KENYA BIOVAX INSTITUTE LIMITED

ADDENDUM TO TENDER INVITATION NOTICE

Following the invitation to tender that is on our official website (www.biovax.go.ke), Kenya Biovax Institute Limited wishes to notify potential bidders that the following addendum forms part of the below listed tenders:

NO	TENDER NUMBER	ITEM DESCRIPTION	REMARKS
1	TENDER NO. KBI/1FT/2023-2024	SUPPLY, INSTALL, CONFIGURE AND DEPLOY INTERNET SERVICES AT KENYA BIOVAX OFFICES (EMBAKASI AND/OR KWFT-UPPERHILL)	TENDER CLOSING DATE EXTENDED FROM **19TH APRIL, 2024** TO **25TH APRIL 2024 – 10:00 AM.**

SD-WAN SETUP CLARIFICATION

NB: Following numerous queries on the SD-WAN Solution, we wish to clarify the below;

Bidders are requested to quote separately on a different table on the SD-WAN Solution cost for a solution that meets the below technical solutions.

See tables I and II below that contain the Technical Specifications.

All the other terms and conditions in the advertisement remain the same except for the closing date which is now set for 25th APRIL, 2024 at 10.00am

Late bids shall NOT be accepted.

The Director General/CEO
Kenya Biovax Institute Limited

SD-WAN TECHNICAL REQUIREMENTS

TABLE I: HEADQUARTER'S (HQ) REQUIREMENTS

SN	Specification required including applicable standards	Compliance	Description
1.1	**HQ SDWAN Requirements**		
1.1	**Management, Monitoring & Analytics Appliance HW Requirements**		
1	The bidder must provide a management and monitoring appliance deployed on physical machines. It should be deployed on a single node.		
2	The bidder should include one physical servers deployed in HQ to host the Management appliances with Implementation Service.		
	SDWAN Management Requirements		
3	The proposed SDWAN Management solution must support batch site deployment, which can be implemented by copying existing sites		
4	The proposed SDWAN Management solution must provide for centralized management of the proposed appliances. The platform should also have the capability of monitoring existing LAN equipment such as switches		
5	The proposed SDWAN Management solution must support displaying physical and logical topologies		
6	The proposed SDWAN Management solution must support multiple zero-touch provisioning (ZTP) deployment modes such as USB-, email-, and DHCP-based deployment to adapt to various scenarios. Support ZTP on public network and private network.		
7	The proposed SDWAN Management solution must be capable of integrating multiple O&M tools into the topology, including: configuration details, alarms,		

	applications, ping, tracert, entry query, SSH, fault information collection, as well as network quality (delay, packet loss, and connection status).		
8	The proposed SDWAN management solution should support flexible networking. The following networking modes can be implemented through simple topology orchestration: full-mesh, hub-spoke, partial-mesh, hierarchical networking, and user-defined topology networking		
9	The proposed SDWAN management solution must support Hierarchical QoS and intelligent traffic steering based on link quality, bandwidth utilization and application priorities.		
10	The proposed SD-WAN solution must be able to support up to 19,000 CPEs.		
1.2	**HQ SDWAN Appliance Requirements**		
1	The proposed SDWAN solution should support at least 10 Gbps Forwarding Performance		
2	The proposed appliance should have at least 12x10GE SFP+ and 8xGE RJ45 ports		
3	The SDWAN HQ appliances must support hot-swappable dual power supply.		
5	The SDWAN appliances must support dual power supply.		
6	The proposed SDWAN appliances must have the ability to support 5G and LTE Interface card		
7	The proposed SDWAN appliances must support zone-based Stateful FW		
8	The proposed SDWAN appliances must support 802.1x & MAC authentication		

9	The proposed SDWAN appliances have a built-in firewall, IPS, URL filtering, and multiple VPN technologies.		
1.3	**SDWAN Capabilities Requirements**		
1	The proposed SDWAN Management solution must support centralized SD-WAN provisioning		
2	The proposed SDWAN must have the ability for device monitoring, traffic monitoring and link monitoring		
3	The proposed SDWAN Management solution must support zero-touch provisioning for the managed devices		
4	The proposed SDWAN devices must support Load Balancing traffic steering feature		
5	The proposed SDWAN devices must support first-packet identification (FPI), service awareness (SA), and customized application identification and support an application signature database with a minimum of 5500+ records.		
6	The proposed SDWAN solution should support application steering across multiple WAN links		
7	The proposed SDWAN solution must support packet loss reduction through services such as A-FEC (Automatic Forward Error Correction)		
8	The proposed SDWAN solution must support BGP & OSPF IPv4 and IPv6 routing protocols		
9	The proposed SDWAN solution must support rights and domain-based monitoring and management		
10	The proposed SDWAN solution must support secure internet breakout at the branches for internet-based traffic with traffic optimization.		

11	The proposed SDWAN solution must support application-level SLA Monitoring and Management		
1.4	**SDWAN Solution VPN Features**		
1	The proposed SDWAN solution must support VPNs.		
2	The proposed SDWAN solution must support Hub and Spoke topology, full mesh topology and support IPSec VPN protocols.		
3	The proposed SDWAN solution must support NAT		
1.5	**High Availability Features**		
1	The proposed SDWAN devices must support Active-Active as well as Active-Passive redundancy.		
2	The proposed SDWAN devices must support automatic link switch-over.		
3	The proposed SDWAN devices must support VRRP protocol.		
1.6	**Authentication Features**		
1	The SDWAN solution must support external RADIUS integration for User and Administrator Authentication		
1.7	**SDWAN solution Intrusion Prevention Features**		
1	The SDWAN solution must have the ability of intrusion prevention system (IPS)		

TABLE II: BRANCH REQUIREMENTS (EMBAKASI OFFICE & DISASTER RECOVERY (DR) SITE)

2.1	Branch SD-WAN Requirements		
1	Must support a minimum of 2 x GE ethernet ports+ 2xGE SFP WAN Ports		
2	Fixed LAN ports: 8*GE RJ45 ethernet ports (can be configured as WAN if needed)		
3	Must have at least 1 x 2.0 USB port		
4	Must support IPsec VPN, GRE VPN, DSVPN, A2A VPN, L2TP VPN, L2TPv3 VPN		
5	Provide default forwarding performance more than 1.9 Gbps with ACL and QoS enabled with IMIX traffic used for testing. Should also support 1.9 Gbps IPsec performance		
6	Must support 4G LTE Extension Card that support dual SIM and dual modem options, enabling support for different ISPs for LTE connectivity		
7	Must provide intelligent routing selection policy to make sure the branch to HQ connection link has redundancy when either of them fails		
8	Must support URL filtering, IPS, 802.1X and MAC address authentication, Web authentication		
9	Must support RIP, RIPng, OSPFv2, OSPFv3, IS-IS, IS-ISv6, BGP4, BGP4+, IGMPv1/v2/v3, PIM-DM, PIM-SM, and IPv6 PIM		
10	The appliance must support at least 1 service slot		