



REPUBLIC OF THE PHILIPPINES
Department of Science and Technology
Philippine Atmospheric, Geophysical and
Astronomical Services Administration (PAGASA)
Science Garden, Agham Road, Diliman, Quezon City 1100

TERMS OF REFERENCE
for

SUPPLY AND DELIVERY OF 1 LOT PRINTING AND COMMUNICATION EQUIPMENT

1. MITHI ICT Refresh Program through DICT office provided to PAGASA in the purchase of ict requirements for upgrading of ICT equipment.
2. **Approved Budget of the Contract:** One Million Nine Hundred Twenty-six thousand Pesos (**Php 1,926,000.00**) inclusive of Value Added Tax (VAT), custom duties, and other government taxes.
3. **Qualifications of Bidders** – (Please refer to Section II. Instructions to Bidders, the Bid Data Sheet and Checklist of Eligibility Requirements)
4. **Submission of Bids** - All bids must be submitted not later than the certain date and time scheduled by the PAGASA-BAC or as agreed upon by the PAGASA-BAC and the bidders, whichever is applicable
5. **Bid Proposal Contents** - The prospective bidder is expected to comply and respond in accordance with the specific instructions of bidders and submit the document requirements under checklist of Eligibility, technical and financial requirements. The submission of documentary requirements must be properly arranged in order and with label.
6. **Place and Delivery Period** - The winning bidder shall complete the Supply, Delivery, installation and testing to PAGASA central office within 45 calendar days from the date of issuance of the Notice to Proceed.
7. **Bid Validity** - The bid shall remain valid for a period of 120 calendar days from the date of bid.
8. **Warranty** - One (1) year warranty on hardware parts and services, 24 x 7 technical supports, either by email or phone.

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9. Technical Specifications

7.1 List of Deliverables

Unit	Item Descriptions	Qty.
pcs.	Network Attached Storage	4
pcs.	A3 Network MFPrinter	6
pcs.	Laser Printer	2
pc.	Photo Printer	1
pcs.	Multifunction Color LaserJet Pro	10
pcs.	High Resolution Webcam	4
pcs.	GPS Camera	6
Pcs.	DSLR Digital Camera	4
pcs.	Network Switches	2
pcs.	Network Routers	6

7.2 Technical Details

NETWORK ATTACHED STORAGES

Category	NAS Server
Memory Capacity	16TB
CPU	1.2GHz
RAM	1GB
Supported Mobile OS	Android, Apple Ios
Acess via Mobile Devices	Download, App, Browser, Streaming,Upload
Features	Cloud
Interfaces	USB 3.0, LAN (10/100/1000Mbps)
No. of USB 3.0 ports	2 x
No.of Gigabit LANs	1 x
RAID	Yes
RAID levels	1
Cloud	Yes
DLNA	Yes
Width	99mm
Height	171mm
Thickness	154mm
Weight	2.4kg
Ower supply	Mains-powered

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A3 NETWORK PRINTER

Functions	Print, Copy, Scan, fax, Web
Print Speed black	ISO : Up to 15ppm Draft: Up to 30ppm
Print Speed Color	ISO: Up to 8ppm Draft: Up to 26ppm
Print Technology	Thermal Inkjet
Processor speed	500Mhz
Number of print Cartridges	(4 – black, cyan, magenta,yellow)
Connectivity	Wireless direct printing Yes, buily-in Wifi 802.11 b/g/n
Connectivity	1 USB 2.0; 1 Ethernet, 1 Wireless 802.11 b/g/n 1 USB host port 2 RJ-11 fax
Memory	Memory, standard : 256MB Maximum Memory : 256MB
Scanner type	Flatbed, ADF
Scanner file format	Scan file type supported by software: Bitmap(.bmp),JPEG, PDF, PNG, Searchable PDF, Text, TIFF
Scan size Maximum	297 x 432mm
Automatic document feeder capacity	: Stabdard, 35 sheets
Copies, maximum	Up to 99 copies
Copy reduce/enlarge settings	: 25 to 400%
Copy Resolution (black text)	: Up to 600 x 1200 dpi
Fax Transmission Speed	4 sec per page
Fax Resolution Black (best)	: Up to 300 x 300 dpi
Power	Input Voltage 100 to 240VAC (+/-10%), 50/60Hz (+/- 3Hz)
Dimension	(W x D x H) 617 x 505.1 x 297mm
Weight	17.6kg

(Bundled with Initial Ink, Manual-CD Format, Connector, Cord, USB cable, LAN Cable)

LASER PRINTERS

Type	Fax/Copier/printer/scanner
Printing	Laser-Monochrome
Machine Features	Print from USB drive, save to USB flash drive, scan to e-mail, scan to network, scan to cloud, instant-on technology, touch to print, mobile printing, print from cloud.
Display Features	Touch screen, tilt
Fax Type	Plain paper
Connectivity	Wireless ready – yes
Mobile Printing Capability	Apple Air Print, Google cloud Print, Wireless direct print
Memory	Standard Memory - 256MB Max. Supported Memory - 256MB Supported Flash Memory - USB Flash Drive
Printer	Air Print Enable – yes
Power	Power consumption Operational – 583Watt
Color Category	White
Max. Copying Resolution	Up to 600 x 600 dpi
Automatic Duplexing	Yes
Printing	Resolution : up to 4800 x 600dpi Max Res. B/W : 4800 x 600dpi Printing speed B/W (ppm): 40ppm Automatic Duplexing: yes
Max. Media Size	A4/Legal
Interface	Connector type : 4pin USB type A, RJ-45 Type: Gigabit LAN, USB 2.0, USB host
Dimensions	16.5 x 15.4 x 12.7 (WxDxH)
Weight	28.35lbs.
(Included Cartridge, Manual in CD format, Installer, Cable and Conneters)	

PHOTO PRINTER

Print	Max.Print Resolution: 5760 x 1440dpi Print Speed: 8" x 10" A4 PGPP with border-68sec 11"x14" A3+PGPP with border-102sec Print Direction: Bi-directional printing, Uni-directional LUT : New LUT Technology
Ink Type	High Gloss 2 Ink
OS	Windows Vista/7/8/8.1/10(32/64bits/MACOS
Memory	256Mbyte
Power	Rated Voltage:100-120/220-240V/50-60Hz
Power Consumption	Operating: 20W
Paper Handling	Supported Media:Cut Sheet – 89mm-329mm Roll paper: Width=210mm-329mm, 2" core ASF Capacity:Max.Sheets: A3/USB/B4:54mm:A4:12mm
Connectivity	Interface: Wired Connection: Hi speed USB,10BASE-T/100BASE-TX Wireless Connection: Wifi
Dimensions:	622mmx324mmx219mm &WxDxH)
Weight	12.3kg
(Bundled Items :Initial I/C,Set up guide,Power cable,Roll holder assy,USB Cable)	

MULTIFUNCTION COLOR LASERJET PRO

Functions	Print, Copy, Scan, Fax, Email
Print Resolution	Black (best): 600 x 600 dpi, Up to 38,400 x 600 enhanced dpi; Color (best): 600 x 600 dpi, Up to 38,400 x 600 enhanced dpi
Print Cartridge	4 (black, cyan, magenta, yellow)
Scan Type	Flatbed, ADF / Contact Image Sensor (CIS)
Scan Resolution	Hardware: Up to 1200 x 1200 dpi; Optical: Up to 1200 x 1200 dpi
Scan Speed	Up to 26 ppm/47 ipm (b&w), up to 21 ppm/30 ipm (color)22Duplex: Up to 47 ipm (b&w), up to 30 ipm (color)
Scanner Features	Scan-to-E-mail; Scan-to-cloud; Scan-to-USB; Scan-to-network folder; LDAP e-mail lookup; Single-pass 2-sided scanning ADF
Scan File Format	Windows HP Scan SW supports PDF, searchable PDF, JPG, RTF, TXT, BMP, PNG, TIFF. Mac HP Easy Scan SW supports PDF, searchable PDF, JPG, RTF, TXT, JPG-2000, PNG, TIF11
Copy Speed	Black (letter): Up to 28 cpm; Color (letter): Up to 28 cpm2

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Copy Resolution	Black (text and graphics): 600 x 600 dpi; 600 x 600 dpi; Color (text and graphics): 600 x 600 dpi
Number of Copiers	Up to 99 copies
Fax Speed	Upto:33.6kbps;Letter:3secperpage10
Fax Resolution	Black(best) Up to 300x300dpi: Black:203x96dpi
Connectivity	Hi-SpeedUSB2.0port;built-inGigabitEthernet10/100/1000Base-TXnetworkport;Easy-accessUSB
Network Capabilities	Viabuilt-in10/100/1000Base-TXEthernet,Gigabit;Auto-crossoverEthernet;authenticationvia802.1X
Duty Cycle	Monthly,letter:Upto50,000pages8
Dimensions	WxDxH: 16.4x18.6x15.7in
Weight	51.2 Lbs
Power	PowerSupplyType:Internal(Built-in)powersupply;PowerRequirements:110-voltinputvoltage: 110to127VAC(+/-10%),60Hz(+/-3Hz);PowerConsumption:570watts(ActivePrinting),18.6 watts(Ready),2.5watts(Sleep),0.6watts(Auto-On/Auto-Off,viaUSBconnectivity),0.05watts(ShutdownorOff)

(Bundled with Ink, Cable, Connector, Manual in CD format, Installer)

GPS CAMERA

Body Type	Compact
Max.Resolution	4000 x 3000
Effective Pixels	12megapixels
Processor	Digic 5
Sensor Size	½.3" (6.17 x 4.55mm)
Sensor Size	BSI-CMOS
ISO	Auto 100,200,400,800,1600,3200
Focal Length	25-500mm
Optical Zoom	20x
Max Aperture	F3.5 – 6.8
Articulated LCD	Fixed
Screen Size	3"
Screen Dots	461,000
Max.Shutter Speed	1/3200 sec
Format	H.264
Storage Types	SD/SDH/SDXC
USB	USB 2.0
Weight	231g
Dimensions	106 x 61 x 33mm
GPS	Built-in
Digital Zoom	Yes (4x)
Metering Modes	Multi, Center-weighted, spot

(Bundled with battery, case, manual)

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DSLR CAMERA

Type	Digital Camera: DSLR
Image Sensor	Valid Pixels: Approx. 20.2mp Optical Sensor : CMOS Sensor
Basic Spec.	Shutter Speed: 1/8000 to 30 sec Light sensitivity: ISO 100-12800 Supported Flash Memory: SD Memory card,SDHC memory card, SDXC memory Card Image Record Format: Design rule for Camera File System (DCF) 2.0 , JPEG, RAW RAW+JPEG simultaneous recording possible LCD Size: 3inch with approx. 1.04 million dots Battery Type: Battery Pack, AC Adapter Connections: Hi Speed USB, HDMI mini
Basic Spec-Compact Common	Digital Zoom: Aprrox: 3x-10x Image Stabilizer: yes, Face Recognition: yes Self time: yes, Sequential Shooting Mode: High-speed continuous shooting: Max. approx. 7.0 shots/sec. , Low-speed continuous shooting : Max. approx. 3.0 shots/sec. , Silent continuous shooting : Max. approx.. 3.0 shots/sec. Vari-Angle LCD: yes
Other Compacts	GPS: yes
Other SLR	Sensor Dust Reduction: yes, Built-in Flash: yes RAW+JPEG: yes
Dimensions	139 x 104.3 x 78.5mm
Weight	675g
(Bundled with Case, Battery, Cord, Manual)	

ROUTER


Network Standard	IEEE 802.11a, IEEE802.11g,IEEE 802.11ac, IPv4, IPv6
Product Segment	AC1900 ultimate AC performance: 600+1300Mbps
Data Rate	802.11a:6,9,12,18,24,36,58,54Mbps 802.11b: 1,2,5.5, 11Mbps 802.11g: 6,9,12,18,24,36,48,54 Mbps 802.11n:up to 450Mbps 802.11n TurboQAM: up to 600Mbps 802.11ac: up to 1300Mbps
Antenna	External Antenna x 3
Operating Frequency	2.4GHz/5GHz
Encrytion	64-bit WEP, 128-bit WEP, WPA2-PSK, WPA-PSK, WPA-Enterprise , WPA2-Enterprise , WPS support
Firewall & Access Control	Firewall: SPI intrusion detection, DoS Protection Acess Control: Parental control, Network service filter, URL filter, Port filter
Management	UPnP, IGMP v1/v2/v3, DNS Proxy, DHCP, NTP Client, DDNS, Port Triger, Universal Repeater, System Event Log
VPN Support	IPsec Passp-Through PPTP Pass-Through L2TP Pass-Through PPTP Server Open VPN Server PPTP Client L2TP Client Open VPN Client
WAN Connection Type	Internet connection type : Automatic IP, Static IP, PPPoE(MPPE supported), PPTP, L2TP WAN Bridge support,Multicast Proxy support Multicast Rate Setting support
Ports	4 x RJ45 for 10/100/1000/Gigabits BaseT for LAN, 1 x RJ45 for 10/100/1000/Gigabits BaseT for WAN, USB 2.0 x 1, USB 3.0 x 1
Button	WPS Button, Reset Button, Power Button, Wireless on/off Button
LED Indicator	PWR x 1,AIR x 2, LAN x 4, WAN x 1, USB x 2
Power Supply	AC Input: 110-240V(50-60Hz) DC Output: 19V with max, 1.75A current
Dimensions	220 x 83.3 x 160mm (WxDxH)
Weight	640g
	(Bundled with cord, connector, manual)


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NETWORK SWITCHES

Standard and Protocols	802.3 10BASE-T Ethernet 802.3u 100BASE-TX Fast Ethernet 802.3ab 1000BASE-T Gigabit Ethernet 802.3z Gigabit Ethernet 802.3x flow Control 802.1p Priority 802.3az, Energy Efficient Ethernet.
Ports	16Port Gigabit Desktop
LED Indicators	System/PWR, Link/Activity, 100M, Gigabit
Power	100-240VAC, 50/60Hz, Internal, Universal
Dimensions	11 x 4.33 x 1.02inches(WxDxH)
Operating Temperature	32° to 104° F (0° to 40°C)
Operating Humidity	-4° to 158° F (-20° to 70° C), relative, non condensing
(Bundled with cord, connector, manual)	

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 Postal Address: P.O. Box 3278 Manila

 Tel No. (63-2) 929-4865 (w/Fax) & 434-9040