

INTERNATIONAL OPEN TENDER

CEIBAL TABLETS 2021

TECHNICAL ANNEX

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1. Call Aim

Centro Ceibal calls for international open tender for the acquisition of up to 50,000 tablets of 8 '' for delivery to Plan Ceibal beneficiaries.

The technical specification is divided into two categories, the bidder may quote one or both:

- Category 1: tablets with 16GB of internal storage
- Category 2: tablets with 32GB of internal storage

Except for internal storage, the technical requirements are the same for both categories (see Annex I: Requirements).

The products that the successful bidders must deliver to Ceibal are the following:

1. Tablet with cover plus software image developed according to Ceibal's requirements and certified by Google, installed on the devices during the production process.
2. Manual configurations: enabling unknown sources and configuring the Ceibal launcher as the default launcher of the device.
3. Spare parts.
4. Motherboards test bench (optional award).
5. Documentation requested in section 2.2.

The bidder must quote separately the development and certification of an additional software image, which Ceibal may request due to changes in requirements or due to the evolution of Android versions. This image is not the one that will be included in the device at the factory, but an **image of maintenance software**. See *Annex V: Price tables*.

The bidder must quote the spare parts in FOB Origin mode.

The offer must be presented according to the specifications in section 2. OFFER. Centro Ceibal reserves the right to reject an offer that is not presented according to this quote and price scheme.

All the products purchased from the bidder and / or all the services provided by the bidder, are governed by the confidentiality and data protection considerations specified in *Annex VI: Confidentiality and data protection*.

2. Offer

Each bidder may offer a maximum of 2 models per category. All the documentation presented must be segmented identifying each product by its corresponding model in the technical and economic offers.

2.1. Presentation

The technical offer will be presented segmented in the following folders:

1. Folder with factory background specification. It should detail:
 - Factory that will produce the offered devices.
 - General production volume of the factory in the last 12 months.
 - Production volume of tablets from the factory in the last 12 months.
 - List of Customers.
 - Daily Average production of tablets.
 - Slot time to start production of a standard Android tablet (acquisition of raw material and preparation of production line).
2. Folder with the bidder's background. It should detail:
 - Background of provision of similar consumer electronic devices in the last 12 months.
 - Background of educational projects in which the bidder has participated.
 - Work background of the factory that will produce the devices indicated in 1., detailing work time together, projects and volume of devices.
 - List of clients and respective contacts.
3. Folder with the tables of Annex I: Complete requirements.
4. Folder with the table of Annex III: Complete spare parts.
5. Folder with the documentation requested as mandatory with the offer in *2.2 Documentation* for each device model offered.
6. (Optional) Folder with warranty specifications additional to those described in section 3. *Warranty*.
7. (Optional) Folder with specification of delivery terms in case of non-compliance with the desirable delivery periods specified in section 4. *Delivery terms and conditions*.
8. (Optional) Folder with the complementary technical information that the bidder considers pertinent to provide.

The economic offer will be presented segmented in the following folders, **in a sealed envelope**:

1. Folder with the tables of Annex V: Complete price tables.
2. (Optional) Folder with the additional warranty quote, if offered.
3. (Optional) Folder with additional quotes to those specified above, if applicable.

2.2. Documentation

The documentation that must be included in the documentation folder of the technical offer, for each model offered, is the following:

DOCUMENTATION		
MANDATORY WITH THE OFFER		
2.2.1	TECHNICAL SPECIFICATIONS	Technical specifications of each model offered.
2.2.2	TECHNICAL DOCUMENTATION OF DISASSEMBLY	Technical document detailing the procedure of complete disassembly of the device.
2.2.3	TECHNICAL DOCUMENTATION TO INSTALL AND CUSTOMIZE FIRMWARE AND OPERATING SYSTEM	Technical document detailing tool and procedures to customize and install the device's firmware and operating system. It should also specify what kind of customizations can be made (see Annex I: Requirements as a reference of the necessary customizations).
2.2.4	INSTALLATION OF OPERATING SYSTEM IN VARIOUS EQUIPMENTS	Technical document detailing the tool and procedure for installing the operating system on several computers simultaneously, for example, through a removable device or a PC. Alternatives that facilitate the operation and minimize the use of external resources are preferred.
2.2.5	FREE SPACE	Specify free space in internal storage for a device with a standard image certified by Google with the version of Android offered.
2.2.6	CONFIGURATION OF SERIAL NUMBER	Procedure and tool for configuring the serial number (see requirement 6.41 SERIAL NUMBER AND BAR CODE).
2.2.7	AVAILABILITY OF THE OTA METHOD FOR UPDATES	Indicate if there is an OTA (Over The Air) method for updating software images. If it exists, specify it.
2.2.8	UPDATES BY REMOVABLE MEANS	Specify procedure so that the end user can update or reinstall the tablet software image using removable media.

The following documentation is of mandatory delivery with each shipment of equipment, or with each hardware change, as applicable:

DOCUMENTATION		
MANDATORY WITH EACH SHIPPING and / or HARDWARE CHANGE		
2.2.9	RoHS CERTIFICATE	Certificate of compliance with the RoHS standard. (It is NOT required to present the detailed documents with the test protocols applied).
2.2.10	FCC CERTIFICATE	Certificate of compliance with the FCC standard. (It is NOT required to present the detailed documents with the test protocols applied).
2.2.11	BILL OF MATERIALS (BOM)	Form with all the hardware components that make up the device, each with a code that identifies it, including the case and any other individual component that can be replaced in case of failure.

2.2.12	SCHEMATICS, LAYOUT and BAI	Schematics, layout and board assembly information (BAI) of the motherboard in digital format. This information will be delivered once the production begins (or at the most prior to the first shipment) and each time the successful bidder notifies a hardware change.
2.2.13	EXPLODED VIEW DRAWING	Technical drawing of the assembly and relation between all the atomized parts of the equipment, each one identified with a code. This information will be delivered once the production begins (or at the most prior to the first shipment) and each time the successful bidder notifies a hardware change.
2.2.14	DATA SHEETS	Data sheets of main components of the device such as battery, screen, camera, etc., and main components of the motherboard as integrated circuits and connectors.
2.2.15	MSDS BATTERIES	Material Safety Data Sheet (MSDS) of batteries.
2.2.16	CHARGER: RoHS CERTIFICATE	Certificate of compliance with the RoHS standard of the charger, in case it is not included in the RoHS certificate of the device. (It is NOT required to present the detailed documents with the test protocols applied).
2.2.17	CHARGER: CERTIFICATE EN60950	Certificate of compliance with standard EN60950, Information technology equipment - Safety, of the loader. (It is NOT required to present the detailed documents with the test protocols applied).
2.2.18	CHARGER: IEC61000 CERTIFICATE	Certificate of compliance with IEC 61000 standard, Electromagnetic compatibility (EMC), of the charger. (It is NOT required to present the detailed documents with the test protocols applied).
2.2.19	CHARGER: CERTIFICATE EN55022	Certificate of compliance with standard EN55022, Information technology equipment Radio disturbance characteristics, of the charger. (It is NOT required to present the detailed documents with the test protocols applied).
2.2.20	DEVICES SHEET	Information sheet of devices (see description in this section).
2.2.21	LOGISTICS SHEET	Logistical information sheet (see description in this section).
2.2.22	FINAL PRODUCT HARDWARE DETAIL	Final product component information sheet (see description in this section).

The information required in requirements 2.2.20, 2.2.21, and 2.2.22 is described below:

- 2.2.20. DEVICE SHEET
 - Part number.
 - Serial number.
 - Number of pallet / number of master box in which the device is shipped.
 - MAC addresses of all the network cards that the device has.
 - Part number and serial number of the main components (minimum: motherboard, display and battery).
 - Identifier obtainable by software with the method specified by the bidder.
 - IMEI (if applicable).

- 2.2.21 LOGISTICS SHEET

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- Individual box measurements.
 - Individual box weight.
 - Master box measurements.
 - Master box weight.
 - Number of individual boxes per master box.
 - Amount of master boxes per pallet.
 - Height of the pallet.
- 2.2.22 FINAL PRODUCT HARDWARE DETAIL

FINAL PRODUCT HARDWARE DETAIL	
Bidder:	
Model	
Processor	
Brand	
Model	
Frequency	
Architecture (ARM / X86)	
No. of physical cores	
RAM	
Brand	
Model or Part number	
Capacity (GB)	
Technology (LPDDR2 / LPDDR3 / others)	
Mounting (Removable / OnBoard)	
Internal storage	
Brand	
Model or Part number	
Technology (eMMC / SSD)	
Capacity (GB)	
Mounting (Removable / OnBoard)	
GPU	

Brand	
Model	
Screen	
Size inches)	
Brand	
Technology (LCD / IPS / OLED)	
Resolution (Px)	
Interface (EDP / LVDS / other)	
Attachment to the case (Glued / inserts / brackets / other)	
Touchscreen	
Touchscreen (Number of recognized points: 5/10)	
Camera	
Frontal Resolution (Mpix)	
Rear Resolution (Mpix)	
Audio	
Integrated Microphone (Yes / No, Onboard / Removable)	
Integrated speakers (Yes / No, Quantity, Mounting: Glued / With bracket / With screws)	
Connectivity	
Bluetooth (Version)	
WIFI (Brand and model or Part number of the module)	
No. of antennas	
I/O Ports	
USB (2.0 / 3.0, Type B / Type C, Mini / Micro, quantity)	
SD (uSDHC)	
HDMI (Connector Size: Mini / Micro)	
Integrated microphone with headphones (Yes / No)	
Battery	

Voltage (V)	
Capacity (mAh)	
Brand	
With PCB thermal protection terminal (Yes / No)	
Fixing method (Tapes / Screws / Bracket)	
AC / DC Source (Charger)	
Cable Length (cm)	
Input voltage and frequency (VAC, Hz)	
Output voltage (VDC)	
Output current / power (A, W)	
Charger: DC connector (Barrel, USB)	
Thermal Dissipation System	
Shielding Heatsink (Yes / No)	
Pad / Thermal Paste / None	

2.3. Samples

Within 10 business days following the opening date of the offers, the bidder must deliver TEN identical samples of each model of tablet offered with its chargers, regardless of whether Ceibal already has samples delivered by the bidder in another context (other tenders , provider registry, calls for expressions of interest, technological prospects, etc.) .. It is not necessary to include the cover in these samples.

The samples must be delivered to the reception at the Ceibal Center offices (Av. Italia 6201 Edificio Los Ceibos, Monday to Friday from 9 a.m. to 5 p.m.).

Reference must be made to the Tender, and Ceibal will deliver a certificate of receipt that will be signed by Ceibal and by whoever delivers the samples.

In exceptional cases and when there are justified reasons in the opinion of Ceibal, the bidder may defer the delivery of samples for a reasonable period that Ceibal will evaluate.

A fundamental part of the technical evaluation will be carried out on these samples (see Annex IV. Technical Evaluation Criteria). **The specifications and performance of the final product delivered**

cannot be less than those of the sample. This aspect will be verified in the quality controls that determine the acceptance of the product.

Once the bidding process is completed, the awarded bidder (s) must deliver **within a maximum period of 14 days after the award FIVE** identical samples of the awarded model for the development of Ceibal's software image. **These samples are not part of the awarded lot and are at the provider's cost.**

Some samples will be used in destructive testing. Those that are not destroyed may be returned in different conditions with respect to which they were delivered. The bidder will have 4 weeks from the award to withdraw the samples submitted. Upon expiration of the previous term without having withdrawn them, Centro Ceibal may freely dispose of them, without the right to claim by the bidder.

3. Warranty

The following warranty conditions are mandatory:

3.1 Dead on Arrival

Guarantee for replacement of devices with a DOA concept failure for a period of 90 days from arrival: 10 devices per 1000.

3.2 Systemic Failures

Ceibal may request the successful bidder the necessary spare parts or the replacement of equipment in the event that a systemic failure attributable to the design or manufacture of the equipment is detected. The costs derived from the execution of this guarantee are the sole responsibility of the supplier.

In the event that the bidder presents **additional** guarantees, he must detail them in his technical proposal. If the additional guarantee conditions proposed by the bidder imply additional costs, these must be presented in the economic offer, quoted separately.

The bidder shall guarantee that the products supplied under the contract are new, complete, unused and that they will be free from defects attributable to the design, materials, manufacturing, storage conditions (appropriate packaging, temperature and humidity), transfer or any act or omission of the bidder that could manifest itself on the occasion of the normal use of the products in the prevailing conditions in the country.

4. Delivery time period and conditions

4.1. Delivery deadlines

TWENTY pieces of the awarded model must be delivered before February 1, 2021 for use in repair training.

It is desirable that the supplier complies with the following delivery schedule:

- ETA of 50% of the awarded lot: 120 calendar days after the award decision is communicated.
- ETA of the remaining 50% of the awarded lot: within 30 calendar days after the delivery of the first 50%, or April 15, 2021, the condition that occurs earlier.

The specified delivery times include the following milestones:

1. Software image development. Once awarded, the bidder must deliver samples to develop, together with Ceibal, the software image of the device. Development takes an estimated period of four weeks once samples are available (see section 2.3. SAMPLES). The possibility of Ceibal technicians attending the factory can be evaluated to reduce development times.
2. Software image certification developed. The software image referred to in 1., which will be installed at the factory, must be an image certified by Google.
3. Definition of hardware specifications, in case the final product presents minor changes in components, internal design, etc., with respect to the samples presented. **It is a condition for the start of production that Ceibal validates the equivalence of the final product with the samples presented.**
4. Production
 - 4.1. Final product:
 - 4.1.1. Centro Ceibal will agree with the awardee the production schedule of the device. The successful bidder will send Ceibal 10 golden samples from each production batch (see section 5. QUALITY CONTROLS.).
 - 4.1.2. Quality control at origin (see section 5. QUALITY CONTROLS).
 - 4.1.3. Availability verification of all requested product documentation.
 - 4.2. Spare parts:
 - 4.2.1. Centro Ceibal will agree with the awardee the quantity of spare parts for each part that it must provide and how it must send them.
5. Delivery of documentation requested in the section as *mandatory with each shipment and / or hardware change* in section 2.2 DOCUMENTATION.
6. Shipping and quality control upon arrival in Uruguay (see section 5. QUALITY CONTROLS).

In case of not being able to comply with the established delivery schedule (quantities and / or deadlines), the bidder must specify the alternative schedule taking into account Ceibal's delivery commitment during the first quarter of the year 2021. **The same delivery deadlines apply both for the final product (tablet + accessories) and for spare parts.**

4.2. Delivery conditions

All equipment sent to Ceibal must be made up of the same components. In the event that this cannot be fulfilled, the successful bidder must notify Ceibal in writing with a term of not less than 60 days and Ceibal validate the new BOM.

The successful bidder must deliver the devices respecting the following specifications:

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

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

Centro Ceibal may request the inclusion of a printed brochure with recommendations for the use and care of the equipment in each individual box.

5. Quality controls

Centro Ceibal will carry out three quality controls on the awarded products, which may partially or totally reject the inspected batches. These three inspections are:

1. Inspection at origin prior to shipment.
2. Validation of *golden samples* that the successful bidder will send to be evaluated at the Centro Ceibal (10 sets of each batch produced, sent by air freight at the cost of the successful bidder).
3. Final inspection at Ceibal after reception of shipment.

Centro Ceibal, or a representative designated by it, may visit the factory before and / or during the production of the batches for Ceibal, prior coordination between the parties and independent of quality controls. Centro Ceibal may also request a visit to the manufacturer to work together during the software image development process.

6. Annex I: Requirements

HARDWARE					
MANDATORY REQUIREMENTS			COMPLIES		OBSERVATIONS
			YES	NO	
6.1	PROCESSOR	Minimum: Quad Core.64 bits.			
6.2	RAM	Minimum: 2GB DDR3.			
6.3	INTERNAL STORAGE	Category 1: 16GB.			
		Category 2: 32GB.			
6.4	SCREEN	Size 8 ". Minimum resolution: 1280x800p.			
6.5	TOUCHSCREEN	P+G Technology			
6.6	CONNECTIVITY	Minimum WiFi: Network card 802.11 a / b / g / n 1x1.			
		Bluetooth			
6.7	MULTIMEDIA	Microphone and speaker / s incorporated.			
		3.5mm jack connector for headphone output.			
		Front camera: minimum resolution 0.3MP.			
		Rear camera: minimum resolution 2MP.			
6.8	PORT	MicroSD card reader.			
		Video output (miniHDMI or microHDMI)			
6.9	SECURING AND REMOVING THE BATTERY	The battery should not be stuck to any component of the equipment, except to some support designed for that purpose.			
6.10	PERIPHERALS NOT SOLDERED	Peripherals (screen, touchscreen, speakers, battery, antennas, etc.) NOT soldered to the motherboard. The peripherals must be connected to the motherboard using removable connectors.			
6.11	REINFORCED MICRO USB CONNECTOR	Reinforced structure of metallic body of micro USB connectors (type B or type C), for example, by means of spot welding or by the constitutive design thereof.			

6.12	HARDWARE TEST	Software or firmware tool that allows verification of the integrated peripherals and ports of the device. This tool must be available in Spanish and / or English. For detail of the characteristics sought see Annex V: Technical evaluation criteria.			
DESIRABLE REQUIREMENTS					
6.13	TYPE OF LOAD CONNECTOR	Barrel-type charging connector, in addition to the microUSB charging connector.			
OPTIONAL REQUIREMENTS					
6.14	CAMERAS	Front and rear resolution cameras 2MP / 5MP respectively. It must be quoted separately.			

SOFTWARE					
MANDATORY REQUIREMENTS			COMPLIES		OBSERVATIONS
			YES	NO	
6.15	OPERATING SYSTEM	Android 10 or later version.			
6.16	LANGUAGE	Operating system and all its interfaces and configuration options in Spanish.			
6.17	PERSONALIZATION AND INSTALLATION TOOLS	The bidder must deliver the tools detailed in the documentation requirements 2.2.3 and 2.2.4 for customization of the firmware and operating system, and for the installation of the operating system on several computers.			
6.18	DISC IMAGE	The tablet will be delivered to the end user with a software image developed in conjunction with Ceibal. This software image will include an interface specially designed for the target audience as the default operating environment, in addition to having the operating system's own launcher (for more requirements of the image see requirements 6.20 to 6.39). The software image must be certified by Google.			
6.19	AVAILABILITY OF IMAGE WITH PRIVILEGES OF ROOT OR USER DEBUG	The bidder must submit a software image of the device that has root or user debug privileges.			
SOFTWARE IMAGE - ANDROID CONFIGURATIONS					
6.20	LANGUAGE AND KEYBOARD	Spanish (Spain)			
6.21	SCREEN TIMEOUT	5 minutes			
6.22	DATE AND TIME	Time zone GTM-03: 00, Montevideo, Uruguay			

6.23	WIFI	Enabled by default			
6.24	BROWSER	Default page: www.ceibal.edu.uy			
6.25	SECURITY	Disable screen lock			
6.26	CEIBAL LAUNCHER	Set Ceibal launcher as the default launcher. This configuration will be done manually on the certified image.			
6.27	UNKNOWN ORIGINS	Unknown origins enabled by default. This configuration will be done manually on the certified image. See section 2. Products.			
SOFTWARE IMAGE- OTHER CONFIGURATIONS					
6.28	BOOT	Include an image in the boot.			
		Include boot animation			
6.29	WALLPAPER	Set Ceibal's wallpaper			
6.30	REBOOT	Add restart option by pressing power button.			
6.31	GOOGLE APPS	Include the Google applications that are mandatory in Uruguay.			
6.32	USB PORT	Create a soft-link to the USB port under the name / sdcard / usbcard / or rename it that way.			
6.33	SD CARD	Include read and write permissions on SD card.			
SOFTWARE IMAGE - CONTENTS TO INCLUDE					
6.34	LIBRARIES	Include libraries in / system / lib			
6.35	NO APP CONTENT	Create CEIBAL folder in / sdcard and include content in it			
6.36	INITIALIZATION FILES	Copy folder with initialization content of the device in folder / sdcard that is preserved in case of performing a factory reset of the device			
SOFTWARE IMAGE - INSTALLED APPLICATIONS					
6.37	APPLICATIONS	Install applications that Centro Ceibal will specify			
SOFTWARE IMAGE - OTHER REQUIREMENTS					
6.38	SYSTEM PRIVILEGES	Ceibal must be able to sign applications so that they have system privileges. This can be done by the bidder whenever Ceibal or requested, but it will be valued that Ceibal can do it. For this, indicate if the delivery of the Platform Key of the system is possible.			
6.39	DEVELOPMENT	Ceibal will jointly plan with the awardee the process of generating the software image based on the requirements of Ceibal, for which the relevant documentation will be provided and the delivery times will be agreed. The bidder must specify the response time to requests and the iteration time of each development cycle. In order to dimension the development cycles, these can include the following tasks:			



	* Modification of basic configurations as default language, time zone, among others.			
	* Installation of Ceibal applications as system applications.			
	* Disk partitioning			
	* Loading digital certificates in specific directories.			

LOGISTICS					
MANDATORY REQUIREMENTS			COMPLIES		OBSERVATIONS
			YES	NO	
6.40	CEIBAL LOGO, FANTASY NAME AND GRAPHIC REPRESENTATION OF THE MODEL	Ceibal will specify the Ceibal logo, fantasy name and graphic representation of the model, which must be printed on the case using laser, silkscreen or another printing method. For reference, see Acrux and Betelgeuse model designs at the following link: https://www.ceibal.edu.uy/es/dispositivos/tablets)			
		Labels will NOT be accepted. This print must meet the following durability criteria:			
		-Clearly visible in the case.			
		- Indelible when applying alcohol.			
		- Not removable when sticking and removing packing tapes.			
6.41	SERIAL NUMBER and BAR CODE	Unique serial number (SN) and its corresponding barcode printed on the case by laser, silkscreen or other printing method. The same considerations apply as for requirement 6.40 CEIBAL LOGO, FANTASY NAME AND GRAPHIC REPRESENTATION OF THE MODEL. The barcode must have sufficient contrast to be read by barcode readers. Labels will NOT be accepted.			

		The serial number must be obtainable by software following the Android standard and must be accessible using the command 'adb shell getprop grep ro.boot.serialn'.			
		The serial number obtainable by software must be configurable using the tool and procedure that the bidder will specify. This requirement is necessary so that the serial number printed on the case and the serial number obtained by software match on a machine after a repair in which the motherboard was changed (See requirement 2.2.6 SERIAL NUMBER CONFIGURATION)			
6.42	IDENTIFICATION OF PARTS	The following components must have a barcode or QR code to scan its part number (applies both to the parts included in the tablet and to the individual parts):			
		Battery			
		Screen			
		Motherboard. Additionally, the motherboard must have a similar label or engraved by laser or silkscreen (with scannable code) with the serial number information.			
		Touchscreen			
6.43	PACKING ECO FRIENDLY	The packaging design should be eco-friendly, carton and biodegradable nylon.			

CHARGERS					
MANDATORY REQUIREMENTS			COMPLIANCE		OBSERVATIONS
			YES	NO	
6.44	TYPE OF CONNECTOR	Europlug connector (CEE 7/16). Detachable USB - microUSB (type B or type C) and USB - barrel cables (the latter only if the offer includes a barrel connector, see requirement 6.13).			
6.45	ISOLATION IN PINES OF 220v	The pines connecting to the electrical network must have insulation at the base. View photo (*)			
6.46	SEALED CHARGER	The charger can only be opened by a destructive process. It must not have screws that allow it to be opened by the user.			

6.47	FORCE OF EXTRACTION OF PINES	Pines can only be removed from the loader body if a force greater than 40kgf is exerted			
6.48	CEIBAL LOGO	Ceibal will specify the model's logo and fantasy name. In addition to this information, the production batch and the electrical specifications of the charger must be printed on the case by laser, silkscreen or other printing method, labels will NOT be accepted. The same considerations apply as for requirement 6.41 CEIBAL LOGO, FANTASY NAME AND GRAPHIC REPRESENTATION OF THE MODEL.			

(*)Requirements 6.44 TYPE OF CONNECTOR and 6.45. ISOLATION IN PINES OF 220V :



TABLET CERTIFICATIONS					
MANDATORY REQUIREMENTS			COMPLIE S		OBSERVATIONS
			YES	NO	
6.49	Restriction of Hazardous Substances	Proof of documentation of the RoHS certification of the device or of all its components will be required as a requirement for acceptance of the production batches.			
6.50	Federal Communications Commission Declaration of Conformity	Evidence of FCC certification will be required as a requirement for acceptance of production batches.			

CHARGERS CERTIFICATIONS					
MANDATORY REQUIREMENTS			COMPLIE S		OBSERVATIONS
			YES	NO	
6.51	Restriction of Hazardous Substances	Proof of RoHS certification of the charger will be required, in case the charger is not included in the RoHS certification of the device, as a requirement of acceptance			

		of the production batches.			
6.52	Information technology equipment - Safety	Proof of compliance with EN60950 will be required as a requirement for acceptance of production batches.			
6.53	Electromagnetic compatibility (EMC)	Proof of compliance with the IEC61000 standard will be required as a requirement for acceptance of production batches			
6.54	Information technology equipment. Radio disturbance characteristics.	Proof of compliance with EN55022 will be required as a requirement for acceptance of production batches			

COVER					
MANDATORY REQUIREMENTS			COMPLIEMENTS		OBSERVATIONS
			YES	NO	
PROTECTION					
6.55	COVER	The product must include a cover according to the specifications of Annex II: Cover.			

MOTHERBOARDS TEST BENCH					
MANDATORY REQUIREMENTS			COMPLIEMENTS		OBSERVATIONS
			YES	NO	
6.56	MOTHERBOARDS TEST BENCH	Equipment that allows the connection of peripherals to the motherboard and execution of hardware status tests. It must be quoted separately from the base price. The test bench must have all the necessary accessories to allow at least verification of the following functionalities:			
		Screen			
		Touchscreen			
		Power (battery and charger)			
		WiFi			
		Audio			

	Cameras			
	Buttons (power and volume)			

7. Annex II: Cover

Material

Silicone.

Color

Black.

Holes for the side connectors

The opening of the holes for the side connectors of the tablet (micro USB, audio, HDMI, etc.) must be adequate to ensure that all external accessories and cables can be connected reliably.



Connector legends

In addition to the logo on the back, the indication legends corresponding to the frequently used connectors (at least the USB charging connector) and the buttons must be incorporated.



Logo and fantasy name of the model

The cover must incorporate the Ceibal logo on its back along with the identification of the device model. Ceibal will define this identification, which can be the name of the model specified by the supplier, a fantasy name selected by Ceibal, or both. Below there is an example of the cover of a model currently in the Ceibal tablet park.



Edges

1- Protection of the contact surface

The edges of the front frame are enlarged to achieve greater protection of the touchscreen assembly in case of horizontal impacts or falls.



2- Touchscreen protection

The inner edges of the cover should advance as much as possible on the touchscreen. In this way the cover would be tighter avoiding that part of the touchscreen or the screen is lifted, or that fragments of them are detached in cases of breakage.

Corners

The cover should have thickened corners, in order to have greater resistance to shocks in these sectors of the device that are the most frequent.



Back Texture

The back of the cover should incorporate a texture that prevents the device from sliding.



8. Annex III: Spare parts

The life cycle of the product in the Ceibal park will be 2 years. During this period, the awardee must guarantee the support of its product and, in case of End of Life (EOL) of a spare part, it must inform *Centro Ceibal* with 120 days in advance.

The bidder must complete the following spare parts specification table for each model offered:

SPARE PARTS					
Spare part	Part Number	Estimated percentage of factory failures	Minimum batch	Delivery period	Observations (*)
Touchscreen					
Screen					
Battery					
Motherboard					
Charger					
...					
...					
...					

(*) Specify if the spare parts include other parts of the device. For example, touchscreen with / without frame, motherboard with / without integrated peripherals, etc.

9. Annex IV: Annex IV: Project plan

The evaluation of the technical offer includes the following evaluation criteria of devices:

- Background evaluation. It will be evaluated:
 - Factory backgrounds
 - Bidder backgrounds
- Factory visit. Centro Ceibal will visit the factory that the bidder specifies in its offer. The objective of this visit is to check the capacity of the factory to meet the production volume in quality and deadlines. Upon

presentation, the bidder guarantees that the factory will allow access to Ceibal, or a representative designated by him, to carry out the corresponding evaluation. For this evaluation you will need:

- Free access to the company's manufacturing facilities and offices.
- Free access to take photographic and videographic records of the facilities, both inside and outside the factory buildings.
- Free access to documentation linked to current quality and management certificates.
- Free access to the documentation linked to the company's legal records.
- Verification of compliance with mandatory requirements.
- Hardware evaluation of samples:
 - Performance evaluation
 - Maintenance evaluation
 - User experience evaluation.
- Software evaluation. The bidder's capacity to develop the software image will be evaluated.

9.1 Hardware evaluation of the samples

9.1.1 Performance

The performance of the device will be evaluated with benchmark tests of CPU, read / write to disk, autonomy, WiFi (throughput and roaming), among others.

9.1.2 Maintenance

The maintenance evaluation analyzes the suitability of the device to the user and the characteristics of the support service provided by Ceibal, and the quality of the documentation associated with maintenance that is requested in section 3.2 DOCUMENTATION.

As general characteristics, a robust and easy to repair device is sought, both in terms of the time it takes to repair and its technical complexity.

Among the aspects to be evaluated, the following stand out:

Hardware Test

The adaptation to Ceibal's operating procedures of the software tool or firmware presented will be evaluated (see mandatory requirement 6.12 *hardware Test*). The following works as a reference for the description of the desired features of the tool:

- Functionalities:
 - Sequential mode where all the tests are executed.
 - Manual mode where it is allowed to run a specific Test.
 - At the end of each Test it has to allow the technician to decide if the result is acceptable or not.
 - It has to skip Test or go back to the previous one manually.
 - It has to have a LOG with the results of all the Tests.

- Tests:
 - Keyboard test: It allows verification of the following keys:
 - Volume +
 - Volume -
 - Power
 - Bluetooth test: It enables Bluetooth and recognizes nearby devices.
 - WiFi test: It activates WiFi, recognizes nearby access points and it connects.
 - Display Test: It shows color sequence in full screen.
 - Audio Test: It allows verification of the following components:
 - Speakers
 - Headphones
 - Microphone.
 - Backlight Test: It shows variation in the brightness of the screen.
 - Touchscreen test: It displays a matrix to touch-sensitively review.
 - Camera Test: It activates the cameras and allows you to take and save a photo.
 - Battery Test: It displays the Battery information
 - Tension
 - Load level
 - Current capacity and design capacity
 - Storage test
 - It checks microSD card
 - It checks storage read by OTG adapter
 - Device information:
 - Name of the team
 - Firmware Version
 - Serial number
 - SIM test (on 3G / LTE models): It allows detection and validation of the SIM
 - Flash test (if applied to the model): It allows the LED to be used as a camera flash

Assembly of fragile modules

Easy to remove fragile modules, for example screen, internal battery, antennas, etc., in order to minimize the risk of breakage. It is desirable that the assembly of these modules is not done with adhesive materials.

Complexity of assembly and disassembly

Design that allows a simple assembly and disassembly process, with minimum risks on the components that are removed and replaced. For example, the following considerations contribute to the ease of the process:

- Presence of guides for the conduction of internal cables that avoid the use of adhesive tapes.
- Little diversity of screws and easily identifiable, for example, by means of color codes and / or printing of the screw size in PCB.
- Modularity: design that allows removal and replacement of modules without the need to remove other modules.

Screw connections

Robust screw connections to withstand the wear of multiple removals.

Security

Design that prioritizes the security of the user. For example, security mechanisms for excess temperature of batteries.

Length of internal cables

Appropriate length of internal cables in order to avoid unnecessary tension in the connection to the motherboard or excessive dispersion of the cables inside the equipment.

External connectors

External connectors are accessible by the user so it is important that they are robust to withstand external pressure. Some aspects to consider are:

- Connectors fully contained inside the device to avoid more pressure than necessary, or even reinforced by the plastic itself of the case.
- Assembly of the connectors on separate boards that connect to the motherboard, so that when the connector breaks, it is not necessary to remove and replace the entire motherboard.
- Small SMD connectors such as micro USB, audio connectors, micro HDMI, etc., with four anchor points on the motherboard.
- Connectors assembled in board-cut configuration that make contact with the motherboard at the back of the connector, giving an additional point of support for the connector.
- Reversible connectors, such as micro USB type C (see optional requirements in Annex I. Requirements)

External buttons

The external buttons are prone to breakage, so it is desirable that they are not mounted to the motherboard but a separate module.

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

Internal assembly

To avoid breakage during the process of repairing tablets, it is desirable:

- Speakers not mounted on removable parts of the case. This avoids cable tensions when opening the devices.
- Components of the motherboard separated from the opening points of the device, so that when using tools to open the device there is no risk of component breakage.
- PCB shielding not welded to the board so that it can be removed during repairs.

Cards

Some tablets have removable plastic parts in the case to hide cards (SIM, microSD, etc.) prone to breakage or loss, which generates a direct impact on the operation of the equipment. It is desirable that the device does not include this type of parts.

Spare parts compatibility

The compatibility of spare parts of the models offered with existing models in the Ceibal equipment park will be evaluated.

9.1.3 User experience evaluation

The samples delivered will be evaluated in terms of user experience. The following aspects will be evaluated: camera, screen sharpness, audio, video, response of the device in the interaction with the user (swipe, scroll, physical buttons, transition between screens, etc.), among others. Therefore, it will be valued that the samples are delivered with the version of Android offered and with the available Google Mobile Services (see section 2.3 Samples).

9.2. Software evaluation

The ability of the provider to meet the development requirements of a software image will be evaluated. This evaluation also includes the assessment of compliance with other requirements that are associated with the image, for example, some logistical aspects (serial number, procedures, etc.).

Centro Ceibal may request the prototyping of a software image if it deems it necessary, especially to those bidders with whom it does not have previous development experience. **This process may not exceed 3 weeks.**

The development process will be iterative and incremental, so the bidder must specify in their bid the estimated prototyping time as requested in Annex I: Requirements.

The joint work schedules will be agreed in the final work plan.

10. Annex V: Price tables

PRODUCT: TABLET WITH COVER + IMAGE OF CERTIFIED SOFTWARE + MANUAL CONFIGURATIONS				
	TABLET MODEL	VOLUME	UNIT PRICE, US \$ CIF MVD	OBSERVATIONS
PRODUCT: TABLET WITH COVER + IMAGE OF CERTIFIED SOFTWARE + MANUAL CONFIGURATIONS		Up to 10.000		
		Between 10.001 and 25.000		
		between 25.001 and 50.000		
		More than 50.000		
OPTIONAL REQUIREMENTS		VOLUME	UNIT PRICE, US \$ CIF MVD	OBSERVATIONS
6.14	2MP / 5MP front / rear cameras	Up to 10.000		
		Between 10.001 and 25.000		
		between 25.001 and 50.000		
		More than 50.000		

PRODUCT: MOTHERBOARDS TEST BENCH (CIF MVD)				
6.56	Motherboards test bench	Up to 10		
		between 10 and 30		
		More than 30		

DEVELOPMENT AND IMAGE CERTIFICATION OF SOFTWARE MAINTENANCE	
PRICE US\$	

SPARE PARTS

SPARE PARTS	UNIT PRICE, US\$ FOB MVD	MINIMUM BATCH
Touchscreen		
Screen		
Battery		
Motherboard		
Charger		
...		
...		
...		

11. Annex VI: Confidentiality and data protection

The company that is the successful bidder, expressly undertakes to keep in the strictest confidence all the information that it processes or uses during its relationship with Centro Ceibal. Confidential Information includes, among others and by way of example, the following information: all business strategy, plan and procedure, proprietary information, software, tool, process, images, personal data, methodology, information and trade secret, and other information and material Ceibal, as well as students, beneficiaries, teachers, study centers, which could be obtained by the Company from any source or could be developed as a consequence of this contract.

The Company undertakes to process the personal data to which it has access under this contract, in accordance with Law No. 18,331, of August 11, 2008 and Decree No. 414/2009, of August 31, 2009, only for the provision and within the framework of the contracted service, not being able to use them for any other purpose, or for their own benefit, whether free or onerous, or assigning them, communicating them or transferring them to third parties, except with prior authorization from Centro Ceibal.

In no case may access to personal data be understood as assignment or permission for its free use by the Company.

The Company undertakes to adopt the necessary security measures to guarantee the security and confidentiality of personal data and to prevent its adulteration, loss, consultation or unauthorized treatment, as well as detecting deviations of information.

In the event that personal data is housed, even temporarily, outside the national territory, the Company undertakes that the importer is in countries considered to have adequate levels to European data protection standards, in accordance with the General Protection Regulation of Data 2016/679, of the European Parliament and of the Council, amending, concordant and complementary. Otherwise, the Company agrees to have the consent of the owner of the data for the transfer to an unsuitable territory, or that the importer is adhered to the Privacy Shield framework, has signed standard contractual clauses with the exporter or has a Code of registered Conduct, with the consequent authorization of international data transfer processed before the Regulatory and Control Unit of Personal Data, in the last two cases.

At the end of this contract, the Company undertakes to return or delete from all its physical and logical systems and files, whether their own or contracted to third parties, the personal data accessed, obtained or processed under this contract, as well as the associated metadata, in case they correspond and without prejudice to the particularities of each service which will be considered by Centro Ceibal in the specific case to consider this obligation fulfilled.

For the purposes of this agreement, personal data is considered information of any type referring to certain or determinable natural or legal persons, including any numerical, alphabetical, graphic, photographic, acoustic or any other information that refers to them directly or indirectly, in accordance with the provisions of article 4 of Law No. 18,331 and articles 1 and 4 of Decree No. 414/009. 4.3.