Supply and installation of Data Processing Devices, Remote Collaboration System and Cabling work

Pre-qualification Criteria

1. **Product Datasheet and Verification:**
   a. Each line-by-line compliance needs to be submitted along with the product datasheet for all the line items.
   b. The datasheet should be available online for verification purposes.
2. **OEM Authorization and Reference:** The bidder must submit OEM ink-signed authorization letters or Manufacturer Authorization Forms (MAF) referencing the Gem bid number for line items Sl.No 1-16.
3. **Genuineness Confirmation:** A verification email will be sent to the OEM against the proposed product for genuineness confirmation.
4. **Legal Registration:**
   a. The bidder should have a registered office located in Bengaluru, Karnataka, India.
   b. The bidder must provide a copy of the valid Form C registration issued by the appropriate government authority as proof of their registered office in Bengaluru.
5. **Local Service Center:**
   a. The bidder must have a service center or service presence located within the geographic area of Bengaluru.
   b. The service center should be capable of providing technical support, maintenance, and repairs for the products and services proposed in response to the tender.
6. **Financial Stability:**
   a. The bidder should demonstrate financial stability by providing audited financial statements for the last three fiscal years.
   b. The financial statements should indicate a positive financial performance and the ability to meet financial obligations.
7. **Relevant Experience:**
   a. The bidder should provide evidence of prior experience in providing similar products or services within the specified industry or domain.
   b. Details of completed projects, including references, should be included in the bid.
8. **Technical Competence:**
   a. The bidder must showcase technical competence by providing details of the technical team, including qualifications and relevant certifications.
   b. Information about partnerships or affiliations with manufacturers or industry bodies should also be included.
9. **Compliance with Legal Requirements:**
   a. The bidder should certify compliance with all applicable legal requirements, including tax and labor laws.
   b. Any pending legal issues or disputes that may affect the ability to fulfill the contract should be disclosed.

Scope of work:

Bidders will supply the components specified in the BOM, ensuring they meet the exact technical specifications and requirements provided by ICTS. The supplied components will include, but are not limited to:

BOM:

Sl. No	Description	Quantity	Unit
1	Portable Data Processing Device (Type-1)	32	NO
2	Portable Data Processing Device (Type-2)	2	NO
3	Data Processing Device (Type-1)	1	NO
4	Data Processing Device (Type-2)	2	NO
5	Full High Definition Display	15	NO
6	Universal Docking Station	3	NO
7	Universal Serial Bus alphanumeric input device	20	NO
8	Universal Serial Bus pointing device	20	NO
9	Remote Collaboration System	1	LOT
10	Unshielded Twisted Pair Cable (Type-1)	1	ROLL
11	Unshielded Twisted Pair Cable (Type-2)	1	ROLL
12	Shielded twisted pair cable	1	ROLL
13	GigaSPEED X10D C6A Information Outlet	24	NO
14	GigaSPEED XL C6 Information Outlet	24	NO
15	Layer 3 POE Plus Managed Switch with dual PSUs	5	NO
16	Small Office MFP Device	4	NO
17	Laptop USB KVM Console Crash Cart Adapter IT Kit	1	NO
18	RJ45 Modular Plug	1	PACK
19	Universal Serial Bus Capture Device	1	NO
20	Universal Serial Bus High Speed Extension Kit	1	NO
21	PDU and Blue-e Unit Power Source Extension Work	1	LOT

Bidders will ensure that all supplied components meet quality standards and are free from defects. Quality assurance will include:

- Inspection and testing of components before delivery.
- Verification of compliance with technical specifications.
- Proper packaging to prevent damage during transportation.

Upon delivery, Bidder will provide comprehensive documentation to ICTS, including:

- Detailed equipment manuals and user guides for each component.
- Certifications and compliance documentation.
- Contact information for technical support.

Bidders should be responsible for the delivery of components to the ICTS, Bengaluru. Bidders must provide information regarding warranties and support options for the supplied components. Any issues or warranty claims should be directed to the respective manufacturers.

Technical Specifications

1. Portable Data Processing Device (Type-1)

Sl. No	Component	Specifications
1	Product Type	Business series minimum 14 inch Portable Data Processing Device from Reputed Brand
2	Maximum Weight	1.6KG
3	Processor	Integrated Intel(R) Iris(R) Xe or UHD Graphics for i7-1355U Processor
4	Graphics	Integrated graphics
5	Display	14", FHD 1920x1080, 60Hz, WVA/IPS, Non-Touch, Anti-Glare, 250 nit, NTSC 45%,
6	Camera	Integrated FHD+IR Camera with Camera Shutter, Mic and speaker
7	WiFi	Intel(R) Wi-Fi 6E AX211, 2x2, 802.11ax, Bluetooth Wireless Card
8	Keyboard	English International backlit keyboard, 79-key
9	Palmrest	With Trackpad
10	Storage	512 GB, M.2 2280, PCIe NVMe, SSD, Class 40
11	2nd Storage	Provision for M.2 2280, PCIe NVMe Gen 4 or higher, SSD, Class 40
12	RAM	16 GB, 1 x 16 GB, DDR4, 3200 MT/s
13	Battery	54 Wh or higher, ExpressCharge Capable, Long Life Cycle, Battery (3-year warranty)
14	Charger (USB - C)	USB Type-C 65W AC adapter, TCO Gen9 compliant, including Power Cord for India
15	Docking	Should support USB -C docking along with battery charging, dual display and USB devices
16	Backpack	Essential Laptop Backpack - should Fits regular laptops up to 15"
17	EPEAT	EPEAT 2018 Registered (Gold)
18	ENERGY STAR	ENERGY STAR Qualified
19	OS from OEM	Ubuntu 22.04 LTS with DCA Enabler
20	ADP	Accidental Damage Protection Warranty from OEM , 60 Month(s)
21	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM including AC Adapter, 60 Month(s)
22	Support	OEM Telephone,Email and Chat Technical support - 24 hours 7 days (including holidays) - In Priority Call Routing, 60 Month(s)
23	Battery Warranty	Minimum Battery Warranty, 36 Months
24	Ports	HDMI Out, USB 3, 3.5 TRRS Audio Jack, RJ-45 Gigabit Ethernet, USB -C (Should support USB -c docking station and charge) etc.,
25	Additional Accessories (If not available in the box)	Wired USB Optical Mouse (Wireless not acceptable)

2. Portable Data Processing Device (Type-2)

Sl. No	Component	Specifications
1	Product Type	Business series Portable Data Processing Device (Workstation Grade)
2	Maximum Weight	2.5 Kg
3	Processor	Intel Core i7-13800H Processor with vPro
4	Graphics	NVIDIA RTX A500 4GB GDDR6 Graphics
5	Display	15.6" FHD 1920 x 1080, 60 Hz, 250 nits, non-touch
6	Camera	RGB FHD Camera with Mic and speaker
7	WiFi	Intel(R) Wi-Fi 6E AX211, 2x2, 802.11ax, Bluetooth Wireless Card
8	Keyboard	English International backlit keyboard
9	Palmrest	Palmrest with Single pointing Trackpad
10	Storage	512 GB, M.2 2280, PCIe NVMe Gen 4 or higher, SSD, Class 40
11	2nd Storage	Provision for M.2 2280, PCIe NVMe Gen 4 or higher, SSD, Class 40
12	RAM	32 GB, 2 x 16 GB, DDR5, 4800 MT/s
13	Battery	97WHr or higher, ExpressCharge Capable, Long Life Cycle, Battery (3-year warranty)
14	Charger (USB - C)	USB Type-C 130W AC adapter, TCO Gen9 compliant, including Power Cord for India
15	Docking	Should support USB -C docking along with battery charging, dual display and USB devices
16	Backpack	Essential Backpack
17	EPEAT	EPEAT 2018 Registered (Gold)
18	ENERGY STAR	ENERGY STAR Qualified
19	OS from OEM	Ubuntu 22.04 LTS with DCA Enabler
20	ADP	Accidental Damage Protection Warranty from OEM , 60 Month(s)
21	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM including AC Adapter, 60 Month(s)
22	Support	OEM Telephone,Email and Chat Technical support - 24 hours 7 days (including holidays) - In Priority Call Routing, 60 Month(s)
23	Battery Warranty	Minimum Battery Warranty, 36 Months
24	Ports	HDMI Out, USB 3, 3.5 TRRS Audio Jack, RJ-45 Gigabit Ethernet, USB -C (Should support USB -c docking station and charge) etc.,
25	Additional Accessories (If not available in the box)	Wired USB Optical Mouse (Wireless not acceptable)

3. Data Processing Device (Type-1)

Sl. No	Component	Specifications
1	Product Type	Business series All-in-One Data Processing Device
2	Processor	13th Gen Intel Core i9-13900 (8+16 Cores/36MB/32T/2.0GHz to 5.2GHz/65W)
3	Graphics	**AMD Radeon RX 6500 4G**
4	Display	24" FHD Non-touch
5	Camera	5MP IR camera with Mic and speaker
6	WiFi	Intel(R) Wi-Fi 6/6E AX211/01, 2x2, 802.11ax, Bluetooth Wireless Card
7	Keyboard	English International USB keyboard with number pad
8	Mouse	USB Optical Mouse
9	Storage	512 GB, M.2 2280, PCIe NVMe Gen 4 or higher, SSD, Class 40
10	2nd Storage	Provision for M.2 2280, PCIe NVMe Gen 4 or higher, SSD, Class 40
11	RAM	32GB (1X32GB) DDR5 Non-ECC Memory
12	Docking	Should support USB -C docking along with dual display and USB devices
13	SMPS	Integrated with AC C14/20 power Inlet and Power Cord for India 5/15A
14	ENERGY STAR	ENERGY STAR Qualified
15	OS from OEM	Ubuntu 22.04 LTS with DCA Enabler
16	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM including SMPS and Accessories, 60 Month(s)
17	Support	OEM Telephone,Email and Chat Technical support - 24 hours 7 days (including holidays) - In Priority Call Routing, 60 Month(s)
18	Ports	HDMI Out, HDMI In (Use as monitor), USB3, 3.5 TRRS Audio Jack, RJ-45 Gigabit Ethernet , USB -C etc.,

4. **Data Processing Device (Type-2)**

Sl. No	Component	Specifications
1	Product Type	Business series All-in-One Data Processing Device
2	Processor	13th Gen Intel Core i9-13900 (8+16 Cores/36MB/32T/2.0GHz to 5.2GHz/65W)
3	Graphics	Integrated
4	Display	24" FHD Non-touch
5	Camera	5MP IR camera with Mic and speaker
6	WiFi	Intel(R) Wi-Fi 6/6E AX211/01, 2x2, 802.11ax, Bluetooth Wireless Card
7	Keyboard	English International USB keyboard with number pad
8	Mouse	USB Optical Mouse
9	Storage	512 GB, M.2 2280, PCIe NVMe Gen 4 or higher, SSD, Class 40
10	2nd Storage	Provision for M.2 2280, PCIe NVMe Gen 4 or higher, SSD, Class 40
11	RAM	32GB (1X32GB) DDR5 Non-ECC Memory
12	Docking	Should support USB -C docking along with dual display and USB devices
13	SMPS	Integrated with AC C14/20 power Inlet and Power Cord for India 5/15A
14	ENERGY STAR	ENERGY STAR Qualified
15	OS from OEM	Ubuntu 22.04 LTS with DCA Enabler
16	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM including SMPS and Accessories, 60 Month(s)
17	Support	OEM Telephone,Email and Chat Technical support - 24 hours 7 days (including holidays) - In Priority Call Routing, 60 Month(s)
18	Ports	HDMI Out, HDMI In (Use as monitor), USB3, 3.5 TRRS Audio Jack, RJ-45 Gigabit Ethernet , USB -C etc.,

5. Full High Definition Display unit

Sl. No	Component	Specifications
1	Product Type	Full High Definition Display unit with HDMI, VGA and 5 Year OEM Onsite Advance Replacement Warranty
2	Connectivity Interfaces	VGA and HDMI
3	Display Type	LED-backlit LCD monitor / TFT active matrix
4	Energy Class	Class D or better
5	Diagonal Size	27"
6	Panel Type	IPS
7	Aspect Ratio	16:9
8	Native Resolution	Full HD (1080p) 1920 x 1080 at 60 Hz
9	Pixel Pitch	0.3114 mm
10	Pixel Per Inch	81
11	Brightness	300 cd/m²
12	Contrast Ratio	1000:1 or better
13	Colour Support	16.7 million colours or higher
14	Colour Gamut	72% (CIE 1931), 83% (CIE 1976)
15	Response Time	8 ms (grey-to-grey normal); 5 ms (grey-to-grey fast) or better
16	Horizontal Viewing Angle	178° or higher
17	Vertical Viewing Angle	178° or higher
18	Screen Coating	Anti-glare
19	Backlight Technology	LED backlight
20	Display Position Adjustments	Tilt
21	Tilt Angle	-5°/+21° or higher
22	VESA Mounting Interface	100 x 100 mm
23	Mount Stand	Table Mount (Detachable type)
24	Compliant Standards	HDCP 1.2 or Higher
25	Input Voltage	AC 100-240 V (50/60 Hz) (Note: External PSU/ DC Adaptor model not acceptable)
26	Power Inlet Socket	C14
27	On / Off Switch	Required
28	Additional Accessories (If not available in the box)	1 x 3 Pin (India) Plug to C13 Power cable, 1 x HDMI Patch cable
29	Warranty	Pan India Advance Onsite Comprehensive Warranty from OEM including AC Adapter, 60 Month(s)
30	Support	OEM Telephone,Email and Chat Technical support 60 Month(s)

6. Universal Docking Station

Sl. No	Component	Specifications
1	Product Type	Universal Docking Station for Business series USB-C Laptops
2	Docking Interface	USB-C, Minimum 0.8 m length
3	Minimum Connectivity Interfaces	2 x display / video - DisplayPort - 20 pin DisplayPort (1.2) 1 x display / video - HDMI 1 x USB-C 3.2 Gen 2/DisplayPort 1 x USB 3.2 Gen 2 with PowerShare 3 x USB 3.2 Gen 2 1 x USB-C 3.2 Gen 2 1 x network - RJ-45
4	Security Slot	Kensington nano security slot / Kensington security slot
5	Minimum Connectivity Option at Front	1 x USB-A 3.2 Gen 2 with PowerShare 1 x USB-C 3.2 Gen 2 with PowerShare
6	Minimum Connectivity Option at Rear	1 x HDMI 2.0 2 x DisplayPort 1.2 1 x Gigabit Ethernet RJ45 2 x USB-A 3.2 Gen 2 1x USB 3.2 Gen2 Type-C with DisplayPort 1.4 Alt Mode
7	OS Support	Windows 10 or later Ubuntu 20.04 or later, Apple macOS 12.21 or later,
8	Display Support	4K @ 60Hz
9	Networking	Gigabit Ethernet
10	MAC Address	Pass-Through MAC Address
11	Led Indicators	Power Adapter Status, Dock Status Indicator, RJ45 LEDs
12	Power For laptop	Support up to 96W power delivery Business series USB-C Laptops
13	Power	130W Power AC Adapter or Integrated with Dock with 3 Pin (India) Plug
14	Warranty	Pan India Advance Onsite Comprehensive Warranty from OEM including AC Adapter, 60 Month(s)
15	Additional Accessories (If not available in the box)	1 x Keyboard- English International USB keyboard with number pad 1 x Mouse-USB Optical Mouse

7. Universal Serial Bus alphanumeric input device

Sl. No	Component	Specifications
1	Product Type	Universal Serial Bus alphanumeric input device
2	Color	Black
3	Backlit	Optional
4	Keys Style	Chiclet
5	Press Technology	Plunger
6	Alphabet order	US International (QWERTY) and number pad
7	Cable Length	More the 5ft
8	Plug & Play Support	Yes
9	Wireless Receiver	NA
10	Battery Type	NA
11	Interface	Universal Serial Bus 2.0
12	Connectivity Technology	Wired
	Hot Keys Function	Volume, mute, play/pause, backward, forward
13	OS Support	Windows 10 or later Ubuntu 20.04 or later, Apple macOS 12.21 or later,
14	Hardware Platform	Data Processing Device Alphanumeric Input Unit
15	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM including AC Adapter, 36 Month(s)

8. Universal Serial Bus pointing device

Sl. No	Component	Specifications
1	Product Type	Universal Serial Bus pointing device
2	Color	Black
3	Maximum Weight	120gm
4	Buttons	3 with Scrolling Wheel
5	Movement Detection Technology	Optical
6	Movement Resolution	1000 dpi
7	Cable Length	More the 5ft
8	Plug & Play Support	Yes
9	Wireless Receiver	NA
10	Battery Type	NA
11	Interface	Universal Serial Bus 2.0
12	Connectivity Technology	Wired
13	OS Support	Windows 10 or later Ubuntu 20.04 or later, Apple macOS 12.21 or later,
14	Hardware Platform	Data Processing Device Pointing Unit
15	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM including AC Adapter, 36 Month(s)

9. Remote Collaboration System

Bidders conduct a comprehensive site survey to gather essential information for the successful installation of the Remote Collaboration Device system. The site survey will encompass:
- Examination of the meeting rooms or spaces where Remote Collaboration equipment will be installed.
- Assessment of existing audiovisual equipment, network connectivity, and power sources.
- Evaluation of lighting conditions and acoustics.
- Identification of potential challenges or obstacles that may impact system installation.

Based on the site survey and the specifications provided by ICTS, Bidder will supply the following video conferencing equipment:
- Remote Audio Collaboration Device
- Remote Video Collaboration Device
- All required cabling, connectors, and mounting hardware.
- Any additional components necessary to meet the specifications.

Bidder will execute the installation and integration of the Remote Collaboration system. This includes:
- Precise mounting and positioning of Remote Video Collaboration Device and displays to optimize visibility.
- Installation of Remote Audio Collaboration Device equipment to ensure high-quality audio.
- Integration with the existing network infrastructure to facilitate seamless communication.
- Calibration of audio and video settings to maximize performance.
- Rigorous testing and quality assurance to guarantee the system operates flawlessly.

Bidder will provide training sessions for ICTS staff to ensure they can proficiently operate the Remote Audio Collaboration system. The training will cover:
- Basic system operation.
- Troubleshooting common issues.
- Equipment maintenance and care.

9.a) Remote Audio Collaboration Device

Sl. No	Component	Specifications
	MICROPHONES	
1	Number	Minimum 24 (Minimum 12 per integrated microphone and speaker bar)
2	Type	Low-noise omnidirectional MEMS
3	Frequency response at 94 dB SPL	100Hz to 5 kHz
4	Total harmonic distortion (THD)	0.25% (typical)
5	Coverage	Up to 30' x 50' (9.1 x 15.2 m)
	SPEAKERS	
6	Number	20W x4 (2 per integrated microphone and speaker bar)
7	Type	4" aluminum cone

8	Acoustic output (hardware capable)	91 dB-SPL @ 1 m
9	Frequency response	50Hz to 16 kHz
10	Amplifier class	D
	CONNECT MODULE	
11	Interface to computer	Single USB 2.0, type B
12	Auxiliary out	3.5 mm single-ended stereo jack x1
13	Auxiliary in	3.5 mm single-ended stereo jack x1
14	Connection to microphone and speaker bar	RJ-45 x2
	OPERATING	
15	Room size	Up to 30' x 50' (9.1 x 15.2 m)
16	Operating systems	Windows 7, Windows 8, Windows 10, Mac OS X® 10.14 and 10.15 (Mojave and Catalina)
17	System setup	Plug and play
	POWER	
18	Power rating	Universal switching 100-240V AC, 50-60Hz
19	Power consumption	Standby <2.5W Operational <25W
	ENVIRONMENTAL	
20	System temperature	0° C to 40° C (32° F to 104° F) operating temperature,-20° C to 70° C (-4° F to 158° F) storage temperature, humidity 5–90% (non condensing)
	CERTIFICATIONS	
21	Electromagnetic compatibility	FCC Part 15, Class A ICES-003, Class A, CISPR 32 (EN55032), Class A CISPR 24 (EN55024)
22	Safety	UL 60950, CAN/CSA-C22.2 NO. 60950, IEC/EN60950, AS/NZS 60950
23	Environmental	RoHS, WEEE, REACH
	GENERAL	
24	Virtual microphones	16,384 virtual microphones they fill the room, so there's always one close by
25	Continuous auto calibration	Adapts to room configurations dynamically
26	Plug and play	Recognized as a standard USB device. No drivers needed.
27	Advanced audio	Acoustic echo cancellation, position-based gain control
28	Wall-mount installation	Built-in wall mount simple install. No tabletop clutter or noise.
29	Software	Manage products from anywhere. Automatic firmware updates. Cloud-based APIs.
30	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM, 36 Month(s)

9.b) Remote Video Collaboration Device

Sl. No	Parameters	Technical Specification
1	Camera features	It should have a Minimum 2 Mega pixel sensor for clear and natural imaging in low light conditions.
		It should Support wide field of view (DFOV) 84.5 °or better
		It should Support focal lens of 3.9mm (wide) ~ 47.3mm (tele) or better
		It should Support lens F1.8 (wide)~2.8 (tele) or better
		It should Support Smart Frame for automatic FOV adjustment to fit all participants.
		Should Support True WDR up to 120 dB (Backlight compensation technology for optimizing light balance in high contrast conditions.)
		It should support auto framing technology.
		It should track the presenter when he moves from one preset to another preset without doing any manual intervention.
		It should Support Minimum 12X Optical Zoom
		It should Support Pan: ±170°. Tilt: +90° (up) 30° (down) or better
		It should Support image Mirror, Flip, AE, white balance
		It should have Minimum 1 x USB 3.1 Interface
		It should support kensington slot
		It should Support Minimum 10 camera presets (Through remote)
3	Video features	It should Support video compression format of YUV, MJPEG,YUY2,NV12 or equivalent
		It should Support network video compression format of H.264 or better
		It should Support the below resolution: (16:9) 1920 x 1080, 1600 x 900, 1280 x 720, 960 x 540, 848 x 480, 800 x 448, 640 x 360, 424 x 240, 320 x 180; (4:3) 800 x 600, 640 x 480, 480 x 360, 320 x 240 at 60, 30, 15fps or better
		It should Support IP streaming
4	Network features	It should Support the network protocol: RTSP, RTMP
		It should Support 10/100/1000 Mbps. (LAN, RJ45 interface)
		It should support Power Over Ethernet (PoE+)
		Should Support real-time streaming.
		It Should Support DHCP / Static IP address setting.
5	General features	It should Support IR remote control.
		It should Support 3rd party integration: VISCA, Pelco-P, Pelco-D via RS232 (128 preset points via VISCA command)
		It should Support VISCA over IP.
		It should Support standard UVC/UAC plug-and-play.
		It should Support Web UI management.
		It should support Remote management and software should be provided by the same OEM
		Free recording and streaming software should be provided. Whiteboard and annotation tools should be available. Software should be from the same OEM.
		Should support Real Time Streaming and software should be provided by the same OEM

		Devices should be able to stream Video and Audio to YouTube or Facebook directly using LAN interface without depending on any computer.
		Camera should be available as a video source for virtual meetings via Ethernet Connection. Software should be supplied by the OEM.
		It should support recording in Picture in Picture(PIP) along with Desktop Application and software should be provided by the same OEM
6	Security	It Should support Password Protection
7	Certification	It should be certified by BIS and should be compatible with online VC applications like Zoom, Microsoft Teams, Webex. It should be CE certified.
8	Warranty	Pan India Next Business Day Onsite Comprehensive Warranty from OEM, 36 Month(s)

10. Unshielded Twisted Pair Cable (Type-1)

Sl. No	Component	Specifications
1	Make and Product ID	Commscope 700216450 | 3071E WHT C6 4/23 U/UTP W1000
2	Product Type	ETL Verified Category 6 U/UTP Cable, low smoke zero halogen, white jacket, 4 pair count, 1000 ft (305 m) length, WE TOTE box
3	Product Type	Twisted pair cable
4	ANSI/TIA Category	6
5	Cable Component Type	Horizontal
6	Cable Type	U/UTP (unshielded)
7	Conductor Type, singles	Solid
8	Conductors, quantity	8
9	Jacket Color	Slate
10	Pairs, quantity	4
11	Separator Type	Bisector
12	Transmission Standards	ANSI/TIA-568.2-D | CENELEC EN 50288-6-1 | ISO/IEC 11801 Class E
13	Cable Length	304.8 m | 1000 ft
14	Diameter Over Insulated Conductor	1.041 mm | 0.041 in
15	Diameter Over Jacket, nominal	5.918 mm | 0.233 in
16	Jacket Thickness	0.508 mm | 0.02 in
17	Conductor Gauge, singles	23 AWG
18	dc Resistance Unbalance, maximum	5 %
19	dc Resistance, maximum	7.61 ohms/100 m | 2.32 ohms/100 ft
20	Dielectric Strength, minimum	2500 Vdc
21	Mutual Capacitance at Frequency	5.6 nF/100 m @ 1 kHz
22	Nominal Velocity of Propagation (NVP)	70 %
23	Operating Frequency, maximum	300 MHz
24	Operating Voltage, maximum	80 V
25	Remote Powering	Fully complies with the recommendations set forth by IEEE 802.3bt (Type 4) for the safe delivery of power over LAN cable when installed according to ISO/IEC 14763-2, CENELEC EN 50174-1, CENELEC EN 50174-2 or TIA TSB-184-A

26	Segregation Class	c
27	Conductor Material	Bare copper
28	Insulation Material	Polyolefin
29	Jacket Material	Low Smoke Zero Halogen (LSZH)
30	Separator Material	Polyolefin
31	Minimum Pulling Tension	24 lb
32	Installation temperature	0 °C to +60 °C (+32 °F to +140 °F)
33	Operating Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
34	Acid Gas Test Method	IEC 60754-2
35	EN50575 CPR Cable EuroClass Fire Performance	Dca
36	EN50575 CPR Cable EuroClass Smoke Rating	s2
37	EN50575 CPR Cable EuroClass Droplets Rating	d2
38	EN50575 CPR Cable EuroClass Acidity Rating	a1
39	Environmental Space	Low Smoke Zero Halogen (LSZH)
40	Flame Test Method	IEC 60332-3-22
41	Smoke Test Method	IEC 61034-2
42	**CENELEC**	EN 50575 compliant, Declaration of Performance (DoP) available
43	**ISO 9001:2015**	Designed, manufactured and/or distributed under this quality management system
44	**ROHS**	Compliant
45	**CHINA-ROHS**	Below maximum concentration value
46	**REACH-SVHC**	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
47	**UK-ROHS**	Compliant

11. Unshielded Twisted Pair Cable (Type-2)

Sl. No	Component	Specifications
1	Make and Product ID	Commscope 760107318 | 3091B WHT C6A 4/23 U/UTP W1000
2	Product Type	ETL Verified Category 6 U/UTP Cable, low smoke zero halogen, white jacket, 4 pair count, 1000 ft (305 m) length, WE TOTE box
3	Product Type	Twisted pair cable
4	ANSI/TIA Category	6A
5	Cable Component Type	Horizontal
6	Cable Type	U/UTP (unshielded)
7	Conductor Type, singles	Solid
8	Conductors, quantity	8
9	Jacket Color	White
10	Pairs, quantity	4
11	Separator Type	Isolator
12	Transmission Standards	ANSI/TIA-568.2-D | ISO/IEC 11801 Class EA
13	Cable Length	304.8 m | 1000 ft
14	Diameter Over Insulated Conductor	0.864 mm | 0.034 in
15	Diameter Over Jacket, nominal	7.239 mm | 0.285 in
16	Jacket Thickness	1.295 mm | 0.051 in
17	Conductor Gauge, singles	23 AWG
18	dc Resistance Unbalance, maximum	4 %
19	dc Resistance, maximum	7.61 ohms/100 m | 2.32 ohms/100 ft
20	Delay Skew, maximum	45 ns
21	Dielectric Strength, minimum	2500 Vdc
22	Mutual Capacitance at Frequency	6.0 nF/100 m @ 1 kHz
23	Nominal Velocity of Propagation (NVP)	67 %
24	Operating Frequency, maximum	550 MHz
25	Operating Voltage, maximum	80 V
26	Propagation Delay, maximum	536 ns/100m @500MHz

27	Remote Powering	Fully complies with the recommendations set forth by IEEE 802.3bt (Type 4) for the safe delivery of power over LAN cable when installed according to ISO/IEC 14763-2, CENELEC EN 50174-1, CENELEC EN 50174-2 or TIA TSB-184-A
28	Segregation Class	c
29	Conductor Material	Bare copper
30	Insulation Material	Polyolefin
31	Jacket Material	Low Smoke Zero Halogen (LSZH)
32	Separator Material	Polyolefin
33	Separator 2 Material	Polyolefin
34	Minimum Pulling Tension	24 lb
35	Installation temperature	0 °C to +60 °C (+32 °F to +140 °F)
36	Operating Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
37	Acid Gas Test Method	IEC 60754-2
38	EN50575 CPR Cable EuroClass Fire Performance	Dca
39	EN50575 CPR Cable EuroClass Smoke Rating	s2
40	EN50575 CPR Cable EuroClass Droplets Rating	d2
41	EN50575 CPR Cable EuroClass Acidity Rating	a1
42	Environmental Space	Low Smoke Zero Halogen (LSZH)
43	Flame Test Method	IEC 60332-3-22
44	Smoke Test Method	IEC 61034-2
45	**CENELEC**	EN 50575 compliant, Declaration of Performance (DoP) available
46	**ISO 9001:2015**	Designed, manufactured and/or distributed under this quality management system
47	**ROHS**	Compliant
48	**CHINA-ROHS**	Below maximum concentration value
49	**REACH-SVHC**	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
50	**UK-ROHS**	Compliant

12. Shielded Twisted Pair Cable

Sl. No	Component	Specifications
1	Make and Product ID	Commscope 760159988 or 57893-2 | CS54Z3 WHT C7 4/23 S/FTP RL 500M
2	Product Type	Copper Cable, category 7, 4 pair simplex, S/FTP, LSFRZH, XG, 23 AWG solid, 500 m, white
3	Product Type	Twisted pair cable
4	ANSI/TIA Category	7
5	Cable Component Type	Horizontal
6	Cable Type	S/FTP (shielded)
7	Conductor Type, singles	Solid
8	Conductors, quantity	8
9	Jacket Color	White
10	Pairs, quantity	4
11	Transmission Standards	ANSI/TIA-568.2-D | CENELEC EN 50288-4-1 | ISO/IEC 11801 Class F
12	Cable Length	500.000 m | 1640.42 ft
13	Diameter Over Insulated Conductor	1.501 mm | 0.0591 in
14	Diameter Over Jacket, nominal	7.29 mm | 0.287 in
15	Conductor Gauge, singles	23 AWG
16	Characteristic Impedance	100 ohm
17	Characteristic Impedance Tolerance	±15 ohm
18	Coupling Attenuation	Type I
19	dc Resistance, maximum	7.61 ohms/100 m | 2.320 ohms/100 ft
20	Delay Skew, maximum	7 ns
21	Nominal Velocity of Propagation (NVP)	80 %
22	Operating Voltage, maximum	80 V
23	Segregation Class	d
24	Transfer Impedance	Grade 1
25	Conductor Material	Bare copper
26	Insulation Material	Polyolefin
27	Jacket Material	Low Smoke Fire Retardant Zero Halogen (LSFRZH)
28	Shield (Tape) Material	Aluminum/Polyester

29	Installation temperature	0 °C to +50 °C (+32 °F to +122 °F)
30	Operating Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
31	Acid Gas Test Method	IEC 60754-1
32	EN50575 CPR Cable EuroClass Fire Performance	Dca
33	EN50575 CPR Cable EuroClass Smoke Rating	s2
34	EN50575 CPR Cable EuroClass Droplets Rating	d2
35	EN50575 CPR Cable EuroClass Acidity Rating	a1
36	Flame Test Method	IEC 60332-3-22 | IEC 60332-3-24
37	Smoke Test Method	IEC 61034-2
38	**CENELEC**	EN 50575 compliant, Declaration of Performance (DoP) available
39	**ROHS**	Compliant
40	**CHINA-ROHS**	Below maximum concentration value
41	**REACH-SVHC**	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
42	**UK-ROHS**	Compliant

13.   GigaSPEED X10D C6A Information Outlet

Sl. No	Component	Specifications
1	Product ID	Gigaspeed X10D MGS600 Series Information Outlet
2	Product Type	Modular jack
3	ANSI/TIA Category	6A
4	Cable Type	Unshielded
5	Color	Any
6	Conductor Type	Solid | Stranded
7	Integrated Dust Cover	Optional
8	Mountable on	Commscope M-series Faceplates and Commscope Jack Pane
9	Termination Type	IDC
10	Wiring	T568B
11	Contact Resistance Variation	Maximum 20 mOhm
12	Contact Resistance	Maximum 100 mOhm
13	Current Rating	1.5 A @ 20 °C | 1.5 A @ 68 °F
14	Dielectric Withstand Voltage, RMS, conductive surface	1,500 Vac @ 60 Hz
15	Dielectric Withstand Voltage, RMS, contact-to-contact	1,000 Vac @ 60 Hz
16	Insulation Resistance	Minimum 500 MOhm
17	Remote Powering	IEEE 802.3bt (Type 4) and IEC 60512-99-002
18	PoE Durability	Supports IEEE 802.3bt Type 4 (90 W) applications
19	Contact Plating Material	Precious metals
20	Material Type	Copper alloy | High-impact, flame retardant, thermoplastic
21	Termination Contact Plating	Nickel
22	Plug Retention Force	Minimum 133 N or 29.9 lbf
23	Plug to Jack Mating Cycles	Complies to IEC 60603-7 series
24	Operating Temperature	-10 °C to +60 °C (+14 °F to +140 °F)
25	Relative Humidity	Up to 95%, non-condensing
26	Flammability Rating	UL 94 V-0
27	Safety Standard	UL | cUL
28	Compatible Conductor Gauge, solid and stranded	22 AWG - 24 AWG
29	Compatible Conductor Gauge, stranded	22 AWG - 24 AWG

14. GigaSPEED XL C6 Information Outlet

Sl. No	Component	Specifications
1	Product ID	Gigaspeed XL MGS400 Series Information Outlet
2	Product Type	Modular jack
3	ANSI/TIA Category	6
4	Cable Type	Unshielded
5	Color	Any
6	Conductor Type	Solid | Stranded
7	Integrated Dust Cover	Optional
8	Mountable on	Commscope M-series Faceplates and Commscope Jack Pane
9	Termination Type	IDC
10	Wiring	T568B
11	Contact Resistance Variation	Maximum 20 mOhm
12	Contact Resistance	Maximum 100 mOhm
13	Current Rating	1.5 A @ 20 °C | 1.5 A @ 68 °F
14	Dielectric Withstand Voltage, RMS, conductive surface	1,500 Vac @ 60 Hz
15	Dielectric Withstand Voltage, RMS, contact-to-contact	1,000 Vac @ 60 Hz
16	Insulation Resistance	Minimum 500 MOhm
17	Remote Powering	IEEE 802.3bt (Type 4) and IEC 60512-99-002
18	PoE Durability	Supports IEEE 802.3bt Type 4 (90 W) applications
19	Contact Plating Material	Precious metals
20	Material Type	Copper alloy | High-impact, flame retardant, thermoplastic
21	Termination Contact Plating	Nickel
22	Plug Retention Force	Minimum 133 N or 29.9 lbf
23	Plug to Jack Mating Cycles	Complies to IEC 60603-7 series
24	Operating Temperature	-10 °C to +60 °C (+14 °F to +140 °F)
25	Relative Humidity	Up to 95%, non-condensing
26	Flammability Rating	UL 94 V-0
27	Safety Standard	UL | cUL
28	Compatible Conductor Gauge, solid	22 AWG - 24 AWG
29	Compatible Conductor Gauge, stranded	22 AWG - 24 AWG

15. Layer 3 PoE Plus Managed Switch with dual PSUs

Bidders will provide and deliver the specified PoE networking switch, adhering to the exact technical specifications and requirements as provided by ICTS. The switch will be designed to accommodate the specific network infrastructure needs, including the number of PoE ports and network capacity.

Bidders should perform the installation of the PoE networking switch at the designated location(s) in accordance with industry best practices and the specifications provided. This includes:
- Physical mounting of the switch in an appropriate and secure location.
- Proper connection and termination of data and power cables.
- Configuration of the switch to meet the network requirements, including VLAN settings, QoS, and security features.
- Testing of the switch to ensure it functions correctly and efficiently.

Sl. No	Component	Specifications
1	Product Type	Layer 3 POE Plus Managed Switch with dual PSUs
2	Physical Interfaces	Minimum 48 number 10/100/1000 Base-T RJ45 PoE+ Ports.
		Minimum 02 number 100/1000/10GBASE-T RJ45 Ports.
		Minimum 02 number 1000/10GBASE-X SFP+ ports.
		Ethernet: Out-of-band 1G port, Console: RJ45, RS232, Mini-USB, Storage: USB.
		Modular 2 bays with Internal RPS and EPS mode support.
3	Power Consumption	**Minimum 740W PoE Budget with 2 PSUs in RPS mode**
		Minimum 1,440W PoE Budget with 2 PSUs in EPS mode
4	CPU/ Memory	CPU: 800 MHz
		RAM: 1 GB
		Packet buffer memory: 16 MB
		Flash: 256 MB
5	Performance	Stack height: 8 switches
		Switching fabric: 176 Gbps Line-Rate (non blocking fabric)
		Throughput: 130.9 Mpps
		Forwarding mode: Store-and-forward
		Address database size: 16,000 MAC addresses (48-bit MAC address)
		Number of VLANs: 4,093 (IEEE 802.1Q) simultaneously
		Number of multicast groups= 2K IPv4, Number of multicast groups= 2K IPv6
		ARP/NDP= 2K
		Number of LAGs (802.3ad): 128 LAGs with up to 8 ports per group
		Number of hardware queues for QoS: 8 (Standalone)

		Number of routes: 512 IPv4 Unicast routes, Number of routes: 256 IPv6 Unicast routes
		Jumbo frame support: up to 9K packet size
		Mean time between failures (MTBF): 1,189,685 hours (~135.8 years)
		sFlow=416 samplers, 416 pollers, 8 receivers
6	L2 Services	Protocol based VLAN
		IP Subnet, IPX, ARP
		Subnet based VLAN, MAC based VLAN, Voice VLAN, Private Edge VLAN, Private VLAN, Guest VLAN
		Double VLAN Tagging (QoQ)
		GARP with GVRP/GMRP
		MVR (Multicast VLAN Registration)
		Multiple Registration Protocol (MRP)
		Multicast VLAN Registration Protocol (MVRP)
		LAG Hashing, LAG Member Port Flaps Tracking
		UDLD support
		Storm Control & Link Dependency, Distributed Link Aggregation
		Spanning Tree Protocol, Per VLAN STP (PVSTP) with FastUplink and FastBackbone & Per VLAN Rapid STP (PVRSTP)
		STP Root Guard, STP Loop Guard
		BPDU Guard, STP BPDU Filtering, STP BPDU Flooding
		IGMP v2/v3 Snooping support
		MLD v1/v2 Snooping support
7	L3 Services	IGMP Proxy, MLD Proxy
		Any Source Multicast (ASM), Source Specific Multicast (SSM)
		Multicast streams routing between subnets, VLANs
		Multicast Static Routes (IPv4, IPv6)
		DVMRP
		Neighbor discovery (IPv4, IPv6)
		PIM-DM (IPv4, IPv6), PIM-SM (IPv4, IPv6), PIM multi-hop RP support
		IPMC replication (hardware support)
		DHCP Client, server, snooping (IPv4, IPv6)
		DHCP/ BootP Relay (IPv4, IPv6), DHCP options 66, 67, 150, and 55, 125
		Static Routing (IPv4, IPv6)
		Port based Routing, ECMP Static Routing

		VLAN Routing
		RIP v1 and v2
		OSPF v2 and v3
		VRRP
		Loopback Interfaces, Tunnel interfaces, Router Discovery
		IP Helper, IP Source Guard, IP Event Dampening
		ECMP, Proxy ARP, Multinetting, ICMP v4 and v6, DNS v4 and v6
		IPv6 Routing
8	QoS	IEEE 802.1p CoS, DiffServ QoS, WRED (Weighted Deficit Round Robin), Single Rate Policing, Strict Priority queue technology
		Auto-VoIP, iSCSI Flow Acceleration, IP DSCP, IP Precedence, IP TOS
		L3 IPv6 Flow Label, Interface Traffic Shaping, PHB Support, Minimum Bandwidth per-interface
9	Security	Broadcast, Multicast and Unicast Network Storm Protection
		CPU Protection, ICMP throttling
		DoS attack protection
		Management ACL, Radius accounting, TACACS+
		L2/L3/L4 Access Control List (ACL)
		MAC, IPv4, IPv6, TCP, UDP ACL
		Protocol based ACL, ACL over VLAN, Dynamic ACL
		IEEE 802.1x Radius Port Access Authentication
		802.1x MAC Address Authentication Bypass (MAB)
		Port Security, Dynamic ARP Inspection
		MAC Filtering, Port MAC Locking
10	IEEE Network Protocols	IEEE 802.3 10Base-T, IEEE 802.3 Ethernet, IEEE 802.3i 10BASE-T, IEEE 802.3u 100BASE-T, IEEE 802.3ab 1000BASE-T, IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX, IEEE 802.3ae 10-Gigabit Ethernet, IEEE 802.3ad Trunking (LACP), IEEE 802.1AB LLDP with ANSI/TIA-1057 (LLDP-MED), IEEE 802.1D Spanning Tree (STP), IEEE 802.1s Multiple Spanning Tree (MSTP), IEEE 802.1w Rapid Spanning Tree (RSTP), IEEE 802.1p Quality of Service, IEEE 802.1Q VLAN tagging, IEEE 802.1v protocol-based VLAN, IEEE 802.1X Radius Network Access Control, IEEE 802.3x flow control
		GMRP — Dynamic L2 multicast registration
		GVRP — Dynamic VLAN registration
		GARP -Generic Attribute Registration Protocol
11	Management	ISDP (Industry Standard Discovery Protocol)

		Out of band Management
		802.1ab LLDP and LLDP-MED
		SNMP v1, v2 and v3
		RMON 1, 2, 3, 9
		sFlow
		Support both Command Line Interface (CLI) & Web-based graphical user interface (GUI)
		Admin access control via Radius and TACACS+
		Telnet, IPv6 Management
		Dual Software (Firmware) images, Dual Configuration file (Text-based)
		SNTP, XMODEM, Port Mirroring, Cable Test Utility
		SSH v1/v2, SSL/HTTPS and TLS v1.0 for web-based access, File Transfer (uploads, downloads) through TFTP/HTTP, SCP/ SFTP/ HTTPS
		Syslog
12	Network Traffic	Access Control Lists (ACLs) L2 / L3 / L4
		Time-based ACLs, ACL over VLANs
		IPv6 RA Guard Stateless Mode, Network Authentication Successive Tiering
		802.1x MAC Address Authentication Bypass (MAB)
13	Environmental	Operating Temperature: 32° to 122°F (0° to 50°C)
		Operating Humidity: 90% maximum relative humidity, non-condensing
		Storage Temperature: – 4° to 158°F (–20° to 70°C)
		Storage Humidity: 95% maximum relative humidity, non-condensing
		Fans : Front-to-back max noise level 40dB
		Acoustic noise (ANSI-S10.12): Max 40 dB
		Max Heat Dissipation with 2 PSU: 5651 BTU/hr
14	Product Size	Width: 44 cm, Height: 1U (4.4 cm), Depth: 40 cm(MAX)
15	Certifications	CE mark, commercial
		FCC Part 15 Class A, VCCI Class A, Class A EN 55022 (CISPR 22) Class A, Class A C-Tick
		EN 50082-1, EN 55024
		CSA certified (CSA 22.2 #950)
		UL listed (UL 1950)/cUL IEC 950/EN 60950
16	Warranty	Next Business Day Onsite Comprehensive Warranty from OEM including PSU, 60 Month(s) And Lifetime Hardware Support Warranty.

16. Small Office MFP Device

Sl. No	Component	Specifications
1	Printing Method	Color Laser Beam Printing
2	A4 - Print Speed 1-Side	Minimum 21ppm (Mono/color)
3	A4 - Print Speed 2-Sided	Minimum 12ppm (Mono / color)
4	Print Resolution	600 x 600dpi
5	Print Quality	1200 × 1200 dpi (equivalent)
6	Warm up Time (From Power On)	less than 15s
7	A4 First Print Out Time	Less than 11s (Mono / color)
8	Recovery Time (From Sleep Mode)	Less than 60.5s
9	Print Language	UFR II, PCL 6, Adobe PostScript 3
10	Auto Duplex Print	Standard
11	Available Paper Size for Auto Duplex Print	A4, B5, Letter, Legal, Executive, Foolscap, Indian Legal
12	Print Margins	5mm - top, bottom, left and right (Envelope: 10mm)
13	Print Features	Poster, Booklet, Watermark, Page Composer, Toner Saver
14	Supported File Format for USB Direct Print	Supported File Format: JPEG, TIFF, PDF
15	A4 Copy Speed	Minimum 21ppm / 21ppm (Mono / color)
16	Copy Resolution	600 x 600dpi
17	A4-FCOT	less than 14s (Mono / color)
18	Number of Copies	999 copies
19	Reduce/Enlargement	25 - 400%
20	Copy Features	Frame Erase, Collate, 2 on 1, 4 on 1, ID Card Copy, Passport Copy
21	Platen Glass Optical Scan Resolution	Minimum 600 x 600dpi
22	Feeder Optical Scan Resolution	Minimum 300 x 300dpi
23	Driver Enhanced	9600 x 9600 dpi
24	Scan Type	color Contact Image Sensor
25	Platen Glass scan area	Minimum 216 x 297mm
26	Feeder Glass area	Minimum 216 x 355.6mm
27	Feeder Single-side Scan Speed	Minimum 26 ipm (mono), 13 ipm (color)
28	Feeder Dual-side Scan Speed	Minimum 50 ipm (mono), 25 ipm (color)
29	Feeder Dual-side Scan Type/Method	**Scans both sides in one pass without Paper reversal**
30	Scan color Depth	Minimum 24bit
31	Pull Scan	USB and Network
32	Push Scan (Scan To PC) with Scan Utility Application	USB and Network

33	Scan To USB (via USB Host 2.0)	Required
34	Scan To Cloud	Required
35	Scan Driver Compatibility	TWAIN, WIA should support
36	Scan Send Method	SMB, Email, FTP, iFAX Simple
37	Scan color Mode	Full Color, Grayscale, Monochrome
38	Scan File Format	JPEG, TIFF, PDF, Compact PDF, PDF (OCR)
39	Fax Features	Optional - Fax Forwarding, Dual Access, DRPD, ECM, Auto Redial, Fax Activity Reports, Fax Activity Result Reports, Fax Activity Management Reports
40	Duplexing Automatic Document Feeder (DADF)	Minimum 50 sheets (80g/m2) need to be support
41	Supported Paper Size for DADF	A4, B5, A5, Letter, Legal, Statement
42	Standard Cassette	Minimum 250 sheets (80g/m2)
43	Multi-Purpose Tray	1 sheet (80g/m2)
44	Optional Paper Feeder	Optional
45	Paper Output	100 sheets (80g/m2)
46	Cassette supported Paper Size	A4, B5, A5, Letter, Legal, Statement, Executive, Government Letter, Government Legal, Foolscap, Indian Legal and Custom Size
47	Multi-Purpose Tray supported Paper Size	Cassette supported Paper Size + Index Card,COM10 Envelope, Monarch Envelope, C5, DL and custom size
48	Custom Size	Minimum 76.2 x 127.0mm to Maximum 216.0 x 355.6mm
49	Optional Paper Feeder	Optional
50	Paper Types	Plain, Thick, Coated, Recycled, color, Label, Postcard, Envelope
51	Paper Weight in DADF	Minimum 50 to 105g/m2 or more
52	Paper Weight in Cassette / Multi-Purpose Tray	Minimum 60 to 200g/m2 or more
53	Wired Interfaces	USB 2.0 High Speed, 100Base-TX/1000Base-T
54	Wireless	Wi-Fi 802.11b/g/n, Infrastructure mode, WPS Setup, Direct Connection
55	Near Field Communication (NFC)	Optional
56	Print Network Protocol	LPD, RAW, WSD-Print (IPv4,IPv6)
57	Scan Network Protocol	Email, SMB, WSD-Scan(IPv4, IPv6), FTP
58	TCP/IP Application Services	Bonjour(mDNS), HTTP, HTTPS, POP before SMTP (IPv4,IPv6), DHCP, ARP+PING, Auto IP, WINS (IPv4), DHCPv6 (IPv6)

59	Management	SNMPv1, SNMPv3 (IPv4,IPv6)
60	Wired Network Security	IP/Mac address filtering, HTTPS, SNMPv3, IEEE802.1x, IPSecurity
61	Wireless Network Security	WEP 64/128 bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES)
62	One-Push Wireless Configuration	Wi-Fi Protected Setup (WPS)
63	Other security Features	Department ID, Secure Print, Application Library etc
64	Mobile Solution	Google Cloud Print, Apple AirPrint, Mopria Print Service
65	Address Book	LDAP
66	Compatible Operating Systems	Windows, Windows Server, Mac, Linux
67	Included Software with Printer	Printer driver, Fax driver, Scanner driver, Scan Utility, Toner Status
68	Device Memory	1GB or more
69	LCD Display	WVGA color LCD Minimum 5in Touch Screen Display or better
70	Dimensions (W x D x H)	Not more than 460 x 460 x 460 mm
71	Weight	Not more than 22 kg
72	Maximum Power Consumption	Less than 900 W
73	Average Power Consumption During Copy	Less than 400W
74	Average Power Consumption During Standby	Less than 15W
75	Average Power Consumption During Sleep	Less than 1W (with USB/ LAN / Wi-Fi Wake Up Features)
76	Noise Pressure Levels During Operation	Less than 52db
77	Noise Power Levels During Operation / Standby	Less than 70db / 43db
78	Noise Power Levels During Sleep	Silent
79	Operating Temperature	10 - 30°C
80	Operating Humidity	20% - 80% RH (no condensation)
81	Power Input	AC 220-240 V 50/60 Hz, C13/14 socket
82	Standard Black Toner Cartridge Average Yield	1500 pages (bundledMinimum 1 number with Printer)
83	Standard C/MY Toner Cartridge Average Yield	1200 pages (bundledMinimum 1 number with Printer)
84	Monthly Max Duty Cycle	30000 pages
85	Provision	RFID Card Attachment
86	OEM Recommended Monthly Print Volume	250 - 2500 pages
87	Warranty	Onsite Comprehensive Warranty from OEM including AC Adapter, 60 Month(s)

17.   Laptop USB KVM Console Crash Cart Adapter IT Kit

Sl. No	Component	Specifications
1	Product Type	Laptop USB KVM Console Crash Cart Adapter IT Kit
2	Purpose	Transforms Laptop into an ultra mobile console for servers, computers, kiosks and Cluster
3	Power Requirement	USB bus-powered from Laptop
4	Data Transfer	Bi-directional file transfers between the laptop and target computer
5	OS	Windows, Linux, and Mac systems
6	BIOS Access Driver	Instant BIOS-level access without any software or application installation
7	Laptop Connections	1
8	Laptop USB Console (LUC) Port	1 x USB Mini Type B Female
9	KVM (Computer) Ports	1 x USB Type A Male 1 x VGA Male (Blue)
10	LEDs	1 (Blue)
11	Operating Temperature	0 - 40°C
12	Storage Temperature	-20 - 60°C
13	Humidity	0 - 80% RH, Non-condensing
14	Housing	Plastic or Non-conductor material
15	Weight	0.13 kg (0.29 lb)
16	Dimensions (L x W x H)	7.05 x 5.37 x 3.01 cm (2.78 x 2.11 x 1.19 in.)
17	Other Included Adapters	A DisplayPort to VGA adapter from same OEM An HDMI to VGA adapter from same OEM
18	DisplayPort to VGA adapter Support	VGA, SVGA, XGA, SXGA, UXGA and resolutions up to 1920x1200 (PC) / 1080p (HDTV)
19	DisplayPort to VGA adapter Max. Resolution	1920 x 1200 @ 60Hz (PC) / 1080p (HDTV)
20	DisplayPort to VGA adapter Interfaces	1 x DisplayPort Male , 1 x HDB-15 Female (Blue)
21	DisplayPort to VGA adapter Compliance	DP1.2
22	DisplayPort to VGA adapter Max. Pixel Clock	165 MHz
23	HDMI to VGA adapter Support	VGA, SVGA, XGA, SXGA, UXGA and resolutions up to 1920x1200 (PC) / 1080p (HDTV)
24	HDMI to VGA	Up to 1920 x 1080/60Hz

	adapter Max. Resolution	
25	HDMI to VGA adapter Interfaces	1 x HDMI Type A Male , 1 x HDB-15 Female (Blue)
26	HDMI to VGA adapter Max. Pixel Clock	200 MHz
27	Ease of Use Features	Plug and Play : no software installation required on either side. Toolbar helps users easily operate all the functions from a single-click control panel within the remote view window. Adjustable video settings for optimal picture and performance. USB bus-powered design with hot-plugging support. Virtual media for file transfer, applications, OS patching, diagnostic testing and software installation.
28	Synchronization	Should automatically synchronize the laptop and target computers mouse movements and Keyboard operation.
29	Product Size	Half-palm size, Should be Compact and easy to carry.

18. RJ45 Modular Plug

Sl. No	Component	Specifications
1	Portfolio	CommScope / AMP Preferred
2	Product Type	Modular plug
3	ANSI/TIA Category	6
4	Cable Type	Round, unshielded
5	Conductor Type	Solid | Stranded
6	Interface	RJ45
7	Interface Feature	Keyed
8	Positions/Loaded Contacts	8/8
9	Termination Type	IDC
10	Compatible Cable Diameter, maximum	5.1 mm
11	Compatible Insulated Conductor Diameter, maximum	0.99 mm
12	Compatible Insulated Conductor Diameter, minimum	0.86 mm
13	Contact Plating Thickness	1.27 µm
14	Compatible Conductor Gauge, solid	26–24 AWG
15	Compatible Conductor Gauge, stranded	26–24 AWG
16	Current Rating, maximum	0.75 A
17	Insulation Resistance, minimum	500 mOhm
18	Safety Voltage Rating	150 Vac
19	Contact Base Material	Phosphor Bronze
20	Contact Plating Material	Gold
21	Material Type	Glass filled polycarbonate
22	Plug Insertion Life, minimum	750 times
23	Operating Temperature	14 °F to 140 °F
24	Relative Humidity	Up to 93%, non-condensing
25	Safety Standard	UL 1863
26	Packaging quantity	100
27	**ROHS**	Compliant
28	**CHINA-ROHS**	Below maximum concentration value
29	**REACH-SVHC**	Compliant as per SVHC revision Product Compliance
30	**UK-ROHS**	Compliant

19. Universal Serial Bus Capture Device

Sl. No	Component	Specifications
1	**Product Type**	**USB Capture Device (HDMI to USB)**
	Case Material	Industrial-grade metal chassis
	Supported Transfer Rates	Transfer rate of 5Gbps/1.5/12/480 Mbps
	Power Protection	Over current, over voltage, short circuit protection
	USB Specifications	Fully compatible with USB 2.0/3.0/1.0 specification. Fully backwards compatible with USB 2.0/1.1 specification.
	LED Indicator	For Status for USB peripheral and Status for power from USB host (Should be different color or LED)
2	**Compatibility**	
	Operating System	Windows, MacOS 10.10 or higher, Google,Chromebook , Linux.
	USB Communication Protocol	UVC 1.1
	Video Resolution	720 x 480 (60p), 720 x 576 (50p), 1280 x 720p (50p), 1280 x 720p(60p), 1920 x 1080 (50i), 1920 x 1080 (60i), 1920 x 1080 (24p), 1920 x 1080 (25p), 1920 x 1080 (30p), 1920 x 1080 (50p), 1920 x 1080 (60p), 3840*2160(30/60p for input and loop output.
3	Software	OBS Studio ; Windows Media Encoder ; Adobe Flash Media Live -Encoder ; Real Producer Plus ; VLC ;QuickTime Broadcaster ; QuickTime Player ; Wirecast ; vMix; Potplayer and etc.
	USB Recording Resolution	1080P 60f/ps
4	**Input/Output Interface**	
	USB Interface	1x USB-B 3.0 Upstream Port
	Support on Upstream Port	SuperSpeed (SS), High Speed (HS) and Full Speed (FS) traffic. Note: Trans- fer rates are device and USB host controller dependent.
	Video Input	1x HDMI female port
	Video Output	1x HDMI female port
	Audio Input	1x HDMI female port, 1x TRRS audio jack for microphone signal
	Audio Output	1x HDMI female port, 1x TRRS audio jack for line level audio Note: Audio from TRRS able to convert to USB without the need for an HDMI connection.
5	**Physical Parameter**	
	Power	From USB bus power
	Net Weight	Less the 170 grams
	Certification	CE, FCC, RoHS

20. Universal Serial Bus High Speed Extension Kit

Sl. No	Component	Specifications
1	**Product Type**	**USB High Speed Extension Unit (Remote and Host Side Extender) Using CAT6 Cable**
2	**Physical Parameter**	
	Case Material	Industrial grade Metal Chassis with metal brackets
	Weight	Max 110g each (Remote and Host Side Extender)
	Power Protection	Over current, over voltage, short circuit protection
	Power Input	AC 100-240V 50/60Hz (DC 12V 1A), Both the Host and Client extender able to powered by the single power source without additional cables
	Power Consumption	Max 2.5W
	CAT Port	RJ45 (For connect Remote and Host Side Extender)
3	**USB Specifications**	
	Supported Transfer Rates	Transfer rate up to 480 Mbps
	Power Protection	Over current, over voltage, short circuit protection
	USB Specifications	Fully compatible with USB 2.0 and fully backwards compatible
	LED Indicator	Minimum 1 x LED to show the Status
	Ports	Minimum 2 x Female USB 2.0 A (Remote Side Extender), 1 x Female USB 2.0 B (Host Side Extender)
4	**Features**	
	Operating System	Windows, macOS 10.10 or higher, Google Chromebook, Linux
	USB Charging Protocol	Without host connection remote connected USB devices able to charge when external power supply is connected
	USB Communication Protocol	Will pass UVC 1.1 signals and communication
	Expansion:	Extend minimum two USB 2.0 peripherals 50 meters using one CAT6 cable and should support various USB peripherals to laptop or personal computer such as web cameras, microphones, memory cards reader and disk drives.
	Support on Down/Upstream Port:	Should support HighSpeed (HS), FullSpeed (FS) and LowSpeed (LS) traffic
	USB Data Transfer Types:	Should support all USB data transfer rates including Isochronous and Bulk.
	Plug and Play	Should support all operating systems (Windows, MacOS, Android, Linux) without additional driver or software.

21.   Power Source Extension Work

This Scope of Work (SOW) outlines the requirements and responsibilities for the supply and installation of power cables in accordance with the given specifications.

- The supplier shall ensure that all power cables are brand new, free from defects, and comply with safety and quality standards.
- The installation of power cables shall be carried out by a certified and experienced team of technicians.
- Installation shall be done in compliance with the following:
  - Local electrical codes and regulations
  - ICTS project requirements
  - Manufacturer's guidelines
- Proper cable routing, support structures, and protection measures shall be employed to ensure safety and longevity.
- Termination and jointing of cables shall be performed professionally to maintain electrical integrity.
- Upon completion of cable installation, thorough testing and commissioning shall be conducted to verify the integrity and functionality of the power distribution system.
- Testing shall include, but not be limited to:
  - Insulation resistance testing
  - Voltage withstand tests
  - Continuity testing
  - Grounding tests
- All testing and commissioning activities shall be documented, and records shall be provided to the ICTS project manager.

Sl. No	Component	Specifications	Qty	Unit
1	Work Title	Power Source Extension Work		
2	Cable Type-1	16 sqmm 4 Core PVC Sheathed Copper Flexible Cable (Polycab / Finolex / Lagrand)	100	MTR
3	Cable Type-2	6 sqmm 3 Core PVC Sheathed Copper Flexible Cable (Polycab / Finolex / Lagrand)	30	MTR
4	Cable Type-3	6 sqmm 1 Core Cable - Green (For Grounding) - (Polycab / Finolex / Lagrand)	100	MTR
5	PVC Cable Gland	PVC Cable Gland for 16 SQ.MM 4 core cable	8	NO
6	Lugs Type-1	Tinned Copper Lugs for 16 sqmm Cable (Type as per site requirement)	8	NO
7	Lugs Type-2	Tinned Copper Lugs for 6 sqmm Cable (Type as per site requirement)	36	NO
8	3 Phase Industrial Socket, Plug and Db box	230V, 32A industrial plug and socket (3P+N+E-FP-507862) with DB/terminal box	2	NO
9	Protection Device	32A TPN MCB	2	SET
10	Slotted C Channels	Small size, for mounting Terminal box and cable tray	5	MTR
11	Black Pipe	25MM HMS Conduct	12	MTR
12	Spray paint	400 ml MAT Black Paint Spray	2	NO
13	Bolts	Bolt for hanging tray on threaded rod (Pre installed)	1	LOT

14	Cable Tray and cover	From stock(Center will arrange, Installation in bidder scope)	0	MTR
15	Single phase Industrial Plug	For replacing existing molded PDU cable, Existing socket will be Used	4	NO
16	Netted Cable Tray	Netted (Should match with network room existing profile)	2	MTR
17	Velcro	Dual sided Black color - one side hook, another side loop. Non tread model. For dressing the cable on netted tray	1	ROLL