EMERGING TECHNOLOGIES LAB

Request for Proposal (RFP)

For

Procurement of

Hardware & IT Equipment

EMERGING TECHNOLOGIES LAB

Government of Pakistan

Web: www.quantum.gov.pk

Email: procurement@quantum.org.pk

Dec 2025

Emerging Technologies Lab, Office No. 107, 1st Floor, Evacuee Trust Complex,
F-5/1, Agha Khan Road, Islamabad

REQUEST FOR PROPOSAL (RFP)

CORRIGENDUM

With reference to PPRA Tender No's. **F-25121466055** advertised in newspaper on **10 Dec 2025** as well as on Emerging Technologies Lab and PPRA Websites for procurement of followings:

"Request for Proposal (RFP) For Procurement of Hardware & IT Equipment"

Activity	Date & Time
RFP Released	10 Dec 2025
RFP Bid Submission Date and Time **(Old)**	30 Dec 2025, 1030 hrs
Pre-bid meeting (New)	**7 Jan 2026, 1400 hrs**
RFP Bid Submission (New)	**15 Jan 2026, 1030 hrs**
Opening of Technical Bids	**15 Jan 2026, 1100 hrs**
Opening of Financial Bids	**23 Jan 2026, 1100 hrs**

It is intimated that the last date of submission of bids has been **extended** with defined IT Equipment and Additional Items.

Bids shall be submitted on **EPADS online system** available on PPRA Website else bidder shall be disqualified on spot.

Haseeb Akbar
Procurement Manager
Emerging Technologies Lab
Phone # 03219112230
Email: procurement@quantum.org.pk

EMERGING TECHNOLOGIES LAB

INVITATION TO BIDS

1. Emerging Technologies Lab, a PSDP project of Ministry of Defence, Government of Pakistan, invites sealed bids from the firms/ general order supplier/ companies registered with Income Tax, Sales Tax Departments and who are on FBR's Active Taxpayer's List (ATL) for **Procurement of Hardware and IT Equipment** to Emerging Technologies Lab, Islamabad through EPADS.
2. Bidding documents containing detailed terms and conditions, method of procurement, etc may be obtained from the Office of the undersigned on payment of **Rs.3000/- (Rupees Three Thousand only)** non-refundable. Bidding documents can also be downloaded from ETL's website www.quantum.gov.pk and EPADS/ PPRA (Pay order of Rs.3000/- may be attached in case downloaded from website).
3. The bid prepared in accordance with instructions in the bidding documents, along with **Bid Security/ Earnest money of 2% of the total bid value in the shape of Bank draft/ Pay order** drawn in favour of Emerging Technologies Lab may reach Office of the undersigned by **Jan 15, 2026 at 1030 hours via EPADS.** Technical bids will be opened on the **Jan 15, 2026 at 1100 hours** in the presence of representatives of the bidders and financial bids will be opened on **Jan 23, 2026 at 1030 hours.**
4. As per PPRA Rules 33(1), 2004, Emerging Technologies Lab, Government of Pakistan, has the right to reject any or all bids/ proposals at any time prior to the acceptance of a bid/ proposal.
5. Bids shall only be submitted on EPADS online system available on PPRA Website else bidder shall be disqualified on spot.

Haseeb Akbar
Procurement Manager
Emerging Technologies Lab
Office No. 107, 1st Floor, Evacuee Trust Complex,
F-5/1, Agha Khan Road, Islamabad
Phone # 03219112230
Email: **procurement@quantum.org.pk**

1. Executive Summary

Emerging Technologies Lab (ETL) is a PSDP funded project focused on Quantum Technologies. The core objective of this project is to **establish capability to initiate indigenous design and development** of specialized hardware, software and new cyber security **solutions to counter Quantum computing threats**. The lab will undertake **innovative** initiatives in **cryptographic, communication, computing and other domains**.

This Request for Proposal (RFP) solicits proposals from companies, service providers & vendors who can provide Hardware and IT Equipment. This information should include, but not limited to, the history of the organization, its experience, financials, technical capabilities, and experience for providing similar success stories.

2. Mandatory Terms & Conditions

Following are the General Terms of References for collaborative proposal of QRNG:

General terms and conditions compliance	Yes/No
The RO must be **registered in SECP**, incorporation certificate should be provided.	
RO must be registered with the **FBR sales tax** and should have a valid **NTN** number. Copies of the certificates must be provided with the bid.	
A bid bond, in the shape of a **Bank Draft/Pay Order** in the name of the **"Project Director, Emerging Technologies Lab"**, for an amount of **2% of bidding amount**/-.	
RO shall submit an affidavit on stamp paper of **PKR 100/-,** that the company/ individual is not blacklisted by any federal, provincial public sector organization	
RO and its **employees** involved in the execution of this contract must obtain and **maintain security clearance from relevant Law Enforcement Agencies (LEAs).** The company must possess **valid clearance certificates** for itself **and its designated employees**.	
Bidder must provide Certificate that the **bidder will ensure all source code** and detailed **hardware designs handover** (where necessary). (Certificate has to be attached)	
Detailed documentation should be provided, including user manuals, technical guides, and troubleshooting procedures etc.	
RO must provide an undertaking that the proposed solution (including its components): • Does not contain any back-doors or any hidden elements. • Is free from any vulnerability at the date of submission of proposal and subsequently at the time of delivery. • Is customizable according to the requirements.	

3. Scope of Work, Timeframe & Penalties

The scope of this RFP includes the supply, delivery, installation, configuration and testing of **hardware and IT equipment specified at Annexure-I**, ensuring functionality and compliance with the required technical specifications. The vendor shall provide the necessary documentation, user manuals, and initial training to the concerned staff. Moreover, Vendor is bound to provide the

required equipment within 30 days from the issuance of purchase order. Delays, non-compliance, or failure to meet agreed deliverables will attract penalties as defined in the contract, including but not limited to liquidated damages, withholding of payments, or termination of the agreement.

4. Timeframe

Milestone	Date & Time
RFP Released	**10 Dec 2025**
RFP Bid Submission Date and Time (old)	**30 Dec 2025, 1030 hrs**
Pre-bid meeting (New)	**07 Jan 2026, 1400 hrs**
RFP Bid Submission (New)	**15 Jan 2026, 1030 hrs**
Opening of Technical Bids	**15 Jan 2026, 1100 hrs**
Opening of Financial Bids	**23 Jan 2026, 1100 hrs**

As a result of this Request for Proposal, ETL may do one of the following at its discretion:

- Award a contract for this Request for Proposal on the basis of prescribed technical evaluation criteria and financial comparison (lowest bidder).
- Cancel the whole process.

5. Proposal

This is **"SINGLE STAGE TWO ENVELOPE BIDDING PROCEDURE"** as per PPRA rules. The bidders shall submit their proposals in one sealed envelope containing two different separate sealed envelopes marked as **"Technical Proposal"** and "**Financial Proposal".** Only Technical envelope will be opened in the presence of bidders and financial proposal envelops will stay in ETL custody till the opening of financial bids. After Technical scrutiny, bidders may be asked for revised technical and supplementary financial proposals. Financial proposals from bidders that met the technical qualification score will be opened in front of bidders. Final date of opening of Financial Bids which will be communicated to all the bidders in advance. Further final evaluation reports containing technical and financial evaluation will be published on ETL website and PPRA as well. After the finalization of evaluation, the successful bidder will be issued "**Letter of Intent"** which will be followed by the Service agreement and Service order.

6. Preparation of Bids

6.1. The bid bond is to be enclosed in a separate envelope, labelled as "**Bid Bond**" and should be sealed. It must be ensured that the bid bond should be in the same envelope as the "**Technical Proposal**".

6.2. The envelope for financial proposals should be marked "**Financial Proposal**" and submitted according to **Annexure-II**. Two hard copies of the technical proposal and financial proposal are required. Soft copies (in USB) of both the technical proposal and financial proposal must be provided along with their respective envelopes.

6.3. There will be **02 envelopes** marked as **"Original Technical Proposal"** and "**Copy of Technical Proposa**l" respectively, soft copy should be part of the original technical proposal.

6.4. RO should duly fill in and submit all the attached bid forms stamped and signed. **In case of any discrepancy or absence** of any sort of information ETL has the right to disqualify the RO immediately.

6.5. A bid bond, in the shape of a **bank draft/Pay Order** in the name of the "Project Director, Emerging Technologies Lab, for an amount of **2% of bidding amount**/-.

6.6. RO shall submit an affidavit on stamp paper of **PKR 100/-,** that the company is not blacklisted by any federal, provincial public sector organization.

6.7. All proposals and prices shall remain valid for **120 days** from the closing date of the submission of the proposal.

6.8. RO shall provide prices in PKR.

6.9. Hardware equipment should have **1x year local warranty**, including parts and labor with onsite support including patch updates and bug fixes.

6.10. The end-user licenses, end-user warranties and end-user contracting support services will be in the name of the ETL, for all the equipment and software loaded on the equipment delivered during the project.

6.11. RO should supply the equipment in the given time mentioned in "**Clause 3**" of this RFP.

7. Pre-Bid Meeting

A pre-bid meeting will be held in the premises of the ETL, below mentioned address "Emerging Technologies Lab, Office No. 107, 1st Floor, Evacuee Trust Complex, F-5/1 Agha Khan Road, Islamabad on **7 Jan 2025 at 1400 hrs**. All queries relating to RFP should be emailed to procurement@quantum.org.pk as per given timelines. Answers to the submitted queries shall be given in the pre-bid meeting and will be emailed to all the participants of the pre-bid meeting (if-required). Queries raised in pre-bid meetings will be answered through email to all the participants within 24 - 48 hours of the pre-bid meeting.

You may contact following person, if you have any questions or require clarification on any topics covered in this request for proposal.

Haseeb Akbar
Designation: Procurement Manager
Email: haseeb@quantum.org.pk
Phone Number: 03219112230
Address: Emerging Technologies Lab,
Office No. 107, 1st Floor, Evacuee Trust Complex, F-5/1, Agha Khan Road, Islamabad

8. Submission of Bids

Proposals shall be delivered by hand or courier to the address given below "Emerging Technologies Lab, Office No. 107, 1st Floor, Evacuee Trust Complex, F-5/1, Agha Khan Road, Islamabad" before the date and time i.e. **15 Jan 2026, 1030 hrs**. RO must also ensure uploading of bids on **EPADS** system. Technical bids will be opened on the same day i.e. **15 Jan 2025, 1100 hrs**. Proposals received by fax or email shall not be accepted. The proposal should be addressed to **"Project Director, Emerging Technologies Lab**".

9. Technical Bid Evaluation

There will be a technical evaluation. **Preliminary evaluation** (Initial Screening) of technical bids will be done on the basis of following criteria:-

9.1. RO must provide the name of the organization, details of offices, workplace, working facility, etc. across Pakistan and the location of the head office, if any, the size of the company (number of employees) etc.

9.2. RO shall comply with all PPRA requirements.

9.3. The RO must be registered with **FBR for sales tax** and should have a **valid NTN number**. Copies of the certificates must be provided with the bid.

9.4. RO is to provide information as per the template available at **Annexures I** & **II**.

9.5. RO should not propose any kind of refurbished, used, end-of-life, or near-end-of-life equipment in their proposals.

9.6. RO shall be responsible for payment of any **duties/taxes etc**. that are applicable during the tenure of the project. The bid price must be inclusive of all taxes. The RO is hereby informed that the government shall deduct tax at the rate prescribed under the tax laws of Pakistan, from all payments for services rendered by any RO that signs a contract with the government.

9.7. On-site **installation** & **relevant services** are to be provided by the vendor.

9.8. RO may provide completed and ongoing projects in the form of a completion certificate or list or a purchase order document.

9.9. The following documents/evidence should be attached in support of the Technical Proposal Evaluation as per the above criteria:

- Copies of NTN Registration with Income Tax, Sales Tax Departments and who are on FBR's Active Taxpayer's List (ATL).
- Experience Certificates
- Authorized Partner/OEM Certificates, where applicable.
- Detailed Product Specifications

9.10. Support center/staff should be available locally with respect to the quoted item.

Detailed technical evaluation will be done for firms who qualify the preliminary evaluation mentioned above. In detailed technical evaluation the Evaluation & Award Committee will verify the compliance with specifications mentioned in Annexure-I. Any bid containing less specifications will be rejected.

10. Financial Bid Evaluation

Financial bids of the technically qualified RO will be opened before the representatives who wish to attend the tender opening. Financial bids will be opened only for those vendors only who qualify (meet the specifications) in technical and detailed technical evaluation.

11. Notification of Award

The procuring agency will notify the successful bidder in writing that the bid has been accepted. The notification of award shall constitute the formation of the "Contract" between the procuring agency and the successful bidder. The enforcement of the contract shall be governed by Rule 44 of the PPRA.

12. Signing of Contract

After the notification of the award, the procuring agency shall send the successful bidder the contract form/document. The contract shall become effective upon affixation of the signature of the procuring agency and the successful bidder on the contract document. If the successful bidder, after completion of all codal formalities, shows an inability to sign the contract then bid security shall stand forfeited and the bidder's organization may be blacklisted and de-barred from future participation.

13. Performance Security

The successful bidder should provide a performance security or performance insurance security upon execution of the contract, a sum equivalent to five percent (5%) of the contract value, this security shall be issued from a scheduled bank/insurance company operating in Pakistan and shall be kept valid from the date of issue, and should cover the warranty period after all contractual obligations have been fulfilled. The bid security submitted by the successful bidder shall be returned

upon submitting the performance security. Failed to provide performance security by the successful bidder, is sufficient ground for annulment of the award and forfeiture of bid security.

14. Penalty Clause

The RO is bound to make delivery of proposed solution within the delivery timelines mentioned in “Clause 03” of this RFP. In case of failure then the procuring agency may cancel the contract and forfeit its performance security. The RO is bound to ensure the proposed solution is in line with the technical specifications mentioned in the bidding document, while technical inspection will be carried out by the technical team, on the premises of the procuring agency.

15. Redressed of Grievances by the Procuring Agency

15.1. ETL has constituted a committee comprising of odd number of persons, with proper powers and authorizations, to address the complaints of bidder that may occur prior to the entry into force of the procurement contract.

15.2. Any Redressal of grievances and settlement of disputes shall be done according to Section 48 of Public Procurement Rules, 2004.

15.3. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.

16. Corrupt or Fraudulent Practices

16.1. Definition of the terms set forth below for the purposes of this bidding document, shall be according to Public Procurement Rules, 2004.

16.2. PPRA 2004 Rule 2(1) f: "corrupt and fraudulent practices" in respect of procurement process, shall be either one or any combination of the practices including:

16.2.1. "**Coercive Practices**" which means any impairing or harming or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;

16.2.2. "**Collusive Practices**" which means any arrangement between two or more parties to the procurement process designed to stifle open competition for any wrongful gain, and to establish prices at artificial, non-competitive levels;

16.2.3. "**Corrupt Practices**" which means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;

16.2.4. "**Fraudulent Practices**" which means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation; and

16.2.5. "**Obstructive Practices**" which means harming or threatening to harm, directly or indirectly, persons to influence their participation in a procurement process, or affect the execution of a contract.

17. Implementation & Payment Schedule

Payment plan with percentages include govt or other taxes as per government rules at the time of payment. All payments shall be made through cross cheque in Pak Rupees.

Ser	Milestone	Period	Payment
1.	Supply of all Hardware and Software	Within **4x weeks** from the date of signing of contract/issuance of purchase order	40%
2.	Installation, Configuration Commissioning, Training	Within **2x week** after delivery	30%

3.	Final Acceptance	**4x Weeks** after delivery	20%
4.	After sales support	Warranty and perpetual license for software components of each item should be offered by vendor for **1x year**	10%

Transactions will be structured in instalments. **Multiple purchase orders** may be issued **as per Annexure-I.**

18. Procurement terms and Discretionary Rights

18.1. **Quantity Flexibility:** ETL reserves the right to increase or decrease the quantity of items to be procured at its sole discretion.

18.2. **Right to Cancellation:** ETL may cancel any or all items at any time without prior notice.

18.3. **Budget-Based Procurement:** Purchase Orders (POs) will be issued subject to the availability of budget.

18.4. The date for opening the financial bids is subject to change depending on the completion of the technical evaluation and the resolution of any related grievances or clarifications.

18.5. **Item Pricing Option:** The Supplier may offer items either on a cost-per-item basis or as standalone units. ETL reserves the right to evaluate and select items individually or collectively, based on cost-effectiveness, technical suitability and project requirements.

18.6. **Timeline:** Timeline mentioned in clause 4 must be followed.

18.7. **Clarifications/ Queries:** Any clarification regarding bidding process or required items will be entertained until the uploading of minutes of pre-bid meeting. No further clarification will be given.

Annexure-I

19. Technical Specification (Minimum)

Ser	Items	Specification	Qty
1.	Managed **Layer-3 stackable 24 × Multi-Gigabit Ethernet ports** supporting **1G / 2.5G / 5G / 10G**	• **Device Type:** Managed Layer-3 stackable Ethernet switch • **Access Connectivity:** Minimum 24 × Multi-Gigabit Ethernet ports supporting 1G / 2.5G / 5G / 10G • **10 Gigabit Connectivity:** Minimum 4 × 10 Gigabit SFP+ ports • **High-Speed Uplinks:** Minimum 4 × 25 Gigabit SFP28 ports for uplink and/or stacking • **Stacking Capability:** Support for physical stacking • **Physical Stack Size:** Minimum 9 switches per physical stack • **Virtual Stacking:** Support for virtual stacking or equivalent centralized management of multiple switches • **Virtual Stack Scale:** Ability to logically manage up to 32 units or equivalent • **High Availability:** Support for stack-level redundancy and high availability mechanisms • **Advanced Layer-3 Routing:** Support for OSPF and RIP / RIPng • **Multicast Support:** IGMP v1 / v2 / v3 and MLD v1 / v2 • **VLAN Technologies:** Support for 802.1Q VLAN tagging and Q-in-Q (VLAN stacking) • **Redundancy Protocols:** Support for VRRP or equivalent first-hop redundancy protocol • **Ethernet OAM:** Support for 802.3ah, 802.1ag, and Y.1731 Operations, Administration, and Maintenance • **Data Center Bridging:** Support for Priority-based Flow Control (PFC) as per IEEE standard • **Flow Control Mechanism:** Intelligent lossless Ethernet or equivalent traffic control mechanism • **Zero Touch Provisioning**: Support for Zero-Touch Provisioning (ZTP) or automated device onboarding • **QoS Capabilities:** Advanced QoS with traffic prioritization and congestion management • **Management Interfaces:** CLI-based management with out-of-band access support • **Software Capabilities:** Enterprise-grade Layer-2 and Layer-3 feature set • **Licensing Model:** Perpetual or Right-to-Use licensing (no mandatory subscription) • **Warranty:** Minimum 1-year standard hardware warranty • **Support:** OEM or authorized partner technical support • **Service:** Installation and configuration • **Compliance:** End-of-Life (EOL) / End-of-Support (EOS) products (in next 2x Years) not acceptable. • **Additional Instructions:**	**01**

		• The proposed switch shall fully comply with the provided technical specifications or be an equivalent or higher-end model with equal performance, capacity and functionality. • A technical demonstration (demo) shall be conducted after submission of the technical proposal to verify integration, interoperability, compatibility, and basic feature functionality with the existing laboratory equipment and network environment. • The initial quantity shall be one (01) unit; however, the procuring authority reserves the right to increase the quantity at the time of final procurement based on project requirements and budget availability. • The bidder shall quote and supply four (04) compatible optical transceivers (2x10 GBSFP+, 2x 25GB SFP28, as applicable). • A detailed line-by-line compliance statement must be submitted for the proposed model, clearly indicating compliance, partial compliance, or deviation against each technical specification item. ***(Equivalent)***	
2.	**Managed Layer-2 / Layer-3 Access Switch**	• **Device Type:** Managed Layer-2 / Layer-3 Access Switch • **Deployment:** Standalone operation with optional physical stacking • **Intended Use:** Enterprise LAN access environment • **Ethernet Ports:** Minimum 48 × 10/100/1000 Mbps RJ-45 ports • **Uplink Ports:** Minimum 2 × 10 Gigabit Ethernet SFP+ ports • **Console Port:** Minimum 1 × dedicated console port (RJ-45 or USB) for CLI management • **Switching Capacity:** Minimum 175 Gbps • **Forwarding Rate:** Minimum 100 Mpps • **Stacking Bandwidth:** Minimum 160 Gbps • **Maximum Stack Size:** Minimum 8 switches • **MAC Address Table:** Minimum 32,000 entries • **IPv4 Routing Table:** Minimum 24,000 routes • **Flow Monitoring Capacity:** Minimum 48,000 concurrent flows • **System Memory (RAM):** Minimum 4 GB • **Flash Storage:** Minimum 2 GB • **VLAN Support:** Minimum 4,094 VLAN IDs • **Switched Virtual Interfaces (SVIs):**Minimum 1,000 • **Jumbo Frame Support:** Minimum 9,000 bytes • **QoS Support:** Hierarchical QoS with CoS / DSCP classification • **Traffic Management:** Queuing, policing, shaping, and traffic marking • **Network Security:** IEEE 802.1X, DHCP Snooping, IP Source Guard • **Control Plane Security:** Control Plane Protection • **High Availability:** Active / Standby or equivalent failover mechanism • **Stack Management:** Single logical management (single IP & configuration) • **Power Supply:** Internal AC power supply	**04**

		• **Power Rating:** Approximately 250W
		• **PoE Support:** Not required
		• **Redundant Power:** Optional, field-replaceable
		• **Form Factor:** 1U, rack-mountable
		• **Cooling System:** Modular or hot-swappable fans
		• **Mounting Accessories:** Rack-mounting kit must be included with the switch
		• **Software Features:** Layer-2 switching and Layer-3 routing
		• **Licensing Model:** Perpetual or Right-to-Use (no mandatory subscription)
		• **Software Upgrades:** Available during support lifecycle
		• **Warranty:** Minimum 1-year standard hardware warranty
		• **Support:** OEM or authorized partner technical support
		• **Service:** Installation and configuration
		• **Compliance:** End-of-Life (EOL) / End-of-Support (EOS) products (in next 2x Years) not acceptable
		• **Additional Instructions:**
		  • The proposed switch shall fully comply with the provided technical specifications or be an equivalent or higher-end model with equal performance, capacity and functionality.
		  • The initial quantity shall be one (04) unit; however, the procuring authority reserves the right to increase the quantity at the time of final procurement based on project requirements and budget availability.
		  • The bidder shall quote and supply two (02) compatible optical transceivers (2x10 GB SFP+), as applicable).
		  • A detailed line-by-line compliance statement must be submitted for the proposed model, clearly indicating compliance, partial compliance, or deviation against each technical specification item.	

3.	**RAM for Laptops Lenovo V-15**	• 32 GB • DDR4, 3200, Gen-4 • 1 year warranty	**10**
4.	**RAM for Laptops HP 440 G10**	• 32 GB • DDR4, 3200, Gen-4 • 1 year warranty	**8**
5.	**RAM for Desktops Lenovo TC Neo 50T**	• 32 GB • DDR4, 3200, Gen-4 • 1 year warranty	**30**
6.	**RAM for Lenovo ThinkBooks 21KH**	• 32 GB • DDR5, 6500, Gen-4 • 1 year warranty	**10**
7.	**RAM for Lenovo ThinkBooks 21KG**	• 32 GB • DDR5, 6500, Gen-4 • 1 year warranty	**08**

8.	**RAM for Desktop Dell Vostro 3020 T**	• 32 GB • DDR4, 3200, Gen-4 • 1 year warranty	**18**
9.	**Desktop Lenovo TC Neo 50T**	• 64 GB • DDR4 , 3200,256 GB SSD NVMe +1TB HDD SATA • Windows 11 Pro Licensed 2024 Anti-Virus Included • Accessories : Adapter , Power Cable Included	**10**
10.	**LED Monitor 27 Ease ” O27110 FHD 4K**	• 27” FHD 4K IPS Display • Resolution 1920 x 1080	**10**
11.	**5 port 10/1000Mbps Desktop Switch (Tenda S-105)**	**Plug & Play Fast Ethernet Switch** • No configuration required, instant use • 5× 10/100Mbps auto-negotiation ports • Smooth gaming, HD video & IP camera streaming • Mini, stylish design (S105 smaller than a card) • Wall or desktop mounting • Low power, energy-saving • Compatible with PCs, TVs, printers, NAS & consoles	**2**
12.	**8-port 10/1000Mbps Desktop Switch (Tenda S-108)**	**Plug & Play Fast Ethernet Switch** • No configuration required, instant use • 8× 10/100Mbps auto-negotiation ports • Smooth gaming, HD video & IP camera streaming • Mini, stylish design (S108) • Wall or desktop mounting • Low power, energy-saving • Compatible with PCs, TVs, printers, NAS & consoles	**4**
13.	**Wifi Router TL-WR845N**	• 300Mbps wireless speed ideal for interruption sensitive applications like HD video streaming • Three antennas greatly increase the wireless robustness and stability • Easy wireless security encryption at a push of WPS button • IP based bandwidth control allows administrators to determine how much bandwidth is allotted to each PC • Compatible with IPv6 -the more recent Internet Protocol version • TP-LINK Tether App allows quick installation and easy management using any mobile device	**2**
14.	**Logitech Keyboard/Mouse Wireless Model MK -220**	Standard/ Each	**4**
15.	**Keyboard/Mouse Wired**	Standard/ Each	**10**
16.	**Eksa Headphone H12E**	Standard	**1**
17.	**Wireless Vogue.3, 2 in 1 Headphone and speaker**	Standard	**1**
18.	**USB Sandisk Ultra shift 64GB**	Standard	**4**
19.	**1TB External HDD WD**	Standard	**1**

20.	**HDMI Cable 4K Ultra HD, 5M, SL-V18**	Standard	**8**
21.	**Extension Sockets**	6 Port	**12**
22.	**Indigenous ActiveDevOps Next Generation Firewall (NGFW)**	**a. General & Indigenous Requirements** • **Product Type:** Indigenous Next-Generation Firewall (NGFW) • **Development Origin:** 100% Locally Indigenous Developed • **Source Code Ownership:** Complete source code with IP ownership to procuring authority • **Licensing Model:** No foreign or recurring license dependency • **Cloud Dependency:** Not permitted; offline operation mandatory • **Customization Rights:** Full modification and enhancement rights • **Deployment Models:** Hardware Appliance, VM, Bare-metal **b. Performance & Capacity** • **Firewall Throughput (L7)** ≥ 4 Gbps • **Threat Prevention Throughput** ≥ 2 Gbps • **Firewall Throughput (L3)** ≥ 10 Gbps • **IPSec VPN Throughput** ≥ 500 Mbps • **New Sessions per Second** ≥ 50,000 • **Concurrent Sessions** ≥ 500,000 • **SSL/TLS Decrypt Sessions** ≥ 15,000 • **Maximum Policies** ≥ 5,000 **c. Active / DevOps Firewall Capabilities** • **Runtime Policy Updates:** Supported without service restart • **Policy as Code:** YAML / JSON • **CI/CD Integration:** Mandatory • **Version Control:** Mandatory • **Blue-Green / Canary Deployment:** Supported • **Automated Rollback:** Supported **d. Interfaces & I/O** • **Ethernet Interfaces** : ≥ 12 x 1G Ethernet • **Optical Interfaces:** ≥ 4 x 10G SFP+ • **Management Interface:** Dedicated out-of-band port • **HA Interfaces:** Dedicated HA sync & heartbeat • **Console:** RJ-45 / USB **e. Interface Modes** • **Layer 2 Mode:** Supported • **Layer 3 Mode:** Supported • **Virtual Wire Mode:** Supported • **Monitor Mode:** Supported **f. Routing & Networking** • **Routing Protocols:** Static, OSPF, BGP • **Policy Based Forwarding:** Supported • **PPPoE:** Supported • **Jumbo Frame:** ≥ 9,000 bytes • **Multicast:** PIM-SM, PIM-SSM, IGMP v1/v2/v3 **g. VLANs & Aggregation** • **VLAN Standard:** IEEE 802.1Q	**01**

		• **Maximum VLANs:** ≥ 4,000 • **Sub-Interfaces:** Supported • **Link Aggregation:** IEEE 802.3ad (LACP) **h. NAT / PAT** • **Static NAT:** 1:1 • **Dynamic NAT:** N:N • **PAT:** Supported • **NAT64:** Supported **i. VPN & Remote Access** • **IPSec Tunnels:** ≥ 2,000 • **Key Exchange:** IKEv1 / IKEv2 • **Encryption:** AES-128 / 192 / 256 • **SSL VPN Users:** ≥ 2,000 • **Multi-Factor Authentication:** Supported • **Certificate Authority:** Local / Internal CA **j. Application & User Awareness** • **Application Identification:** Indigenous DPI-based engine • **User Identification:** LDAP, Active Directory, Local IAM • **Custom Protocol Support:** Supported **k. Threat Prevention (Locally Developed)** • **IDS / IPS:** Signature + Behavioral • **Malware Detection** : Local, offline capable • **Exploit Protection:** Supported • **Protocol Anomaly Detection:** Supported • **DDoS Protection:** Supported **l. File, Data & URL Filtering** • **File Type Inspection:** ≥ 60 file types • **Data Pattern Matching:** Custom patterns • **URL Filtering:** Locally maintained database • **Offline Updates:** Supported **m. High Availability** • **HA Modes:** Active/Active, Active/Passive • **Session Synchronization:** Stateful • **Failure Detection:** Interface & Path monitoring **n. Management & Visibility** • **Management Access:** Web GUI, CLI • **APIs:** REST / gRPC • **Logging:** Syslog, NetFlow, SNMP • **Central Management:** Indigenous solution • **Reporting:**Custom & exportable **o. Hardware & Platform** • **CPU Architecture:** x86-64 • **Packet Acceleration:** DPDK / XDP / eBPF • **Crypto Offload:** Supported • **Internal Storage:**≥ 120 GB SSD **p. Security Development & Assurance** • **Secure SDLC:** Mandatory • **Code Review & Audit :** Mandatory • **Reproducible Builds:** Mandatory • **Vulnerability Handling:** Defined patching process **q. Compliance**	

		• **Pakistan Security Standard (PSS):** Mandatory compliance • **Government / Defence: Guidelines:** Mandatory • **Safety Standards:** Local standards	

20. Installation, Configuration, and After-Sales Support

1. The successful bidder shall be responsible for complete delivery, installation, and commissioning of all supplied IT equipment at the designated site(s) in coordination with the procuring authority.
2. The bidder shall perform full configuration and setup of the equipment as per approved technical specifications, ensuring proper integration, interoperability, and functionality within the existing network and IT environment.
3. Post-installation testing and verification shall be conducted to ensure that all equipment operates according to specified performance and functional requirements. A formal commissioning and acceptance report shall be submitted upon completion.
4. The bidder shall provide comprehensive after-sales support, including troubleshooting, maintenance, firmware/software updates, and corrective actions during the warranty and support period.
5. Qualified technical support personnel shall be made available for issue resolution, with defined response and resolution timelines as agreed with the procuring authority.
6. Basic operational handover, documentation, and knowledge transfer to the designated technical staff of the procuring authority shall be provided after installation and configuration.

Annexure-II

21. Format for Financial Proposal

Ser	Item	Specifications	Qty	**Unit Price** (Inclusive of all applicable taxes)	Tax Amount	**Total Cost** (Inclusive of all applicable taxes)

BID FORM-01

Bid Ref No. _____
Date of the Opening of Technical Bid

Letter of Intent

Name of the Tender: { }

To: [The Project Director, Emerging Technologies Lab, Islamabad]

Dear Sir

Having examined the bidding documents, we offer to supply and deliver the goods under the above-named contract in full conformity with the said bidding documents and at the rates/unit prices described in the price schedule provided in the financial bid or such other sums as may be determined by the terms and conditions of the contract. The above amounts are by the Price Schedules attached herewith and are made part of this bid.

We undertake, if our financial bid is accepted, to deliver the goods following the delivery schedule specified in the schedule of requirements.

If our financial bid is accepted, we undertake to provide a performance security/guarantee in the form, in the amounts, and within the times specified in the bidding documents.

We agree to abide by this bid, for the bid validity period specified in the bidding documents and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

Until the formal final contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest or any financial Bid you may receive. We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in Pakistan.

Dated this [insert: number] day of [insert: month], [insert: year].

Signed:

In the capacity of [insert: title or position]

Duly authorized to sign this bid for and on behalf of [insert: name of Bidder]

BID FORM-02

Name of the Firm
Bid Reference No: _____
Date of opening of Bid.

Documentary Evidence for Determining Eligibility of the Bidders & Evaluation of Bids. Bidders should only initial against those requirements that they are attaching with the form. Bidders are required to mention the exact page number of relevant documents placed in the Bid. Bidders are advised to attach all Supporting documents with this form in the order of the requirement as mentioned in column 1.

Required Documentation	Signature of Bidder	Supporting Document's Name	Page Number in the Bid
SECP Registration			
NTN Certificate			
GST Certificate			
On Active Tax Payers List of FBR			
Incorporation Certificate			
Complete Company profile			
Operational Office in Islamabad			
Affidavit: bidder is not blacklisted by any federal, provincial public sector organization.			
MAL certificate (Verifiable)			
The bid validity period of 120 days			
Compliance with a schedule of requirements			
Submission of the required amount of bid security along with technical bid			
Compliance with technical specifications			
OEM warranty: 01-year & onsite support			
Technical brochures/data sheets			
Original bidding documents duly signed/stamped			

BID FORM-03

MANUFACTURER'S AUTHORIZATION*

To: [Project Director, Emerging Technologies Lab, Islamabad]

WHEREAS [name of the Manufacturer] who are established and reputable Manufacturers of [name and/or description of the goods] having factories at [address of factory] do hereby authorize [name and address of Supplier/Agent] to submit a bid, and subsequently sign the Contract with you against the Invitation for Bids (IFB) No._____for the goods manufactured by us.

We hereby extend our full guarantee and warranty as demanded for the goods offered for supply by the above firm against this Invitation for Bids.

Signature: ----------
Designation: ----------
Official Stamp: ----------

*This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. It should be included by the bidder in its bid.

BID FORM-04

Firm's Past Performance.

Name of the Firm: _____
Bid Reference No: _____
Date of opening of Bid:

Name of the Client/Institution	Purchase Order No.	Description Of Order	Value of Order	Date of Completion	Work Completion Certificate by

Bidders may use additional Sheets if required.
All certificates are to be attached to this form.