

# LPI - LAPTOPS FOR SPECIAL PROJECT

## TECHNICAL APPENDIX

[Objective](#)

[Bid](#)

[Submission and how to quote](#)

[Documentation](#)

[Samples](#)

[Warranty](#)

### **[Deadlines and Terms Of Delivery](#)**

[Requirements](#)

[Category 1](#)

[Category 2](#)

[Category 3](#)

[Requirements common to all categories](#)

[Security system](#)

[Spare parts](#)

[Mandatory warranty](#)

[Delivery deadline](#)

[Category 1](#)

[Categories 2 and 3](#)

[Technical assessment criteria](#)

[Compliance with mandatory requirements](#)

[Assessment of samples](#)

[User performance and experience](#)

[Acceptance tests for category 3 laptops](#)

[Acceptance testing of PISA test laptops \(included in category 1\)](#)

[Maintenance](#)

**[APPENDIX I: Quotation](#)**

**[APPENDIX II: Contract](#)**

## 1. OBJECTIVE

The Ceibal Centre is calling for international public bids for the procurement of up to 15,000 laptops for special projects.

The devices tendered are divided into the following categories:

- **Category 1:** Operating system: Dual boot Ubuntu/Windows. Size: 11.6 ". RAM: 4GB.
- **Category 2:** Operating system: Windows: Size: between 13" and 14". RAM: 4GB.
- **Category 3:** Operating system: Windows. Size: between 13" and 14". RAM: 8GB.

It is not compulsory to tender devices in all the categories. Each bidder may choose to tender equipment in one or more categories.

In addition, a security system should be quoted which will help manage the devices in the case of theft and provide their documentation at bid-opening.

During the process of assessing the **category 3** laptops, the test protocol will be executed as described in article 6.2.1.1 *Acceptance tests for category 3 laptops*. **The results of this test protocol are of a KNOCKOUT nature.**

During the assessment process of PISA test laptops, included in category 1, the test protocol will be executed according to article 6.2.1.2 *Acceptance testing of PISA test laptops*. **The results of this test protocol are of a KNOCKOUT nature.**

The Ceibal Centre will provide the necessary software licences and technical instructions, which will be delivered after the purchase of the terms and conditions, so that the bidders can perform these tests before the opening of the bid envelopes. For laptops in category 3, the bids must be submitted together with a document with the results of these tests carried out by the bidder (see article 2.2 *Documentation*).

In the event of differences between the results of the tests submitted by the bidder and those performed by the Ceibal Centre, the latter shall prevail.

## 2. Bid

Each bidder must submit their bid according to the criteria specified in this article. The Ceibal Centre reserves the right to reject any bid that is not submitted in accordance with these submission and quotation guidelines.

To facilitate the assessment of the bids, the submission of documentation should ideally be clearly segmented, with each product identified by its corresponding model.

### 2.1. Submission and how to quote

The technical bid submitted will be segmented in the following folders:

1. Folder with the category tables, spare parts, warranty and delivery deadlines stated in article 5. *Requirements* complete for each device model tendered.
2. Folder with the documentation requested in article 2.2 *Documentation* for each model of device tendered.
3. Folder with a technical description of the security system as requested in article 5.5 *Security system*.
4. Folder with additional warranty specifications, if tendered.
5. Folder with the specification of delivery deadlines, in case those requested in article 4. *Deadline and terms of delivery* are not satisfied.
6. Folder with the complementary technical information that the bidder may deem suitable to provide.

The financial bid submitted should be segmented in the following folders:

1. Folder with the tables of *Appendix I: Quotation* complete in the corresponding device category. The operating system licence must be included in the price quoted for the device. Ceibal's devices qualify for the Shape the Future initiative, so the necessary information for the bidder to secure the licence with Microsoft will be duly published.
2. Folder with the security system quotation. There should be a breakdown of all hardware costs and licensing structure to support as many as 15,000 customers. There must also be an indication of the cost in infrastructure and licenses for scaling up the solution to 30,000 customers.
3. Folder with quotations additional to those specified in the tables of Appendix I, if applicable.

## 2.2. Documentation

The following is the documentation to be included in the documentation folder of the technical bid for each model tendered.

LAPTOP DOCUMENTATION		
MANDATORY		
2.2.1	TECHNICAL SPECIFICATIONS	Document with the technical specifications of each model tendered
2.2.2	ANTI-THEFT SAFETY SYSTEM	Specify whether the system operates in SaaS mode or with a dedicated infrastructure. For the latter case, specify necessary infrastructure requirements to support as many as 15,000 customers.
		Specify background of the solution, both at the corporate level and in the education segment.
		Functional and technical description of the system. It must detail all the information necessary for its proper operation, particularly that which is exchanged between the different components of the solution
		User's guide, in particular how to report the theft of a computer.
		State whether the source code may be delivered to the Ceibal Centre, and whether Ceibal can make modifications to the system, which will be an asset in the assessment.
		Specify how the solution will be scaled up in terms of infrastructure and licensing to support as many as 30,000 customers.
2.2.3	TECHNICAL DISASSEMBLY DOCUMENTATION	Technical document detailing the procedure for complete disassembly of the device.
2.2.4	COMPATIBILITY OF MOTHERBOARDS	If more than one laptop model is tendered, the motherboard models should ideally be compatible with each other. If there is motherboard compatibility, please expressly state between which models.
2.2.5	TECHNICAL DOCUMENTATION AND PROCEDURE FOR INSTALLING AND CUSTOMISING FIRMWARE AND GENERATE DISK IMAGE	Document detailing the procedure for customising the firmware. Specify the type of modifications Ceibal can make and the type of modifications the manufacturer can make. (See mandatory requirement 5.4.14). Specify the expected response times for each stage.

		Document detailing the procedure for customising the disk image. Specify the type of modifications Ceibal can make and the type of modifications the manufacturer can make. By way of example, adding programs, changing the wallpaper and operating system settings are of particular interest. Ideally, Ceibal should be able to have total control over customisation. Specify the tool to be used for image generation, e.g. Clonezilla. Specify the expected response times of each stage. (See mandatory requirement 5.4.14). Specify the expected response times for each stage.
		Specify procedure for installing the firmware.
		Specify procedure for installing disk image
2.2.6	INSTALLING THE OPERATING SYSTEM ON VARIOUS COMPUTERS	Procedure for installing the operating system on several computers simultaneously, for example through a removable device or a PC. Alternatives that facilitate operation and minimize the use of external resources are preferred.
2.2.7	READING THE SERIAL NUMBER	Instructions on how to obtain the Id described in 3.4.11 from the operating system (ideally, the Id should match the serial number printed on the housing).
2.2.10	TEST PROTOCOL RESULTS(applies to category 3 only)	Document with the results of tests detailed in article 6.2.1.1 Acceptance tests for category 3 laptops, for all models tendered in category 3.
<b>DESIRABLE</b>		
2.2. 11	CERTIFICATIONS OF ROBUSTNESS	Certificates of standards of robustness the device complies with.
2.2.12	RoHS CERTIFICATE	Certificate of compliance with RoHS directives. If this certificate is not available when the bid is submitted, its submission may be deferred until the quality control prior to the shipment of the first batch of devices.
2.2.13	FCC CERTIFICATE	FCC Compliance Certificate. If this certificate is not available when the bid is submitted, its submission may be deferred until the quality control prior to the shipment of the first batch of devices.

## 2.3. Samples

The submission of bids must be accompanied by the submission of **FIVE identical samples of each model tendered**. A key part of the technical assessment will be carried out on these samples (see article 6.2 *Assessing Samples*).

**The specifications and performance of the end product cannot be less than those of the sample. This aspect will be ascertained through the quality controls that will determine acceptance of the product.**

After winning the bid, the bidder will have 4 weeks to collect the samples presented. If the bidder fails to collect them within this period, he will forfeit his right to claim them, and the Ceibal Centre may freely dispose of them.

### 3. Warranty

The bidder must ensure that the products supplied under the contract are new, complete, unused and free from defects attributable to design, materials, manufacture, storage conditions (suitable packaging, temperature and humidity), transfer or any act or omission by the bidder that could manifest itself during the normal operation of the products under the conditions prevailing in the country.

The warranty terms and conditions set out in article 5.6 *Mandatory Warranty* are compulsory. If the bidder presents **additional** warranties, they must be detailed in their technical bid. If the additional warranty terms and conditions proposed by the bidder involve additional costs, they must be quoted separately in the financial bid.

The bidder must indicate the procedure for making claims under warranty.

### 4. DEADLINES AND TERMS OF DELIVERY

Ideally, delivery should conform to the deadlines set forth in article 5.7 *Delivery deadlines*. Should the bidder be unable to satisfy these terms and conditions, they must include in their proposal the deadline for delivery of the equipment according to volume, to be met after the successful bid has been announced.

The schedule of arrivals can be adjusted in conjunction with the successful supplier, always subject to the plan of delivery of devices to the end user.

The supplier must deliver the devices in accordance with the following specifications:

- Each pallet must be labelled with the following information:
  - Device model / lot / batch (**pallets containing more than one device model will not be accepted**).
  - Number of pallets / total pallets in the lot.
  - Number of master boxes on pallet.
  - List of master boxes constituting the pallet.
- Each master box should be labelled with the following information:
  - Device model / lot / batch.
  - Master box number / total master boxes in the lot.
  - Serial number (barcode and alphanumeric) of each device in the master box.
  - Product description
- Each individual box must be labelled with the following information:
  - Device model.
  - Serial number (bar code and alphanumeric) of the device.

The design of each individual box and each master box should be customised in accordance with the specifications that will be agreed between the Ceibal Centre and the successful bidder.

## 5. Requirements

### 5.1. Category 1

MANDATORY REQUIREMENTS			COMPLIES		SPECIFICATIONS and COMMENTS
			Yes	No	
5.1.1.	PROCESSOR	Minimum: Intel Celeron N3150 Quad Core. Please specify.			
5.1.2	RAM	4GB. Minimum: DDR3.			
5.1.3	INTERNAL STORAGE	SSD or HDD. Minimum: 120GB. Please specify.			
5.1.4	SCREEN	Size: 11.6 inches.			
		Minimum resolution: 720p HD (1280 x 720).			
5.1.5	OPERATING SYSTEM	Dual boot Ubuntu 16.04 / Windows 10			

### 5.2. Category 2

MANDATORY REQUIREMENTS			COMPLIES		SPECIFICATIONS and COMMENTS
			Yes	No	
5.2.1	PROCESSOR	Minimum: Intel Celeron N3150 Quad Core. Please specify.			
5.2.2	RAM	4GB. Minimum: DDR3.			
5.2.3	INTERNAL STORAGE	SSD or HDD. Minimum: 120GB. Please specify.			
5.2.4	SCREEN	Size: between 13 and 14 inches.			

		Minimum resolution: 720p HD (1280 x 720).			
5.2.5	OPERATING SYSTEM	Windows 10			

### 5.3. Category 3

MANDATORY REQUIREMENTS			COMPLIES		SPECIFICATIONS and COMMENTS
			Yes	No	
5.3.1	PROCESSOR (*)	Reference: Intel Core i3-2310M. Please specify.			
5.3.2	RAM	8GB. Minimum: DDR3.			
5.3.3	INTERNAL STORAGE	SSD. Minimum: 120GB. Please specify.			
5.3.4	SCREEN	Size: between 13 and 14 inches.			
		Minimum resolution: 720p HD (1280 x 720).			
5.3.5	OPERATING SYSTEM	Windows 10			

(\*) The indicated processor is not a minimum but a reference. The results of tests under section 6.2.1.1 on machines with this processor have been satisfactory.

### 5.4. Requirements common to all categories

The following requirements apply to all laptop categories unless explicitly stated:

MANDATORY REQUIREMENTS			COMPLIES		SPECIFICATIONS and COMMENTS
			Yes	No	
5.4.1	MULTIMEDIA	3.5mm audio jack for headphone output			
		External microphone input.			
		Built-in microphone and speakers.			
		Camera: Minimum 1MP (for minimum 720p HD resolution).			



5.4.2	METHODS OF ENTRY	QWERTY keyboard with Spanish-language layout.			
		Touchpad.			
5.4.3	PORTS	USB: Minimum: 2 USB 2.0 ports. Desirable: 2 ports with at least one being USB 3.0.			
		Video output: HDMI or VGA.			
5.4.4	CONNECTIVITY	Minimum WiFi: 802.11 a/b/g/n 1x1 network interface card. Specify the card's motherboard connection interface.			
5.4.5	CHARGER	Europlug power plug (CEE 7/16).			
		Minimum length of DC cable: 1.5mts.			
		Indication of nominal voltage and current or power clearly visible.			
5.4.6	LANGUAGE	Operating system and all its configuration options and interfaces in Spanish.			
5.4.7	CERTIFICATIONS	RoHS, Restriction of Hazardous Substances			
		FCC: Federal Communications Commission Declaration of Conformity			
5.4.8	CEIBAL LOGO	Clearly visible on housing			
		Alcohol-proof			
		Not removable when packaging tapes are stuck or removed			
		Specify printing method			
5.4.9	SERIAL NUMBER, BAR CODE AND IDENTIFIER (ID) OBTAINABLE BY SOFTWARE	Unique serial number (SN) and corresponding barcode printed on the housing			
		Specify method for printing on housing			
		Unique identifier (Id) obtainable by software through a procedure indicated by the bidder			
		Specify whether Id and SN match			
5.4.10	DISK IMAGE	The possibility of generating a custom disk image must be guaranteed. The			

		supplier must provide a base SW image, with functional drivers for customisation.			
5.4.11	CONFIGURING THE FIRMWARE	The possibility must be guaranteed of configuring the firmware (BIOS/UEFI), in particular disabling the possibility of setting any boot password and the possibility of setting any password for access to the mass storage medium.			
<b>DESIRABLE REQUIREMENTS</b>					
5.4.12	LOGO ON CHARGERS	Chargers with logo included.			
5.4.13	HARDWARE TEST	Firmware or software tool that will allow verification of the integrated peripherals and ports of the device. Ideally independent of the apps of the operating system, e.g. through a bootable external device.			
5.4.14	MOTHERBOARD TEST BED	Equipment should allow motherboard quality control, facilitating the connection of peripherals to the board and the performance of tests to verify the condition of the hardware. <b>It must be quoted separately from the base price.</b>			

## 5.5. Security System

MANDATORY REQUIREMENTS		COMPLIES		SPECIFICATIONS and COMMENTS
		Yes	No	
5.5.1	Operation on Windows 10.			
5.5.2	Blocking after report of theft and/or expiry of the term of use.			
5.5.3	At least two levels of users with different privileges, for example, common user and administrator user.			
5.5.4	Identification of a device through a unique identifier that can be associated with the serial number described in 5.4.9			
<b>DESIRABLE REQUIREMENTS</b>				
5.5.5	Operation on Ubuntu 16.04. <b>(Applies only to category 1 laptops).</b>			
5.5.6	Notification to end user of security status of equipment, e.g.			

	effective date of security certificate.			
5.5.7	Allowing unblocking through a web service that will be consumed from the Ceibal web portal.			

## 5.6. Spare parts

SPARE PART SPECIFICATION					
Spare part	Part Number	Estimated % of manufacturing defects.	Minimum lot	Delivery deadline	Comments (*)
Screen					
Keyboard					
Battery					
Motherboard					
Charger					
Cover A					
Cover C					
Cover D					
RAM					
Storage					
WiFi Card					
...					
...					

(\*) Specify if the part includes other parts of the device. For example, motherboard with/without integrated peripherals, etc.

## 5.7. Mandatory Warranty

MANDATORY WARRANTY		COMPLIES		COMMENTS
		Yes	No	
Dead On Arrival for a period of 90 days	Warranty for replacement of new devices with DOA failure: 5 laptops every 1000.			

after arrival				
Systemic failures for a period of 365 days after delivery to user	The supplier must provide the necessary spare parts or replace the equipment if the number of faults attributable to manufacturing or design is equal to or greater than 10% of the lot received. The costs arising from the execution of this guarantee are to be borne by the supplier exclusively.			

## 5.8. Delivery deadlines

### 5.8.1 Category 1

DELIVERY DEADLINES - CATEGORY 1		COMPLIES		COMMENTS
		Yes	No	
70% of the awarded lot	Arrival in Uruguay in the first half of May 2018			
30% of the awarded lot	Arrival in Uruguay up to 30 days after the arrival of the first lot			

### 5.8.2 Categories 2 and 3

DELIVERY DEADLINES - CATEGORIES 2 and 3		COMPLIES		COMMENTS
		Yes	No	
100% of the awarded lot	Arrival in Uruguay in the second half of February 2018			

## 6. Technical Assessment Criteria

The assessment of the technical bid includes the following criteria:

- Assessment of compliance with mandatory requirements.
- Assessment of compliance with desirable requirements.
- Assessment of samples:
  - Assessment of user experience and performance
    - Acceptance tests of category 3 laptops.
  - Assessment of maintenance

### 6.1. Compliance with mandatory requirements

Any offer that fails to comply with any of the mandatory requirements under article 5. *Requirements* will be disqualified.

### 6.2. Assessment of samples

#### 6.2.1 User experience and performance

The experience of overall use of the device and its performance under stress conditions will be assessed according to the specific demands of the special projects for which they will be used. In general terms, the assessment will include Wi-Fi (throughput and roaming), device response in interaction with user, battery runtime, reading/writing in memory, CPU performance, among others will be assessed.

##### 6.2.1.1 Acceptance tests of category 3 laptops

For laptops in category 3, the test protocol described in the document *test instructions* will be executed. To perform such tests, Genexus 15 must be installed in accordance with the procedure described in the document *Installing Genexus*. **The results of this test protocol are of a KNOCKOUT nature.**

**The Ceibal Centre will provide the necessary software licences and technical instructions, which will be delivered after the purchase of the terms and conditions, so that the bidders can perform these tests before the opening of the bid envelopes. For the submission of bids, it is a mandatory requirement to submit a document with the results of these tests carried out by the bidder (see article 2.2 Documentation).**

### 6.2.1.2 Acceptance testing of PISA test laptops (included in category 1)

As regards laptops for PISA tests (included in category 1), the test protocol to be executed is that described in the document *test instructions for PISA laptops*. **The results of this test protocol are of a KNOCK-OUT nature.**

**The Ceibal Centre will provide the necessary software licences and technical instructions, which will be delivered after the purchase of the terms and conditions, so that the bidders can perform these tests before the opening of the bid envelopes.**

## 6.2.2 Maintenance

Maintenance is a fundamental aspect of category 1 devices. This assessment analyzes the device's suitability for the user, the characteristics of the support service provided by Ceibal, and the quality of documentation associated with maintenance requested in article 2.2 *Documentation*; for example, description of disassembly procedures, motherboard compatibility specification if applicable, and procedures for installation and configuration of firmware and operating system. In addition, the maintenance of the equipment also requires the delivery of additional documentation which will be requested when the devices are produced, as detailed in Appendix II: *Contract* (BOM, Exploded-view drawing, schematic diagrams, etc.)

**In general, we seek a device that is robust and easy to repair both in terms of the time it takes to repair and its technical complexity.**

The following are the main aspects that will be assessed:

#### **Availability of hardware test**

A software or firmware tool that will allow verification of the device's integrated peripherals and ports, ideally independently of the operating system's apps, for example, through a bootable external device (see desirable requirements in section 5.4 *Requirements common to all categories*)

#### **Customising the Firmware**

Flexibility configuring BIOS/UEFI parameters, for example, through an administration platform provided by the firmware supplier.

#### **Presence of internal battery**

Independent power supply to maintain certain factory data, even with a dead battery, the loss of which can affect the normal operation of the device, for example, the configuration data of the security system.

### **Installing fragile modules**

Easy-to-remove fragile modules, for example, screen, internal battery, keyboard, antennas, etc., in order to minimize the risk of breakage. Ideally, the installation of these modules should not require adhesive materials.

### **Complexity of disassembly and assembly**

The design should allow a simple assembly and disassembly process, with minimum risk to the components that are removed and replaced. For example, the following considerations contribute to the ease of the process:

- Presence of wire guides for routing internal cables, making the use of sticky tape unnecessary.
- Narrow range of screws, ideally easily identifiable, e.g. by colour coding and/or printing of screw size on PCB.
- Modularity: the design should allow removal and replacement of modules without the need to remove other modules.

### **Screw anchors**

Robust screw anchors that will withstand the wear and tear of multiple removals.

### **Security**

The design should prioritise user safety. For example, safety mechanisms for excessive battery temperature.

### **Length of Internal wiring**

Suitable length of internal cables so as to avoid unnecessary tautness in the connection to the motherboard or excessive scattering of cables inside the equipment.

### **Internal connectors**

Connection of peripherals to the motherboard using removable connectors RATHER THAN soldering, as the latter makes repair processes difficult (see article 3. *Requirement table, warranty and delivery*). Equipment with soldered peripherals can only be repaired in a centralised fashion, which makes the distributed repair mode impossible.

### **External connectors**

The external connectors are those accessible for the user, so they should be robust enough to withstand external pressure. Some aspects to consider are:

- Connectors completely contained inside the device to avoid mechanical stress, or even reinforced by the plastic of the housing itself.
- External connectors mounted on separate boards that connect to the motherboard, so in the event of a broken connector, it is not necessary to remove and replace the whole motherboard.
- Small SMD connectors such as micro/mini USB, audio connectors, micro/mini HDMI, etc., with suitable anchor points on the motherboard.
- Connectors assembled in board-cut configuration so as to make contact with the motherboard on the rear part of the connector, giving the connector an additional point of support.
- Reinforced metal body structure of micro USB connectors, e.g. by spot soldering.
- Reversible connectors, such as the micro USB type C.

### **External buttons**

External buttons are prone to breakage, so they should not be mounted directly on the motherboard but on a separate module.

On the other hand, external plastic parts such as the power and volume buttons should ideally remain mounted on the plastic housing of the device so that they are not lost during repairs.

### **Laptop touchpads**

Independent left and right touchpad buttons.

### **Motherboard repair and maintenance**

Motherboard test bed (see requirements in section 3. *Requirement tables, warranty and delivery times*) and supply of electronic components of the motherboard for replacement during repairs.

### **External battery**

External laptop batteries so that they can be replaced without the need to disassemble the computer. In addition, the module should be attached to the outer housing of the device so that removal by the user is difficult. Screw connections rather than mechanical solutions are preferred for this.



## 6. Appendix I: Quotation

CATEGORY 1:		Dual boot Ubuntu / Windows. Size 11.6 ". RAM 4GB		
BASE MODEL	MODEL	VOLUME	UNIT PRICE, US \$ CIF MVD	COMMENTS
		Less than 1,000		
		Between 1,001 and 5,000		
		Between 5,001 and 10,000		
		More than 10,000		
DESIRABLE REQUIREMENTS		VOLUME	UNIT PRICE, US\$ CIF MVD	COMMENTS
5.4.14	Motherboard test bed	Up to 10		
		Between 11 and 30		
		Between 30 and 100		
SPARE PARTS		UNIT PRICE, US\$ FOB ORIGIN		MINIMUM LOT
Screen				
Keyboard				
Battery				
Motherboard				
Charger				
Cover A				
Cover C				
Cover D				
RAM				
Storage				
Wifi card				

<b>OPTIONALS</b>	<b>UNIT PRICE, US \$ FOB ORIGIN</b>	<b>METHOD OF QUOTATION</b>
Additional warranties (if offered)		

<b>CATEGORY 2:</b>		<b>Size between 13 " and 14 ". RAM 4GB</b>		
<b>BASE DEVICE</b>	<b>MODEL</b>	<b>VOLUME</b>	<b>UNIT PRICE, US \$ CIF MVD</b>	<b>COMMENTS</b>
		Less than 100		
		Between 101 and 500		
		More than 500		
<b>DESIRABLE REQUIREMENTS</b>		<b>VOLUME</b>	<b>UNIT PRICE, US\$ CIF MVD</b>	<b>COMMENTS</b>
5.4.14	Motherboard test bed	Up to 10		
		Between 11 and 30		
		Between 30 and 100		
<b>SPARE PARTS</b>		<b>UNIT PRICE, US \$ CIF MVD</b>	<b>MINIMUM LOT</b>	
Screen				
Keyboard				
Battery				
Motherboard				
Charger				
Cover A				
Cover C				
Cover D				

RAM		
Storage		
Wifi card		
<b>OPTIONALS</b>	<b>UNIT PRICE, US \$ FOB ORIGIN</b>	<b>METHOD OF QUOTATION</b>
Additional warranties (if offered)		

<b>CATEGORY 3: Windows. Size between 13 " and 14 ". RAM 8GB</b>				
<b>BASE DEVICE</b>	<b>MODEL</b>	<b>VOLUME</b>	<b>UNIT PRICE, US \$ CIF MVD</b>	<b>COMMENTS</b>
		Less than 500		
		Between 501 and 1000		
		More than 1000		
<b>Desirable REQUIREMENTS</b>		<b>VOLUME</b>	<b>UNIT PRICE, US \$ CIF MVD</b>	<b>COMMENTS</b>
5.4.14	Motherboard test bed	Up to 10		
		Between 11 and 30		
		Between 30 and 100		
<b>SPARE PARTS</b>		<b>UNIT PRICE, US \$ CIF MVD</b>	<b>MINIMUM LOT</b>	
Screen				
Keyboard				
Battery				

Motherboard		
Charger		
Cover A		
Cover C		
Cover D		
RAM		
Storage		
Wifi card		
<b>OPTIONALS</b>	<b>UNIT PRICE, US \$ FOB ORIGIN</b>	<b>METHOD OF QUOTATION</b>
Additional warranties (if offered)		

## 7 Appendix II: Contract

Ceibal will sign a contract with the successful bidder(s) that will cover, among others, the following aspects:

- Delivery of samples:
  - 20 samples for software image development
  - 20 samples for training in repairs
- Security system: if not a SaaS solution, delivery of the security system installation procedure. In any case, the bidder must advise the Ceibal Centre on the deployment of the system and guarantee its availability for a period of at least 3 years.
- Firmware configuration capability. The successful bidder must facilitate the ability to configure the firmware **of all motherboards delivered to Ceibal, on devices or as spare parts**. The successful bidder can make these configurations at origin or send all the necessary tools so that Ceibal can do it in the field when replacing the motherboard.
- Delivery of the following documentation prior to the first shipment (or prior to each shipment, as applicable). Ceibal may reject a lot if it finds that this information is not available, and the associated costs must be borne by the successful bidder.

- RoHS and FCC certifications, if they were not delivered at the time of submission.
- Bill of Materials (BOM): a form with all the hardware components that make up the device, each with a code identifying it, including the housing and any other individual components that can be replaced in the event of breakage.

All the equipment sent to Ceibal must be made up of the same components. In case this is not possible, the successful bidder must notify Ceibal in writing within 60 days. If computers are found with parts that are incompatible with the stated BOM and in breach of the 60-day deadline, the successful bidder will bear the cost of supplying the new components in a number amounting to 5% of the lot of modified computers, as well as the logistics costs to ensure prompt delivery.
- Schematic diagram and layout of the motherboard in a digital format. This information will be provided prior to each shipment and each time the successful bidder reports a change of hardware.
- Exploded View Drawing: technical drawing of the assembly of and relation between all atomized parts of the equipment, each identified with a assembly code. This information must be provided prior to each shipment and each time the successful bidder reports a change of hardware.
- Data sheets on main components of the device, such as battery, screen, camera, etc. and main motherboard components, such as integrated circuits and connectors.
- Material Safety Data Sheet (MSDS) for batteries.
- Sheet with the following information on each device:
  - Part number.
  - Serial number.
  - Number of pallet/master box used to ship the device.
  - MAC addresses of all the network cards of the device.
  - Part number and serial number of main components (minimum: motherboard, screen and battery)
  - Identifier obtainable by software using the method specified by the bidder (see requirements 5.4.11)
- Logistic information:
  - Measurements of individual box.
  - Weight of individual box.
  - Measurements of master box.
  - weight of master box
  - Individual boxes per master box.
  - Master boxes per pallet
  - Height of the pallet.
- End of Life. The successful bidder must report the End of Life (EOL) date of a spare part with 180 days' notice.
- Spare Parts: Throughout the life cycle of the device, the successful bidder must supply the spare parts as long as these are available on the market.
- Mass failures not attributable to manufacturing or design. The Ceibal Centre may:



- Work in conjunction with the supplier to ensure continued delivery of the devices
- or terminate the contract without any liability.
  - The Ceibal Centre will carry out three quality controls that may result in partial or total rejection of the inspected lots. The following are the three inspections: 1) validation of golden samples that the successful bidder will submit for assessment at the Ceibal Centre; 2) pre-shipment inspection at origin; and 3) final inspection at Ceibal upon receipt of the shipment.
  - The Ceibal Centre, or a representative appointed by Ceibal, may visit the factory before and/or during the production of the lots for Ceibal, after coordination between the parties, and independently of the quality controls. Submission of the bid will mean acceptance of this condition.