

WEBEL TECHNOLOGY LIMITED

CORRIGENDUM – IV

Tender No. WTL/NKGS/ICCC/20-21/013 dated 18.12.2020

1. Date and time of Bid Submission has been extended up to 20th January 2021 at 16.00 hrs.
2. Date and time of Bid Opening has been extended up to 22nd January 2021 at 16.00 hrs.
3. Date and time of sending details of EMD & Tender Fee submission has been extended up to 21st January 2021 at 16.00 hrs.
4. Other details given in Annexure – I enclosed.

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ANNEXURE - I

BILL OF QUANTITY DETAILS

SL#	Item Description	UO M	Qty	Section Reference & Remarks
1	Local Application Aggregating Device	Nos	5	Item 39 under section "Minimum Technical Requirements"
2	Local Application Buffer NAS	Nos	1	Item 38 under section "Minimum Technical Requirements"
3	<p style="color: red;">Local Area Networking & Routing</p> <p style="color: red;">- Redundant L3 Switch and Routing Devices</p> <p style="color: red;">- LAN Distribution Switch</p> <p style="color: red;">- Wire Less Controller (WLC) & Access Points for Command Centre, Conferencing & Training Room</p>	Nos	1	Item 37 & 40 under section "Minimum Technical Requirements"
4	55 inch Video Wall With Controller & Accessories	Nos	36	Item 2, 3 & 4 under section "Minimum Technical Requirements"
5	Call Centre and Support System Hardware per person	Nos	4	Item 14 & 22 under section "Minimum Technical Requirements"
6	Anti-room Conferencing System with 4 Screen Video Wall & VC Setup & Furniture & Acc.	Nos	1	Item 12 & 13 under section "Minimum Technical Requirements" + 4 Screen Video Wall as per Specifications of Item 2 & 3
7	<p style="color: red;">Room Infra and Interior Readiness</p> <p style="color: red;">-Wall</p> <p style="color: red;">-Ceiling</p> <p style="color: red;">-Carpet</p> <p style="color: red;">-Furniture</p> <p style="color: red;">-Civil</p> <p style="color: red;">-interior</p> <p style="color: red;">- Requirement of 1 unit of Projector for Training purpose</p>	Job	1	Item 24 & 41 under section "Minimum Technical Requirements" & As per site inspection & self-understanding of bidder
8	Smart Server Rack	Nos	2	Item 35 under section "Minimum Technical Requirements"
9	A3 Multi Function Colour Printer	Nos	2	Item 10 under section "Minimum Technical Requirements"
10	Monitoring Work Stations	Nos	10	Item 5 under section "Minimum Technical Requirements"
11	Monitoring Laptops	Nos	5	Item 9 under section "Minimum Technical Requirements"
12	Security Systems and Firewall	Nos	1	Item 25 under section "Minimum Technical Requirements"
13	Precision Aircon for UPS Room	Nos	2	Item 33 under section "Minimum Technical Requirements"
14	UPS And Power Regulation Equipment	Nos.	1	Item 7 under section "Minimum Technical Requirements"
15	Fire, IBMS, Biometric, CCTV	Nos.	1	Item 15,16,17,18,19,20,23,26,27 under section "Minimum Technical Requirements"

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16	Electrical Fittings and Setup	Job	1	Item 28,29,30,31,32 under section "Minimum Technical Requirements"
17.a	100 Mbps Internet Leased Line Connection per Year	Nos.	3	100 Mbps Leased Line for 3 years including support and commissioning
17.b	Process Procurement Charges for Internet Leased Line	Nos.	1	Cost associated procurement of ILL
18	12-core Outside Plant OFC Cable & Laying - from State Data Centre to NKDA New Admin Building	Nos.	1	Item 36 under section "Minimum Technical Requirements"
19	Cyber Security Package and Quarterly Audit and Certification per Year	Nos.	3	Security Audit of All Application, Ips & Systems both at ICCC location and at SDC by CERT-IN agency every Quarter for 36 months
20	Recurring Communication Channels like SMS, EMAIL, Phone & Others recurring per Year Cost	Nos.	3	8 Lac SMS/Email/notifications per month
21	Video Wall Integration, Installation & Testing	Job	1	Service & job cost of Integration, Installation & Testing of above video wall
22	Call Centre Hardware Integration with Communication Channels	Job	1	Service & job cost of Call Centre Hardware Integration with Communication Channels
23	Network Side basic Wire Laying	Job	1	Service & Job cost for network creation with CAT6 cable, I/o Box, Connectors & others at the ICCC site - as per bidders understanding on inspection
24	Sr. Developer (3-4 Yrs Ex)	Man Months	12	Refer to section "PROJECT RESOURCE SPECIFICATIONS" under section "Minimum Technical Requirements"
25	Developers (0-2 Yrs Ex)	Man Months	12	
26	Tester (2 Yrs Ex)	Man Months	12	
27	Quality Expert	Man Months	4	
28	Documentation Expert	Man Months	8	
29	UI Designer	Man Months	12	
30	Principle Solution Architect	Man Months	4	
31	IoT Solution & Architecture Expert	Man Months	6	
32	Data Science Consultant	Man Months	3	
33	Database System Admin	Man Months	8	
34	Offshore Developer for API collection	Man Months	8	

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35	Middleware - DB cum API Developer (min 3 yrs Ex)	Man Months	16	
36	Sr Application Developer with Experience in Mobile app (Min 5 yrs Ex)	Man Months	6	
37	Sr Application Developer with Experience in Mobile app (Min 3 yrs Ex)	Man Months	9	
38	ICCC Smart City Platform - Perpetual License	Unit Licence	1	Refer to section "1.1-Expectations from Integrated Command and Control Centre Platform with Administrator Mobile Application & GIS platform" under section "Minimum Technical Requirements"
39	All 3rd Party License Cost including GIS Platform, Maps, OTC Software per Year	Year	3	Refer to section "GIS Software requirements: " under section "Minimum Technical Requirements"
40	Future Silo solution Integration per Solution	Total No. of Silo Sols	36	Refer to section "1.2-Expectations from Integrated Command and Control Centre Platform for Expansion of integration of up to 36 New Services" under section "Minimum Technical Requirements"
41	RECURRING COST AMC COST For 0-12th Month	Months	12	Maintenance of Hardware, Software & Platform Systems for mentioned period
42	RECURRING COST AMC COST For 13-24th Month	Months	12	Maintenance of Hardware, Software & Platform Systems for mentioned period
43	RECURRING COST AMC COST For 25-36th Month-Next Year	Months	12	Maintenance of Hardware, Software & Platform Systems for mentioned period
44	Extended Technical Support for 0-12 th Month	Months	12	<ul style="list-style-type: none"> • MSI shall provide the following resources for onsite support: - o Hardware Technical Engineer as per level of Sr. Developer- 1 Resource – Day Shift o Software Systems Technical Engineer level of Sr. Developer- 1 Resource – Day Shift o The system support shall be provided 7 Days a Week, 24 Hour basis o For Sundays, 2nd shifts & Night shifts, 1 Engineer level of Sr. Developer, shall be available on site & 1 Engineer to be available on call for any exigencies Failing to meet the above requirement of engineers on any day shall be counted as breach of SLA & LD clause shall apply
45	Extended Technical Support for 13-24th Month	Months	12	<ul style="list-style-type: none"> • MSI shall provide the following resources for onsite support: - o Hardware Technical Engineer as per level of Sr. Developer- 1 Resource – Day Shift o Software Systems Technical Engineer level of Sr. Developer- 1 Resource – Day Shift o The system support shall be provided 7 Days a Week, 24 Hour basis o For Sundays, 2nd shifts & Night shifts, 1 Engineer level of Sr. Developer, shall be available on site & 1 Engineer to be

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				available on call for any exigencies Failing to meet the above requirement of
				engineers on any day shall be counted as breach of SLA & LD clause shall apply
46	Extended Technical Support for 25-36th Month	Months	12	<ul style="list-style-type: none"> • MSI shall provide the following resources for onsite support: - o Hardware Technical Engineer as per level of Sr. Developer- 1 Resource- Day Shift o Software Systems Technical Engineer level of Sr. Developer- 1 Resource- Day Shift o The system support shall be provided 7 Days a Week, 24 Hour basis o For Sundays, 2nd shifts & Night shifts, 1 Engineer level of Sr. Developer, shall be available on site & 1 Engineer to be available on call for any exigencies Failing to meet the above requirement of engineers on any day shall be counted as breach of SLA & LD clause shall apply

S. No.	Minimum Technical Specifications	Compliant (Yes / No)
40. Local Area Networking & Routing		
ICCC/TR/40.01	The proposed specifications for the AP are as below:	
	Description	Minimum Specifications
	Wireless Interface	IEEE 802.11b/g/n 2.4GHz wireless IEEE 802.11b/g/n/ac Wave 2 5GHz wireless
	MIMO	2 x 2
	Data Rate	2.4 GHz - Up to 400 Mbps 5 GHz (1) - Up to 867 Mbps 5 GHz (2) - Up to 867 Mbps
	Antenna	Internal omnidirectional antennas 2.4 GHz: 3 dBi 5 GHz: 4 dBi
	Operating Frequency	2400 to 2483.5 MHz 5150 to 5850 MHz

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Operating Channels	1 to 13 channels for 2.4 GHz band (per country code) 36 to 165 channels for 5 GHz band (per country code)
Ethernet Interface	2 x 10/100/1000BASE-T LAN port
Console Port	RJ45
Advanced Features	Auto Channel selection, 802.1p Quality of Service (QoS), Wireless Multimedia (WMM), Wireless Distribution System (WDS), Band steering, Airtime Fairness, Link Aggregation, IEEE 802.11k Fast Roaming
SSID Security	Up to 48 SSIDs, 16 per radio 802.1Q VLAN Station Isolation
Wireless Security	WPA/WPA2 Personal/ Enterprise, AES, TKIP
Detection & Prevention	Rogue and Valid AP Classification
Authentication	MAC Address Filtering
Power over Ethernet	IEEE 802.3at
Power Consumption	Max. 20W
Operating Conditions	0°~40°C, 10-90%RH
Certifications	CE EN55032, EN55024, EN61000-3-2, EN61000-3-3, EN606011-2 (Medical Electrical equipment), EN301489-1, EN301489-17, EN300328, EN301893 FCC, IC, cUL+UL, CB, RCM, NCC, BSMI, UL2043
MTBF	>700000 Hours
The proposed specifications for the WLC are as below:	
Description	Minimum Specifications
Ports	4 x 10/100/1000 Mbps RJ-45 ports 4 x 100/1000 Mbps SFP combo ports 2 x USB 2.0 ports 1 x 10/100/1000 Mbps console port
Port Standard & Functions	IEEE 802.3 Ethernet IEEE 802.3u 100BASE-TX/FX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet
Maximum APs / unit	64 (default), 256 (upgraded)
Maximum APs / cluster	256 (default), 1024 (upgraded)
Concurrent Captive Portal Authentication Users	2048
VLAN	VLAN group – Up to 255 entries Subnet-based VLAN 802.1q VLAN tagging Port-based VLAN

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Security	Wireless security – WEP, Dynamic WEP, WPA personal/enterprise, WPA 2 personal/enterprise LAN security – 802.1x port-based access control and guest VLAN Wireless Intrusion Detection System (WIDS) – Rogue and valid AP classification, Rogue AP mitigation Authentication – Captive portal, MAC authentication
Roaming	Fast roaming, Intra/inter-subnet roaming, Intra/inter-controller roaming
Management	Web-based GUI – HTTP, SNMP v1/v2c/v3, Intra/Inter-Subnet Roaming
AP Management	AP discovery & control – Layer 2, Layer 3 AP monitoring – Managed AP, Rogue AP, Authentication Fail AP, Standalone AP Client monitoring – Authenticated client, Rogue client, Authentication fail client, Ad-hoc client Centralized RF/security policy management
User Account Management	Permanent account authentication method – Local database, External RADIUS, External POP3, External LDAP Payment gateways – Authorize.net, Paypal Temporary account authentication method – Local database Temporary account creation – Single or batch account generation by system with customized active or usage expired time
Emission (EMI)	FCC Class A, CE Class A, C-Tick, IC
Safety	cUL, LVD (EN60950-1)
Power Supply	100-240VAC, 50-60Hz
Power Consumption	Max. 26.95W
Operating Conditions	0°~40°C, 5-95%RH
Certifications	CE EN55032, EN55024, EN61000-3-2, EN61000-3-3, EN606011-2 (Medical Electrical equipment), EN301489-1, EN301489-17, EN300328, EN301893 FCC, IC, cUL+UL, CB, RCM, NCC, BSMI, UL2043
MTBF	> 700000 Hours
L2 Switch:	
Description	Minimum Specifications
Primary Ports	48 x 1000Base-T PoE
Uplink Ports	4 x 1000 Mbps Base-T/FX
PoE Compliance	IEEE 802.3af/at

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Switching Capacity	104 Gbps
MAC Address Table	16K
PoE Power Budget	370W
Forwarding Rate	41.7 Mpps @ 64Byte Packet
Operating Conditions	-5°~50°C, 0-95%RH
Certifications	EMI: CE Class A, VCCI Class A, FCC Class A, BSMI, CCC Safety: CB, UL, BSMI, CCC
MTBF	>200000 Hours
CORE ROUTER	
CORE ROUTER	
Description	
Should be chassis based & modular architecture for scalability.	
Should support redundant CPU for high availability.	
Should have power supply redundancy. There should not be any impact on the router performance in case one of the power supplies fails.	
All interface modules, power supplies should be hot swappable for high availability.	
Shall support modular power supply and more power supply is added as an when required.	
Router should be provided with 1+1 route processor, 1+1 or 1+N switch fabric and 1+1 or 1+N power supply redundancy.	
The router shall support following type of interfaces – 100GE, 40GE, 10GE, 1GE interfaces.	
Chassis should be 19” rack mountable type.	
The operating system of the router shall have a microkernel- based architecture.	
The modular operating system shall run all critical functions like various routing protocol, forwarding plane and management functions in separate memory protected modules. Failure of one module shall not impact operations of rest of the OS.	
Router should support two free slots for future expansion.	
Should be supplied with necessary power cards, data cables, connectors, CD's, manuals, bracket accessories, wire managers and other appropriate accessories.	

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	Router shall support minimum non-blocking capacity of 800 Gbps & 1.2 BPPS	
	The router should have capability of minimum 2 million IPv4 and 2 Mil IPv6 routes	
	The router should support minimum 64K MAC address, minimum 64K Pseudowires	
	Router should have 16K multicast routes.	
	Shall support Non-Stop forwarding for fast re-convergence of routing protocols (BGP, OSPF)	
	Shall support SyncE (1588)	
	Shall support link aggregation using LACP as per IEEE 802.3ad	
	Boot options like booting from TFTP server, Network node & Flash Memory	
	Should have IPv4 Routing, Border Gateway Protocol, and Open Shortest Path First [OSPF], Hot Standby Router Protocol (HSRP)/Virtual Router Redundancy Protocol (VRRP), IPv6 Routing, and BGP Prefix Independent Convergence	
	Should have Multicast routing protocols IGMPv1, v2, v3, PIM- SM (RFC2362) and PIM-SSM, MSDP, IGMP v2 snooping	
	Should have DHCPv6 and OSPFv3 for IPv6, 6PE & 6VPE	
	Shall support MPLS Provider/Provider Edge functionality. MPLS VPN, MPLS mVPN (Multicast VPN), Carrier Supporting Carrier (CSC), DiffServ Tunnel Modes, MPLS TE (Fast re-route), DiffServ- Aware TE, Inter-AS VPN, Resource Reservation Protocol (RSVP), VPLS, VPWS, Ethernet over MPLS, CESoPSN and SAToP as per RFC 4553	
	Router shall support MPLS OAM, Ethernet OAM protocols - CFM (IEEE 802.1ag), Link OAM (IEEE 802.3ah) and ITU Y.1731	
	The routers shall support both L2 and L3 services on all interfaces	
	Configuration Roll Back to recover the mis-configured router to last good configuration	
	Traffic Classification using various parameters like source physical interfaces, source/destination IP subnet, protocol types (IP/TCP/UDP), source/destination ports, IP Precedence, 802.1p, MPLS EXP, DSCP	
	Shall support Strict Priority Queuing or Low Latency Queuing to support real time application like Voice and Video with minimum delay and jitter	

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	<p>Congestion Management: WRED, Priority queuing, Class based weighted fair queuing</p>	
	<p>Platform must support hierarchical shaping, scheduling, and policing for the control upstream and downstream traffic</p>	
	<p>Ability to configure hierarchical queues in hardware for IP QoS at the egress to the edge. Minimum 8k hardware queues per port. It should be provided from day 1</p>	
	<p>Support Access Control List to filter traffic based on Source & Destination IP Subnet, Source & Destination Port, Protocol Type (IP, UDP, TCP, ICMP etc) and Port Range etc.</p>	
	<p>Time based & Dynamic ACLs for controlled forwarding based on time of day for offices</p>	
	<p>Support per-user Authentication, Authorization and Accounting through RADIUS or TACACS</p>	
	<p>The routers shall provide hardware accelerated IETF Netflow- v9/J-Flow/equivalent feature. This feature shall be available for all interfaces provisioned on the router with hardware acceleration</p>	
	<p>MD-5 route authentication for RIP, OSPF and BGP</p>	
	<p>Shall support multi-level of access</p>	
	<p>URPF, DHCP snooping, control plane policing</p>	
	<p>SNMPv3 authentication, SSHv2</p>	
	<p>Multiple privilege level authentications for console and telnet access through Local database or through an external AAA Server</p>	
	<p></p>	
	<p>Support for monitoring of Traffic flows for Network planning and Security purposes</p>	
	<p>Display of input and output error statistics on all interfaces</p>	
	<p>Display of Input and Output data rate statistics on all interfaces</p>	
	<p>Display of Dynamic ARP table</p>	
	<p>Telnet, Trace-route, Ping and extended Ping</p>	
	<p>Router shall support System & Event logging functions as well as forwarding of these logs onto a separate Server for log management</p>	
	<p>Router shall have Debugging features to display and analyse various types of packets</p>	
	<p></p>	
	<p>The router should have following accounting features:</p>	

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Packet & Byte Counts
Start Time Stamp & End Time Stamps
Network Time Protocol
Input & Output interface ports
Type of service, TCP Flags & Protocol
Source & Destination IP addresses
Source & Destination TCP/UDP ports
Shall support latest version of Secure Shell for secure connectivity
Embedded RMON support for four groups – history, statistics, alarms and events
Should have to support Out of band management through Console / external modem for remote management
Event and System logging: Event and system history logging functions shall be available. The Router shall generate system alarms on events. Facility to put selective logging of events onto a separate hardware here the analysis of log shall be available
The Gigabit Ethernet ports must support IEEE defined SX (850nm), LX/LH (1310nm), and ZX (1550nm) pluggable optics. Removal or insertion of the pluggable optics must not affect any other traffic flow anywhere in the router
Minimum 6 x 40G fibre port from day 1 and scalable 6 X 100G in future.
Minimum 12 x 10G fibre port from day 1
Minimum 12 X 1Gig fibre port from day 1
SFP/SFP+/XFP/QSFP/Optical modules to be provided as per the solution design by MSI
Operating temperature: 5 to 40 degrees
Humidity – 10% to 90% Non-Condensing

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S. No.	Minimum Technical Specifications	Compliant (Yes / No)
41. Projector for Training purpose		
ICCC/TR/41.01	<p>Projection Type LCD Technology</p> <p>Aspect Ratio 16.10</p> <p>Resolution 1280 x 800</p> <p>Dynamic Contrast Ratio 14000:1 or Better</p> <p>Lamp Durability ≥ 5000Hrs (Normal)</p> <p>Native Contrast ≥ 3200 Lumen</p> <p>Lamp Wattage < 300W</p> <p>Keystone Correction Compatible</p> <p>Colour Reproduction > 15 million</p> <p>Image Size ≥ 100 inches (Diagonal)</p> <p>Zoom ≥ 1.5x</p> <p>Screen Motorable (6' X 8')</p> <p>Installation Ceiling / Desk</p> <p>Speaker Inbuild</p> <p>Interface Wifi, Ethernet, USB (Type A&B), HDMI, RS232, VGA, Stereo (In & Out), Microphone etc</p> <p>Warranty 36 Months</p>	

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Few pertinent response

S.L no	Section No	Clause no	Page no	Queries	WTL Remarks
1	F	2.6 (TQ 6)	55	<p>1. Intelligent Kiosk 2. Automatic fare collection system 3. Smart Pole 4. Smart Solar 5. Smart Display Board</p> <p>Bidder having experience of</p> <p>all 2 above Solution- 10 Marks</p> <p>1 Solution- 5 Marks</p> <p>On observation, we find typo-error on the above. It should be "Bidder having experience of any of 2 of above solution – 10 marks and any of 1 solution – 5 Marks". We kindly request you to confirm on the same.</p>	<p>1. Intelligent Kiosk 2. Automatic fare collection system 3. Smart Pole 4. Smart Solar 5. Smart Display Board</p> <p>Bidder having experience of</p> <p>Any 2 of the above Solutions- 10 Marks</p> <p>Any 1 of the above Solution- 5 Marks</p>
2	1.1.3.1 Functional Specifications of the Application Software	2, 12	136	<p>Should include a mobile app for field personnel & administrator, which enables its users to receive incident details (including: tasks, forms, photos) and a comprehensive set of GIS capabilities, to ensure collaborative response aligned with the control room's operator</p> <p>Total no. of Workforce users required ?</p>	1000 Maximum administrative users
3	1.1.3.1 Functional Specifications of the Application Software	3a	136	<p>Integration of up to 2500 CCTV Camera Live Feed at the ICCC from Network connected CCTV Camera. The same should be viewed on real-time with at least 250 camera feed to be projected onto the Video-wall at any given time.</p> <p>Since, there is an existing VMS. ICCC will be integrating with the VMS. Client to provide required APIs and support from the vendor for integration.</p>	The bidder shall not get any form of direct access to the existing VMS. They shall be provided with only a feed via a network. The interpretation of that feed and needful display of the same shall require appropriate equipment (VMS or others) to display. Such solution and infrastructure should be a designed to support up to 2500 CCTV feeds

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4	1.1.14.	38	134	<p>Bullet Camera, PTZ and Dome Camera with machine learning facility, and AI enablement</p> <p>Select cameras will have ANPR too for number plate reading – Integration of up to 2500 CCTV Camera at the ICCC.</p> <p>Since, there is an existing VMS. ICCC will be integrating with the VMS. Client to provide required APIs and support from the vendor for integration.</p>	<p>Bidder shall setup own VMS for all its camera installations within ICCC project scope</p>
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