

萬鈞伯裘書院
2022-2023 年度
承投提供本校網絡優化工程服務供應商

附件一

PART A – Wi-Fi REQUIREMENTS SPECIFICATION

1. Introduction

The Contractor is invited to

- Build up a Wi-Fi network in Man Kwan Pak Kau College. Provide and maintain a Wi-Fi service through subscription mode 36 months.

2. Background

The School will **enhance / top up** the IT infrastructure so as to set up the necessary Wi-Fi environment in the school premises (full WiFi coverage in required classrooms, see appendix 2 and Part B of price schedule for details) for supporting e-learning in class. Regarding the enhancement of WiFi infrastructure, we would like to hire a contractor to design, build, operate and maintain the whole infrastructure.

3. User Requirements

This section specifies the user requirements of the School of the Wi-Fi network. The Contractor shall be capable of supporting the requirements set out below.

3.1 Standard Provision

- **Wi-Fi Internet Connectivity** – use IEEE 802.11 a/b/g/n/ac/ax or above network in a standard classroom. The minimum number of classrooms to be covered shall be at least equal to the number of approved classes for the 2023/26 school year, that is **40** classrooms.
- **Number of Concurrent Connection** – commensurate with the maximum number of students, say **40 tablet devices**, in EACH classroom and special rooms with at least **5 Mbps** upload / download bandwidth per connection.
- **Number of classrooms using Wi-Fi concurrently:** 4 Classrooms
- **Authentication Method**
 - use 802.1x standard based authentication and Hong Kong Education City single sign-on services
 - User account system being used by school (e.g. AD, pre-shared key)
- **Session Control** –Hong Kong Education City authentication service can support one device or multiple devices to connect based on user group (student, teachers).
- **WLAN system access control** – specific request on MAC address filtering.
- **MAC Address Monitoring** – The lists of filtering and filtered MAC addresses are to be monitored by Integration of Network
 - Integrate existing network **OR** Not rely on any existing network including with secure design if required
 - Set up VLAN setting for different SSID
 - Staff/Teachers SSID able access to ITED network
 - Students/Guests SSID cannot access to ITED network, if required.
- **Internet Content Filtering Service** – based on filtering profile commonly adopted by most schools managed by vendors.
- **Existing Network Facilities** – not rely on existing network facilities and cabling of the School.
- **Broadband Network**– if required.
- **Managed Service** – operate the Wi-Fi network using managed service model, provide end-to-end service with

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single point of contact including configuration, provisioning of service, proactive monitoring, maintenance, and regular reporting.

- **Monitoring of Wi-Fi network** – specific request on monitoring of Wi-Fi network by School.
- **Service Level Agreement** – ensure at least 99.7% availability of the Wi-Fi service, support four-hour response time and four-hour service recovery with active monitoring, helpdesk support with support hours from Mon to Sat 8:00 am to 6:00 pm, and provide monthly monitoring reports for the School.
- **Contract End Arrangement** – All provisions of switches, access point, wireless controller, trunks, conduits, cables, LAN ports and power points shall be considered as fixture of the School and shall become the property of the School.

3.2 Add-on Service (to be aligned with Part B)

- **Wi-Fi coverage** – include special rooms and open areas as per Part B.
- **Redundancy** – to increase the availability of the Wi-Fi service.
- **Support hours** – extended support hours and/or reduced time for recovery.

3.3 Deliverables

3.3.1 The Contractor is required to provide the following deliverables for the Wi-Fi network design:

- Master Activity Plan
- Network Configuration Report and Network Diagram
- Network Test Plan and Network Test Result Report
- Operation Manual for End User
- User Acceptance Test Plan
- Exit Plan

3.3.2 The Contractor is required to provide the monthly monitoring report with the following items:

- Network Health Report
- Network Usage Report
- Reporting of security incidents
- Reporting on trend and statistics of incident and their analysis
- Reporting of the failure rate for all equipment with detailed fault analysis
- Problem log and incident log for critical failure of the network
- Statistical report on the type and no. of calls
- Summary of the outstanding enquiry for the month-to-date

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4. Technical Specification (Standard Provision)

4.1 Wi-Fi Network

- 4.1.1 The Wireless LAN (WLAN) System of the Wi-Fi network shall support simultaneous dual-operation-mode that is FAT Access Point (AP), and Thin Access Point are both supported together with WLAN Controller. WLAN Controller shall be capable of fully centralized provisioning, configuration and monitoring all APs functionalities.
- 4.1.2 The thin client WLAN Access Point (AP) shall be a high performance wireless network access device, which shall be connected with the Power over Ethernet (PoE) Access Switches via Structured Cabling System. Appropriate type of connection cables between WLAN APs and the antenna shall be provided.
- 4.1.3 The WLAN APs shall be compatible with IEEE 802.11a/b/g/n/ac/ax standard or above, support dual band of 2.4GHz and 5GHz.
- 4.1.5 The WLAN APs should support CleanAir technology (or similar feature) enhanced with 80MHz channel support, which delivers proactive, high-speed spectrum intelligence across 20-, 40-, and 80-MHz-wide channels to combat performance problems due to wireless interference.
- 4.1.6 The Contractor shall design the WLAN System to provide the coverage for the required wireless coverage place. The received signal strength measurement from the Wi-Fi Service at the Wi-Fi client device (such as tablet PC or notebook computer) is no worse than -68 dBm. The Contractor shall provide certificate or test report to illustrate that the Wi-Fi client device for testing satisfies the power emission requirement.
- 4.1.7 The WLAN AP shall support DHCP, PoE, WPA2, IEEE 802.1x and certificate authentication.
- 4.1.8 The WLAN System shall support automatic channel selection, protocol filtering, multicast/broadcast storm filtering and load balancing.
- 4.1.9 The WLAN system shall allow single or multiple devices per user account to be authenticated using 802.1x and Hong Kong Education City single sign-on service and use existing school AD.
- 4.1.10 Each WLAN AP shall be able to support at least concurrent **40** users connecting to the network simultaneously. In no circumstance shall the speed of data transmission symmetrically fall below the data rate requirement at any place or any corner or any highly congested area within the areas being covered. In case the transmission speed is below the said data rates, the Contractor shall be responsible for all remedial measures to rectify or configure fine-tuning of antenna or even increase the quantity of the WLAN AP at Contractor's own costs in order to meet the data rate requirement as mentioned in the Specification. A complete set of catalogues with brand and model shall be submitted and highlighted for reference. The catalogues shall show all the features and technical specifications of the products and systems.

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- 4.1.11 The system shall provide bandwidth control per connection.
- 4.1.12 The WLAN shall allow different authentications by using Service Set Identifiers (SSIDs).
- 4.1.13 The SSIDs shall be able to be set hidden from searching by Wi-Fi devices. The devices have to manually set SSID to make connection.
- 4.1.14 Individual APs shall be allowed to be assigned by more than one SSIDs.
- 4.1.15 Antennas of APs shall be 3x3 Omni or directional at least and capable of detecting user locations in real time for direction switching while devices in motion.
- 4.1.16 The DHCP server shall support at least 30 queries/sec.
- 4.1.17 The WLAN system shall suspend the session of the user once the session control is expired and the suspension time shall be configured by the school.
- 4.1.18 The Contractor shall in provision of the service comply with non-interference requirements of and shall not cause interference prohibited under the Telecommunication Ordinance (Cap 106) or any other laws or regulation of Hong Kong.
- 4.1.19 The WLAN System shall provide termination of idle sessions and control of the duration features.
- 4.1.20 The WLAN System shall support client roaming across Access Points.
- 4.1.21 The WLAN system shall cover all areas specified under this tender.
- 4.1.22 The tender shall include the cost to provide sufficient quantity and its cabling work required, including but not limited to supply and install the Fiber optics, Cat 6 cable, Conduit, cable patch panel, cable faceplate, Cable patch cord.
- 4.1.23 The Contractor shall provide complete set of WLAN Systems which consist of Wireless Access Point, Connection Cable, Authentication System, Wireless LAN Controller, PoE Switch, horizontal UTP Cat 6 cable/OM3 Fiber, patch cable UTP Cat 6 / OM3 Fiber Optics, any required license and all associated accessories.
- 4.1.24 All access points (AP) shall be certified by OFCA and copy of certificates issued by OFCA shall be attached to the proposals.
- 4.1.25 The Contractor shall ensure that there is no interference between WLAN Access Points due to limited

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non-overlapping channels assignment when the WLAN AP is installed. The Contractor shall be responsible at his own costs for providing solution to eliminate the interferences including but not limited to reassignment of the non-overlapping channels, adding extra APs with lower transmission power and/or replacement of the WLAN AP.

4.1.26 The WLAN System shall support Web GUI management.

4.1.27 FTP service shall not be allowed in the Wi-Fi network (to avoid exchanging credential and files in plain text without any encryption).

4.1.28 The WLAN System shall support IPV6 addressing method.

4.1.29 The Contractor should provide physical wireless controller.

4.1.30 The wireless controller must support up to 150 access points and 3000 clients, and Multi-gigabit Ethernet technology or similar feature (up to 5 Gigabit Ethernet using existing cabling infrastructure).

4.2 Core Switch

4.2.1 The Core Switch would be responsible for connecting all PoE access switches in typical floors for WLAN AP.

4.2.2 The Core Switch shall be capable of providing the required bandwidth, QoS, and policy-based routing to carry all sorts of information including video, voice, data, image, etc.

4.2.3 Each Core Switch shall provide a Gigabit Ethernet connection to each PoE Access Switch in typical floors.

4.2.4 The Core Switch shall support Layer 2 and Layer 3 switching and capable of providing the wired speed performance.

4.2.5 The Core Switch shall support basic IP unicast routing protocols, Static route, multicast routing, Routing Information Protocol (RIPv1, RIPv2), inter VLAN routing.

4.2.6 The Core Switch shall support Internet Group Management Protocol (IGMP) snooping and multicast and unicast storm control, Spanning-Tree Protocol.

4.2.7 The Core Switch shall support WebGUI Management, Access Control Lists (ACLs), DHCP Interface and SNMP.

4.2.8 The Core Switch shall support VLANs including support for IEEE 802.1Q and IEEE 802.1p.

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4.3 PoE Access Switch

4.3.1 The Access Switches shall be deployed to provide high performance interconnectivity between the Core Switches and the WLAN APs on typical floor. The Access Switch should support at least 256 Gbps switching bandwidth.

4.3.2 The Access Switch shall consist of 8/12/24/48 x 10/100/1000Base-T Ethernet ports, with minimum of 1 x 1000Base-T / 1000Base-SX SFP Gigabit Ethernet uplink ports connected with the Core Switch.

4.3.3 The Access Switch shall be used for connecting the WLAN APs. The Contractor shall determine the Maximum power loading of the devices to be connected with the PoE Access Switches. The Contractor shall provide additional PoE Access Switch(es) if the total power loading summed up from the PoE devices exceeds the maximum power loading capacity of the PoE Access Switch.

4.3.4 The Access Switches shall support VLAN configuration. The VLAN ID should support at least 4K and 1K active VLAN.

4.3.5 The Access Switches shall be at wired speed.

4.3.6 The Access Switches shall be provided sufficient port density to meet all the required links.

4.3.7 The Access Switches shall support PoE and shall conform to IEEE 802.af / IEEE 802.3af standard, which delivers power over single copper UTP cable for WLAN AP.

4.3.8 The Access Switches shall support Internet Group Management Protocol (IGMP) snooping and multicast and unicast storm control, IEEE 802.1D Spanning-Tree Protocol.

4.3.9 The Access Switches shall support Virtual local area network (VLANs) including support for IEEE 802.1Q and IEEE 802.1p.

4.3.10 The Access Switches shall support WebGUI Management, Access Control Lists (ACLs), DHCP Relay and SNMP.

4.4 Firewall

4.4.1 The performance of the Firewall shall not be degraded with 100% Internet bandwidth utilization.

4.4.2 Network Address Translation (NAT) is required.

4.4.3 Access control Policy is required.

4.4.4 The firewall should support UTM feature and dual WLAN. School has the administrative right to add the policy, say, bandwidth control and routing.

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4.4.5 The configuration settings of the appliance shall be allowed to export to files for backup and restore for rapid recovery and shall control all incoming and outgoing Internet traffic, serving as the sole entry and exit point between the Internet and the WLANs in all locations.

4.4.6 The configuration settings of the appliance shall support blocking specific network ports, including ports of Transmission Control Protocol (TCP) and User Datagram Protocol (UDP). Blocking denial of service (DoS) attacks and malformed packet attacks shall also be configured.

4.4.7 The firewall policy should be applied to control network traffic such that public users should be prohibited to access the internal network segments of the School.

4.4.8 The router policy should be applied to shape the guest user VLAN traffic to designated bandwidth requested by School to preserve the e-Learning in class which is the primary purpose of School Wi-Fi.

4.5 Service Requirements

4.5.1 The Contractor shall be responsible for the total project management and shall assign a person to act as the single contact point to the School regarding all related activities of the contract. This single contact point cannot be transferred to a sub-contractor unless explicitly agreed by the School. Contractor should formally inform the School in writing if there is a change of contact point.

4.5.2 The Contractor shall provide rack/cabinet or use existing school rack if there is available rack space. All switches/firewall shall be properly installed into wall mounted cabinet or rack.

4.5.3 Cables shall be labeled with connected port and its device id.

4.5.4 All the equipment shall be labeled with an identifiable id.

4.5.5 The placement of cables, cabinets, racks and appliances shall be shown on the network diagram.

4.5.6 Switches and/or other appliances shall be properly installed into cabinet/rack with appropriate ventilation.

4.5.7 13A power cord(s) shall be bundled with appliance(s).

4.5.8 Cable shall be properly set up onto appropriate cable management guide.

4.5.9 Contractor should make sure that the actual environment is suitable for the installation and operation of equipment with School agreement in advance, and make necessary suggestions, if any.

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4.6 Service Level Requirements

4.6.1 The Contractor shall provide incident/problem report to the School within 5 working days after each incident and the resolution taken.

4.6.2 The Contractor shall derive mechanism, including forms and reference tables for measuring and recording the Service Level Measures, to ease the administration and monitoring by the School.

4.6.3 Advance notice by at least 2 weeks shall be given to the School prior to all scheduled maintenance. At most 4 scheduled maintenances per year are excluded from the calculation of Service Levels. No more than 1 hour service interruption or an agreed time slot is accepted for each scheduled maintenance.

4.6.4 Service Level, expressed in percentage, is the ratio of actual available time to the scheduled available time for the Wi-Fi network of the School and is calculated according to the following formula:

Service Availability Level = (Schedule Uptime within the month– Unscheduled Downtime within the month) / Scheduled Uptime within the month, where

Scheduled Uptime: The duration, in unit of minutes, for the Wi-Fi network of the School is scheduled to be available for the month. The duration will exclude the scheduled downtime, which is defined as duration agreed between the School and the Contractor during which the service may be deliberately made unavailable to users.

Unscheduled Downtime: The amount of time, in unit of minutes, that the service are unavailable due to equipment failure or other reasons under the responsibility of the Contractor.

4.7 Service Level Rebates

4.7.1 The Service Rebates to the School operate as liquidated damages for the performance fallen short of the target service levels over a period of one month. The service measures stipulated in 4.6 will be used to determine the Service Rebates in Service Availability (S1) and Service Resumption Time (S2).

4.7.2 The application of the Service Level Rebates adjustment to the monthly charge will commence with effective from the acceptance of the reliability test.

4.7.3 For each month, the Service Rebates for different service measures (S1, S2) will be calculated as below if the Contractor cannot meet the target Service Levels for the Wi-Fi network of the School under the availability agreed:

Failure Hour x [(Yearly Subscription Fee) / (365 x 24)] x 2, where

Failure Hour: The unscheduled downtime or the time to resume the network due to the failure of hardware or software which is provided by the Contractor. Failure Hour is calculated in the increment of 0.5 Hour.

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4.7.4 The Service Rebates of the WiFi network of the School, if any, will be paid by crediting the invoice of the following month.

4.8 Helpdesk Service

4.8.1 The Helpdesk Service shall maintain dedicated hotline, including phone, email and fax, for enquiries and complaints.

4.8.2 The Helpdesk Service shall answer enquiries and complaints originated from the School concerning the Service.

4.8.3 The Helpdesk Service shall operate from Mon to Sat 8:00 am to 6:00 pm.

4.8.4 The Helpdesk Service shall maintain call logs on enquiries and complaints. The information shall be included but not be limited to date, time, description of issues, contact information, and follow-up actions. The Contractor shall observe and comply with Personal Data (Privacy) Ordinance in handling all information relating to these enquiries and complaints.

4.8.5 The Contractor shall provide the following information concerning the Helpdesk service related to the implementation of the Service:

- Detailed information of the helpdesk office, such as address, phone number, fax number; and
- Facilities, computer systems and equipment provided in the helpdesk office, such as private branch exchange (PBX), keyline telephone system (KTS), interactive voice response system (IVRS) and voice recording system.

4.8.6 The Contractor shall provide helpdesk staff with the necessary tools, including but not limited to hardware and software, related training for supporting the Service.

4.8.7 The Contractor shall not make use of the Helpdesk Service to transmit any message or conduct any activity to the School, which is not connected with the provision of the Service. The School shall have the full discretion to determine whether any such message or activity is in breach of this provision. The Contractor shall forthwith stop transmitting such message or conducting such activity and refrain from doing it further once the School has notified the Contractor in writing or verbally of its determination.

4.9 User Acceptance Test

4.9.1 The Contractor shall conduct tests with the School before the service is officially accepted and subscription started. Tests shall include User Acceptance Test for reliability and performance of the hardware and software, and also the monitoring, operation support and all other aspects related to the Service Level Agreement of the Service. At least 14 school working days of trial period is expected for service monitoring after testing.

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- 4.9.2 The contractor will be required to perform test making reference to the User Acceptance Test and System Test documents at www.edb.gov.hk/ited/wifi900. They include the types of testing to be performed, the requirements to be tested, the testing environment, testing tools and pass/fail criteria as reference to the Contractor.
- 4.9.3 The Contractor shall upon request by the School arrange briefings to the School and/or Responsible Parties of the School, with briefing materials, prior to the User Acceptance Test when required.
- 4.9.4 The Contractor shall provide detailed acceptance test plan and a step by step testing procedure with expected results against the requirements set out in this specification.
- 4.9.5 The Contractor shall provide, configure and set up the proper software and hardware for the School to carry out the User Acceptance Test.
- 4.9.6 The Contractor shall be required to carry out tests to demonstrate that the equipment and system meet the specification and other contractual requirements. The Contractor shall also be responsible for the timely preparation and compilation of all test schedules, test procedures and test reports.
- 4.9.7 The Contractor shall follow the agreed standards as laid down in this specification for the testing methods and procedures.
- 4.9.8 The Contractor shall submit a schedule of site performance and commissioning tests at least 3 working days prior to the commencement of the scheduled commissioning date.
- 4.9.9 Special tools, test equipment, test objects and simulators required for the demonstration of either bench or commissioning tests shall be made available by the Contractor at no extra charge to the School.
- 4.9.10 All test equipment used by the Contractor shall be properly and periodically calibrated. Measuring standards used in calibration shall be traceable to international or national measurement standards, or to an industry recognized manufacturer's reference, subject to approval of the School.
- 4.9.11 Calibration procedures and results shall be documented and signed by certifying body where applicable. The Contractor may be requested to show evidence of calibration of test equipment by submission of copies of these calibration records prior to conduction of any tests.
- 4.9.12 The Contractor shall submit the User Acceptance Test report within 3 working days. The acceptance of the installation will only be granted after receiving a satisfactorily UAT report from the Contractor.
- 4.9.13 All equipment to be installed may be subject to inspection and bench testing. The Contractor shall meet the cost of deliveries for bench test. Notwithstanding, the Contractor shall have carried out the tests in accordance with the

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requirements and procedures stipulated in this specification and submitted the associated test reports for inspection.

4.10 Termination of Service

4.10.1 The School reserves the right to terminate all or part of the Service at any time with written notice of 10 working days in advance if:

- The Contractor fails to meet the target service levels under Service Level Requirements for two consecutive months, or three months in total within the committed subscription period;
- The School suspects that unauthorized activity has occurred or is occurring in relation to the Service;
- The provision of the Service will cause the School to be in breach of any applicable law;

4.10.2 The Contractor shall provide to the School and implement the Exit Plan in accordance with:

- The Contractor shall provide to the School an Exit Plan with feasible arrangements before the committed subscription contract date;
- If the School considers the Exit Plan as not satisfactory, it will notify the Contractor with comments. The Contractor shall revise the Exit Plan by taking into consideration of the School's comments and provide to the School with five (5) working days after the date of receiving the School's comments. If the Exit Plan has been considered as not satisfactory for three or more times, the School shall have the right to terminate this Contract by giving 10 days' notice in writing;
- Detailed exit procedures, disengagement timetable and actions to be taken by both the Contractor and the School for smooth termination of all or any part of the Service;
- The Exit Plan shall aim at enabling the School or its authorized parties to perform in substitution for the Contractor and to eliminate or minimize any disruption or deterioration of the Service. The Exit Plan shall contain, but not limited to the following information:
 - Detailed exit procedures, disengagement timetable and actions to be taken by both the Contractor and the School for smooth termination of all or any part of the Service;
 - Any information that is necessary for the School or a new service provider to continue the provision of the Service;
 - Details of the Contractor's personnel and other resources that will assist the School or the School's authorized parties during the handover;
 - All provisions of facilities such as trunks, conduits, cables, LAN ports and power points, shall be considered as fixture of the School venues and shall become the property of the School.
 - The Contractor shall be responsible for the implementation and execution of the Exit Plan and shall ensure that the exit plan is carried out in a timely and orderly manner.

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5. Technical Specification (Add-on Requirement)

5.1 The control of access right of the wireless network can be managed by both MAN KWAN PAK KAU COLLEGE and Vendor.

6. Sub-Contracts

6.1 The tenderer shall be the prime Contractor for all the services specified in Part A and Part B of this contract. The Tenderer shall be the single point of contact for all contractual matters.

6.2 The tenderer shall be liable for the performance or breach of any provisions of the contract by Sub-Contractors.

6.3 The tenderer shall provide details of the sub-contract service for the Wifi operation and maintenance of the Sub-Contractors in the format listed on Section 5 of Part Y. The hierarchy of the sub-contracting shall also be clearly stated below. If there are no Sub-Contractors, please enter nil.

6.4 No Sub-Contractor(s) specified in Section 5 of Part Y shall be replaced unless prior written consent has been given by the School.

6.5 The tenderer shall ensure that the quality of the service rendered by the Tenderer shall not be affected due to any change of Sub-Contractors;

6.6 The Tenderer shall not be relieved from any of its obligations hereunder by entering into any sub-contract for the performance of any part of this contract. If request by the School, the Tenderer shall describe which part of the service shall be performed by the Sub-Contractor(s) in the sub-contract(s) between the tenderer and its Sub-Contractor(s).

7. Schedule of Work

7.1 The Contractor shall provide the service according to the following schedule.

Phase	Items	Starting Date	Ending Date	Service fee
I	Build up of Wi-Fi network	On or before Aug, 2023	18 Aug 2023	0
II	User Acceptance Test	On or before Aug 2023	31 Aug 2023	0
III	Subscription of service	1 Sept 2023	31 Aug 2026	Quoted price

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Delay of Schedule

8.1 If the Contractor fails to provide any part of the Wi-Fi service which shall be ready for use in the School within 60 days after the target Ending Date specified in Section 8 of Schedule of Work then notwithstanding anything else contained in this Contract the School shall be entitled to terminate this Contract with forthwith by giving written notice to the Contractor and to recover from the Contractor the amount of all damages and loss suffered by the School resulting from such failure, including without limitation to any damages and loss resulting from the termination of related service orders.

8.2 Within one (1) week of the termination of this Contract, the Contractor shall collect its own Hardware and Software at his own cost after the contractor has removed the School Data in the Hardware.

8.3 The Contractor shall reinstate and make good the concerned area of the School to the satisfaction of the School after removal of the hardware.

9. Terms of Payment

9.1 The subscription will be paid in arrears of each month during the subscription period.

10. Price Proposal

10.1 The Service Provider is required to provide a breakdown on the service charges for each of the service items as set out in the Price Proposal at **PART B - PRICE SCHEDULE**. Failure in complying with this requirement will render the quotation disqualified.

10.2 Please note that, the School has the absolute discretion to accept the whole of the Services or just part of the Services as listed out by items in the Price Proposal.

10.3 Set up cost will not be considered as a part of the cost in subscription mode.

11 Invitation for Tender

11.1 Tender are invited for the execution of the whole of the Services as described in this document. Tender for part but not all of the Services will not be considered.

11.2 Please provide two sets of Tender documents for processing of the Tender.

12 Tender Preparation and Submission

12.1 The Service Provider is required to submit the following information and document.

- A Statement of Compliance to provide response that the quotation complies with all requirements stated in this Specification.

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- Price Schedule
- No upfront cost or one off cost schools shall be paid throughout the entire subscription period.
- Proposed AP location mark on the Floor plan.
- Proposed Network infrastructure show on the Network Diagram.
- Implementation Plan.
- Wi-Fi Access Point certificates issued by OFCA.
- Product information including technical and descriptive literature and catalogues. Information provided by the manufacturer shall be able to substantiate that the products offered meet the mandatory Technical Specification.

13 Briefing Session/Site Visit

13.1 To facilitate the Service Provider to propose the quotation, a briefing session is arranged as follows. The Service Provider must attend the briefing session and carry out Wi-Fi survey with appropriate tools.

Date: **20th MAY 2023**

Time: **10:00 – 11:00**

Venue: Man Kwan Pak Kau College

14 Selection and Payment

School is looking for a contractor based on the following criteria:

- Proposed pricing
- Proposed solution
- Equipment and services level
- Case reference
- Other useful information

15 Enquiry

For enquiry, please contact our Chief Executive Master of IT and Innovation Development Department Mr. CHEUNG WING TAI.

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PART B

PRICE SCHEDULE

1. Price details for Standard Provision

Standard Provision	3 years (2023-2026)		Total in HK\$
	Monthly price	Annual price	
<p>Wi-Fi Service Subscription (Requirement as stated in Part A)</p> <ul style="list-style-type: none"> - Total Number of Classroom: 40 - Total Number of AP: 40 <li style="padding-left: 20px;">2nd Floor: Rm 201, 202, 203, 205, 206, 210, 213 <li style="padding-left: 20px;">3rd Floor: Rm 301, 302, 303, 304B, 305, 306, 310, 313 <li style="padding-left: 20px;">4th Floor: Rm 401, 402, 403, 404B, 405, 406, 410, 413 <li style="padding-left: 20px;">5th Floor: Rm 501, 502, 503, 504B, 505, 506, 511, 513 <li style="padding-left: 20px;">6th Floor: Rm 601, 602, 603, 604B, 605,606, 610, 613 - The Wi-Fi System shall support 40 concurrent connections (each room) at least. - Two physically separated 1000M or above broadband lines must be provided. - A pair of WLAN controllers must be provided for redundancy purposes. 			

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Price details for Add-on Services (Offer will be considered on itemized basis)

Add-on Service		3 years (2023-2026)		Total in HK\$
Item	Description	Additional monthly price	Additional annual price	
Wi-Fi coverage for other areas	G/F: Library, Covered Playground A, Covered Playground B, Ai Eng Lab, Lecture theatre 1/F: Staff Rm 101-103, Staff Common Rm 106, General Office Rm 110, Hall : 120 of concurrent connections supported at least., Lobby, Covered Playground 2/F: My Dream Studio Rm N201, 數碼視覺藝術室 Rm N204, 3/F: Active Learning Centre , Rm N301&N304, 4/F: Server Rm N401A, IOT LAB Rm N401, InnoTech Centre Rm N404, 空中花園 5/F: Physic LAB Rm N501, Science LAB Rm N504			

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Add-on Service		3 years (2023-2026)		Total in HK\$
Item	Description	Additional monthly price	Additional annual price	
	6/F: Chem LAB Rm N601, BIO LAB Rm N604 7/F: GYM Rm 701, 互動戲劇中心 Rm 703, 會議室 Rm705, 會計室 Rm706, 校監室 Rm715 - Total Number of locations: 28 - Total Number of AP: 35 - Each room should have 40 concurrent connections supported at least.			
WLAN Access Control	Refer : 3.2 Add-on Service			
Internet addresses subscription & configuration	Refer : 3.1 Standard Provision			
Server accessibility	Refer : 3.1 Standard Provision			
Monitoring of WiFi network	Refer : 3.2 Add-on Service			
Reporting	Refer : Part A			

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Details of equipment to be proposed in the Buildup of Wi-Fi network in the School

Items	Quantity	Model
WiFi Controllers		
Access Points		
Firewall		
Core Switch		
Access PoE Switches		
LAN Cables		
Others (please specify)		

2. The Tenderer to provide details of the sub-contract service involved in the proposal for the project implementation, service operation and maintenance in the format listed below

Name of Sub-Contractor	Sub-contract service	Roles and responsibility

3. The Tenderer to provide case reference of past deployment in WiFi100/WiFi900 with Sub-Contractors details in the format listed below

Name of School	Name of Sub-Contractor	Sub-contract service	Roles and responsibility

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We / I understand that if we / I fail to supply the services as offered in our / my tender upon accepting the school's order, we are / I am prepared to pay the price difference to the school of such services to be obtained from elsewhere.

Name of Supplier: _____

Name and Signature of Person authorized to sign the tender:

Name (in block letters): _____

Signature: _____

Date: _____

