

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

**Contract title: Supply of Hardware Equipment for Strengthening the Audit Capacity of the Audit Authority**

**Publication reference: NEAR/ANK/2022/EA-LOP/0040**

**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

CLI	Command Line Interface
DDR	Double Data Rate
DIMM	Dual In-line Memory Module
ECC	Error Correction Code
EPEAT	Electronic Product Environmental Assessment Tool
GBPS	Gigabytes per Second
GPS	Global Positioning System
HDMI	High Definition Multimedia Interface
IEC	International Electrotechnical Commission
LAN	Local Area Network
MHZ	Megahertz
MP	Mega Pixel
PCIe	Peripheral Component Interconnect Express
RAID	Redundant Array of Independent Disks
RAM	Random Access Memory
RJ-45	Registered Jack 45
SAS	Serial Attached SCSI
SD	Secure Digital
SSD	Solid-State Disk
SSL	Secure Socket Layer
USB	Universal Serial Bus
VGA	Visual Graphics Array
WAN	Wide Area Network
Whr	Watt Hour

## 1. GENERAL REQUIREMENTS

### 1.1 General Technical Requirements

- 1.1.1 The specifications indicated in “Column 2” of the “2. TECHNICAL SPECIFICATIONS TABLE” below are the minimum requirements unless otherwise specified. Any improvements on the specifications or additional features offered shall be clearly identified in the Tenderer’s offer.
- 1.1.2 All the equipment shall be provided as complete with the necessary accessories and/or parts to ensure that the unit is capable of operating to the required technical and quality specifications immediately. Supply, delivery, including installation, integration and final customization shall include all needed parts, accessories and consumables required for the supplies to be presented for provisional acceptance fully installed, operational and ready for use. Consumables, accessories, parts and documentation used during delivery, installation, integration and customization before provisional acceptance must therefore be anticipated and calculated into the offer. It shall be the sole responsibility of the contractor to ensure that all pre-requisites for the completeness of the supply delivery are met before its commencement.
- 1.1.3 Whole system and system components and equipment shall be compatible each other.
- 1.1.4 The item to be supplied in Lot 1.5 must be in full compatibility with other servers already available at the beneficiary’s institution. Also, it must be compatible with the cluster structure of the virtualization system of the servers of the beneficiary's institution. The supplier must ensure that the item to be supplied is compatible and redundant with these servers. Technical Specifications of the servers used already by the Ministry;
- Hypervisor: VMware ESXi, 7.0.2, 17867351
  - Model: ProLiant DL380 Gen10
  - Processor Type: Intel(R) Xeon(R) Gold 6238R CPU @ 2.20GHz
  - Disk: 2x240GB (SATASSD), 3x800GB (SASSSD Write Intensity Disk), 21x15,36TB (SASSSD Read Intensity Disk)
  - Memory: 24x64.00GB DDR4 2933 MHz
  - Network: 2x HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adpt
- 1.1.5 Any specification referring to or suggesting a particular product or manufacturer, in particular to types, models and brand names are always to be understood as “or equivalent”. Where equivalency shall be subject to technical evaluation, the respective documentation of equivalency, and - if appropriate - an assessment by an independent party shall be provided with the offer.
- 1.1.6 It should be noted that whenever a specific standard is mentioned in the Technical Specifications it has to be understood as that standard or its equivalent.
- 1.1.7 Equipment which allows upgrading of capacities shall be provided in such a way that upgrades can be performed by installing additional capacity without discarding the already installed capacities.

- 1.1.8 Adequate documentation to assess the respective capacity, quality, compatibility and inter-connectivity of the product offered must be included with the offer.
- 1.1.9 It should be avoided to copy the specifications required from Column 2 to specifications offered in Column 3. Column 3 shall be filled by indicating explicit specification for the goods offered (not the range or the min. max. threshold provided in the specifications). For instance if the required specification is “length between 100 and 120cm”, the specification offered shall be i.e. “110cm or 110cm ±2”.
- 1.1.10 All the electrical and mechanical parts and auxiliary equipment that are not clearly stated here shall be in accordance with the relevant IEC standards. Equivalent or higher requirements, standards in force in the country of the manufacturers shall also be accepted.
- 1.1.11 When required by national and/or international regulations, all the costs relating to any permission, licensing, certification, testing, calibration or other documentation of the supplies shall be borne by the contractor.
- 1.1.12 There shall not be any usernames, passwords, services, etc. providing access to the proposed products out of the beneficiary institution’s knowledge. There shall not be any mechanism on the proposed products that provides access for the third parties to any kind of the institution’s data out of the beneficiary institution’s knowledge. Otherwise, the contractor shall be hold judicial and administratively responsible on a related illegal occasion.
- 1.1.13 All items provided as part of this contract shall be commercial off-the-shelf products.
- 1.1.14 For any electronic device, basic accessories included in the product box for individual consumers (charging cable, charging adaptor etc.) shall be provided.
- 1.1.15 All software shall be licensed to the beneficiary allowing designated personnel to perform diagnostics, installation, update/upgrade and repair/debug activities without any external assistance.

## 2. TECHNICAL SPECIFICATIONS

### LOT 1: HARDWARE

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
1.1	<p><b>LAPTOP</b></p> <p><b>1.1.1 Processor:</b> Benchmark/Passmark Score: 10.000 according to the <a href="https://www.cpubenchmark.net/index.php">https://www.cpubenchmark.net/index.php</a></p> <p><b>1.1.2 Display resolution:</b> 1920x1080 (Full HD)</p> <p><b>1.1.3 Display Size:</b> Between 15" – 16"</p> <p><b>1.1.4 RAM:</b> 16 GB, DDR4 or above</p> <p><b>1.1.5 Graphics card:</b> 4 GB</p> <p><b>1.1.6 Storage:</b> 500 GB SSD in M.2 PCIe port</p> <p><b>1.1.7 Keyboard:</b> Backlit, Turkish Q-Type</p> <p><b>1.1.8 Built-in audio and camera units:</b> Webcam, Microphone, Speakers</p> <p><b>1.1.9 Built-in ports:</b></p> <p>a) 2x USB 3.0 / USB 3.1 / USB 3.2, 1x Thunderbolt; of which at least one must be USB Type A and one must be Type C in shape</p> <p>b) 1x video (Display Port or HDMI or VGA)</p> <p>c) 1x SD card reader</p> <p>d) 1x audio</p>			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	<p>e) 1x RJ-45 Ethernet</p> <p><b>1.1.10 Weight:</b> Maximum 3 kg</p> <p><b>1.1.11 Battery:</b> Minimum four cell, Minimum capacity: 60Whr</p> <p><b>1.1.12 Durability and energy efficiency, environmentalism compliance certificates/tests:</b></p> <p>a) EPEAT, Energy Star</p> <p>b) IEC 60529 (IP) or tested for durability in accordance with an equivalent standard (at least for shock, vibration, drop and humidity)</p> <p><b>1.1.13 Accessories:</b> Carrying bag, screen protector film</p> <p><b>1.1.14 Portable Hard Disk:</b> SSD, 1 TB storage, USB 3.2 built-in port, minimum 500 mb/s read speed</p> <p>(All of the accessories shall be provided for each laptop.)</p>			
1.2	<p><b>MONITOR:</b></p> <p><b>1.2.1 Display Size:</b> 34"</p> <p><b>1.2.2 Display Resolution:</b> 3440x1440</p> <p><b>1.2.3 Stand:</b></p> <p>a) Minimum tilt angle (-5° / 20°),</p> <p>b) Swivel Angle (-30° / 30°)</p>			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	<p><b>1.2.4 Response Time:</b> maximum 8 ms</p> <p><b>1.2.5 Refresh Rate:</b> 60 Hz</p> <p><b>1.2.6 Built-in ports:</b> 2x USB</p> <p><b>1.2.7 Energy efficiency, environmentalism compliance certificates:</b> EPEAT or Energy Star</p> <p><b>1.2.8 Accessories:</b> Wireless keyboard and wireless mouse, camera with microphone</p> <p>(All of the accessories shall be provided for each monitor.)</p>			
1.3	<p><b>DOCK STATION</b></p> <p><b>1.3.1 Built-in ports:</b></p> <p>a) 1x Thunderbolt 3</p> <p>b) 4x USB 3.0 / USB 3.1 / USB 3.2 / Thunderbolt: of which 2 shall be USB Type A and 1 shall be USB Type C</p> <p>c) 1x RJ-45 Ethernet</p> <p>d) 1x HDMI and 1x Display Port</p> <p><b>1.3.2 Connection:</b> Supports at least 2 monitors, one of which with at least 4K resolution</p> <p><b>1.3.3</b> Compatible with Windows</p>			
1.4	<p><b>TABLET</b></p> <p><b>1.4.1 Processor:</b> Benchmark/Passmark Score:</p>			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	<p>6.000 according to the <a href="https://www.cpubenchmark.net/index.php">https://www.cpubenchmark.net/index.php</a></p> <p><b>1.4.2 Display size:</b> Between 10" – 14"</p> <p><b>1.4.3 Display Resolution:</b> 1920x1080 (Full HD)</p> <p><b>1.4.4 RAM:</b> 8 GB</p> <p><b>1.4.5 Storage:</b> 200 GB SSD and expandable with SD card</p> <p><b>1.4.6 Rear Camera:</b> 8 MP</p> <p><b>1.4.7 Operating system:</b> Android or Windows or equivalent</p> <p><b>1.4.8 Connection:</b> GPS</p> <p><b>1.4.9 Energy efficiency, environmentalism compliance certificates:</b> EPEAT or Energy Star</p> <p><b>1.4.10 Weight:</b> Maximum 1 kg</p> <p><b>1.4.11 Battery:</b> 40 Whr</p> <p><b>1.4.12 Accessories:</b> Pen (same brand), keyboard (same brand), screen protector film, rugged case, 200 GB compatible SD card, stand (if the product does not have a stand) (All of the accessories shall be provided for each tablet.)</p> <p><b>1.4.13 Built-in ports:</b> 1x USB 3.0 / USB 3.1 / Thunderbolt</p>			
1.5	<p><b>SERVER</b></p> <p><b>1.5.1</b> Rack type with a maximum height of 2U</p>			



1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	<p><b>1.5.2</b> Two processor with a Benchmark/Passmark Score: 55.000 according to the <a href="https://www.cpubenchmark.net/index.php">https://www.cpubenchmark.net/index.php</a>; 2.2 GHz, 28 Core, 38.5 MB L3</p> <p><b>1.5.3</b> 24 x DIMM slots with 16x64 GB (total 1 TB), 2500 MHz, ECC capable DDR4 memory modules</p> <p><b>1.5.4</b> 3 x 800GB (net capacity) SAS 12G Write Intensity (WI) SSD disks</p> <p><b>1.5.5</b> 7 x 15.36TB (net capacity) SAS 12G Read Intensity (RI) SSD disks</p> <p><b>1.5.6</b> 2 disk control cards with 12 Gbps bandwidth</p> <p><b>1.5.7</b> 8 x 10 Gigabit network card</p> <p><b>1.5.8</b> A software module that enables the server to be turned on and off remotely, managed graphically or via CLI over LAN and WAN</p> <p><b>1.5.9</b> Power supplies at least 80+ Gold efficiency</p> <p><b>1.5.10</b> The remote management module of the server will have SSL access and will have its own Gigabit Ethernet access point independent of the Ethernet access points on the server</p> <p><b>1.5.11</b> Power supplies that are hot-swappable and redundant at minimum 750 W each</p> <p><b>1.5.12</b> 2 x 240 GB SSD disks to be configured as</p>			

1. Item number	2. Specifications required	3. Specifications offered	4. Notes, remarks, ref to documentation	5. Evaluation committee's notes
	RAID 1 or equivalent, controlled by a separate disk control card (hardware) on the server			