to be allocated as efficiently as possible to allow for maximum effectiveness in deterring illegal activities.

To achieve both goals, protected areas worldwide rely on reliable monitoring data of biodiversity as well as of law enforcement activities. By using specialized hardware and software such as the free of charge Spatial Monitoring and Reporting Tool (SMART, https://smartconservationtools.org/), PA managers can obtain a reliable understanding of patrolling activities (efforts, spatial distribution, temporal distribution, etc.) as well as of illegal activities detected by the patrols (locations of detections, types of violations, etc.). Also, biodiversity monitoring data can be collected and centrally stored and analysed through SMART. This allows managers to optimize law enforcement over time and provides valuable indications regarding the trends of illegal activities inside the PAs while also allowing for the constant collection of biodiversity monitoring data.

This procurement follows an earlier procurement (of ten rugged smartphones) which was conducted as a Quick Start Measure in early 2021 (**QSM-2020-4-NAT-Rugged smartphones rangers**). The Quick Start Measure was conducted as a testing and pilot phase through which the use of the specialized rugged smartphones was to be tested by three selected target areas of the project. In particular, the objective of the testing phase was to assess the true utility of such smartphones in field conditions in the protected areas and for data collection using the SMART software (www.smartconservationtools.com). This also included an assessment of which functionalities of the smartphones were particularly useful and which were not, thus informing whether or not additional smartphones should be provided in large numbers across all target areas and what would be the best specifications of the phones for such a larger procurement.

For a period of two months, rangers and research staff of the three selected protected areas used the provided smartphones during field surveys and patrols and actively tested them by recording observation using the SMART software. Feedback from the users regarding this testing phase revealed that:

a) The GPS functionality of the smartphones is very high, providing accurate and reliable navigation in the field. The use of additional GPS devices becomes obsolete when having a smartphone.

b) The battery life of the smartphones is very long (up to 10 days without charging) which is of great value as remote places within the areas can be surveyed despite there not being any electricity supply.

c) The smartphones have high ruggedness and are likely to remain fully functional for years despite the demanding field conditions.

d) The smartphone cameras provide high-quality pictures. This makes the use of additional digital pocket cameras for regular purposes of data collection (standard shots without optical zoom) obsolete.

e) The use of the SMART software on the phones works without any problems and so does the data collection.

f) The integrated radio capability of the smartphones was **not** found to be of major additional value. Using the radio functionality was found to strongly accelerate battery consumption and the distances of the radio signal were found to be short.

All in all, the smartphones were found to be of high functionality for the envisaged purposes. Only the integrated radio function was found to be of rather limited value.

These results lead to the conclusion that additional provision of rugged smartphones to cover all eight target areas and all relevant protected area staff would strongly increase the areas' monitoring and patrolling efficiency and effectiveness. Further important conclusions are:

a) Future smartphones to be procured should not include radio functionality due to its limited utility. This would likely lead to lower costs per smartphone and would increase the choices of brands and models to allow for highest value for money.

b) Procurements of other monitoring and field work devices such as GPS devices and digital pocket cameras can be severely minimized or fully omitted as the provided smartphones already cover these functions.

c) As the smartphones are to be used as truly multifunction devices for many different purposes (navigation, communication, note taking, data collection, photography,etc.), the battery consumption would likely increase. Therefore, providing an additional powerbank for each phone is advisable and would easily extend the use of the phone in a very cost-efficient way.

The implementation of the smartphones and the SMART software is being conducted in very close collaboration with a second project which is focusing on supporting a different set of protected areas in the Ukrainian Carpathians. The project is called “Conservation of highly valuable primeval and old-growth forests in selected national parks in the Ukrainian Carpathians". It is part of the International Climate Initiative (IKI) and supported by The German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) with the project code 19_IV_086_UKR_A_Karpatenwälder. The implementing organization is Frankfurt Zoological Society. The target areas of both projects share a large number of commonalities, especially regarding the types of natural habitats that they conserve as well as their typical challenges and opportunities. In particular, they share very similar objectives regarding the strengthening of biodiversity monitoring capacities. For this reason, the two projects decided to collaborate to implement a congruent approach for supporting the monitoring development across all target areas. The partner project acts as the leading party regarding this activity. As such, the partner project is coordinating the technical aspects of the SMART implementation and is guiding the implementation process for all target areas, including those of the SNPA project.

3. Objectives

Global objective

A contribution to the conservation of the biological diversity in Ukraine is delivered.

Specific objective

Through the availability of specialized rugged smartphones to the protected areas, their effectiveness and efficiency regarding biodiversity monitoring and patrolling are strengthened. This will lead to more robust and reliable monitoring and patrolling results which will form the basis for improving the management and conservation effectiveness of the areas.

In total, 189 smartphones and powerbanks are to be procured. They will be distributed to the protected areas according to the following table.

4. Specifications

Lot 1: Rugged Smartphones

Quantity: 189

Specifications:

- To ensure that the smartphones are of sufficient ruggedness for extremely demanding field conditions, only smartphones of the following brands will be accepted:
    - Blackview
    - Ulefone
    - Doogee

  These brands have a long track record of manufacturing highly durable and long-lasting smartphones and are among the world leaders in this product segment.
- Operating System: Android
- CPU: Octa-core with at least 2.0 GHz per core
- Battery capacity: at least 8000 mAh
- Internal Storage: at least 64 GB
- Exchangeable storage: microSDXC slot with maximum capacity of at least 128 GB
- RAM: 6 GB
- Network technology: GSM, LTE, HSPA
- Display:
    - Type: IPS LCD, Multi Touch
    - Resolution: at least 410 ppi
    - Diagonal size: 5.0 - 6.0 inch
    - Scratch resistant
    - Corning Gorilla Glass 5
- Rear Cameras: At least one camera with the following specifications:
    - At least 12 MP
    - At least one LED flash
    - Video: at least 1080p at 30fps
- Selfie Camera:
    - At least 4 MP
- Extremely robust design and high ruggedness:

  - Ingress protection rating: IP68K
- Connectivity:
  - Bluetooth 4.1
  - WiFi: 2.4G Wi-Fi / 5G Wi-Fi
- Minimum navigation and positioning requirements:
  - GPS
  - GLONASS
  - Beidou
- Sensors:
  - Accelerometer, gyro, proximity, compass, barometer, coulombmeter

Lot 2: Power banks

Quantity: 189

Specifications:

- Capacity: At least 20 000 mAh
- Battery type: Lithium-ion
- Ruggedness and water resistance: at least IPX6
- Input for charging the device:
  - USB-C
- Outputs:
  - At least one USB-C output
  - At least one USB-A output
- Charging cable included
- Warranty: At least 1 year

5. Environmental and Social Standards (ESS)

Potential environmental and social risks shall be management and minimized in this procurement through ensuring that the requirements of relevant ESSs are met.

Standards	**Relevant (yes/no)** If yes, specify: What are possible unintended negative outcomes?	**Measures to be taken to** a) reduce the likelihood of unintended negative outcomes occurring, b) mitigate negative implications in case unintended negative outcomes do occur
ESS1 Assessment and Management of Environmental and Social Risks and Impacts	Yes. If potential risks and negative outcomes are not identified, they may be harder to mitigate and likelihood that they may occur is increased.	Conduct assessment of risks and impacts and identify all relevant ESSs. Follow the measures identified for ESS 2-10 to reduce risks and mitigate negative outcomes.

ESS2 Labour and Working Conditions	No.	
ESS3 Resource Efficiency and Pollution Prevention and Management	Yes	The equipment to be purchased is specifically aimed at being of very high durability and long life cycles. This will reduce the risk of premature hardware failure and thus maximize resource efficiency.
ESS4: Community Health and Safety	No.	
ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	No.	
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	No.	
ESS7: Indigenous Peoples	No.	
ESS8: Cultural Heritage	No.	
ESS9: Financial Intermediaries	No.	
ESS10: Stakeholder Engagement and Information Disclosure	No.	Extensive exchanges were conducted with the target areas in order to compile the list of types and quantities of monitoring equipment to be procured. This will ensure that the provided equipment serves the needs of the areas as much as possible and maximize their eventual use by the PA staff.

6. Delivery, Reception and Payment

Delivery:

The goods shall be delivered according to the terms of delivery DDP. **The prices should not include VAT**. AHT Group AG will provide the Registration Card to the supplier to be exempt from all taxes, customs duties and charges.

Reception:

The goods are to be delivered to the SNPA Project Office in Lviv. They will be distributed to the target areas separately by the SNPA project.

Payment:

100% payment for the goods will be conducted within ten (10) days after the delivery of the goods to the SNPA Project Office in Lviv.