



LPI 0758 – 2015 – DEVICES

TECHNICAL APPENDIX

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1 PURPOSE

Centro Ceibal issues an international public call for tenders for the procurement of up to 100,000 devices (laptops or tablets) to be delivered to primary and secondary school students.

2 DESCRIPTION OF THE CALL FOR TENDERS' DOCUMENTS

The products included in these call for tenders' documents are the following:

- Laptops – Section 5.
- 8" tablets
 - Tablets with a 802.11 b/g/n network card - Sections 6.1 and 9
 - Tablets with a 802.11 a/b/g/n or higher network card - Sections 6.2 and 9
- 9" tablets - Sections 7 and 9
- 10" tablets - Sections 8 and 9

Section 3 provides for formal aspects of the process, common to all items tendered.

Section 4 specifies other conditions of purchase that shall be included in the contract to be signed by Ceibal with the awarded bidder(s).

Sections 5, 6, 7, 8 and 9 specify mandatory and desirable requirements for laptops and tablets. The requirements in Section 9 are common to all tablets except for explicit indication to the contrary.

Section 10 specifies the requirements concerning documents, divided into two categories: mandatory documents to be submitted with the tender and documents whose delivery may be delayed at most until the time of shipment.

Section 11 specifies the conditions for submitting the tender, form of quoting and delivery of samples.

Section 12 specifies the warranty conditions. The conditions assumed by Ceibal to be fulfilled by the awarded bidder(s) are specified therein. Should a bidder not meet these conditions, he shall specify his own warranty conditions.

Appendices I to V contain tables to be completed by each bidder for each model offered as appropriate.

Appendix VI is the checklist of the tender, detailing all items that the bidder shall include in his bid for it to be complete.

Appendix VII specifies the characteristics of cellular networks. It is included for informational purposes to be taken into account if a bidder decides to offer devices with cellular service.

3 GENERAL CONSIDERATIONS

Bidders shall submit their tender according to the guidelines described in Section 11. **BID. Plan Ceibal reserves the right to reject a tender that is not submitted respecting these guidelines.**



As set forth in Section 11.2 of these Terms and Conditions, at the time of submitting the tenders, and for the purpose of evaluating the products offered, FIVE identical samples of each device model offered, with all related accessories and chargers, shall be delivered. Notwithstanding the foregoing, prototypes and/or samples with previous versions of the operating system for the model offered may be evaluated. In this case, the bidder is requested to indicate if the sample provided is a prototype, etc.

It is recommended that the samples be as close as possible to the final hardware and it will be valued if they are delivered with the version of the operating system offered and, if applicable, with a certified software image, since the evaluation will be performed on this hardware.

In exceptional circumstances and upon the existence of justified grounds in the opinion of Ceibal, the supplier may postpone delivery of the samples for a reasonable period.

The specifications and performance of the final product shall not be lower than those of the sample provided. This fact shall be verified during quality controls that determine product acceptance.

Centro Ceibal, or a designated representative shall visit the factory before and/or during the production of the lots for Ceibal, prior coordination between the parties and independently of the stipulated quality controls. **This condition shall be deemed as accepted at the time of submitting the tender.**

4 CONTRACT

Ceibal shall sign a contract with the awarded bidder(s) including, among other aspects, those mentioned below:

- Delivery of samples (see Section 11.2 of the Terms and Conditions):
 - 20 samples for development of the software image
 - 20 samples for repair training
- Deadline for the development of the software image: maximum 60 days from the date Centro Ceibal notifies the requirements. This deadline includes the certification of the image (if applicable to the device) and may be extended, provided there is a valid reason, by agreement between both parties.
- Supply of the Platform Key (only applies to tablets): the platform key of the system, allowing the development of applications with special privileges, shall be supplied.
- Delivery of devices with a certified software image: those devices this applies to shall be delivered with a certified software image, whether developed by Ceibal or the devices' base image.
- Firmware configuration ability (only applies to laptops). The awarded bidder shall provide the ability to configure the firmware **of all motherboards delivered to Ceibal, both of devices and spares**. The awarded bidder shall include these configurations at the place of origin or send all necessary tools for Ceibal to do this in the field when replacing a motherboard.
- Delivery of **all mandatory documents** as requested in Section 10. DOCUMENTS. Ceibal may reject a lot if it is found that this information is not available and the costs associated shall be borne by the awarded bidder. The contract shall expressly include the following conditions concerning some of the documents requested:

- o Bill Of Materials (BOM): all devices sent to Ceibal shall consist of the same components. Should this not be met, the awarded bidder shall give written notice to Ceibal within a period not less than 60 days. Should devices with parts that are incompatible with the BOM declared be detected without complying with the minimum of 60 days' notice, the awarded bidder shall bear the cost of providing the new components in an amount equal to 5% of the lot of modified devices as well as the logistics costs necessary to ensure prompt delivery.
 - o Schematics: the awarded bidder shall deliver the schematics prior to the first shipment and every time he notifies a change of hardware.
 - o Explode chart: the awarded bidder shall deliver the explode chart prior to the first shipment and every time he notifies a change of hardware.
 - o Information on each device: the awarded bidder shall deliver the information requested for each device in Section 10.2.5 of these Terms and Conditions prior to each shipment.
 - o Packaging conditions: the awarded bidder shall notify Ceibal on the packaging conditions of the devices and shall include in the packaging of the devices the information requested in Section 10.2.6 of these Terms and Conditions, as well as the customization agreed with Ceibal for each pallet/master box/individual box prior to each shipment.
- Quality controls. Centro Ceibal shall perform three inspections: 1) validation of *golden samples* sent by the awarded bidder to be evaluated by Centro Ceibal; 2) pre-shipment inspection at the place of origin; and 3) final inspection by Ceibal after receiving the shipment. In all cases, Centro Ceibal may partially or completely reject the inspected lot.
 - End Of Life. The provision of parts for a period of 12 months from purchase shall be guaranteed. After this period, the awarded bidder shall notify the date of End of Life (EOL) of a spare part 120 days in advance.
 - Warranty. The warranty conditions shall be specified pursuant to Section 12. WARRANTY.

5 LAPTOPS

The search is focused on devices with Ubuntu 14.04 LTS or higher, Fedora 20 or higher or other LTS (Long Term Support) operating systems, and able to run anti-theft security software.

5.1 MANDATORY REQUIREMENTS

5.1.1 PROCESSOR

Minimum: Dual Core. To be specified.

5.1.2 RAM

DDR3. Minimum capacity: 2GB.

5.1.3 INTERNAL STORAGE

SSD/eMMC. Minimum capacity: 16GB. The bidder shall specify the connection interface of the card to the motherboard (mPCIe, M.2).

External devices as mass storage solution shall not be accepted.

5.1.4 SCREEN

Minimum acceptable size: 10.1". For touchscreens, minimum size: 7.5".

Minimum resolution for the smallest screen dimension: 720p.

5.1.5 MULTIMEDIA

3.5 mm connector jack for output to headphones.

External microphone input.

Integrated microphone and speakers.

Camera: 1 MP minimum resolution

5.1.6 INPUT METHODS

QWERTY keyboard with Spanish language distribution.

Touchpad.

5.1.7 PORTS

USB: Minimum: 2 ports (USB 2.0 minimum).

Video output: HDMI or VGA. To be specified.

5.1.8 CONNECTIVITY

WiFi: Minimum: 802.11 a/b/g/n 1x1. The bidder shall specify the connection interface of the card to the motherboard (mPCIe, M.2).

5.1.9 AUTONOMY

Minimum: 3 hours

5.1.10 CHARGER

Europlug Connector (CEE 7/16).

Minimum DC cable length: 1.5 meters.

Clearly visible display of voltage and current or nominal power.

5.1.11 OPERATING SYSTEM

Ubuntu 14.04 LTS or higher, Fedora 20 or higher or other LTS operating systems. To be specified.

5.1.12 LANGUAGE

The operating system and all interfaces and configuration options must be in Spanish.

5.1.13 ECO-FRIENDLY

The RoHS directive shall be met.

5.1.14 CEIBAL LOGO

Clearly visible on the housing, indelible to alcohol application and non-removable by sticking and unsticking packing tape on its surface. Printing method to be specified.

5.1.15 SERIAL NUMBER AND BAR CODE

The device shall be identified by a unique serial number (SN) printed on the housing along with the corresponding bar code. Printing method to be specified.

The device shall also have a unique identifier (Id) to be obtained via software by means of a procedure to be specified by the bidder (see document requirement 10.1.7).

It is preferable that SN and Id match. To be specified.

5.1.16 DISK IMAGE

The bidder shall deliver a disk image with functional drivers and provide technical support to enable Ceibal to generate a disk image according to its needs and install it on the laptops during the field life of the product.

5.1.17 SECURITY SYSTEM

The bidder shall supply an anti-theft security system with the following features:

Mandatory:

- Allow locking of the device upon a theft report and the expiry of the term of use.
- Allow at least two user levels with different privileges, e. g. common user and administrator.
- Identification of a device by means of a unique identifier that can be associated to the serial number described in 4.1.15.
- Showing the security status of the device, e.g. dates of validity of the security certificate to the end user.
- Allow unlocking through a web service to be consumed from the Ceibal portal.

Desirable:

- Source and binary codes.

Ceibal may require a demonstration of the security system after the technical offers are opened, on a date to be agreed on.

Once awarded, the bidder shall offer support for its setup and sizing.

5.1.18 FIRMWARE CONFIGURATION

The bidder shall guarantee the possibility of configuring the firmware (BIOS/UEFI). In particular:

- Disabling the ability to set any booting password.
- Disabling the ability to set any password for access to the mass storage medium.

5.2 DESIRABLE REQUIREMENTS

5.2.1 FINAL DISPOSAL

Final disposal plan for all parts of the device according to the current European WEEE directive, at a reasonable cost.

5.2.2 LOGO ON CHARGERS

The chargers shall be identifiable by including the logo on them.

5.2.3 INTERNAL STORAGE

Internal SSD storage capacity of 32GB

5.2.4 INTEGRATED NETWORK CARD

10/100 Mbps integrated LAN card.

5.2.5 CONNECTIVITY

Additional connectivity features: bluetooth, GPS, etc.

5.2.6 ADDITIONAL PORTS

Additional ports to those specified in 5.1.7, e. g. SDHC card reader.

5.2.7 HARDWARE TEST

Software or firmware tool allowing verification of integrated peripherals and ports of the device, independently of the operating system's applications.

6 8" TABLETS

6.1 TABLETS WITH A 802.11 B/G/N NETWORK CARD

6.1.1 MANDATORY REQUIREMENTS

6.1.1.1 SCREEN

Capacitive, multitouch.

Size: 8".

Minimum resolution in the smallest screen dimension: 720p

6.1.1.2 NETWORK CARD

802.11 b/g/n

See other mandatory and desirable requirements in Section 9. TABLETS – REQUIREMENTS

6.2 TABLETS WITH A 802.11 A/B/G/N NETWORK CARD OR HIGHER

6.2.1 MANDATORY REQUIREMENTS

6.2.1.1 SCREEN

Capacitive, multitouch.

Size: 8".

Minimum resolution in the smallest screen dimension: 720p



6.2.1.2 NETWORK CARD
802.11 a/b/g/n or higher

See other mandatory and desirable requirements in Section 9. TABLETS – REQUIREMENTS

7 9" TABLETS

7.1 MANDATORY REQUIREMENTS

7.1.1 SCREEN
Capacitive, multitouch.

Size: 9".

Minimum resolution in the smallest screen dimension: 720p

See other mandatory and desirable requirements in Section 9. TABLETS – REQUIREMENTS

8 10" TABLETS

8.1 MANDATORY REQUIREMENTS

8.1.1 SCREEN
Capacitive, multitouch.

Size: 10".

Minimum resolution in the smallest screen dimension: 720p

See other mandatory and desirable requirements in Section 9. TABLETS – REQUIREMENTS

9 TABLETS – REQUIREMENTS

The mandatory and desirable requirements specified in this Section are common to all tablets except for explicit indication to the contrary.

9.1 MANDATORY REQUIREMENTS

9.1.1 PROCESSOR

Minimum: Quad Core. To be specified.

9.1.2 RAM

Minimum capacity: 1GB.

9.1.3 INTERNAL STORAGE

Minimum capacity: 8GB.

External devices as mass storage solution shall not be accepted.

9.1.4 MULTIMEDIA

Integrated microphone and speaker(s).

3.5 mm connector jack for output to headphones.

Cameras: Minimum: 1 back camera with a resolution of 2MP. The features of all cameras integrated into the device are to be specified.

9.1.5 PORTS

Micro SD-cards reader.

9.1.6 CONNECTIVITY

Bluetooth.

For 9" or 10" tablets: 802.11b/g/n WiFi or higher

9.1.7 AUTONOMY

Minimum: 3 hours

9.1.8 CHARGER

Europlug Connector (CEE 7/16).

9.1.9 OPERATING SYSTEM

To be specified.

9.1.10 LANGUAGE

The operating system and all interfaces and configuration options must be in Spanish.

9.1.11 ECO-FRIENDLY

The directive RoHS shall be met.

9.1.12 CEIBAL LOGO

Clearly visible on the housing, indelible to alcohol application and non-removable by sticking and unsticking packing tape on its surface. Printing method to be specified.

9.1.13 SERIAL NUMBER AND BAR CODE

The device shall be identified by a unique serial number (SN) printed on the housing along with the corresponding bar code. Printing method to be specified.



The device shall also have a unique identifier (Id) to be obtained via software by means of a procedure to be specified by the bidder (see requirement 10.1.7).

It is preferable that SN and Id match. To be specified.

9.1.14 DISK IMAGE

The devices shall be delivered with a certified software image.

The tablet may be delivered to the end user with an interface designed specifically for the target audience (hereinafter: CeibalOS) as default operating environment, in addition to the own launcher of the operating system. For this purpose, the bidder shall indicate in his bid whether he can meet the requirements specified in APPENDIX IV: REQUIREMENTS TO INSTALL THE USER INTERFACE.

The bidder shall offer technical support during the field life of his product to allow future CeibalOS versions to be fully functional on his device.

Currently, CeibalOS is available for Android. Should the operating system of the device be Android, delivering a sample with CeibalOS installed shall be valued. Ceibal will make CeibalOS available for this purpose to the bidder who requests it (with prior signing of a NDA).

9.2 DESIRABLE REQUIREMENTS

9.2.1 FINAL DISPOSAL

Final disposal plan for all parts of the device according to the current European WEEE directive, at a reasonable cost.

9.2.2 LOGO ON CHARGERS

The chargers shall be identifiable by including the logo on them.

9.2.3 CONNECTIVITY

Additional connectivity features shall be specified by the bidder, such as GPS or cellular service (for cellular network specifications see APPENDIX VII: CELLULAR NETWORK SPECIFICATIONS)

9.2.4 ADDITIONAL PORTS

Video output (miniHDMI, microHDMI)

9.2.5 CHARGING CONNECTOR TYPE

Barrel-type charging connector

9.2.6 TABLET PROTECTION

Case, sleeve or cover to protect the tablet.

9.2.7 HARDWARE TEST

Software or firmware tool allowing verification of integrated peripherals and ports of the device, independently of the operating system' applications (general applications available in the store of the device are not considered valid).

10 DOCUMENTS

10.1 TO BE PROVIDED WITH THE TENDER

The documents requested in this subsection shall be provided at the time of submitting the tender.

10.1.1 TECHNICAL SPECIFICATIONS

Document with the technical specifications of each model offered.

10.1.2 TECHNICAL DOCUMENTATION OF THE SECURITY SISTEM (ONLY APPLIES TO LAPTOPS)

The following shall be specified:

- Minimum and recommended infrastructure requirements. In particular, sizing of hardware resources and bandwidth required to support 50,000, 100,000 and 200,000 clients.
- Functional description of the system. It shall include all the information necessary for the correct operation of the system, in particular the information exchanged between the different components of the solution.
- A technical document describing the procedures for installation and commissioning of the system.
- A technical document detailing the system's operating procedures, for example, how to declare a tablet as stolen (user manual).

The provision of the source code is also desirable. **The bidder shall indicate whether this is possible.**

Ceibal may require a demonstration of the security system after the technical offers are opened, on a date to be agreed on with the bidder.

10.1.3 SPARE PARTS

List of spare parts for each device offered, including quantitative estimate of failures due to factory defects. See APPENDIX III: SPARE PARTS

10.1.4 TECHNICAL DOCUMENT FOR DISASSEMBLY

The bidder shall provide a technical document indicating the procedure for the complete disassembly of the device.

10.1.5 TECHNICAL DOCUMENT TO CUSTOMIZE AND INSTALL THE FIRMWARE AND THE OPERATING SYSTEM

The bidder shall provide a technical document specifying the procedure to customize and install the firmware and the operating system of the device. Customizations that can be made only by the manufacturer and customizations that can be made by Ceibal shall also be specified. It shall be valued if Ceibal may have total control of the customization of the image.

10.1.6 INSTALLATION OF THE OPERATING SYSTEM ON MULTIPLE TABLETS

Provision of a procedure for installing the operating system on multiple devices *simultaneously*, for example, using a removable device or a PC. Alternatives facilitating the procedure and minimizing the use of external resources are preferred.

10.1.7 READING OF THE SERIAL NUMBER

The bidder shall provide instructions explaining how to obtain the Id described in 5.1.15 and/or 9.1.13 from the operating system (it is preferable that the Id matches the serial number printed on the housing).

10.1.8 AVAILABILITY OF OTA METHOD FOR UPDATES

It shall be indicated whether an OTA (Over The Air) method for updating software images exists. If it does, it shall be specified.

10.1.9 IMAGE UPDATE USING REMOVABLE MEDIA

It shall be indicated whether a procedure allowing the final user to update or reinstall the tablet's software image using removable media exists. If it does, it shall be specified.

10.2 TO BE PROVIDED PRIOR TO SHIPMENT

The documents requested in this subsection shall be provided at latest prior to the first shipment (or prior to each shipment, as applicable). It is desirable that it be provided as soon as possible.

10.2.1 BILL OF MATERIALS (BOM):

The bidder shall submit a list with all the hardware components making up the device, each of them with an identifying code, including the housing and any other single component that may be replaced in case of failure.

10.2.2 EXPLODE CHART

The bidder shall deliver the *explode chart* describing the atomized parts, *each of them with an identifying code* and their assembly.

10.2.3 SCHEMATICS

Schematics and layout of the motherboard in digital format.

10.2.4 CERTIFICATIONS

Every standard complied with by the device shall be specified, as well as its certifications, such as for example UL1950/IEC950/EN60950, RoHS, IEC 61000, EN55022, etc. For this purpose, the bidder shall provide the relevant supporting documents. Particularly interesting is the degree of protection (IP degree) of the device and the degree of protection against mechanical impacts and falls.

10.2.5 SPREADSHEET WITH INFORMATION ABOUT EACH DEVICE

In case of being awarded, the bidder shall provide a spreadsheet with the following information **about each device**:

- Part number.
- Serial number.
- Pallet number / master box number in which the device is being shipped.
- MAC addresses of **all network cards** of the device.

- Part number and serial number of the main components (minimum: motherboard, screen and battery)
- Identifier obtainable by software with the method specified by the bidder (see requirements 5.1.15, 9.1.13 and 10.1.7).

10.2.6 PACKAGING CONDITIONS

The bidder shall specify the following packaging conditions:

- Measures of the individual box.
- Weight of the individual box.
- Measures of the master box.
- Weight of the master box.
- Individual boxes per master box.
- Master boxes per pallet.
- Height of the pallet.

11 TENDER

To facilitate the evaluation of the tenders, it shall be valued if the documents submitted are clearly segmented, **identifying each product by its corresponding model.**

For the purpose of ensuring the completeness of the information provided in the tender, a checklist with all required items is included in Appendix VI.

11.1 SUBMISSION AND FORM OF QUOTING

11.1.1 LAPTOPS

The bidder shall complete, for each model offered:

- Table of compliance with APPENDIX I, **with all items completed.**
- Table of specification and quotation of spare parts of APPENDIX III, **with all the information requested for each spare part.**
- Table of documents of APPENDIX V, **with all items completed.**

The bidder shall also provide all the documents detailed in Section 10.1 at the time of submitting the tender, pursuant to what is provided in Sections 2.6 and 2.7 of the General Terms and Conditions.

In case of being awarded, the bidder may postpone the provision of the documents detailed in Section 10.2 at latest until the shipment of the devices.

The bidder shall quote each product offered according to the following volume tiers:



- Tier 1: less than 10,000 units
- Tier 2: from 10,001 to 50,000 units
- Tier 3: from 50,001 to 100,000 units

The bidder may quote the plan of final disposal for all parts of the device (desirable requirements 5.2.1 and 9.2.1) per unit, including transportation.

The bidder shall submit his technical proposal as follows:

1. A folder with Appendices I, III and V completed for all models offered.
2. A folder with the technical specifications (requirement 10.1.1) of all models offered.
3. A folder with all the documents requested in 10.1 (except for 10.1.1, which shall be delivered in a separate folder as described in 2.).
4. A folder with the information requested in 10.2, which the bidder may provide at the time of submitting the tender.
5. A folder with warranty specifications and delivery schedules, as requested in Sections 12. WARRANTY and 13. DELIVERY SCHEDULE AND CONDITIONS of these Terms and Conditions.
6. A folder with additional technical information considered relevant by the bidder.

11.1.2 TABLETS

The bidder shall complete, for each model offered:

- Table of compliance with APPENDIX II, **with all items completed.**
- Table of specification and quotation of spare parts of APPENDIX III, **with all the information requested for each spare part.**
- Table of requirements to install the user interface of APPENDIX IV, **with all items completed.**
- Table of documents of APPENDIX V, **with all items completed.**

The bidder shall also provide all the documents detailed in Section 10.1 at the time of submitting the tender, pursuant to what is provided in Sections 2.6 and 2.7 of the General Terms and Conditions.

In case of being awarded, the bidder may postpone the provision of the documents detailed in Section 10.2 at latest until the shipment of the devices.

The bidder shall quote each product offered according to the following volume tiers:

- Tier 1: less than 10,000 units
- Tier 2: from 10,001 to 50,000 units
- Tier 3: from 50,001 to 100,000 units

The bidder may quote the plan of final disposal for all parts of the device (desirable requirements 5.2.1 and 9.2.1) per unit, including transportation.

The bidder shall submit his technical proposal as follows:

1. A folder with Appendices II, III, IV and V completed for all models offered.
2. A folder with the technical specifications (requirement 10.1.1) of all models offered.

3. A folder with all the documents requested in 10.1 (except for 10.1.1, which shall be delivered in a separate folder as described in 2.).
4. A folder with the information requested in 10.2, which the bidder may provide at the time of submitting the tender.
5. A folder with warranty specifications and delivery schedules, as requested in Sections 12. WARRANTY and 13. DELIVERY SCHEDULE AND CONDITIONS of these Terms and Conditions.
6. A folder with additional technical information considered relevant by the bidder.

11.2 SAMPLES

At the time of submitting the tender, **FIVE identical samples of each model offered shall be provided, with all related accessories and chargers.** Notwithstanding the foregoing, prototypes and/or samples with previous versions of the operating system for the model offered may be evaluated. In this case, the bidder is requested to indicate if the sample provided is a prototype, etc. It is recommended that the samples be as close as possible to the final hardware and it will be valued if they are delivered with the version of the operating system offered and, if applicable, with a certified software image, since the evaluation will be performed on this hardware.

In exceptional circumstances and upon the existence of justified grounds in the opinion of Ceibal, the supplier may postpone delivery of the samples for a reasonable period.

The specifications and performance of the final product shall not be lower than those of the sample provided. This fact shall be verified during quality controls that determine product acceptance.

Upon completion of the tendering process, the awarded bidder shall provide TWENTY samples identical to the model awarded for the purpose of developing Ceibal's software image and another TWENTY identical samples of the model awarded for repair training. The hardware of these samples should be as close as possible to the final product and their date of delivery shall be agreed on.

Samples may be returned in different condition than delivered. The bidder shall have 4 weeks from the date of the award to collect the samples submitted. Once this term expired without having collected them, Centro Ceibal may freely dispose of the same without any right to any claim whatsoever on part of the bidder.

12 WARRANTY

The bidder shall guarantee that the goods supplied under the contract are new, complete, unused and free from defects attributable to their design, materials, manufacture, storage conditions (packaging, proper temperature and humidity), transportation or any act or omission of the bidder that may appear during the normal use of the products in the conditions existing within the country.

Centro Ceibal assumes the following warranty conditions:

- (a) **DOA (dead on arrival) warranty:** 5 devices for every 1,000 devices to replace new faulty devices for a period of 90 days.
- (b) **Warranty for factory defects for a period of 365 days from arrival:** The supplier shall provide the necessary spare parts to cover the percentage of failures specified in APPENDIX III: SPARE PARTS.



Coverage may be in: (i) spare parts, (ii) credit for the equivalent amount, or (iii) RMA, in which case support shall be offered in Montevideo and the repair time shall be up to 30 days.

(c) Warranty for system defects for a period of 730 days from arrival: The supplier shall provide the necessary spare parts or replace the device in the event that the number of failures is higher than 10 times the percentage specified in APPENDIX III: SPARE PARTS. The costs of implementing this warranty shall be borne exclusively by the supplier.

Should the bidder not meet these conditions, he shall specify his own warranty conditions in his proposal. Centro Ceibal shall consider these conditions in the evaluation process.

The bidder shall state the procedures for implementing warranty claims.

13 DELIVERY SCHEDULE AND CONDITIONS

The bidder shall specify the delivery schedule for the devices to be met after notification of the award. Delivery in less than 90 calendar days is desirable. Partial deliveries are accepted, the bidder being required to submit his capacity of delivery according to the volumes quoted. The feasibility of installing the software image to be developed during factory production shall be valued. The tender shall state the latest date on which the image must be available to be factory-installed in order to meet the delivery schedule specified. The bidder shall also indicate whether a delay in the generation of the image causes a proportional delay in meeting the delivery deadlines.

The bidder shall deliver the devices as outlined below:

- Each pallet shall be labeled with the following information:
 - o Device model / lot / batch (**pallets with more than one device model shall not be accepted**).
 - o Pallet number / total of pallets of the lot.
 - o Number of master boxes on the pallet.
 - o List of master boxes making up the pallet
- Each master box shall be labeled with the following information:
 - o Device model / lot / batch.
 - o Master box number / total of master boxes of the lot.
 - o Serial number (bar code and alphanumeric) of each device inside the master box.
 - o Product description
- Each individual box shall be labeled with the following information:
 - o Device model.
 - o Serial number (bar code and alphanumeric) of the device.

The design of each individual box and of each master box shall be customized according to specifications to be agreed on between Centro Ceibal and the awarded bidder.

14 APPENDIX I: LAPTOPS – TABLE OF COMPLIANCE

SPECIFICATIONS			COMPLIES		COMMENTS
MANDATORY REQUIREMENTS			Yes	No	
5.1.1	PROCESSOR	Processor specification. Minimum: dual core.			
5.1.2	RAM	DDR3. Minimum capacity: 2GB.			
5.1.3	INTERNAL STORAGE	SSD/eMMC. Minimum capacity: 16GB. Specification of the connection interface to the motherboard. It is not an external device.			
5.1.4	SCREEN	Minimum size: 10.1". For touchscreens, 7.5" minimum. Minimum resolution for the smallest screen dimension: 720p.			
5.1.5	MULTIMEDIA	3.5 mm connector jack for output to headphones. External microphone input. Integrated microphone and speakers. Camera: Minimum: 1MP.			
5.1.6	INPUT METHODS	QWERTY keyboard with Spanish language distribution. Touchpad.			
5.1.7	PORTS	USB: Minimum: 2 ports. (USB 2.0 minimum). Video output: HDMI or VGA.			
5.1.8	CONNECTIVITY	WiFi: Minimum: 802.11 a/b/g/n 1x1. Connection interface of the card to the motherboard to be specified.			
5.1.9	AUTONOMY	Minimum: 3 hours			
5.1.10	CHARGER	Europlug Connector (CEE 7/16). Minimum DC cable length: 1.5 m. Clearly visible display of voltage and current or nominal power.			
5.1.11	OPERATING SYSTEM	Ubuntu 14.04 LTS or higher, Fedora 20 or higher or other LTS operating systems. To be specified.			
5.1.12	LANGUAGE	Spanish.			
5.1.13	ECO-FRIENDLY	Meets the RoHS directive.			
5.1.14	CEIBAL LOGO	Clearly visible on the housing. Indelible to alcohol application. Not removable by sticking and unsticking packing tapes. Specification of the printing method.			
5.1.15	SERIAL NUMBER AND BAR CODE	Unique serial number (SN) and bar code. Specification of the housing printing method. Unique identifier (Id) obtainable by software. Indication of whether Id and SN match.			
5.1.16	DISK IMAGE	Delivery of disk image with functional drivers. Provision of technical support during the field life of the product.			
5.1.17	SECURITY SYSTEM	Locking in case of theft report and expiry of term of use. Two user levels with different privileges. Unique identifier per device. Shows security status of the device. Allows unlocking via web. Provision of source and binary codes (desirable).			
5.1.18	FIRMWARE CONFIGURATION	Guarantees the possibility of configuring BIOS/UEFI. Disabling of setting booting passwords. Disabling of setting passwords for access to the mass storage medium. Guarantees the possibility of configuring BIOS/UEFI on all motherboards to be delivered to Ceibal.			
DESIRABLE REQUIREMENTS					
5.2.1	FINAL DISPOSAL	Final disposal plan according to European standard.			
5.2.2	LOGO ON CHARGERS	Chargers with logo included.			
5.2.3	INTERNAL STORAGE	SSD. 32GB.			
5.2.4	INTEGRATED NETWORK CARD	10/100 Mbps integrated LAN card.			
5.2.5	CONNECTIVITY	To be specified. Examples: Bluetooth, GPS.			
5.2.6	ADDITIONAL PORTS	To be specified. Example: SDHC card reader.			
5.2.7	HARDWARE TEST	Includes tool to verify hardware status.			

15 APPENDIX II: TABLETS - TABLE OF COMPLIANCE

SPECIFICATIONS			COMPLIES		COMMENTS
MANDATORY REQUIREMENTS			Yes	No	
SCREEN (FILL IN FOR THE APPLICABLE SIZE)		6.1.1 Size: 8"			
		7.1.1 Size: 9"			
		8.1.1 Size: 10"			
		Capacitive, multitouch.			
		Minimum resolution for the smallest screen dimension: 720p.			
NETWORK CARD (FILL IN FOR 8" TABLETS)		6.1.1.2 802.11 b/g/n network card.			
		6.2.1.2 802.11 a/b/g/n or higher network card. To be specified.			
9.1.1	PROCESSOR	Processor specification. Minimum: Quad Core.			
9.1.2	RAM	Minimum capacity: 1GB.			
9.1.3	INTERNAL STORAGE	Minimum capacity: 8GB. It is not an external device.			
9.1.4	MULTIMEDIA	Integrated microphone and speaker(s).			
		3.5 mm connector jack for output to headphones.			
		Cameras: Minimum: 1 back camera with a resolution of 2MP.			
		Specification of features of all cameras.			
9.1.5	PORTS	SD-cards reader			
9.1.6	CONNECTIVITY	Bluetooth			
		(FILL IN ONLY FOR 9" or 10" TABLETS) 802.11b/g/n WiFi or higher.			
9.1.7	AUTONOMY	Minimum: 3 hours			
9.1.8	CHARGER	Europlug Connector (CEE 7/16).			
9.1.9	OPERATING SYSTEM	To be specified.			
9.1.10	LANGUAGE	Spanish.			
9.1.11	ECO-FRIENDLY	Meets the RoHS directive.			
9.1.12	CEIBAL LOGO	Clearly visible on the housing.			
		Indelible to alcohol application.			
		Not removable by sticking and unsticking packing tapes.			
		Specification of the printing method.			
9.1.13	SERIAL NUMBER AND BAR CODE	Unique serial number (SN) and bar code.			
		Specification of the housing printing method.			
		Unique identifier (Id) obtainable by software.			
		Indication of whether Id and SN match.			
9.1.14	DISK IMAGE	Delivery of certified software image.			
		Includes full APPENDIX IV.			
		Delivery of functional prototype with CeibalOS (desirable). Provision of technical support during the field life of the product.			
DESIRABLE REQUIREMENTS					
9.2.1	FINAL DISPOSAL	Final disposal plan according to European standard.			
9.2.2	LOGO ON CHARGERS	Chargers with logo included.			
9.2.3	CONNECTIVITY	Compatibility with 802.11a/n.			
		Other (GPS, cellular service, etc.) To be specified.			
9.2.4	ADDITIONAL PORTS	Video output (miniHDMI, microHDMI)			
9.2.5	CHARGING CONNECTOR TYPE	Barrel-type charging connector			
9.2.6	TABLET PROTECTION	Case, sleeve or cover to protect the tablet.			
9.2.7	HARDWARE TEST	Includes tool to verify hardware status.			

16 APPENDIX III: SPARE PARTS

Spare part	Part number	Estimated % of failures	Unit price (US\$) - EXW	Minimum lot	Delivery Schedule

17 APPENDIX IV: REQUIREMENTS TO INSTALL CEIBALOS

SPECIFICATIONS			COMPLIE		COMMENTS
MANDATORY REQUIREMENTS			Yes	No	
17,1	MODIFICATION OF THE BASE IMAGE	Modification of the base image of the operating system.			
17,2	SYSTEM PRIVILEGES	Provision of the system's platform key.			
17,3	CUSTOMIZATON	Specification of procedures and tools to customize the software.			
		Specification of modifications that can be made to the software image.			
		Ability to customize preloaded applications.			
		Ability to include static content (books, audio, video, etc.).			
		Ability to customize user interface.			
		Ability to customize the system's default configuration.			
17,4	DEVELOPMENT	Response time to requests.			
		Iteration time of each software image development cycle.			
17,5	CERTIFICATION	Certification of the software image developed.			
		Specification of the cost of certification of the software image.			
		The bidder bears the cost of certification of the first software image.			

The bidder shall specify if the following requirements are met:

- 17.1 Changing the base image: changing the base image of the operating system of the device.
- 17.2 System privileges: providing the "platform key" allowing Ceibal to sign new versions of the operating environment to have system privileges.
- 17.3 Customization: specifying the procedures and tools provided by the bidder to customize the tablets' software and indicating, additionally, what changes can be made to the software image.

By way of example, the following aspects are intended to be modified:

- Pre-loaded applications by defect, including both user and system applications.
- Adding static content (books, audio, video, etc. so that it comes pre-loaded on the device).
- Customizing the user interface (for example, the wallpaper, the image displayed while the device is booting, etc.).
- Customizing the default system configuration (for example, the language of the device).
- Ability to add other system files, for example, SSL certificates to access Ceibal systems.

Ceibal has currently available a solution that allows customizing the software image without changing the Android base image provided by the manufacturer. The result of the process is a new image that may be installed on devices with a micro SD card or a pen drive.

- 17.4 Cycle of development of an image. In case of being awarded, the process of generating the software image based on Ceibal's requirements shall be planned jointly, for which purpose the relevant documentation shall be provided and delivery schedules shall be agreed on within the limits imposed by the contract.



The bidder shall specify, as part of his tender, the response time to requests from Ceibal, either for doubts concerning the development process or for enquiries in general. It is expected that this development process shall be performed in several cycles, for which reason the bidder shall indicate the iteration time of each image. Direct contact between Ceibal and the manufacturer in each cycle may be required.

In order to dimension the cycles of development, these may include the following tasks:

- Modification of basic configurations such as default language, time zone, among other items.
- Installation of Ceibal applications as well as system applications.
- Disk partitioning.
- Loading of digital certificates in specific directories.

17.5 Certified software image: it is necessary to have the developed software image certified, in order to have apps and store proprietary to the operating system (the delivery schedule stipulated in Section 6. DELIVERY SCHEDULE does not apply to this).

The cost of image certification shall be specified. The bidder shall bear the cost of the first software image developed for the device.

18 APPENDIX V: DOCUMENTS

DOCUMENTS			COMPLIES		COMMENTS
TO BE PROVIDED AT THE TIME OF SUBMITTING THE TENDER			Yes	No	
10.1.1	TECHNICAL SPECIFICATIONS	Document with the technical specifications of each model offered.			
10.1.2	TECHNICAL DOCUMENTATION OF THE SECURITY SYSTEM (ONLY APPLIES TO LAPTOPS)	Minimum infrastructure requirements.			
		Functional description of the system.			
		Procedure for installation and putting into operation.			
		User manual.			
10.1.3	SPARE PARTS	List of spare parts for each device offered.			
		Quantitative estimate of failures due to factory defect.			
10.1.4	TECHNICAL DOCUMENTATION FOR DISASSEMBLY	Full disassembly procedure.			
10.1.5	TECHNICAL DOCUMENTATION TO INSTALL AND CUSTOMIZE FIRMWARE AND OS	Procedure to install and customize firmware and OS.			
		Specification of what kind of customization can only be performed by the manufacturer.			
		Specification of what kind of customization can be performed by Ceibal.			
		Ceibal has control over the customization of the image (desirable).			
10.1.6	INSTALLATION OF THE OPERATING SYSTEM ON MULTIPLE DEVICES	Procedure for the simultaneous installation of the OS on several devices.			
10.1.7	READING OF THE SERIAL NUMBER	Procedure for obtaining the Id by software.			
10.1.8	AVAILABILITY OF OTA METHOD FOR UPDATES	Indicate whether OTA method for updating images exists.			
10.1.9	AVAILABILITY OF PROCEDURE FOR UPDATES BY MEANS OF REMOVABLE MEDIA	Specify the method (desirable).			
		Indicate whether a procedure allowing the final user to update or reinstall the software image using removable media exists.			
		Specify the procedure (desirable).			
TO BE PROVIDED PRIOR TO SHIPMENT					
10.2.1	BILL OF MATERIALS	BOM: spreadsheet with list of components and their respective code.			
10.2.2	EXPLODE CHART	Explode chart with identifying code for each part.			
10.2.3	SCHEMATICS	Schematics and layout of the motherboard in digital format.			
10.2.4	CERTIFICATIONS	Specification of the standards met by the device.			
10.2.5	SPREADSHEET WITH INFORMATION ABOUT EACH DEVICE	Supporting documents.			
		Part number of each device.			
		Serial number of each device.			
		Pallet number on which each device is sent.			
		Master box number in which each device is sent.			
		MAC addresses of all network cards of each device.			
10.2.6	PACKAGING CONDITIONS	Part number of the main components (minimum: motherboard, screen and battery).			
		Identifier obtainable by software of each device.			
		Measures of the individual box.			
		Weight of the individual box.			
		Measures of the master box.			
		Weight of the master box.			
		Individual boxes per master box.			
		Master boxes per pallet.			
		Height of the pallet.			
		Label of the pallet includes: device model / lot / batch.			
		Label of the pallet includes: pallet number / total of pallets of the lot.			
		Label of the pallet includes: number of master boxes on the pallet.			
		Label of the pallet includes: list of master boxes making up the pallet.			
		Each pallet contains a single device model.			
		Label of the master box includes: device model / lot / batch.			
		Label of the master box includes: number of the master box / total of master boxes of the lot.			
		Label of the master box includes: serial number (bar code and alphanumeric) of each device inside the master box.			
Label of the master box includes: product description.					
Label of the individual box includes: device model.					
Label of the individual box includes: serial number (bar code and alphanumeric) of the device.					

19 APPENDIX VI: CHECKLIST

The following table summarizes all the information to be included in the tender.

CHECKLIST TO SUBMIT THE TENDER	
1	Complete all items of the applicable compliance appendix (Appendix I: laptops, Appendix II: tablets).
2	Complete APPENDIX III: SPARE PARTS.
3	Complete all items in Appendix V. DOCUMENTS.
4	Specify the delivery deadline of the software image to be factory-installed, so as to comply with the specified schedule.
5	Specify whether delays in delivering the software image to be factory-installed proportionally affect the proposed schedule.
6	Quotation according to the tiers specified in the Terms and Conditions.
7	Provision of the documents requested in Section 10.1 in digital and hard copy format.
8	Provision of 5 identical samples of each model offered.
9	Indicate compliance with warranty conditions assumed by Ceibal.
10	In case warranty conditions assumed by Ceibal are not met, specify warranty conditions.
10	Specify delivery schedule of the final product.
11	FOR TABLET OFFERS: Complete all items in Appendix IV: REQUIREMENTS TO INSTALL CeibalOS.
12	Submission of tender according to segmentation in folders defined in section 11. TENDER for the applicable device.

20 APPENDIX VII: CELLULAR NETWORK SPECIFICATIONS

GSM (EDGE/GPRS)

Operating bands: EGSM (900 MHz)- DCS (1800 MHz)

Band width of the carrier: 200 KHz.

UE category suggested: Multislot class 12 or higher (GPRS/EDGE).

UMTS (HSPA+/HSPA)

Operating bands: Bands 1 (2100 MHz) and 5 (850 MHz).

Band width of the carrier: 5 MHz.

UE category suggested (Release 8 or higher): Category 24 or higher.

LTE

Operating bands: Band 4 (AWS).

Band width of the carrier: 1.4/3/5/10/15/20 MHz.

UE category suggested (Release 8 or higher): Categories 3 or 4.