

Tender Reference No. : EQ-TD-202201

26 September 2022

INVITATION TO TENDER
Total Solution for Supply and Installation of Computed Tomography (CT)
Scanning System and Related Services for CUHK Medical Centre
(Tender No.: EQ-TD-202201)

The CUHK Medical Centre Limited (CUHKMC) intends to invite Tenderer to submit a proposal for Total Solution for Supply and Installation of Computed Tomography (CT) Scanning System and Related Services for CUHK Medical Centre.

If your company is interested, please submit a full proposal with all required submissions mentioned in the Tender documents by **12:00 noon on 7 November 2022 (HK Time)**.

For a better understanding of the CUHKMC's expectations, a briefing session will be held at 11:00 a.m. on 7 October 2022 (HK Time). Please register by email (procurement@cuhkmc.hk) before 12:00 noon on 5 October 2022 (HK Time).

Late submissions or incomplete proposals will not be considered. Please note that this invitation for proposal is non-committal on our part and your proposal would be provided to CUHK Medical Centre Limited at no cost.

Yours faithfully,



Ivan KO
Senior Manager, Supplies & Procurement
CUHK Medical Centre Limited

Enclosure

CUHK Medical Centre Limited

Tender Invitation

on

**Total Solution for Supply and Installation of
Computed Tomography (CT) Scanning System
and Related Services**

Tender Reference: EQ-TD-202201

Tender Issue Date: 26 September 2022

Tender Closing Date and Time: 12:00 noon on 7 November 2022 (HK Time)

<u>Part</u>	<u>Titles</u>
I	Interpretation
II	Terms of Tender
III	Conditions of Contract
IV	Offer To Be Bound
V	Tenderee's Brief
VI	Tender Brief
VII	Schedules of Submissions

PART I
INTERPRETATION

In this Tender documents, the following words and expressions shall have the following meanings unless otherwise stated:

“Contract”	means the contract made between CUHKMC and the Successful Tenderer for the supply of Goods;
“Successful Tenderer”	means the Tenderer whose Tender is accepted by CUHKMC;
“Goods”	means the Goods to be supplied by the Successful Tenderer under the Contract;
“Services”	means the Services to be provided by the Successful Tenderer under the Contract;
“CUHKMC”	means CUHK Medical Centre Limited;
“CUHKMC Representative”	means the person acting for and on behalf of CUHKMC or any duly authorized officer for the time being performing his/her duties;
“Tender”	means the Tender submitted by the Tenderer for the supply of Goods;
“Tenderer or Company”	means the person, firm or company whose details are set out in the relevant Schedule of Submission (“Schedule”).

PART II
TERMS OF TENDER

1 Invitation to Tender

- 1.1 Tenderers are invited for the supply of Goods and/or services subject to and in accordance with the requirements/specifications, Terms of Tender and Conditions of Contract.
- 1.2 CUHKMC reserves the right in its absolute discretion to cancel this Tender at any time.
- 1.3 CUHKMC will not be responsible for or liable to any Tenderer for any cost or expense incurred in relation to (i) the preparation or submission of the Tender; or (ii) any communication between the Tenderer and CUHKMC in relation to the Tender, under any circumstances (including the cancellation of this Tender by CUHKMC).
- 1.4 The Tenderer acknowledges and agrees that CUHKMC is not responsible for the accuracy of any information provided in this Tender, and the Tenderer has made its own independent evaluation of the business potential of the Tender Brief and it has submitted its Tender submission based solely on the result of such independent evaluation.
- 1.5 The Tenderer is required to fill in the information indicated in “Offer To Be Bound” (Part IV).

2 Tender

- 2.1 This Tender relates to the supply of all (or any part) of the Goods and/or services whose details and specifications are set out in the Tender Brief.
- 2.2 Tenderer must note that its offers in their Tender submission must comply with the requirements of this Tender in every respect. Tender submission which does not comply with requirements shall not be considered.
- 2.3 The Tender documents are to be completed in English (except where certain Supporting Documents are expressly required to be in Chinese) and in permanent ink or typescript and submitted in the manner stipulated. Tenderer is required to stamp and initial next to any corrections made.
- 2.4 The Schedule issued with this Tender must not be altered by the Tenderer. Any modification of the Schedule considered necessary by the Tenderer should be the subject of a separate letter accompanying the Tender. Figures should not be altered or erased; any alteration should be effected by striking through the incorrect figures and inserting the correct figures in ink above the original figures. All such amendments should be initialled by the Tenderer in ink.
- 2.5 Tender is to be completed in permanent ink or typescript; Tender not so completed may not be considered.

- 2.6 Tender may not be considered if complete information is not given with the Tender or if any particulars and data asked for in the Schedule are not furnished in full. Where appropriate, descriptive and technical literature should be submitted with the Tender. CUHKMC Representative may request clarification of particulars and data supplied, or additional particulars and data, and if so the Tenderer shall have 5 working days or such further period as CUHKMC Representative may specify to submit such further information. Failure to do so within the time period shall result in the Tender being considered incomplete.
- 2.7 CUHKMC Representative is not bound to accept the lowest or any Tender and reserves the right to accept all or any part of any Tender at any time within the Tender Validity Period.

3 Tender Validity Period

Tender shall, unless otherwise indicated by the Tenderer, remain open for **one-hundred-and-twenty (120) days** after the Tender Closing Date and the Tenderer agrees not to withdraw the offer constituted by such Tender for this period (“Tender Validity Period”).

4 Tender Prices

- 4.1 The prices to be quoted by the Tenderer are to be in Hong Kong currency and must only be shown on the Schedule. Such prices shall be net prices allowing for all trade and cash discounts and inclusive of all cost and expense to be incurred by the Tenderer in the performance of the Contract. Prices must remain valid for the duration of the Contract and for the supply of all of the Goods and/or services.
- 4.2 Prices quoted in other currencies will be considered and if accepted, payment will be made in the quoted currency. All bank charges incurred by the Successful Tenderer will be borne by the Successful Tenderer.
- 4.3 For price comparison purposes, any prompt payment discount offered by the Tenderer will not be taken into consideration in assessment of Tender prices.
- 4.4 Tenderer is reminded to ensure the accuracy of their Tender prices quoted in the Price Proposal. Under no circumstance will CUHKMC accept any request for price adjustment on grounds that a mistake has been made in the Tender prices quoted by a Tenderer.
- 4.5 CUHKMC reserves the right to negotiate with any Tenderer on the terms of the offer.

5 Acceptance and Award of Contract

The Successful Tenderer will receive a letter of acceptance from CUHKMC as an indication of acceptance of offer submitted by the Tenderer. The letter of acceptance in accordance with terms and conditions of the Tender and submitted proposal of the Tenderer shall constitute a binding contract between CUHKMC and the Successful Tenderer. Tenderer who do not receive any notification within one-hundred-and-twenty (120) days from the Tender Closing Date may assume that its Tender has not been accepted.

6 Presentation

Tenderer may be invited to provide a brief presentation.

7 Product Information

Tenderer shall submit with the Tender a sufficient and valid product information, e.g. catalogues, technical specifications, brochures, etc. Additional copies may be requested from CUHKMC to facilitate easy reference and ordering.

8 New Information Relevant to Qualified Status

Tenderer should inform CUHKMC in writing immediately of any circumstance or information which may affect its qualification to Tender in this Tender. CUHKMC reserves the right to review its qualified status in the light of any new information relevant to its qualification.

9 Cancellation of Tender

Without prejudice to CUHKMC's right to cancel the Tender, where there are changes of requirements after the Tender Closing Date, for operational or any other reasons, CUHKMC is not bound to accept any conforming Tender and reserves the right to cancel the Tender.

10 Destruction of Unsuccessful Tender

10.1 CUHKMC will return the unsuccessful Tender submissions upon one-hundred-and-twenty (120) days of Tender closing. The unsuccessful Tenderer(s) should contact the CUHKMC to collect Tender submission. If the Tenderer fails to collect the Tender submissions within ten (10) days after the one-hundred-and-twenty (120) days of Tender closing, CUHKMC will dispose the Tender document without notifying the Tenderer.

10.2 Where a Tender is cancelled, all Tender submissions under that Tender can be destroyed any time after cancellation.

11 Microsoft Windows Support

11.1 Tenderer has the responsibility to plan and take appropriate actions on the Goods or system to safeguard against the risks of Windows desktop Operating System obsolescence, including to upgrade the computers to a supported Windows desktop Operating System version to ensure the continued support and avoid security risks of the Goods or system provided to CUHKMC.

12 Personal Data

- 12.1 Tenderer's Personal Data may be requested for purposes related to evaluation of offer. When Personal Data is provided, please make sure that the data is accurate and complete. If Tenderer fails to provide with the information required or if the information provided is inaccurate or incomplete, the evaluation of the Tenderer's offer will be affected.
- 12.2 Personal Data may be made available to:
- a. CUHKMC Representative.
 - b. Any other relevant parties who require it for matters related to evaluation of Tenderer's offer.
- 12.3 CUHKMC Representative will only use, disclose or transfer the Tenderer's Personal Data provided:
- a. For the purposes relating to evaluation of offer or directly related purposes; or
 - b. Where permitted by law.
- 12.4 CUHKMC Representative will obtain the Tenderer's consent before using its Personal Data for any other purposes.

13 Commitment to Environmentally Responsible Purchasing

- 13.1 CUHKMC is sensitive to the environmental impact of purchasing decisions and takes account of legitimate environmental concerns while continuing to achieve best value for money in its purchasing functions.
- 13.2 CUHKMC identifies products which present environmental concerns and addresses these concerns in the approval of the Tender specifications and in the Tender evaluation process.

14 Environmental Friendly Measure

The following environment friendly measures are recommended in the preparation of the Tender documents:

- 14.1 All documents should preferably be printed on both sides and on recycled paper. Papers exceeding 80 gsm are not recommended.
- 14.2 Excessive use of plastic laminates, glossy covers or double covers should be avoided as far as possible. Use of recyclable non-glossy art board paper as document covers is recommended.
- 14.3 Single line spacing should be used and excessive white space around the borders and in between the paragraphs should be avoided.

15 Consent to Disclosure

CUHKMC shall have the right to disclose whenever it considers appropriate, or upon request (verbal or written) by any third party (including unsuccessful Tenderer(s)) information of the Contract, such as the name and address of the Successful Tenderer, product description/brand/model/country of origin (if applicable), description of the relevant services (if applicable) and the value of the Contract, without reference to or consent from the Successful Tenderer. Unsuccessful Tenderer may also enquire as to the reason for the rejection of their Tender submissions.

16 Offering Gratuities

Tenderer shall not, and shall assure that its employees, agents and sub-contractors shall not, offer, solicit or accept an advantage as defined in the Prevention of Bribery Ordinance (Cap. 201 of the laws of Hong Kong) in connection with this Tender.

17 Tender Submission

17.1 The documents attached herewith should only be used for the submission of a Tender in response to this invitation. The “Submission of Tender” should be completed by Tenderer with signature and company chop. The submission may be accompanied by documents contacting additional explanations, amplifications or specifications, which should be stapled securely to the form.

17.2 This Tender shall be conducted in a two-envelope bidding process. **Technical Proposal and Price Proposal should be submitted separately.**

17.3 One set of original, three sets of duplicate document and one soft copy in CD-ROM/USB. Both envelopes for Technical and Price Proposal should clearly state the subject of this Tender and Tender reference number. In the event of conflict between the version of hardcopy and softcopy, the original hardcopy version shall prevail.

17.4 The proposal (and any accompanying document) must be placed in a sealed plain envelope.

Address: CUHK Medical Centre Limited Tender Board
12/F, CUHK Medical Centre
9 Chak Cheung Street, Shatin
New Territories, Hong Kong

17.5 The Tender, properly completed and enveloped, must be placed in Tender Box by **12:00 noon on 7 November 2022 (HK Time)**. The office hours of CUHKMC are 9:00 am to 12:30 pm and 2:30 pm to 5:00 pm, Monday to Friday (except public holiday). **Late Tender will not be considered.**

- 17.6 The Tender closing time and Tender closing date will be extended to 12:00 noon the next working day in Hong Kong (i.e. any day from Monday to Friday which is not a public holiday) under the following situations:
- a. A black rainstorm signal or tropical cyclone warning signal No. 8 or above issued by the Hong Kong Observatory is still in force between 9:00 am and 12:00 noon on the Tender Closing Date; or
 - b. A black rainstorm signal or tropical cyclone warning signal No. 8 or above is announced to be hoisted shortly by the Hong Kong Observatory between 9:00 am and 12:00 noon on the Tender Closing Date.

18 Tenderer's Enquiries

- 18.1 Any enquiries relating to the Tender must be made before **2:30 p.m. on 21 October 2022 (HK Time)** in written by email to procurement@cuhkmc.hk.
- 18.2 The questions with the answers will be posted on the website of CUHK Medical Centre (www.cuhkmc.hk) before Tender closing date.

19 Briefing Session

- 19.1 A briefing session for this tender invitation shall be held as follows:
- Date: 7 October 2022 (Friday)
Time: 11:00 a.m.
Venue: 10/F, CUHK Medical Centre
9 Chak Cheung Street, Shatin
New Territories, Hong Kong
- 19.2 Each interested party will be allowed to send four representatives to attend the briefing session. Prior registration for the briefing session by 5 October 2022, 12:00 noon is required by email (procurement@cuhkmc.hk), providing the company name, name(s) of participants, title(s) and contact phone number of the representatives.

PART III
CONDITIONS OF CONTRACT

1 Assignment

The Successful Tenderer shall not, without the written consent of CUHKMC Representative, assign or otherwise transfer or subcontract the Contract or any part share or interest therein, and the performance of the Contract by the Successful Tenderer shall be deemed to be personal to him.

2 Goods, Specifications and Proof Notes

- 2.1 The Goods supplied under the Contract shall be of merchantable quality, fit for the purpose for which Goods of that kind are commonly bought, and comply with the specification as described in the Schedule and any technical literature supplied by the Successful Tenderer with his Tender. If the Goods are not fit for the purpose or of merchantable quality or fail to comply with the specification, CUHKMC Representative may by notice in writing at any time and from time to time (i) reject all or part of the Goods delivered hereunder, or (ii) require the Successful Tenderer to repair or replace all or part of the Goods delivered hereunder or (iii) terminate the Contract forthwith.
- 2.2 Any drawings and information reasonably required for the Successful Tenderer's guidance in the execution of the Contract shall be furnished to him free of charge. Drawing which are furnished shall be returned on completion of the Contract, if required.
- 2.3 The Successful Tenderer, if required, shall furnish CUHKMC Representative with a proof note or a certificate showing that the Goods have been subjected to the normal tests for such Goods or such tests as CUHKMC Representative may reasonably require.

3 Delivery and Installation Requirement

- 3.1 The Successful Tenderer shall, supply and deliver at his own expenses the Goods in accordance with the delivery conditions specified in the letter of acceptance and/or purchase order and to the destination named in such order, the quantities of Goods therein specified within the time specified in such order. Time shall be deemed to be the essence of the Contract.
- 3.2 The Successful Tenderer is advised, prior to the submission of Tender, to acquaint themselves with the condition of the installation site, Goods delivery route and site boundary etc.
- 3.3 The delivery and installation schedules are mentioned in the Tender brief. The schedule may change according to the building progress. The Successful Tenderer shall liaise and confirm with CUHKMC representative regarding the exact delivery/installation date. A regular progress report on the installation process shall also be submitted during the course of installation.

- 3.4 The Successful Tenderer shall confirm that appropriate means of transportation can be arranged by themselves for the delivery of their Goods to the installation site and that they shall liaise/confirm with the CUHKMC and responsible for ensuring the route of delivery to the installation site are of sufficient width, height and floor loading etc. for the passage of their Goods.
- 3.5 No temporary storage space for any Goods shall be available within the construction site before the completion date. If any Goods arrives earlier than the agreed delivery schedule, the Successful Tenderer shall be responsible for the storage of the Goods outside the construction site. No claim by the Successful Tenderer for extra payment/charges shall be entertained for off-site storage provisions.
- 3.6 The Successful Tenderer should note that he will be held responsible for any damage to the property of CUHKMC may be caused during Goods transportation and installation. All due measures should be taken by the Successful Tenderer to protect such property.

4 Cost of Additional and Alternative Works

The Successful Tenderer will be responsible for the cost as determined by CUHKMC for any additional or alternative works to suit the Goods delivery, storage, installation and commissioning requirements if such have not been highlighted clearly by the Successful Tenderer and confirmed acceptable by CUHKMC before the award of the Contract.

5 Clearance of Materials

- 5.1 The Successful Tenderer shall be responsible for the clearance of all packing materials after delivery/installation of the Goods and shall be responsible to removal and disposal of all materials to a legal place away from CUHKMC.
- 5.2 The Successful Tenderer shall undertake to remove, reinstate or re-align any of its works undertaken in respect of this provision if so required by CUHKMC at any time during the warranty period.

6 Inspection and Acceptance

- 6.1 All Goods delivered shall be subject to inspection and/or testing by CUHKMC and shall be deemed to have been accepted only when CUHKMC Representative or any person duly authorised by him, furnishes the Successful Tenderer with an acceptance note.
- 6.2 The date of acceptance of the Goods shall be determined by CUHKMC based upon the satisfactory completion of such acceptance test.

7 Rejections

- 7.1 If CUHKMC rejects any Goods, the Successful Tenderer shall remove the same at his own expense within 2 working days of being notified in writing by CUHKMC Representative of the rejection. If the Successful Tenderer fails to remove the Goods within such period, CUHKMC Representative may dispose of the Goods as he sees fit. No liability shall attach to CUHKMC in respect of such disposal.
- 7.2 If required by CUHKMC Representative under clause 2.1(ii), the Successful Tenderer shall within a reasonable period of time following the rejection replace the Goods rejected. In the case where replacement Goods have to be obtained from sources outside Hong Kong, the Successful Tenderer must advise CUHKMC of the delivery date of such replacement Goods and such date must be to the satisfaction of CUHKMC Representative. Time shall be of the essence for delivery of such replacement Goods.
- 7.3 In the event that the Successful Tenderer offers for delivery any Goods which have previously been rejected by CUHKMC Representative, CUHKMC shall immediately thereupon be at liberty to terminate the Contract.

8 Title and Risk

- 8.1 The title in the Goods delivered to CUHKMC shall pass to CUHKMC when it is delivered to the carrier engaged by the Successful Tenderer to transport the Goods to the Installation Site.
- 8.2 The risk in the Goods delivered to CUHKMC shall pass to CUHKMC upon acceptance of the Goods as set out in the clause 6 of this part.

9 Payment for Goods

- 9.1 Invoice and correspondence concerning payment must be forwarded to CUHKMC after the date of acceptance of Goods. CUHKMC shall not be held responsible for any delay in payment if invoices and correspondence concerning payment are not properly addressed.
- 9.2 Unless otherwise agreed by CUHKMC, no payment shall be made until the Goods delivery have been accepted within the meaning of clause 3 of this part.
- 9.3 The payment shall be made within 30 clear working days from the date of receipt of invoice or acceptance of the Goods by CUHKMC, whichever is the later.

10 Default

If the Successful Tenderer fails to deliver all or any of the Goods ordered within the time specified in the order or the Goods are rejected, or the replacement Goods are not delivered within the period mentioned, CUHKMC Representative shall immediately thereupon be at liberty to terminate the Contract by written notice addressed to the Successful Tenderer, but without prejudice to any claims by CUHKMC Representative for breach of Contract and, in particular, his right to procure any Goods or any part thereof which have/has not been provided from any other source, and the Successful Tenderer shall be liable for any sums so incurred by CUHKMC in excess of the Contract price. In the event the Goods or any part thereof are/is rejected by CUHKMC, the Successful Tenderer shall on receipt of written notice by CUHKMC immediately refund CUHKMC for the amount so paid by CUHKMC for the Goods or any part thereof which have/has not been provided by the Successful Tenderer.

11 Liability and Indemnities

- 11.1 CUHKMC and its employees or agents shall not be under any liability whatsoever for or in respect of:
- a. Any loss of or damage to any of the Successful Tenderer's property or that of its employees or agents however caused (whether by any negligence of CUHKMC or any of its employees or agents or otherwise).
 - b. Any injury to or death of any of the Successful Tenderer's employees or agents save and except any such injury or death was caused by the negligence of CUHKMC or any of its employees or agents.
- 11.2 The Successful Tenderer shall indemnify CUHKMC and its employees or agents against any claim or demand made against or liability incurred (including all costs, charges or expenses whatsoever) by CUHKMC or any of its employees or agents in respect of:
- a. Any loss, damage, injury or death referred to in sub-clause 11.1 (save and except injury or death caused by the negligence of CUHKMC or any of its employees or agents).
 - b. Any loss or damage sustained by or any injury to or death of any third party in consequence of any negligence of the Successful Tenderer or any of its employees or agents.
- 11.3 In the event of any of the Successful Tenderer's employees or agents suffering any injury or death in the course of or arising out of the Contract and whether there be a claim for compensation or not, the Successful Tenderer shall within 7 clear working days give notice in writing of such injury or death to CUHKMC Representative.
- 11.4 The Successful Tenderer shall indemnify CUHKMC for all costs and damages arising from the delay in the delivery and/or installation, failure of Acceptance and Rejection of the Goods or any part thereof.

- 11.5 The Successful Tenderer shall, and shall procure the manufacturer to, indemnify CUHKMC against all claims arising at any time that the sale, use or possession of the Goods infringes any patent rights, copyrights or registered design or other intellectual property rights of a third party, or on account of any claims for royalties arising from the sale, use or possession of the Goods. The Successful Tenderer shall be liable for all costs and damages suffered or incurred by CUHKMC that may arise from any such claims.
- 11.6 Where required by CUHKMC, the Successful Tenderer shall take out and maintain insurance with a reputable insurer in such manner as it is agreed with CUHKMC to cover its legal liabilities for loss or damage to property and injury or death to persons as a result of the performance of the Contract.
- 11.7 For the purpose of this clause “negligence” shall have the same meaning as that assigned to it in Section 2(1) of the Control of Exemption Clause Ordinance.

12 Bankruptcy

- 12.1 CUHKMC Representative may at any time by notice in writing terminate the Contract without entitling the Successful Tenderer to any compensation in any of the following events:
- a. If the Successful Tenderer shall at any time be adjudged bankrupt, or shall have a receiving order or order for administration of his estate made against him, or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purports so to do; or
 - b. If the Successful Tenderer, being a company shall pass a resolution or the Court shall make an order for the liquidation of its assets or a Receiver or Manager shall be appointed over any assets of the Successful Tenderer, or circumstances shall have arisen which entitle the court or a creditor to appoint a Receiver or Manager.

13 Corrupt Gifts

If the Successful Tenderer or any employee or agent of the Successful Tenderer shall be found to have committed an offence under the Prevention of Bribery Ordinance for the time being in force or any subsidiary legislation made thereafter or under any law of a similar nature in relation to the Contract or any other CUHKMC contract, CUHKMC Representative may, on behalf of CUHKMC, terminate the Contract, without entitling the Successful Tenderer to any compensation therefor and the Successful Tenderer shall indemnify CUHKMC against all costs, claims, damages, losses and expenses necessarily incurred or suffered as a result by CUHKMC.

14 Guarantee and Warranty

- 14.1 The Successful Tenderer will provide a warranty of and guarantee the quality of the Goods, and any part or portion thereof, for a period of 12 months from the date of acceptance thereof.

- 14.2 The Guarantee and Warranty provided by the Successful Tenderer shall be manufacturer's Guarantee and Warranty. CUHKMC will not accept Guarantee and Warranty by third party other than directly provided by Goods manufacturers.
- 14.3 The Successful Tenderer shall, and shall procure the manufacturer to, make good as soon as possible and without charge, all defects in the Goods arising from defective design, materials, workmanship or any other cause discovered within the said period referred to in sub-clause 14.1 above.
- 14.4 In the event that the Successful Tenderer is required to replace any defective Goods but he does not at the same time call for the return of the defective Goods, no responsibility for the defective Goods shall rest upon CUHKMC, and CUHKMC may dispose of them after a reasonable time in whatever manner as it sees fit and retain any proceeds thereof.
- 14.5 If any defects are not made good within a reasonable time, CUHKMC may, after serving notice of intent on the Successful Tenderer, proceed to rectify the defects by repair or replacement at the Successful Tenderer's risk and expense without prejudice to any other rights which CUHKMC may have against the Successful Tenderer.
- 14.6 The Successful Tenderer shall remain liable to CUHKMC under the terms of this clause whether or not the Goods, or any part thereof, were manufactured by him, and the Successful Tenderer shall ensure that the supplier of any Goods not manufactured by him shall be under at least the same liability to the Successful Tenderer as the liability undertaken by the Successful Tenderer to CUHKMC pursuant to this clause.
- 14.7 During the warranty period, all services which include replacement of faulty parts, scheduled and breakdown services by qualified maintenance personnel of the Successful Tenderer, and/or the manufacturer so procured by the Successful Tenderer, shall be provided free of charge.

15 Patent Rights

The Successful Tenderer shall indemnify CUHKMC against all claims arising at any time that the sale, use or possession of the Goods infringes any patent rights, copyrights or registered design or other intellectual property rights of a third party, or on account of any claims for royalties arising from the sale, use or possession of the Goods, and the Successful Tenderer shall also be liable for any cost to CUHKMC that may arise from any such claims.

16 Applicable Law

- 16.1 The validity and interpretation of the Contract shall be governed in all respects by the laws of Hong Kong and the parties shall submit to the exclusive jurisdiction of the courts of Hong Kong in the event of dispute.
- 16.2 The Successful Tenderer shall comply with all applicable international and local laws, rules and regulations pertinent to its obligations under the Contract.

17 Commitment to Environmentally Responsible Purchasing

- 17.1 CUHKMC is sensitive to the environmental impact of purchasing decisions and takes account of legitimate environmental concerns while continuing to achieve best value for money in its purchasing functions.
- 17.2 CUHKMC identifies products which present environmental concerns and addresses these concerns in the approval of the Tender specifications and in the Tender evaluation process.

18 Survey Expenses

Without prejudice to other rights or remedies of CUHKMC herein or at law, if there are any defects in the Goods, the Successful Tenderer shall be responsible for any expenses incurred in employing a surveyor or any expert to establish the nature of the defects.

19 Inspection or Examination

- 19.1 The Successful Tenderer shall upon request of CUHKMC permit CUHKMC Representatives to inspect or examine warehouse(s) or distribution operation (such to include without limitation, logistics, manpower, facilities or transportation arrangements) in respect of the Goods.
- 19.2 The Successful Tenderer shall upon request of CUHKMC procure written permission from the manufacturer(s) of the Goods to permit CUHKMC Representatives to inspect or examine the manufacturing facilities and process (including storage) in respect of the Goods.
- 19.3 The Successful Tenderer shall take or procure to be taken any reasonable action to rectify any reasonable concerns raised by CUHKMC following inspection or examination under this Clause. The Successful Tenderer shall also furnish CUHKMC with a report satisfactory to the CUHKMC on the action taken, within such time frame as may reasonably be requested by CUHKMC.

20 Country of Origin

CUHKMC reserves the right to reject any delivery in the event that the Goods are manufactured in the country other than the one originally quoted.

21 Manufacturer

CUHKMC reserves the right to reject any delivery in the event that the Goods are manufactured by the manufacturer and in the manufacturing facility other than the one originally quoted.

22 Documentation

- 22.1 All photocopies of operation and maintenance manuals shall be properly bound, stamped and certified as true copies of the original by the manufacturer.

- 22.2 Should any original manufacturer products be included, the documents as specified in 22.1 above shall also be provided.
- 22.3 At the time of delivery of the Goods, appropriate set(s) of the manufacturer's original operation and maintenance manuals in English or in Chinese complete with full circuit diagrams levels shall be provided with the Goods ordered. The following table indicates the quantities of documents required:

No. of set of Goods per model	Set(s) of maintenance manuals required	Set(s) of operation manuals required
1	1	2
2	2	4
3 (or more)	3	6

- 22.4 The Successful Tenderer is required to submit the documentation in form of softcopy in addition to one set of hardcopy.

23 Certificate of Compliance

CUHKMC will not conduct acceptance tests unless and until it has received a certification from the manufacturer that the manufacturer has conducted its own tests and finds that the Goods in question meets the specifications in the Contract.

24 Maintenance Service/Device Installation Requirements

- 24.1 The Successful Tenderer shall abide to the Occupational Safety and Health Ordinance (CAP. 509) and Regulations of Hong Kong SAR to ensure that the employees' safety and health at work are properly taken care of in CUHKMC.
- 24.2 The Successful Tenderer shall abide to the relevant legal requirements and regulations of environmental ordinance of Hong Kong SAR in order to restrict and reduce the adverse effects on environment as a result of their services/products provided.

25 Changes and Substitution of Goods

- 25.1 The Successful Tenderer must keep CUHKMC advised of any changes in Goods including but not limited to change in design, material, part numbers, supersessions, during the contractual period.
- 25.2 The Successful Tenderer shall undertake to provide CUHKMC at any time before Goods delivery with an option to substitute Goods with new technology for any or all of the offered Goods. The substitute Goods shall have performance characteristics and functional capability equivalent to or better than the originally offered Goods. Such substitution(s) shall cost less than or equal to the replaced Goods. The terms and conditions of the Contract shall remain applicable to such substitutions(s) and CUHKMC reserves the right to accept or reject the proposed substitution(s).

26 Notification of Upgrade and Modification

The Successful Tenderer shall inform CUHKMC in writing within 5 working days for any upgrade and modification affecting the Goods supplied under this Tender.

27 Product Recall, Hazard Alert and Safety Notice

In case there is adverse incident happened locally and/or in overseas countries affecting the Goods supplied under this Tender that leads to a product recall, hazard alert or safety notice action, the Successful Tenderer is obligated to inform CUHKMC in writing within 24 hours after the Successful Tenderer knew or reasonably should have known the happening of the incident.

28 Publicity

- 28.1 The Successful Tenderer shall submit to CUHKMC all advertising or other publicity material relating to the Contract or the Goods supplied or other work done in connection with the Contract wherein the name of CUHKMC is mentioned or from which a connection with CUHKMC can reasonably be inferred or implied.
- 28.2 The Successful Tenderer shall not publish or use any advertising or other publicity material relating to CUHKMC or mention the name of CUHKMC for any promotion or marketing purposes without the prior written consent of CUHKMC.
- 28.3 Nothing in the Contract expressly or impliedly constitutes an endorsement of any Goods or services and each party agrees not to conduct itself in such a way as to imply or express any such approval or endorsement.

29 Confidential Information

The Successful Tenderer shall ensure that his staff should treat any oral or written information which they obtain under the Contract or accidentally overhear or encounter when carrying out their work in CUHKMC premises as confidential and they should not disclose such information to any third party.

30 Performance Monitoring

Tenderers should note that in the event a Tenderer is awarded the Contract, the Tenderer's performance in the Contract shall be monitored and taken into account in evaluating the Tenderer's Tenders in response to invitations for Tenders by CUHKMC in the future. If in the sole opinion of CUHKMC, the performance of the Tenderer in the Contract is unsatisfactory, CUHKMC may in its absolute discretion disqualify that Tenderer, its holding company and subsidiaries from participation in any future Tenders issued by CUHKMC, for such period as CUHKMC may in its entire discretion consider appropriate. Tender from the Tenderer who has been so disqualified from Tendering by CUHKMC shall be rejected.

31 Occupational Safety and Health (“OSH”)

- 31.1 The Successful Tenderer shall, so far as is reasonably practicable, take all reasonable steps to ensure the health and safety at work of all its employees performing the Successful Tenderer's obligations under the Contract. The Successful Tenderer shall for the purpose of the Contract where applicable:
- a. Provide and maintain plant and systems of work that are safe and without risks to health;
 - b. Conduct regular work safety risk assessment exercises and make arrangements to ensure the safety and absence of risks to staff's health in connection with the use, handling, storage and transportation of plant or substances;
 - c. Provide adequate information, instructions, training and supervision to its employees on work safety;
 - d. Maintain the workplace, including ingress and egress thereto, as far as is within its control, safe and without risks to health;
 - e. Conduct and monitor OSH compliance;
 - f. Keep and provide proper documentation of training records, duty rosters, incident reports, audit and inspection records and personal particulars of staff, if required by CUHKMC; and
 - g. Ensure that the Successful Tenderer's employees take care of the safety and health of other persons who may be affected by their act of omission and co-operate with CUHKMC representatives and such other persons to ensure compliance with any applicable statutory requirements.
- 31.2 The Successful Tenderer shall fully indemnify CUHKMC from and against all claims, actions, proceedings, demands and suits brought against and/or fines and penalties imposed on CUHKMC arising directly or indirectly out of or in connection with the failure of the Successful Tenderer to comply with part or any other obligations imposed under any applicable statutory requirements, including the Occupational Safety and Health Ordinance (Cap 509) and all costs and expenses in connection therewith.

32 Expiry Date

Where product labelling and/or shelf life requirements are set out in the Tender specifications, the use before date of all medical devices and consumables, if indicated in the format of MM/YY, will be made reference as use before the first day of the month.

33 Contracts (Rights of Third Parties) Ordinance

The application of the Contracts (Rights of Third Parties) Ordinance is expressly excluded and no person who is not a party to the Contract shall be entitled to enforce any right or term of the Contract pursuant to the Contracts (Rights of Third Parties) Ordinance.

PART IV
OFFER TO BE BOUND

1 I/We, do hereby bind myself/ourselves to execute orders for any or all of the goods specified in the Schedule, which may during the period or periods specified in the Schedule be placed by CUHKMC Representative at the prices quoted in the Schedule free of all other charges, subject to and in accordance with the Terms of Tender and Conditions of Contract.

2 I/We, also certify that the particulars given by me/us below, are correct:

2.1 The number of my/our/the Company's Business Registration Certificate is _____

2.2 The date of expiry of my/our/the company's Business Registration Certificate is _____

2.3 I/We/the Company is/are covered by an Employees' Compensation Insurance Policy, the particulars of which are as follows:

Policy No. _____

Name of Insurance Company _____

Period covered by the Policy is from _____

Brief particulars of the cover provided and any special conditions are as follows:

3 I am the Secretary/Managing Director of the Limited company hereinafter mentioned and duly authorised to bind the said Company by my signature.

I am a partner/We are partners in the firm hereinafter mentioned and duly authorized to bind the said firm and the partners therein for the time being.

The Tender is submitted with the authority and on behalf of _____

Company Limited whose registered office is situated at _____ Hong Kong.

- or -

This Tender is submitted on behalf of myself/ourselves and the firm known as

_____ of _____

Hong Kong and other partners hereof namely; (state names and residential addresses of all other partners):

4 In the event of any queries relating to our offer please contact _____ Tel. No. _____

5 Name(s) and address(es) of person(s) signing:

Signature (s): _____

Dated this _____ day of _____

Notes (1) All the particulars required above must be provided. (ii) Strike out clearly alternatives which are not applicable.

PART V

TENDEREES' BRIEF

This Tenderer's Brief aims at providing Tenderers with general understanding of CUHKMC project and should be read in conjunction with the Tender Invitation issued by CUHKMC Ltd. The information contained herein is prepared to the best of our knowledge and should not be seen as binding.

Hospital at a Glance

CUHK Medical Centre Limited (CUHKMC) which operates CUHK Medical Centre (the Hospital), a non-profit, private teaching hospital, is indirectly wholly owned by The Chinese University of Hong Kong (CUHK).

CUHKMC is committed to provide innovative and patient-centred healthcare services, with package prices offered for inpatient services. This will bridge the service gap between private and public healthcare sectors by providing high-quality medical services with transparent and affordable pricing to middle-class families, so alleviating the pressure on the public healthcare system.

Situated adjacent to the University MTR station, CUHKMC will offer convenience to our patients and families. A full range of medical services will be provided through dedicated teams of healthcare professionals, including doctors of all major specialties, nurses and allied health professionals. The hospital is planned to provide 516 in-patient beds, 90 day-beds, 28 operating rooms and 38 consultation rooms. Apart from the in-patient services, the hospital also provides a 24-hour clinic, an integrated specialist outpatient clinic and day services in 8 specialized medical centres. Each area is carefully designed to be user-friendly for all ages including patients, visitors and staff. Services and work flows are streamlined to match patient needs and to eliminate unnecessary waiting and transfers. The hospital's model of care is developed with emphases on personal interactions, patient engagement, healthcare innovations, seamless flows and teamwork. As a smart hospital built for the future, state-of-the-art technologies will be used to enhance clinical outcomes of patient care and operational efficiency.

For more information about CUHK Medical Centre, please click into the hospital website: www.cuhkmc.hk

PART VI

TENDER BRIEF

1. Tender Requirements

- 1.1 Tenderers are invited to submit offers for the Total Solution for Supply and Installation of Computed Tomography (CT) Scanning System and Related Services for the CUHKMC as specified in the Tender Specifications. The CT Scanning System and its associated accessory and ancillary equipment items shall hereinafter be referred to as “the Equipment”.
- 1.2 Installation Site of the Equipment shall be at the CT Suite, Imaging and Interventional Radiology Centre (IIRC), G/F, CUHKMC, 9 Chak Cheung Street, Shatin, New Territories, Hong Kong.
- 1.3 **Materials for Reference**
The layout drawings in electronic format are available for viewing after signing a Confidentiality Non-Disclosure Agreement with CUHKMC, please contact CUHKMC at procurement@cuhkmc.hk.
- 1.4 Tenderers shall provide in their Tender return full information on the functionality and performance of their equipment on offer, including relevant clinical and technical data to support and justify their Tender offer. A Tender submission that fails to provide information and data as required would be disqualified.
- 1.5 The equipment on offer shall be complete and fully complied with the Tender Specifications. Incomplete or partial offers shall not be considered.
- 1.6 Unless otherwise stated, the equipment offered shall incorporate the components/requirements/features specified in the Tender Specifications. The specification only outlines the minimum requirement for the imaging system.
- 1.7 Tenderers must indicate, clause by clause, whether their offered products comply fully with the specifications by entering ‘Yes’ or ‘No’ against each clause. Tenderers, at their own discretion, may add details to provide further information pertaining to the clause. Failure of the Tenderers to comply with the foregoing requirements may jeopardize the consideration of their offers.

2. Specifications of the Equipment

- 2.1 The Tender Specifications are divided into the following sections:
 - Section A: General Requirements
 - Section B: Requirements of the Main CT System
 - Section C: Delivery, Installation and Other Requirements
 - Section D: Healthcare Engineering Systems and Related Facility
- 2.2 Requirements of the specifications are classified under the following categories:
 - M = Mandatory
 - D = Desirable

Section A: General Requirements				
Clause	Specification	Type	Yes/No	Details
1.	Basic Requirements			
1.1	Tenderers are invited to submit offers for the supply and installation of ONE complete set of Computed Tomography (CT) Scanning System, its associated accessory and ancillary equipment items (hereinafter referred as “the Equipment”) and related services for CUHK Medical Centre (CUHKMC). The offer shall be comprehensive without hidden costs.	M		
1.2	Tenderers shall note that the installation site at CUHKMC for the CT System is shown in Appendix I denoted by the blue shaded area.	M		
1.3	The Equipment on offer shall be specifically designed for clinical use and shall be able to fulfil all the specific requirements of CUHKMC.	M		
1.4	Both the hardware and software of the Equipment on offer shall have an upgradable architecture. Tenderers shall provide detailed information on the pathway of technology upgrade.	M		
1.5	The provision of all hardware and software licences in this contract shall be valid for the entire serviceable life of the Equipment on offer.	M		
1.6	The functions/features of the proposed model shall be ready in the market on the Tender closing date. Tenderers shall provide documentary proof to substantiate that their products are in compliance with this requirement.	M		
1.7	Tenderers are invited to submit a proposal for the construction of the whole CT site formation works including all builder’s works and E&M’s works, the supply and installation of a complete set of whole body CT System and the associated site preparation for proper installation, testing and subsequent operation of the Equipment. The proposal on offer shall be on a total solution and turnkey project basis.	M		
1.8	The Successful Tenderer shall complete all the works pertaining to building, building service installations, E&M diversion, interfacing with CUHKMC’s plants/systems, decoration, structural strengthening, supply, delivery, installation, testing and commissioning of the Equipment.	M		
1.9	The Successful Tenderer shall design the layout plan based on the requirements in the clause 1.8 above as agreed by the end-user and handle all matters related to the Buildings Department (BD) submission (if required) until a BD’s approval/consent for the commencement of construction works is obtained.	M		

Section A: General Requirements				
Clause	Specification	Type	Yes/No	Details
1.10	Itemized prices of the Equipment on offer shall be included in the Tender returns.	M		
1.11	Tenderers shall state if there is any proposal of marketing a new or more technologically advanced product other than that quoted for in the Tender within 12 months from the date of Tender return. Should a new or more technologically advanced product become available within these 12 months and no such statement has been made, the Successful Tenderer shall replace the supplied or installed product with the new product without any charge to CUHKMC at the discretion of CUHKMC.	M		
1.12	Tenderers shall provide future information pertaining to the new features of the Equipment on offer anticipated to be available at the time of installation.	M		
1.13	Tenderers shall submit the proposed equipment layout drawings for the floor area used by the Equipment as well as the network layout drawings for areas involved.	M		
1.14	Tenderers shall accept any reasonable changes in this Tender raised by CUHKMC before the installation of the Equipment.	M		
1.15	The Equipment on offer, its installation and involved building and building service works shall comply with the relevant quality, safety and legislative requirements, code of practice and design guidelines stipulated by the Government of HKSAR and also the relevant international quality and safety standards and other requirements of CUHKMC.	M		
1.16	Tenderers are required to comply with the Ordinances in connection with the scope of site preparation works and appoint an Authorized Person (AP), a Registered Structural Engineer (RSE), a qualified Building Services Engineer (BSE) and a Registered Safety Officer (RSO) to supervise the architectural, structural and building service works respectively. Tenderers shall indicate clearly the scope of duties of the AP, RSE, BSE and RSO. Furthermore, a qualified Clerk of Works and a Building Services Inspector are required to supervise the site works for building and building service installations respectively.	M		
1.17	Tenderers shall provide architectural and structural plans certified by the Authorized Person and Registered Structural Engineer in compliance with relevant legislations/regulations/Code of Practice.	M		
1.18	Tenderers are required to submit the names of their sub-contractors for building, building service installations respectively for the site works in the Tender.	M		

Section A: General Requirements				
Clause	Specification	Type	Yes/No	Details
1.19	The sub-contractors for the site preparation works shall be Registered Building Contractors for building works and Registered Specialist Building Contractors under the Buildings Ordinance of appropriate discipline for building service works.	M		
1.20	The current edition of the schedule of Conditions of Building Contract for Use in the HKSAR published by HKIA and all current editions of general specification for Building/ Building Services works issued by the Architectural Services Department (ArchSD) are to be referred to.	M		
1.21	The proposed building and building service installations shall be designed and constructed in such a way not to obstruct access to other facilities.	M		
1.22	Any statement(s) of conviction under the following Ordinances is/are required to submit, these include the (i) Immigration Ordinance (Cap. 115), (ii) Factories and Industrial Undertakings Ordinance (Cap. 59), (iii) Occupational Safety and Health Ordinance (Cap. 509), (iv) Shipping and Port Control Ordinance (Cap. 313) and (v) Employment Ordinance (Cap. 57).	M		
1.23	The Equipment on offer shall be fully functional according to the specifications and compatible with the building and building service provisions at CUHKMC. The Equipment on offer shall be designed, manufactured and installed to operate with optimum performance and to the complete satisfaction of the end-user of CUHKMC. All components, items and parts of the Equipment on offer are deemed to have been allowed for by the Tenderers in their Tender price. There shall be no missing items that prohibit full functioning of the Equipment on offer.	M		
1.24	The Successful Tenderer shall coordinate and cooperate with the end-user and other involved parties in the delivery, storage, installation, testing and commissioning of the Equipment and all other related works until the installation is satisfactorily completed and accepted.	M		
1.25	The Successful Tenderer shall obtain CUHKMC's approval of every submitted plan prior to the commencement of any building and building service and related works in this contract.	M		

Section A: General Requirements				
Clause	Specification	Type	Yes/No	Details
1.26	Tenderers are required to state the details of all environmental conditions, service conditions, service connections and tolerance limits required for the Equipment on offer to ensure satisfactory operation of the equipment, e.g., the temperature, humidity, ventilation, electrical supply and power requirements, water supply and flow etc.	M		
1.27	The Successful Tenderer shall also be responsible for liaising with other contractors of CHKUMC to undertake the interfacing with CUHKMC's plants/systems for the works related to the installation. Tenderers can obtain the information of other contractors from CUHKMC as and when necessary.	M		
1.28	Tenderers are requested to conduct a site inspection visit before submission of their offers so as to acquaint themselves with the conditions and provisions of the building and building services of the installation site and the equipment delivery route and to identify any incompatibility issues relating to and in connection with the installation and operation of the CT System on offer. Additional cost, if any, incurred to the Successful Tenderer arising from incompatibilities, inadequacies and/or other site constraints found in the installation stage shall be deemed to have been borne in the submitted Tender price. The arrangement for the site inspection visit would be arranged upon request.	M		
1.29	Tenderers shall guarantee to maintain the functionality and technical performance specifications of the Equipment on offer for at least 10 years effective from the date of acceptance under normal operation and maintenance conditions.	M		
2.	Total Solution Requirements Tenderers shall provide the following for CUHKMC's consideration:	M		
2.1	A detailed proposal on how the CT System and image workstations on offer can be connected to the Picture Archiving and Communication System (PACS), Radiology Information System (RIS) and Hospital Information System (HIS) of CUHKMC to achieve an effective and efficient digital image/data exchange for filmless operation.	M		
2.2	A proposal and a policy on software and hardware upgrades of the Equipment on offer during and after the warranty period.	M		

Section A: General Requirements				
Clause	Specification	Type	Yes/No	Details
2.3	A proposal and a policy on technology substitution to ensure that immature obsolescence can be avoided. The proposal shall include the commitments of the Tenderers to supply and install the state-of-the-art software and hardware technology on the date of delivery.	M		
2.4	A proposal on technical and specialist support on operational and functional aspects of the Equipment on offer during and after the warranty period. The proposal shall include the commitments of the Tenderers to provide the proposed support. Tenderers shall specify if local and/or overseas specialists shall provide such support. The qualifications and expertise of the specialists who provide such support shall be indicated in the Tender returns.	M		
2.5	A proposal on training of CUHKMC staff on equipment operation and applications. The proposal shall include commitments of the Tenderers on future training provisions in the event of hardware and software upgrades.	M		
2.6	A proposal for maintenance arrangements and service support during the warranty period.	M		

– END OF SECTION A –

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
1.	Gantry System			
1.1	Continuously rotating tube-detector unit driven by slip ring technology.	M		
1.2	Rotational time per 360° shall be ≤ 0.28 second.	M		
1.3	System with gantry aperture size ≥ 80 cm.	M		
1.4	A total of 4 sets of control units shall be located on both sides of the CT table on the front and rear covers of the gantry housing.	M		
1.5	A digital display of patient couch vertical height and horizontal position shall be incorporated in the gantry.	M		
1.6	3D laser lights for scan plane localization with an accuracy of ± 2 mm or better.	M		
1.7	An ECG-gating device, including an ECG monitor for gated studies, for cardiac package shall be an integrated part of the system.	M		
1.8	A display of ECG waveform on the front cover of the gantry housing. Alternate means of display for effective ECG monitoring would also be considered. Provide details on the alternate offers.	M		
1.9	Integrated intercom system for 2-way communication between the operator at the scanning console and the patient inside the gantry.	M		
1.10	Electrical and/or mechanical interlocks to disable the triggering of x-ray exposure when the doors of the scan room are not properly closed.	M		
1.11	Provide details on the effective cooling methods for dissipation of heat generated from the high-voltage generator, x-ray tube and gantry assembly.	M		
1.12	Auto-light instruction and visual indication during examination for patient with impaired hearing.	D		
1.13	Remote control at scanning console.	M		
2.	Detector System			
2.1	System shall be stable, low drift with high dose efficiency and good linearity.	M		
2.2	Decay time for detector scintillator $\leq 3\mu$ s.	M		
2.3	Afterglow $\leq 0.05\%$ or better after 3ms.	M		
2.3.1	Preference will be given to shortest afterglow at 40ms.	D		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
2.3.2	Detector crystal material enables fastest speed of light emission (Scintillator speed) in 0.03 microsecond.	D		
2.4	The x-ray photon absorption efficiency shall be at least 95% at 120kVp.	M		
2.4.1	Preference will be given to the system with the x-ray photon absorption efficiency $\geq 98\%$ at 120kVp.	D		
2.5	Detector geometric efficiency (DGE) of detector array along z-axis shall be at least 70%.	M		
2.6	The detectors shall be automatically calibrated. Tenderers shall state the method of calibration.	M		
2.7	For single source CT (one x-ray tube, one detector assembly), number of detector physical rows should be at least 256 rows. Or For dual source CT (two x-ray tubes, two detector assemblies), number of detector physical rows shall be in-combined at least 2x96 rows. For both design, number of slices acquired simultaneously per gantry rotation shall be at least 256.	M		
2.8	Z-flying dynamic focal spot oversampling technology to improve z-axis resolution.	D		
2.9	Total number of detector elements shall be more than 140,000.	M		
2.9.1	Preference will be given to a system with total detector elements more than 210,000.	D		
2.10	Number of acquisition slice per 360° rotation ≥ 256 .	M		
2.11	The minimum detector size in z-direction shall not be more than 0.625mm.	M		
2.12	Z-coverage per gantry rotation shall be at least 160mm.	M		
2.13	Electronic Noise: Preference will be given to a system with ultra-low capacitance photo diode with technology that redefines electronic noise at the quantum limit to less than 3 photons @ 120keV (3,100 electrons).	D		
2.14	Provision of 3D Collimator Scatter Reduction Technology which is able to reduce scatter to primary ratio by more than 50% and results in significant improvement in image quality and reduction in beam hardening and metal artefacts.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
3.	X-Ray Generator			
3.1	It shall be 3-phase, high frequency inverter system with microprocessor control, or better.	M		
3.2	kVp range: From 80kVp or lower to 135kVp or higher.	M		
3.2.1	Preference will be given to the offer with lowest kVp down to 70kVp or less.	D		
3.2.2	Preference will be given to 5-steps of kVp selections and automatic dose-optimized kV selection.	D		
3.3	Generator with fast kVp switching capability and with the switching interval within 0.25ms. Offer with equivalent technology is also accepted.	D		
3.4	Maximum tube current of 700mA or higher at 120kVp.	M		
3.5	Maximum power output of at least 100kW.	M		
3.5.1	Preference will be given to a system that provides power output more than 100kW.	D		
3.6	kVp and mA accuracy shall be $\pm 5\%$ or better and shall comply with international recommendations.	M		
3.7	Automatic space-charge compensation.	M		
3.8	Automatic tube voltage regulation and stabilization.	M		
3.9	Automatic tube filament voltage and current regulation and stabilization.	M		
3.10	Display of preset exposure data on scanning console.	M		
3.11	Display of actual radiation dose delivery on scanning console.	M		
3.12	Display of error code with self-diagnostic function.	M		
3.13	Incorporated with protection circuits for the safe operation of the x-ray generator.	M		
4.	X-Ray Tube and Gantry			
4.1	The x-ray tube shall be dual focus, heavy duty and durable x-ray tube that is fully compatible with the scanning system and generator offered with the following features:	M		
4.1.1	Small focal spot size: $\leq 1.0\text{mm} \times 0.7\text{mm}$ (IEC 60336/2005).	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
4.1.2	Large focal spot size: $\leq 2.0\text{mm} \times 1.2\text{mm}, \geq 1.6\text{mm} \times 1.2\text{mm}$ (IEC 60336/2005).	M		
4.2	Maximum tube current shall not be less than 700mA. Tenderers shall state the details of the tube loading at both small and large focal spot.	M		
4.3	Effective anode heat storage capacity shall be at least 6.8MHU. Tenderers shall provide documentary evidence to support.	M		
4.4	Preference will be given to a system that provides higher penetration of 140kVp.	D		
4.5	Gantry system with noise level $\leq 70\text{dB}$ for patient comfort.	D		
4.6	Preference will be given to a gantry system with stiffness to sustain the G-force even for 0.2 second rotation speed.	D		
4.7	Preference will be given to a system that provides consistent beam quality across the full 160mm z-axis coverage.	D		
4.8	Preference will be given to a system without extra room for cooling.	D		
4.9	Maximum anode heat cooling rate $\geq 2.7\text{MHU}/\text{min}$.	M		
4.10	Total filtration of the x-ray tube and housing: at least 2.5mm Al equivalent at 80kVp.	M		
4.11	Off-focus collimation to reduce artefacts and improve resolution.	M		
4.12	Incorporated with heat overload protection system for x-ray tube.	M		
4.13	Radiation leakage of the x-ray tube housing shall comply with the current standard of ICRP recommendation and Radiation Ordinance in Hong Kong.	M		
5.	Patient Supporting System			
5.1	One number of motorized x-ray couch made of optically opaque, radiolucent carbon fibre materials.	M		
5.2	Minimum table height $\leq 500\text{mm}$ (measured from side edge of couch to finished floor level).	M		
5.3	Table vertical traveling speed shall be variable with maximum speed shall be at least 30mm/ second.	M		
5.4	Table horizontal movement speed shall not be less than 200mm/second.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
5.4.1	Preference will be given to a system with table horizontal movement speed of 400mm/second or faster.	D		
5.5	Horizontal scannable range of the table shall be at least 2,000mm.	M		
5.6	Accuracy of the table positioning shall be +/-0.5mm or better at table carrying capacity of at least 200kg.	M		
5.7	Foot pedals controlling table vertical movement shall be available on both sides of the table.	M		
5.8	Emergency manual override of motorized table movement shall be provided.	M		
5.9	Remote control of table movement shall be possible at the control console by the host computer.	M		
5.10	Provision of an intravenous (IV) pole integrable with the CT table.	M		
6.	General System Performance			
6.1	Maximum scan field of view for all slice thickness shall be at least 500mm.	M		
6.2	Maximum display field of view for all slice thickness shall be at least 500mm.	M		
6.3	The minimum actual acquisition slice thickness shall be 0.625mm or less.	M		
6.4	Dedicated scan protocols for trauma and biopsy studies shall be incorporated.	M		
6.5	Dedicated scan protocols CT fluoroscopy and CT guided intervention procedure.	M		
6.5.1	Scanning footswitch and cradle handle, handheld controller, in-room monitor and other accessories for CT fluoroscopy mode shall be provided. Interventional toolbar with measurement tools and automatic table positioning shall be provided.	M		
6.6	Dedicated scan protocols for infant and child shall be incorporated.	M		
6.7	Alert user to modify the scanning parameters before the start of the scan when the prescribed scan exceeds the maximum capacity of tube loading.	M		
6.8	Allow prospective and retrospective ECG-gated cardiac scanning.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
6.9	Capability of doing gated with whole cardiac cycle and non-gated scan within one injection and one acquisition sequence.	M		
6.9.1	Preference will be given to the system which provides the fastest effective temporal resolution for 180° (one segment) cardiac scan. Please provide details.	D		
6.9.2	Preference will be given to the system with no heart-rate limitation for one beat cardiac scans.	D		
6.10	The system shall be able to perform single-heartbeat, single-rotation volume scan of an adult heart >12cm with acquisition time less than 0.28s.	M		
6.11	Automated programmes for prospective and retrospective reconstructions in cardiac application.	M		
6.12	Preference will be given to system provides 0.23mm spatial resolution for entire 200cm scan-range.	D		
6.13	Perfusion and 4D CTA.	M		
6.13.1	Automated programs for brain perfusion.	M		
6.13.2	Automated programs for body perfusion.	M		
6.13.3	Automated programs for 4D CTA.	M		
6.13.4	Automated programs for myocardium perfusion.	M		
6.13.5	Z-coverage for real time perfusion shall be at least 160mm.	M		
6.14	Z-coverage for 160mm axial scan could be combined with 80mm helical scan within one acquisition and one injection of contrast.	D		
6.15	An automatic on-line exposure control shall be provided to optimize tube current during the scanning procedure for reducing the overall dose to patient. Tenderers should provide details of the feature.	M		
6.16	Should a set of scans prescribed exceeding the maximum tube loading, the CT scanning system on offer shall have warning messages to inform the operator to optimize the scanning technique before the set of scans can be started.	M		
7.	Advanced CT System Performance			
7.1	Provision of dedicated dual energy acquisition protocols on CT scanner, and supply of post-processing applications for the following clinical applications:	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
7.2	Dual Energy/Spectrum acquisition with the following features: Simultaneous imaging technique during helical scan either by: a. high and low kV switching technique to acquire the dual energy raw datasets in one single acquisition. Or b. dual tube, dual detector dual energy acquisition or equivalent.	M		
7.2.1	Dual Energy/Spectrum acquisition with one single spiral scan. All acquisition shall be performed in one continuous helical scan with one table movement, and the table movement in one direction only.	M		
7.2.2	Generation of monoenergetic images with energy levels at least 40 to 140keV or wider.	M		
7.2.3	Simultaneous data acquisition of both low- and high- energy data set in order to avoid spatial mismatch.	M		
7.2.4	Reconstruction of monoenergetic images based on a selectable energy level with the best contrast-to-noise ratio.	M		
7.2.5	Provision of performing dual energy in myocardial perfusion and coronary artery morphology in a single CT scan.	M		
7.2.6	Provision of dual energy scanning protocols for spectral imaging for head, whole body, cardiac and vasculature.	M		
7.2.7	Provision of the latest iterative reconstruction algorithm or modified filtered back projection processes or equivalent to reduce noise components for better image quality and radiation dose reduction in dual energy image acquisition.	M		
7.2.8	Colour-coding to indicate under-perfused blood vessels for easy correlation with the lung PBV map for easy identification of Pulmonary Embolism (PE). Equivalent technique will also be accepted.	M		
7.2.9	Provision of subtraction of calcium without pre-contrast scan with the use of dual energy/spectral scanning technique in CTA. Equivalent technique will also be accepted.	M		
7.2.10	One click for optimized iodine contrast and slide bar for a fast optimization of the image quality. Equivalent technique will also be accepted. Please give details.	M		
7.2.11	The system shall allow at least 80 mm volume spectral scan. Please give details.	D		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
7.2.12	Metal artefact reduction can be used in projection based dual energy spectral examinations. Please give details.	M		
7.2.13	The systems which provide simultaneous dual energy/spectrum acquisition at the full 35cm scan field of view (SFOV). Please provide details.	M		
7.2.13.1	Preference will be given to systems which are able to provide dual energy SFOV of 50 cm.	D		
7.2.14	Generation of iodine map and iodine quantification on selected ROI.	M		
7.2.15	Renal stone characterization and gout identification with colour-coding.	M		
7.2.16	The system shall use effective atomic number for identifying chemical composition of renal calculi. Offer with equivalent technology is also accepted.	M		
7.2.17	Tenderer shall provide detail documentation to support the claimed compliance for all clauses above.	M		
7.3	Dose reduction techniques	M		
7.3.1	Automated tube current modulation according to patient attenuation to reduce radiation dose to superficial tissues.	M		
7.3.2	Lowest tube voltage for paediatric application $\leq 70\text{kVp}$.	M		
7.3.3	Detector-side anti-scatter collimator/grid or scatter removal software.	D		
7.3.4	Organ-based angular tube current modulation for radiation dose reduction to superficial radiosensitive organs, such as the breast, eye lens, and thyroid. Tenderers shall provide details.	M		
7.3.5	Provide the latest iterative reconstruction algorithm or modified filtered back projection process, to reduce noise components for better image quality and radiation dose reduction. Specify the dose reduction technique offered.	M		
7.3.6	The optimal performance of the system shall not be affected by the dose reduction technique.	M		
7.3.7	The system shall employ Active Collimator or equivalent to optimize radiation dose to patient. Tenderer shall provide details.	D		
7.3.8	Automated modification of the shape of x-ray beam to block unused portion of x-ray at the beginning and end of helical scan to minimize unnecessary radiation.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
7.3.9	DICOM dose Structured Report (Dose SR) with patient demographics, study information, imaging technique and geometry and all typical dose metrics. (e.g. CTDIvol, DLP) should be provided. Dose information are displayed as accumulated and in break-down for each irradiation event.	M		
7.4	The system shall have arrhythmia scan capability for all patients. Offer with equivalent technology is also accepted.	M		
7.4.1	Provision of arrhythmia one-beat scan capability.	D		
7.4.2	Provision of capability of avoiding scanning automatically during an irregular beat and can further rescan during the next regular beat using the same contrast bolus.	D		
7.5	The system shall be capable of performing coronary computed tomography angiography (CCTA), ejection fraction and relative perfusion within single injection and single acquisition.	D		
7.6	Provision of capability of covering whole heart for real time dynamic perfusion or coronary angiogram without doing shuttle mode by moving table.	M		
7.7	The system provide capability of performing high heart rate CCTA scan (gated) and head neck CTA (non-gated) within one contrast injection.	M		
7.8	The system shall be capable of performing whole-organ coverage examination (e.g. heart, kidney, liver) under single rotation without table movement.	M		
7.9	Provide Metal Artefact Reduction Technology to reduce the artefacts in image data caused by large, high density metal objects such as prosthetic hip replacements. Tenderer shall provide details of the feature.	M		
7.10	Both the hardware and software required for the proper execution of the features described in clause 7 and its sub-clauses shall be offered at no additional charges.	M		
8.	Operation and Control Console			
8.1	ONE set of scanning console with dual monitor system for executing scan procedures, controlling examination functions and performing image reconstruction and data processing.	M		
8.2	Tenderers shall provide details of configuration of the console.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
8.3	Image reconstruction and data processing can be performed in parallel with the scan procedure.	M		
8.4	Allow retrospective image reconstruction from raw projection data.	M		
8.5	Hardware requirement for the console:			
8.5.1	Keyboard, mouse or trackball as input devices.	M		
8.5.2	Medical grade LCD colour display with size ≥ 48 cm.	M		
8.5.3	Screen resolution $\geq 1280 \times 1024$.	M		
8.5.4	The CPU of the host computer shall be that of the latest model available in the market. Tenderers shall state the type and the speed of the host CPU on offer.	M		
8.5.5	RAM size for system operation ≥ 8.0 GB.	M		
8.5.6	Capacity for raw data storage ≥ 1.0 TB.	M		
8.5.7	Capacity for image data storage ≥ 140 GB.	M		
8.5.8	The number of uncompressed 512×512 images that can be stored at the storage capacity $\geq 250,000$.	M		
8.5.9	Provision of image compression/decompression algorithms to allow extended image storage without degrading the image quality.	M		
8.5.10	One set of DVD/CD-R drive for reading and writing of DICOM image data and 3D objects. The DVD/CD-R drive shall meet the following requirements: a. DICOM 3.0 standard. b. Support DICOM 3.0 point to point send, receive and pull/query protocol.	M		
8.6	Uninterruptible power supply (UPS) capable of providing at least 10 minutes of emergency power for the host computer shall be provided.	M		
8.7	The host computer shall be capable of multi-tasking for the scan control, system operation, image archiving and filming.	M		
8.8	Reconstruction matrix $\geq 512 \times 512$.	M		
8.9	Capability of off-centred reconstruction.	M		
8.10	Speed of image reconstruction at 512×512 matrix shall be ≥ 50 images/ second.	M		
8.11	Speed of image reconstruction at 512×512 matrix using iterative reconstruction shall be ≥ 20 images/ second.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
8.12	At least six different reconstruction algorithms (including standard and bone) on raw data shall be incorporated. Tenderer shall provide details of the algorithms.	M		
8.13	Direct maximum intensity projection (MIP) and multi-planar reformat (MPR) reconstruction from raw data without thin slice reconstruction.	M		
8.14	Preset scan protocols for different anatomical regions with selectable individual parameters.	M		
8.15	Not less than 100 user-defined examination protocols for different anatomical regions covering the whole body.	M		
8.16	Multiple user-recordable auto-voices for patient instruction during scanning.	M		
8.17	Auto-viewing of acquired images.	M		
8.18	Auto-filming with not less than 2 window level settings.	M		
8.19	Capable of fetching patient information from Radiology Information System (RIS) via DICOM get worklist.	M		
8.20	Fully automatic self-diagnostic software for monitoring the performance status of the equipment.	M		
8.21	Provision of anti-virus, anti-spyware and anti-hacking solution. The solution provided shall not affect the normal performance of the CT System on offer.	M		
8.22	Built-in intercom system for two-way communication with patient.	M		
8.23	The Successful tenderer shall be responsible for the ongoing support of keeping the virus definitions and security patches for the Operating Systems and related software up-to-date.	M		
8.24	Tenderers shall provide their own basic configuration of each workstation to allow effective and efficient workflow for both scanning and post-processing. Tenderers shall specify the configuration of each workstation on offer.	M		
9.	Acquisition Modes			
9.1	Scout Scan Mode:			
9.1.1	Selection of at least 3 scan perspectives including AP, PA and lateral.	M		
9.1.2	Scan length at the maximum FOV $\geq 1,950\text{mm}$.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
9.1.3	Automatic positioning of the patient to the selected slice location from the quick overview scans with an accuracy of ± 1 mm or better.	M		
9.1.4	A display of cut lines on the scout view in relation to the position of the planned slices.	M		
9.1.5	Capable of manual interruption of the scanogram once desired anatomy has been covered.	M		
9.1.6	Only one scout scan is needed for procedure planning and dose modulation preparation.	M		
9.2	Axial Scan Mode:			
9.2.1	Maximum scanning speed for non-cardiac acquisition ≤ 0.28 second per rotation.	M		
9.2.2	Scan length at the maximum FOV $\geq 2,000$ mm.	M		
9.2.3	Slice thickness shall be selectable and executable from ≤ 0.625 mm (FWHM) to ≥ 10 mm (FWHM) with not less than 3 intermediate selections in between.	M		
9.2.4	The fastest scan cycle time (scan, reconstruction and display) at 512×512 matrix ≤ 2 seconds.	M		
9.3	Dynamic Scan Mode:			
9.3.1	Maximum scanning speed ≤ 0.28 second per rotation.	M		
9.3.2	Maximum duration of one single acquisition ≥ 60 seconds.	M		
9.3.3	Multiple series of scans can be programmed into a single run with pauses in between.	M		
9.3.4	Minimum pause interval between scans of multiple series ≤ 5 seconds.	M		
9.3.5	Helical scan triggered by the arrival of contrast medium. Tenderers shall provide details on the triggering mechanism.	M		
9.3.6	One or more regions of interest (ROI) can be used for scan triggering by the arrival of contrast medium.	M		
9.3.7	Interval of CT number measurement for scan triggering shall not be more than 1 second.	M		
9.3.8	Allow manual triggering of continuous volume Helical scan by monitoring CT number against time.	M		
9.4	Helical/Spiral Scan Mode:			
9.4.1	Maximum scanning speed ≤ 0.28 second per rotation.	M		
9.4.2	Maximum duration of one single acquisition ≥ 60 seconds.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
9.4.3	Maximum length of a single-helical scan without cooling delay $\geq 1,800$ mm.	M		
9.4.4	Tenderers shall state the cooling time required after running a scan with a maximum scan length and at the maximum tube loading.	M		
9.4.5	Minimum delay for X-ray after automatic contrast triggering ≤ 3 seconds.	M		
9.4.6	Multiple volume scans can be programmed into a single run with breathing pauses in between.	M		
9.4.7	Minimum inter-scan delay ≤ 5 seconds.	M		
9.4.8	Maximum number of programmable multiple volume scan groups ≥ 6 .	M		
9.4.9	Slice thickness selection shall be independent of pitch value.	M		
9.4.10	Achievable image quality shall be the same for all volume pitch settings. Tenderers shall state the recommended pitch for optimal image quality.	M		
9.4.11	Capable of multi-directional volume scan groups.	M		
9.4.12	Reconstructed slice thickness shall be selectable from ≤ 0.625 mm to ≥ 5 mm with intermediate selections in between.	M		
9.4.13	Prospective and retrospective reconstruction at any table position in 0.1mm increment.	M		
9.4.14	Prospective overlapping and contiguous reconstruction across multiple continuous scan boundaries.	M		
9.4.15	Provision of capability of switching axial to helical mode within 4 seconds.	D		
9.4.16	Preference will be given to a system that provide a three-dimensional post patient collimator to eliminate z direction scatter.	M		
9.5	Cardiac Scan Mode:			
9.5.1	Maximum scanning speed ≤ 0.28 second per rotation.	M		
9.5.2	Preference will be given to effective temporal resolution less than 30ms.	D		
9.5.3	Prospective ECG-triggered cardiac scanning for calcium score.	M		
9.5.4	Analysis software for Calcium score shall be available on the image processing console.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
9.5.5	Prospective ECG-triggered cardiac scanning with dose reduction for coronary CT angiography. Tenderers shall state the dose reduction method and the percentage of radiation dose reduction.	M		
9.5.6	Maximum scan field of view for cardiac imaging at the maximum rotation speed ≥ 500 mm.	M		
9.5.7	Reduction of mA shall be at least 75 % if the ECG-gated mA modulation mode is applied in retrospective ECG-triggered coronary CT angiography.	D		
9.5.8	Ability to vary and adjust the pitch value in ECG gated Helical scan to allow the acquisition of ECG data and CT projection data for reconstructing images in a specific phase of the cardiac cycle or equivalent.	D		
9.5.9	The system shall have the capability of identifying the ideal time automatically within the heart cycle to scan the whole heart in a single beat at any heart rate.	D		
9.5.10	The system shall be able to analyse the motion of the coronaries automatically throughout the volume to auto-select the best cardiac phase with the least motion.	D		
9.5.11	The scanner shall be capable of 4D imaging to acquire morphology and perfusion information from a single examination, which help assess conditions such as congenital heart disease and visualize blood flow through vascular structures. Please provide details.	D		
9.5.12	Thinnest reconstructed slice thickness for cardiac spiral scan shall be 0.625mm or less.	M		
9.5.13	Provision of single volume cardiac scan mode without stitching of steps or merging of segments.	M		
9.5.14	Tenderer should provide dedicated scanning protocol for TAVI (Transcatheter Aortic Valve Implantation) planning.	M		
10.	Image Quality Requirement			
10.1	High contrast spatial resolution better than 0.23mm. Tenderers shall state the condition at which the spatial resolution is claimed.	D		
10.2	Maximum high contrast spatial resolution in X-Y plane shall be equal to or better than 21 lp/cm at 0% MTF or equivalent. Tenderers shall state the acquisition parameters at which the spatial resolution is measured.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
10.3	Maximum high contrast spatial resolution in Z plane shall be equal to or better than 21 lp/cm at 0 % MTF or equivalent. Tenderers shall state the acquisition parameters at which the spatial resolution is measured.	M		
10.4	Low contrast detectability shall be of 3.0 mm or better at a 0.3 % contrast level in a 5 mm slice taken with a Catphan phantom (20 cm) at a CTDIvol of 23.8 mGy or less. Tenderers shall state the acquisition parameters at which the detectability is measured.	M		
10.5	Low contrast detectability shall be of 5.0 mm or better at a 0.3 % contrast level in a 5 mm slice taken with a Catphan phantom (20 cm) at a CTDIvol of 8.8 mGy or less. Tenderers shall state the acquisition parameters at which the detectability is measured.	M		
10.6	Image noise measured in a 20 cm water phantom image shall be better than 0.48% at a CTDIvol of 7.8 mGy or less. Tenderers shall state the acquisition parameters at which the noise level is measured.	M		
10.7	Cross field uniformity: maximum deviation in a 20 cm water phantom image shall be +/-4 Hounsfield units or better.	M		
10.8	Provision of dedicate metal artefact reduction function using dual energy data to reduce the artefacts in image data caused by large, high density metal objects such as prosthetic hip replacements.	M		
10.8.1	The metal artefact reduction shall be based on single energy scan and does not require special acquisition protocol. Support retrospective reconstruction of a previous CT scan to correct metal artefacts from raw data.	M		
10.8.2	Preference will be given to metal artefact reduction that can be used in projection based dual energy spectral exams.	D		
11.	Image Presentation			
11.1	Display of scan date, time and patient demographic data automatically on screen and film.	M		
11.2	Display matrix shall be at least 1,024 x 1,024.	M		
11.3	Image display by number or by anatomical location.	M		
11.4	Visualization filter selection ≥ 6 .	M		
11.5	Multiple image display of up to 16 images or more.	M		
11.6	Image rotation and flip.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
11.7	Magnification factor: multiple levels, pre-defined and selectable during scan.	M		
11.8	Reference image display for localization of the scan plan. Simultaneous display of axial CT image and corresponding quick overview image on a reduced scale.	M		
11.9	Continuous window/ level adjustment, not less than 3 presets for different predetermined regions.	M		
11.10	Dual-window display.	M		
11.11	CT number display range: -1,000 to +3,000 Hounsfield Units (HU) or better.	M		
11.12	Graphic and text annotations can be added or removed from images.	M		
12.	Image Analysis			
12.1	Display of grid coordinates for spatial reference.	M		
12.2	Selection of region of interest (ROI) for:	M		
12.2.1	Area calculation.	M		
12.2.2	Volume calculation.	M		
12.2.3	Mean value, standard deviation, pixel number, minimum and maximum CT numbers.	M		
12.3	Histograms.	M		
12.4	Display of 1 to 5 ROIs or more on a single image.	M		
12.5	Measurement of CT number at 5×5 pixels or less.	M		
13.	Image Processing			
13.1	Concurrent scanning, image reconstruction, filming and archiving.	M		
13.2	Selectable priority queue for prospective and retrospective image reconstruction from raw data sets.	M		
13.3	Display field of view shall be variable in size and centre.	M		
13.4	Techniques for reduction of volume and motion artefacts. Tenderers shall provide details of the technique offered.	M		
13.5	Retrospective image reconstruction using different image reconstruction algorithms and visualization filters.	M		
13.6	Number of reconstruction algorithms ≥ 25 .	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
13.7	Real-time multi-planar reconstruction along different axis.	M		
13.8	Reconstruction along different axis shall be isotropic in size.	M		
13.9	Provision of all available algorithms for surface and volume rendering.	M		
14.	Filming and Archiving			
14.1	Drag and drop filming.	M		
14.2	One button print image series.	M		
14.3	One button print image page.	M		
14.4	Multi-image formats.	M		
14.5	DICOM 3.0 basic grayscale print service class.	M		
14.6	DICOM print to DICOM-compliant printer.	M		
14.7	Image storage and retrieval in DICOM 3.0 format using DVD/CD media with DICOM viewer.	M		
15.	Image Processing Thin Client Application Server			
15.1	Provision of ONE complete set of application server with thin client architecture and multi-vendor compatibility together with image network infrastructure that makes image data and analytical/post-processing applications accessible for all CT images and other archived images of various modalities.	M		
15.2	The system should be based on Oracle, SQL or another equivalent database.	M		
15.3	Client operating system should be compatible with Windows 10 or later versions.	M		
15.4	Load balancing and auto-bandwidth compression.	M		
15.5	Provide anti-virus, anti-spyware and anti-hacking solution for Windows based platform. The solution provided shall not affect the normal performance of the CT system on offer.	M		
15.6	The Successful tenderer shall provide 6 concurrent user licenses with unlimited number of slices.	M		
15.7	Hardware requirement for the server:			
15.7.1	The solution on offer shall provide one unit of server that can cater all the functionalities specified in the mandatory clauses.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
15.7.2	The server shall have load balancing capability.	M		
15.7.3	The server shall be capable of doing auto compression of images depending on available bandwidth.	M		
15.7.4	Processor: 2 x Intel 10-Core or higher.	M		
15.7.5	RAM size for system operation \geq 96.0 GB.	M		
15.7.6	RAID with Flash based Cache 1 GB.	M		
15.7.7	Graphical Processing Unit: 2x NVIDIA GPU with a total of 8 GB internal memory on-board.	M		
15.7.8	Capacity for image data storage \geq 20 TB.	M		
15.7.9	The number of uncompressed 512 x 512 images that can be stored at the storage capacity \geq 1,000,000.	M		
15.7.10	Operating System: Windows Server 2016, 64 bit – Enterprise Edition, equivalent or better.	M		
15.7.11	Keyboard, Mouse and Administrator Monitor.	M		
15.7.12	One set of DVD/CD-R drive for reading and writing of DICOM image data and 3D objects. The DVD/CD-R drive shall meet the following requirements: a. DICOM 3.0 standard. b. Support DICOM 3.0 point to point send, receive and pull/query protocol.	M		
15.7.13	Uninterrupted Power Supply (UPS) of appropriate kVA for the server shall be provided for backup of images.	M		
15.8	Requirement for the client workstations:			
15.8.1	The Successful tenderer shall provide six sets of client workstations each with the following hardware requirements:	M		
15.8.2	CPU: 64 bit dual processor (Intel Xeon or equivalent).	M		
15.8.3	Processor frequency: \geq 2.5GHz	M		
15.8.4	OS: Windows 10, 64 bit Edition, equivalent or better.	M		
15.8.5	RAM: \geq 8GB	M		
15.8.6	Dual Colour Monitor with at least 1,920 x 1,200 pixels Diagnostics Grade.	M		
15.9	The solution on offer shall be able to deploy thin-client software on the existing PACS workstations in the radiologist's room in the department.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
15.10	The following DICOM 3.0 standard shall be met: <ul style="list-style-type: none"> a. DICOM 3.0 modality work list service class. b. DICOM 3.0 storage service class. c. Service Class User (SCU) for image send. d. Service Class Provider (SCP) for image retrieve. e. DICOM 3.0 query/retrieve service class. f. DICOM 3.0 storage commitment service class. g. DICOM 3.0 basic grayscale print service. 	M		
15.11	A comprehensive networking solution shall be provided: <ul style="list-style-type: none"> a. TCP/IP protocol only static IP address security. b. Portal server access for authorized user only. c. Access to the computer itself either using its console or by remote desktop. d. Encrypted users/groups database file. e. User management application available only to defined portal administrators. f. Encrypted transfer over the network of user name and password information. g. Audit trail. h. Firewall. 	M		
15.12	Network requirements: <ul style="list-style-type: none"> a. Gigabit connections recommended. b. Domain based network environment recommended. 	M		
16.	Basic Application in the Post-Processing Client Workstation			
16.1	Capable of displaying multimodality: CT, MR, CR, Angiography, Fluoroscopy, PET/CT, SPECT/CT, Ultrasound, Mammography images and allow side-by-side comparison and viewing to up to 4 series volume using VRT, MIP, MinIP or MPR renderings.	M		
16.2	Auto-correlation of orientation, zoom and pan settings between rendering modes.	M		
16.3	Oblique MIP, MPR, including double-oblique capability.	M		
16.4	“Cube View” mode for isolating a cubic volume of interest.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
16.5	Volume measurement in the 2D and 3D Views.	M		
16.6	Triangulation between 3D and Axial / Coronal / Sagittal views.	M		
16.7	Batch output tool for generating batched reformats or 3D view sequences.	M		
16.8	Import / Export of DICOM data.	M		
16.9	Tools for calculating distances, ROI statistics, angles.	M		
16.10	The system shall provide auto-preprocessing (without user interaction) capability as standard feature.	M		
16.11	Support auto loading of datasets into appropriate applications with user specific preferred layouts.	M		
16.12	Support dual-monitor display with dedicated layouts for dual-monitor setups.	M		
16.13	Support ad-hoc multimodality image loading through drag & drop functionality on the same application screen without exiting currently opened application.	M		
16.14	Support of interactive slice thickness adaptation.	M		
16.15	Provides bookmarks/ reanimations enabling the location of marked significant findings to appear in image view and layout with a single click.	M		
16.16	Support multi-modality fusion and multi-volume fusion.	M		
16.17	Bone and table removal.	M		
16.18	2D & 3D reference lines.	M		
16.19	3D reference point.	M		
17.	Clinical Application Package for Image Processing			
17.1	Neuro Perfusion package:			
17.1.1	Evaluation of dynamic CT data of the brain following contrast bolus injection.	M		
17.1.2	Tissue-at-risk model with user defined perfusion parameters (e.g. CBF, CBV, TTD, TTS, TTP, MTT).	M		
17.1.3	Calculation of perfusion parameters based on at least two different perfusion models.	M		
17.1.4	Flexible penumbra tool including grey-white-matter differentiation.	M		
17.1.5	Normalization.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
17.1.6	Multiparameter view.	M		
17.1.7	Dynamic evaluation and time attenuation curves.	M		
17.1.8	Allow time point and volume navigation.	M		
17.1.9	Dedicated motion correction and 4D noise reduction algorithm.	M		
17.1.10	Bone removal.	M		
17.1.11	Statistical ROI analysis.	M		
17.2	Digital Subtraction CT Angiography for Neuro Applications:			
17.2.1	CTA-CT subtraction with automatic registration of pre- and post-contrast images, followed by subtraction or dense-voxel masking technique which removes high-intensity structures (like bone and surgical clips) from the CTA scan without increasing noise, leaving contrast-enhanced vascular structures intact.	M		
17.3	CT Angiography package:			
17.3.1	Real-time maximum and minimum intensity projections.	M		
17.3.2	Volume and surface rendering.	M		
17.3.3	Real-time analysis of displayed images.	M		
17.3.4	Real-time MPR for different image planes.	M		
17.3.5	Navigation mode for image viewing.	M		
17.3.6	Image addition and subtraction.	M		
17.3.7	Vessel tracing.	M		
17.3.8	Automatic image creation with user-defined protocols.	M		
17.3.9	Vessel stenosis quantification: Stenosis diameter and area, curved length, minimum lumen identification, effective diameter etc. with a single click.	M		
17.3.10	Detection of vessel centre-line and computation of cross-sectional area, minimum, maximum and mean diameters at selected locations.	M		
17.3.11	Supports 3D vessel assessment in occluded vessels or vessels without centrelines in cross section and longitudinal views.	M		
17.3.12	Segmentation of bony structures from abdominal and extremity CT angiography data using single energy dataset.	M		
17.3.13	Merge of volume from dual energy datasets.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
17.3.14	Loading of multiple volumes for dynamic studies.	M		
17.3.15	Acquisition and evaluation of 4D Digital Subtraction CT Angiography.	M		
17.3.16	Ability to evaluate dynamic CT data and supports the visualization of the vessel enhancement over time.	M		
17.3.17	Ability for to view up to 5,000 images at a time from time-resolved CT data and create sub-series for export.	M		
17.4	Cardiac Evaluation package:			
17.4.1	Prospective and retrospective ECG-gated modes.	M		
17.4.2	All accessories for cardiac applications shall be provided.	M		
17.4.3	Angioview and vessel surf for navigation along coronaries.	M		
17.4.4	Automatic coronary tracking and labelling (RCA, LM, CX and major coronary branches).	M		
17.4.5	Single-click stenosis measurement.	M		
17.4.6	Single-click coronary vessel tracing.	M		
17.4.7	Image sharpening for stent/calcified lesion evaluation.	M		
17.4.8	Total and standard calcium scoring and coronary age calculation.	M		
17.4.9	Automated segmentation of ventricular and myocardial contours.	M		
17.4.10	Quantification of myocardial thickness and mass.	M		
17.4.11	Dynamic evaluation of myocardial wall motion against time.	M		
17.4.12	Quantification of ejection fraction.	M		
17.4.13	Quantification of coronary vessel lesion.	M		
17.4.14	17-segment 2D polar maps.	M		
17.5	CT Oncology Package:			
17.5.1	Supports 1 click segmentation and evaluation of lesions in lung, liver, lymph nodes and other organs.	M		
17.5.2	Advanced HU statistics with colour-coding of hypodense areas of lesions (potential indicator) of necrosis.	M		
17.5.3	Automatic pre-fetching and loading of multi-timepoint multimodality series (CT, PET, MR data) from stipulated archive node if any.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
17.5.4	Supports follow-up and display of datasets from 4 timepoints and more for comparison with auto-synchronization of series for navigation on same application screen upon case opening.	M		
17.5.5	Quantify tumour growth rates between time points and support trending graph for fast assessment of response to therapy.	M		
17.5.6	Virtual endoscopy tool with adjustable endoscopy size and field of view.	M		
17.5.7	MPR and 3D virtual endoscopic display of colon for general assessment by fly through.	M		
17.5.8	Sub-package of colonography evaluation with the following functionalities: <ul style="list-style-type: none"> a. automatic segmentation of small bowel, stool tagging, stool removal. b. global (solid / semi-transparent) and panoramic view. c. registered navigation (prone / supine). d. distance to rectum measurement. e. polyp measurements in 3D endoluminal view. 	M		
17.6	Dual Energy Applications:			
17.6.1	Support inspection of mixed images, low-kV dataset and high-kV dataset to be able to choose the image with the best image quality.	M		
17.6.2	One click for optimized iodine contrast and sidebar for a fast optimization of the image quality.	M		
17.6.3	Display of monoenergetic images with selection of energy levels in keV. Monoenergetic energy levels shall be 40-140 keV or more.	M		
17.6.4	Preference will be given to an offer with both qualification analysis and quantification analysis to whole body regions.	D		
17.6.5	On a defined Monoergetic ROI, the software supports display of the HU graph representing the HU values as a function of the monoenergetic beam energy.	M		
17.6.6	Colour-coded visualization of deposited uric acid crystals in peripheral extremities for easy characterization of gout.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
17.6.7	Visualization of the chemical composition of kidney stones such as oxalate, uric acid etc. kidney stone diagram helps to highlight, evaluate and characterize potential kidney stones. Calculate the volume of the stone and displays the CT values of the stone in the kidney stone diagram.	M		
17.6.8	Display of Colour-coded Iodine Map. Evaluation of iodine concentration of selected ROI in mg/ml and HU values in the image.	M		
17.6.9	Display of virtual non-contrast image. Support mixed display of virtual non-contrast image with iodine map.	M		
17.6.10	Precise bone removal and isolation of vasculature based on dual energy CTA dataset.	M		
17.6.11	Preference will be given to dual energy systems which provide entire 50cm SFOV for spectral analysis.	D		
18.	Thin Cut Image Archive			
18.1	The server shall provide a long-term storage of thin cut slices for future review. The thin cut slices can be rapidly reloaded to thin-client post-processing server upon request.	M		
18.2	Seamless integration with the post-processing server that allows auto-archiving when the post-processing server has reached capability level at a pre-set level. Auto-reloading of thin cut slices for post-processing when users query the required patients at the thin client post-processing server.	M		
18.3	If seamless integration of the thin cut image archive with the thin client post-processing server cannot be provided, Tenderers can opt to provide a second set of thin client post-processing server with a storage capacity ≥ 10 TB to comply with the clauses 18.1 and 18.2.	M		
18.4	The thin client post-processing server patient browser shall be able to search patients archived in thin cut image archive and reload the required slices for viewing. When the thin cut slices are reloaded to the thin client post-processing server, users shall be able to use all post-processing functions on the reloaded slices.	M		
18.5	The thin cut image archive shall allow all the post-processing thin-client workstations or workstations installed with the thin-client post-processing software in the department to search and reload archived patients.	M		
18.6	Hardware configuration of the thin cut image archive server:	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
18.6.1	CPU: Xeon Quad Core x 2 or better.	M		
18.6.2	Not less than 32 GB RAM.	M		
18.6.3	Not less than 10 TB (usable) storage capacity.	M		
18.6.4	RAID 5 or 6, hot swappable.	M		
18.6.5	Redundant power supply.	M		
18.6.6	Dual gigabit Ethernet NIC.	M		
18.6.7	Complete keyboard and optical mouse.	M		
18.6.8	Load balancing capability.	M		
18.6.9	Windows 2012 Server R2 or above.	M		
18.7	Anti-virus software.	M		
18.8	Free upgrade of anti-virus software for the warranty period and during post warranty contrast maintenance.	M		
18.9	Uninterruptible power supply (UPS) capable of providing at least 10 minutes of emergency power for the server shall be provided.	M		
18.10	Integrated server capabilities.	M		
18.11	The archive shall act as a DICOM server for receiving images and hosting remote Query/Retrieve requests.	M		
18.12	DICOM C-Store and C-Move services.	M		
18.13	Auto-Query of remote DICOM servers including auto-prefetch.	M		
19.	DICOM 3.0 Standard and Network Connectivity			
19.1	The Successful Tenderer shall offer a comprehensive software and hardware package for direct network connection of the CT System, image server and image workstations on offer with the PACS/image workstations/laser printers of Imaging and Interventional Radiology Centre (IIRC), CUHKMC. The network connection shall comply with CUHKMC's prevailing policies and guidelines on data security and access control on networked devices.	M		
19.2	Network speed: Gigabit (10/100/1000) Ethernet.	M		
19.3	Image transfer at 25 images per second for 512 × 512 image or faster.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
19.4	The Successful Tenderer shall ensure successful network archiving of CT images (including structural images, dynamic series and post-processed images or colour maps) to the PACS and demonstrate the archived images can be successfully retrieved and displayed in the image workstations of PACS.	M		
19.5	The Successful Tenderer shall liaise with the vendor of PACS of CUHKMC to work on the network connection and perform connectivity test as stated above.	M		
19.6	Networking protocols:	M		
19.6.1	DICOM 3.0 basic grayscale print service class.	M		
19.6.2	DICOM 3.0 send, receive and query/ retrieve.	M		
19.6.3	Point-to-point send, receive and query/ retrieve.	M		
19.7	DICOM and IHE conformance standards:	M		
19.7.1	DICOM 3.0 modality work list service class.	M		
19.7.2	DICOM 3.0 storage service class.	M		
19.7.3	Service Class User (SCU) for image send.	M		
20.	Integration with Radiology Information System (RIS)			
20.1	The Successful Tenderer shall be responsible for the integration of the CT System on offer with CUHKMC's RIS with the following features:	M		
20.2	A comprehensive hardware and software package to enable the DICOM modality worklist server class for the scanning console shall be offered.	M		
20.3	The modality worklist for the console shall be able to query the HIS and RIS by name, HKID, modality, or scheduled date, and to download the patient demographics directly to the scanner via the PACS Broker.	M		
20.4	Tenderers shall provide a detailed proposal for the RIS integration with specifications for the system on offer for the end-user's consideration.	M		
20.5	The required gateway hardware and software shall be provided to connect the CT System to HIS/RIS.	M		
20.6	All necessary data ports, cables, trunking, interface and software shall be provided and installed by the Successful Tenderer.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
20.7	The Successful Tenderer shall ensure that there are sufficient licences in our PACS Broker for enabling the functions mentioned above. The Successful Tenderer shall be responsible for any additional licences cost.	M		
20.8	Tenderers shall specify any pre-requisite conditions on the RIS program for complete RIS integration.	M		
21.	Contrast Media Injector			
21.1	Two sets of contrast injection system shall be provided.	M		
21.2	The system shall be intended for specific purpose of injecting intravenous contrast media into humans for diagnostic studies in CT applications.	M		
21.3	The system shall be comprised of the injector system located in the scanning room and a wireless touch screen control unit which is typically located in the control room.	M		
21.4	The system shall be in pedestal-mounted.	M		
21.5	The system shall be in piston-based fluid delivery method which provides a steady flow rate capability.	M		
21.6	The system shall be able to accommodate at least 50 – 500ml of contrast bottle.	M		
21.7	The system shall be able to accommodate at least 50 – 1,000ml of saline bag/bottle.	M		
21.8	The system shall have at least 3 set of 200ml reservoirs (two for contrast and one for saline).	M		
21.9	The two contrast reservoirs shall be able to store the same or two different concentrations of contrast medium.	M		
21.10	The system shall have at least 3 optical inlet air sensors detecting air coming from the bottles/bags.	M		
21.11	The system shall have at least 1 ultrasonic outlet air sensor detecting air before it reaches the Patient Line.	M		
21.12	The system shall be operated by battery which can provide minimum 16 hours or up to 60 injection of capability.	M		
21.13	There shall be a touch screen display at the injector system for reviewing the protocol.	M		
21.14	There shall be an integrated prime container which can accommodate up to 680ml of volume.	M		
21.15	The system shall equip with heat maintainers.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
21.16	There shall be eGFR calculator available on scan room and control room units as part of the standard configuration.	M		
21.17	The system shall fulfil the below minimum delivery capability.	M		
21.17.1	Volume Range: a. 1 ml to 200ml for contrast and saline flush phases. b. 1 ml to 400ml for dual flow phases.	M		
21.17.2	Flow Rate Range: 0.1 to 10ml/ second in 0.1ml/ second increments.	M		
21.17.3	Dual Flow Capability: Simultaneous injection of contrast and saline in increments of 1%.	M		
21.17.4	Programmable Pressure Limit: 50 – 300psi in 1psi increments.	M		
21.17.5	Programmable Delay: 1 second to 900 seconds in 1 second increments.	M		
21.17.6	Pause Time: 20 minutes of pause time.	M		
21.17.7	Injection Capabilities: a. 6 phases per injection. b. 10 injections per exam.	M		
21.18	The system shall enable the user to stop the current phase of an injection and start the next phase.	M		
21.19	The system shall be able to provide a real time flow rate adjustment and multi-phase test injections.	M		
21.20	The system shall be compatible with the following disposables set.	M		
21.20.1	Patient Line:	M		
21.20.1.1	Single use.	M		
21.20.1.2	250cm in length.	M		
21.20.1.3	Snap-in single hand insertion design.	M		
21.20.1.4	2 integrated check valves.	M		
21.20.1.5	Auto primes upon insertion.	M		
21.20.1.6	Recessed connection to prevent accidental touch.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
21.20.1.7	Patient Line Volume: 9ml.	M		
21.20.1.8	Auto-priming between patients: 15ml.	M		
21.20.2	Day Set:	M		
21.20.2.1	Pre-assembled 3 x 200ml reservoirs.	M		
21.20.2.2	Labelled for 24 hours use.	M		
21.20.2.3	Recessed connection to prevent accidental touch.	M		
21.20.3	Replacement Spike:	M		
21.20.3.1	Labelled for 24 hours use.	M		
21.20.3.2	Can be changed in case of an accidental touch, without having to change the entire Day Set.	M		
21.21	The system shall be able to transfer the contrast injection information in PACS.	M		
21.22	There shall be an integrated barcode reader on scan room unit for contrast tracking and recording.	M		
21.23	Tenderers shall provide details of the contrast injector system on offer for the end-user's consideration.	M		
22.	Vital Signs Patient Monitoring System			
22.1	ONE set of vital signs patient monitoring system with the following monitoring shall be provided: <ul style="list-style-type: none"> a. Electrocardiogram (ECG) b. Pulse oximetry (SpO2) c. Non-invasive blood pressure (NIBP) d. Invasive blood pressure (IBP) e. End-tidal CO2 analysis f. Respiration g. Temperature 	M		
22.2	The monitor shall be selectable for adult, paediatric and neonatal applications.	M		
22.3	Numeric displays of the parameters measured.	M		
22.4	The monitor shall be able to work with DC and AC power and shall have built-in AC power adapter.	M		
22.5	Provision of an additional secondary lithium-ion battery.	M		
22.6	A roll stand mount shall be provided for the patient monitor.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
22.7	The monitor display shall be in multi-colour medical-grade TFT panel with a screen size not less than 10" diagonal and a resolution of 800 × 600.	M		
22.8	Screen operation shall be made with a touch screen and/or navigation rotary knob. The changes made shall be highlighted on the screen.	M		
22.9	The monitor shall be integrated with a thermal strip-chart recorder.	M		
22.10	Results of the patient's physiological condition can be printed out on a thermal paper.	M		
22.11	Five sets of thermal paper shall be provided.	M		
22.12	Provision of event surveillance to automatically detect changes in the patient's condition and store an electronic record of data episode. This function can be triggered by user-configurable conditions.	M		
22.13	The monitor shall have graphic and tabular trend display for 3 or more parameters (any 3 out of all monitored parameters). Systolic/Diastolic/Mean trends for blood pressure measurement shall be counted as one parameter only.	M		
22.14	The monitor shall provide independently selectable sweep speeds for different parameters and for different waves of the same parameter.	M		
22.15	The monitor shall be equipped with audible and visual alarms capable of being triggered by each measurement module function.	M		
22.16	The monitor shall include a reset by which the alarm can be silenced, and have a built-in reminder to alert the user if the patient remains in the alarm state.	M		
22.17	The alarm limits shall be selectable.	M		
22.18	All connecting cable plugs must be colour-coded and matched to the same colour of the interfaces they connect.	M		
22.19	Each module shall be identified by a different colour for ease of recognition.	M		
22.20	Mechanical interlocks shall be incorporated for the various probes, transducers and/or electrodes in connection with the respective cartridge/ module.	M		
22.21	The module shall be capable of retaining patient data, alarm, calibration and zero settings for at least 8 hours.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
22.22	Different sizes and types of reusable and disposable blood pressure measuring cuffs shall be provided for adult, paediatric and neonate patients.	M		
22.23	Different types of reusable pulse oximeter sensors shall be provided for adult, paediatric and neonate patients.	M		
22.24	The monitor offered shall be completed with all essential accessories, including but not limited to, probes and interconnecting cables required for the normal operation.	M		
22.25	Five sets of IBP consumable.	M		
22.26	The weight of the monitor shall be less than 6 kg with measurement module and one battery.	M		
22.27	The monitor shall have data transfer capability for transferring patient demographic, tubular and graphical trends, parameter zeroing and alarm setting to other monitors.	M		
22.28	Tenderers shall provide details of the monitoring system on offer for the end-user's consideration.	M		
23.	Accessory Items			
23.1	The exact make, model and/or sizes of the accessory items on offer shall be agreeable to the end-user.	M		
23.2	Accessories for the CT table, including:	M		
23.2.1	Two sets of mattresses.	M		
23.2.2	One set of extension board.	M		
23.2.3	Two sets of protective covers for the table and extension board.	M		
23.2.4	Two sets of table attachment straps.	M		
23.2.5	One set of tableside attached drip stand.	M		
23.2.6	One number of drip stand.	M		
23.3	Accessories for patient positioning, including:	M		
23.3.1	Two sets of positioning foam pads including assorted triangular blocks of various sizes.	M		
23.3.2	One set of axial head holder assembly, accessories and blocks etc.	M		
23.3.3	One set of patient supports for knee, head, shoulder, ankle etc.	M		
23.3.4	Two sets of security straps of various sizes.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
23.4	One set of ceiling mounted IV pole.	M		
23.5	Provision of a protection rail for CT table if found necessary.	M		
23.6	Three numbers of full length light-weighted lead aprons and thyroid shields of 0.35 mm lead equivalent	M		
23.6.1	Aprons shall be fastened with a board Velcro strapping at the upper back and have Velcro fasteners on the long waist belt.	M		
23.7	One number of wall mounted lead apron rack with suspended hanger arms capable of storing not less than four lead aprons.	M		
23.8	One number of medical grade radiolucent flexible patient transfer board (introducing no artefact when imaged) for easy transfer of the patient between the CT table and the stretcher trolley.	M		
23.9	One medical footstool with handrail. The stool shall be made of strong chrome-plated frame. The step surface covered with nonskid ribbed rubber matting and the legs rest on reinforced rubber tips.	M		
23.10	One number of contrast medium warmer.	M		
23.11	Provision of 200 numbers of syringe sets for the contrast injector offered.			
24.	Optional Items			
24.1	Tenderers are required to quote a comprehensive list of optional accessories, either hardware or software, which may be suitable for use by the whole system to improve efficiency, performance or quality of the equipment. For example, such items may include computer upgrades, application software packages etc.	M		
24.2	Full details and functions of all the items with itemized prices in HK dollar shall be provided in their return for consideration by the CUHKMC in price proposal.	M		
25.	Ancillary Items			
25.1	The CT System offered shall be provided with all cables, cabinets, transformers, interfaces, control console(s) and other ancillary items necessary for full and satisfactory operation of the system.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
25.2	Unless explicitly stated otherwise by the Tenderers, all installation works not specified in the Tender specifications but are essential to the successful installation and effective functioning of the equipment shall be the responsibility of the Successful Tenderer.	M		
26.	Patient Monitoring CCTV System and Intercom System			
26.1	Provision of a CCTV system with four cameras for monitoring the patient activities in the scan room.	M		
26.1.1	Two of the cameras shall have facilities for tele-zoom and pan-tilt operation by a remote control in the control room to monitor the patient from 2 different angles.	M		
26.1.2	The other cameras shall have a view of wide-angle coverage of the scan room.	M		
26.1.3	At least one colour TV monitor of at least 21” shall be installed in the control room. The viewing angle shall be adjustable.	M		
26.1.4	The TV monitor shall support multi-format and the format layout shall be adjustable by the user.	M		
26.1.5	Tenderers shall propose the configuration of the system in their Tender returns for the end-user’s consideration.	M		
27.	System Security			
27.1	Tenderers shall provide reliable anti-virus, anti-spyware and antihacking solutions to the computers of the CT System including all workstations and the thin client server on offer. The solution provided shall not affect the performance of the system. Details of the solution shall be stated.	M		
27.2	Free upgrade and update for both the hardware and software for the above-mentioned security solutions shall be provided.	M		
27.3	Provision of secure remote diagnosis and off-site maintenance for the CT System on offer. The Successful Tenderer is required to follow CUHKMC network security policies and guidelines.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
27.4	The system shall support and comply with all requirements described in “CUHKMC IT Security Requirements”, which can be found in Appendix II . Successful Tenderer shall review the document thoroughly, and then fill out the “Security Requirements Compliance Table” near the end of the document accordingly on return.	M		
27.5	For the integration with Hospital Information System (HIS), all the requirements specified in the Methodology & Message Standard of Hospital Information System Integration must be complied. Details please refer to Appendix III .	M		
28.	System Upgradeability			
28.1	The Successful Tenderer shall guarantee to provide, at no additional cost, within the warranty period, software upgrade to the all the components of the CT System on offer, including all software in all workstations and all items offered where applicable.	M		
29.	System Update			
29.1	The Successful Tenderer shall guarantee to provide, at no additional cost, within the warranty and post warranty contract maintenance periods, software update to all the components of the CT System on offer, including all software in all workstations and all items offered where applicable.	M		
30.	Software Licence			
30.1	The software licences for all clinical applications shall be permanent. Application software offered on a trial basis for a limited time will not be accepted.	M		
31.	Power Supply Requirement			
31.1	All the equipment items supplied including the accessories, air conditioning system and other electrical facilities in the CT Suite shall remain in full operation within the specification throughout the following supply voltage range:	M		
31.2	Three phases: 380V AC \pm 6 %, 50 Hz \pm 2 %, 4-wire earthed neutral.	M		
31.3	Single phase: 220V AC \pm 6 %, 50 Hz \pm 2 %.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
31.4	The Successful Tenderer shall provide technical solutions to suit the power supply condition without incurring any additional cost and affecting the overall performance and efficiency of the equipment.	M		
31.5	The Successful Tenderer shall be responsible to provide and install power supply equipment such as switchgear, feeder cables, transformer, protection devices, voltage regulator/stabilizer, line filters etc. for the safe operation of the equipment.	M		
31.6	The Equipment on offer shall comply with the relevant requirements of the latest edition of the Electrical Products (Safety) Regulation under Electricity Ordinance, Cap. 406.	M		
31.7	The Equipment on offer shall comply with the relevant requirements of the latest edition of Code of Practice for Electricity (Writing) Regulation.	M		
31.8	Two sets of as-fitted electrical wiring drawings shall be provided to CUHKMC for record.	M		
31.9	Schematic drawing(s) to show the detailed wirings of the connection cables and protective devices from the power supply terminate point to the CT System shall be submitted together with the Tender return for vetting. Failure to submit the required information may lead to the disqualification of the Tenderer.	M		
31.10	Tenderers shall provide supporting documents for the voltage dip immunity test of which the test was performed in accordance with IEC 61000-4-11 or equivalent.	M		
32.	Equipment Safety			
32.1	The CT System and its ancillary equipment items on offer shall comply with the latest relevant IEC Standards, including but not limited to IEC 60601 or equivalent. Variation from IEC 60601 shall be indicated.	M		
32.2	The CT System and its ancillary equipment items on offer shall comply with the electromagnetic compatibility (EMC) requirements of IEC 60601-1-2 or equivalent (if applicable).	M		
32.3	The CT System shall comply with IEC 60601-2-44 Medical electrical equipment - Part 2-44: Particular requirements for the basic safety and essential performance of X-ray equipment for computed tomography.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
32.4	The CT System and its ancillary equipment items on offer shall be suitable for operation in the presence of anaesthetic gases.	M		
32.5	The vital signs patient monitoring system shall comply with the safety requirements of IEC 60601-2-49 or equivalent.	M		
33.	Brochures and Technical Data Sheets			
33.1	Tenderers are required to submit with the Tender returns 2 sets of brochures and technical data sheets necessary for full installation of the Equipment on offer including OEM items.	M		
34.	Operation and Maintenance Manuals			
34.1	Two original hardcopies of the manufacturer's operation manuals and one original hardcopy of maintenance and service manuals for each unit of the system on offer shall be submitted with the delivery of the system. This requirement shall also apply to any OEM products included in the offer. The supplied documentation shall be in English and shall contain materials covering:	M		
34.1.1	Detailed instructions on the proper operation and maintenance procedures for each of the equipment item on offer.	M		
34.1.2	Principles of equipment design and operation.	M		
34.1.3	Schematics and block diagrams, circuit diagrams down to component level, and wiring diagrams.	M		
34.1.4	Installation, setup and calibration procedures.	M		
34.1.5	Maintenance and fault diagnosis instructions and parts replacement instructions.	M		
34.1.6	Enlarged views of mechanical assemblies.	M		
34.1.7	Component layouts on printed circuit boards.	M		
34.1.8	Flow charts, program listings, diagnostic parts list, mechanical parts list, electrical and electronic component parts list.	M		
34.2	Softcopies of the manuals mentioned above shall be provided.	M		
34.3	Users are allowed to make copies of the manuals for training or operational purposes.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
35.	Local Operational Training			
35.1	The Successful Tenderer shall provide operational training to a minimum of FOUR members of CUHKMC staff for not less than one week at no additional charges.	M		
35.2	To be conducted by specialist(s) fully conversant with the operation and design of the CT System on offer.	M		
35.3	Training shall be conducted in English. The specialist(s) shall be conversant with English.	M		
35.4	Training materials provided shall be in English.	M		
35.5	The duration of the training and syllabus shall be specified and enclosed in the Tender return.	M		
35.6	The training shall include classroom instructions on theory and also on-site practical training with the actual equipment.	M		
35.7	The timetable and commencement date for the course shall be provided to CUHKMC at least 3 months prior to the commencement of the course.	M		
35.8	The commencement of the course shall be commensurate with the completion of installation and commissioning of the system.	M		
35.9	The course of training shall include all materials such as notes, charts etc. for the participants. These materials shall be available at the time of training.	M		
35.10	Additional on-site application training session(s) shall be arranged upon the request of IIRC during the first year of operation of the equipment without additional cost.	M		
36.	Local Maintenance Training			
36.1	The Successful Tenderer shall provide maintenance training to at least TWO members of CUHKMC maintenance staff at no additional cost.	M		
36.2	The course shall be conducted by qualified personnel(s) from the factory fully conversant with operation and design of the equipment.	M		
36.3	The instructor(s) shall be fully conversant with English or Cantonese. All training and training materials provided shall be in English.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
36.4	The commencement of the course shall be commensurate with the completion of installation and commissioning of the system.	M		
36.5	The course of training shall include all materials such as notes, charts etc. for the participants. These materials shall be available at the time of training.	M		
36.6	The training shall include techniques in the setting up, calibration, trouble shooting, fault diagnosis, preventive maintenance procedures, use of special tools and test instruments for the CT System on offer. Interpretation and understanding of circuits shall also be included.	M		
37.	Acceptance and Functional Tests			
37.1	The complete set of equipment, including OEM items and peripheral systems, shall be subject to acceptance and functional tests performed by CUHKMC representatives with the following requirements:	M		
37.2	CUHKMC will not conduct acceptance and functional tests until it has received full certification from the supplier that the supplier has conducted its own tests and found that the equipment meets the specifications in the contract.	M		
37.3	The acceptance test shall include detailed specification testing to ensure that every performance meets with the figures as quoted and required by the Tender specifications.	M		
37.4	The Successful Tenderer may be required to use a report to present the performances of all the systems on offer. The format of report shall be agreeable to CUHKMC.	M		
37.5	In addition to the main system on offer, all other systems such as OEM items, accessories, building and building service provisions etc. shall also be subject to similar tests.	M		
38.	Equipment Warranty			
38.1	The equipment warranty shall be provided for a period of 12 months commencing from the date of acceptance of the equipment on offer including the CT System (X-ray tube, detector assembly and any parts thereof), peripheral equipment, all OEM items and all building service supplied and installed by the Successful Tenderer. Replacement of any faulty parts and technical upgrades (software and hardware) shall be included with no additional cost.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
38.2	The Successful Tenderer shall provide comprehensive maintenance with at least 4 full sessions of preventive maintenance service on all equipment items including the CT System, peripheral equipment and all OEM items on offer covering labour and all spare parts during the warranty period. The sessions of preventive maintenance service shall be scheduled outside the normal working hours as stipulated in clause 38.5 or at any other timeslots deemed appropriate by CUHKMC.	M		
38.3	The Successful Tenderer shall perform regular check and calibration for all the LCD monitors at least 2 times per year to ensure optimal image viewing conditions.	M		
38.4	Tenderers shall submit in the Tender returns a yearly maintenance schedule indicating the number of preventive maintenance services and safety tests recommended by equipment manufacturer for the CT System and peripheral/OEM equipment including the contrast media injector and patient monitoring system etc.	M		
38.5	Normal working hours shall be defined as: 08:00 to 20:00 Monday to Saturday except public holidays.	M		
38.6	The service call for all equipment items shall be available with no additional cost during normal working hours even the subsequent repair work is carried out beyond the normal working hours.	M		
38.7	Upon notification by the user of an equipment failure, or part thereof, the Successful Tenderer shall attend to the fault within 2 working hours. This service shall include all necessary repairs and replacement of parts to restore the equipment to its normal operation within 4 hours or such other time agreed.	M		
38.8	No overtime service charges shall be levied for maintenance/repair/upgrade services.	M		
38.9	24-hour emergency service call shall be available and provided upon request.	M		

Section B: Requirements of the Main CT System

Clause	Specification	Type	Yes/No	Details										
38.10	<p>All maintenance records shall be documented and provided to CUHKMC. The report shall record information including the following:</p> <ul style="list-style-type: none"> a. Date and time notified. b. Date and time of arrival on-site. c. Description of malfunction and service performed. d. Model no./ serial no. and location of the equipment. e. Time spent to repair. f. Total time out of service. g. Parts used/replaced. 	M												
39.	Uptime Guarantee													
39.1	<p>During the warranty period, the Successful Tenderer shall guarantee an equipment uptime of not less than 95% of the total normal working hours. If the Successful Tenderer fails to achieve an uptime of 95% averaged over each consecutive period of 3 months, the maintenance contractual period shall be extended based on the following table:</p> <table border="1" data-bbox="284 1081 1035 1391"> <thead> <tr> <th data-bbox="284 1081 531 1171">% of Equipment Uptime (X)</th> <th data-bbox="531 1081 1035 1171">Extension of Warranty</th> </tr> </thead> <tbody> <tr> <td data-bbox="284 1171 531 1227">$90 \leq X < 95$</td> <td data-bbox="531 1171 1035 1227">1 month</td> </tr> <tr> <td data-bbox="284 1227 531 1283">$85 \leq X < 90$</td> <td data-bbox="531 1227 1035 1283">2 months</td> </tr> <tr> <td data-bbox="284 1283 531 1339">$80 \leq X < 85$</td> <td data-bbox="531 1283 1035 1339">3 months</td> </tr> <tr> <td data-bbox="284 1339 531 1391">Below 80</td> <td data-bbox="531 1339 1035 1391">Further negotiation is required.</td> </tr> </tbody> </table>	% of Equipment Uptime (X)	Extension of Warranty	$90 \leq X < 95$	1 month	$85 \leq X < 90$	2 months	$80 \leq X < 85$	3 months	Below 80	Further negotiation is required.	M		
% of Equipment Uptime (X)	Extension of Warranty													
$90 \leq X < 95$	1 month													
$85 \leq X < 90$	2 months													
$80 \leq X < 85$	3 months													
Below 80	Further negotiation is required.													
39.2	<p>“Down Time” is the time when the CT System (including the contrast media injector and major peripheral items) is down and not available for use. It shall not include the time for any scheduled maintenance, system upgrade, and the time when the system is down due to the user’s misuse and negligence.</p>	M												
39.3	<p>“Down Time” will be calculated from the time a down system call is received by the Successful Tenderer to the time of completion of the repair and issuance of a service report to CUHKMC, counting only the time within the normal working hours as referred in clause 38.5.</p>	M												
39.4	<p>“Up time” is calculated as the normal working hours minus “Down time”.</p>	M												

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
40.	Post Warranty Maintenance			
40.1	Tenderers shall quote on a yearly basis a 9-year post warranty maintenance service plan (from 2nd to 10th) for all equipment items including the CT System (X-ray tube, detector assembly and any parts thereof), peripheral equipment and all OEM items. The quote shall be used for the calculation of the total life cycle cost.	M		
40.2	The maintenance service shall be carried out in accordance with the maintenance procedures as described in the relevant equipment service manuals.	M		
40.3	At least 4 full sessions of preventive maintenance service shall be provided each year. The sessions of preventive maintenance service shall be scheduled outside the normal working hours as stipulated in clause 38.5 or at any other timeslots deemed appropriate by CUHKMC.	M		
40.4	At least 2 sessions of regular check and calibration for each LCD monitor shall be provided each year to ensure optimal image viewing conditions.	M		
40.5	At least ONE session of QA shall be provided per year in accordance with the manufacturer's recommendations and/or CUHKMC physicist's protocol.	M		
40.5.1	The QA report shall include the following measurement: <ul style="list-style-type: none"> a. X-ray tube leakage. b. kVp, mAs and detector calibration results. c. High-contrast spatial resolution. d. Low contrast detectability. e. CT number accuracy and linearity. h. CTDIvol for head and body. 	M		
40.6	The yearly maintenance service plan shall be a comprehensive maintenance service covering labour and all spare parts without any exceptions, i.e. including all major and minor items, all software and hardware licenses etc.	M		
40.7	Tenderers shall give a breakdown of the maintenance charges for the main equipment and OEM items.	M		
40.8	Tenderers shall guarantee to provide free software upgrade throughout the contractual maintenance period. The cost, if not explicitly quoted in the Tender return, will be considered covered in the proposal for maintenance service plan.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
40.9	Prices quoted above shall be in exact amount. Annual adjustments with reference to the percentage change in the Consumer Price Index published in the Hong Kong Monthly Digest of Statistics or other basis such as the currency exchange rate will not be considered.	M		
40.10	The clauses 38.5 to 38.10 pertaining to the maintenance services shall also apply in the post warranty maintenance.	M		
41.	Spare Parts and Special Tools			
41.1	Tenderers shall submit a list of recommended spare parts with ordering information details and itemized prices for maintenance use and a list of consumable items. The listed quantities of consumable items shall be sufficient for one year of normal operation.	M		
41.2	Tenderers shall quote the average life span of the x-ray tube. The guaranteed exposure counts shall be stated. The method and unit of counting the exposure shall also be stated explicitly.	M		
41.3	Tenderers shall state in their Tender returns whether the spare x-ray tube, detector assembly and other spare parts are kept in Hong Kong or not. A list of the major spare parts kept in stock shall be submitted with the Tender returns. Regarding non-stock items, Tenderers shall state the turn-around time for: <ul style="list-style-type: none"> a. Normal air delivery. b. Expedited air delivery. 	M		
41.4	If the offered equipment has any protections such as special toolkits, access codes, passwords, software keys, hardware keys etc., the Successful Tenderer shall be responsible to provide the above means free of charge or at a quoted price in the Tender return for the whole lifespan of the equipment on offer. The quoted price may be used at estimating the total life cycle cost of the equipment.	M		
41.5	The Successful Tenderer shall commit for maintaining production and supply of required spare parts to enable normal operation of the whole system of equipment for not less than 10 years from the date of acceptance.	M		

Section B: Requirements of the Main CT System				
Clause	Specification	Type	Yes/No	Details
41.6	The Successful Tenderer shall provide, at no additional costs, all technical information, special tools and diagnostic software for the preventive and corrective maintenance, routine calibration and quality assurance of the equipment on offer. All licensed software and hardware access keys and passwords necessary for the fault diagnosis and trouble-shooting shall also be provided.	M		

– END OF SECTION B –

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
1.	Pre-installation Requirements			
1.1	A period of 1.5 months will be granted to the Successful Tenderer to access the installation site for survey and pre-installation preparation works. Tenderers shall submit a detailed work plan for this period.	M		
1.2	Tenderers shall check from the composite drawings of the CT Suite and confirm the building/building service provisions such as room space, ceiling height, ceiling and floor loading, mains supply current rating, air-conditioning capacity, supporting system for ceiling mount components, plumbing and drainage system, fire services installation, medical gas installation, temperature and humidity etc. are suitable for equipment installation and related services. The composite drawings are available from CUHKMC upon request.	M		
1.3	Any amendments, additions, omissions and modifications of the provisions shall be carried out by the Successful Tenderer and such cost shall be deemed to have been included in the Tender price.	M		
1.4	Tenderers shall also submit along with their Tender returns the following detailed information:	M		
1.4.1	Equipment layouts and elevation diagrams of the CT Suite with the floor and wall trenches/trunkings, radiation shieldings (as-built), ceiling cables, trunkings for computer networks etc. in accordance with the details of CT Suite.	M		
1.4.2	Proposed supporting systems, if any, with dimensions, locations and mounting methods.	M		
1.4.3	Mounting details of the various components.	M		
1.4.4	Locations and wiring diagrams for electrical fixtures such as fuse boxes, power sockets, light fittings, switchgear and emergency stop buttons etc.	M		
1.4.5	The design of storage cabinets, sinks, worktops and shelves etc. within the CT Suite with dimensions, materials and their layout arrangements. The design shall be presented on a 2D floorplan and in 3D colour rendering format.	M		
1.4.6	The total weight of the CT System on offer shall be within the loading capacity of the installation site. Supporting documents signed by a Registered Structural Engineer shall be provided by the Successful Tenderer.	M		
1.4.7	Floor loading, weight distribution and dynamic effect (if any) of the major components of the CT System.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
1.4.8	Heat dissipation of various components of the CT System and the required locations of air-conditioning outlets.	M		
1.4.9	Remodel the computer room for the second CT into a proper patient preparation room with O2, suction, computer, printer and furniture.	M		
1.4.10	A delivery and installation project timeline detailing the expected period of various stages of installation.	M		
1.5	The Successful Tenderer is required to attend meetings with CUHKMC staff and appointed builders for discussion on all details related to the installation.	M		
1.6	The Successful Tenderer is required to attend meetings with CUHKMC staff, contractor(s) appointed by CUHKMC, end-users and image network suppliers of CUHKMC for discussion on all details related to data transfer of the system on offer. The Successful Tenderer shall coordinate and work with the image network suppliers of CUHKMC for matters related to equipment installation and data transfer of the system on offer.	M		
2.	Delivery and Installation Requirements			
2.1	Tenderers are strongly advised, prior to the submission of the Tender, to acquaint themselves with the condition of the installation site, equipment delivery route and site boundary etc.	M		
2.2	The Successful Tenderer shall deliver the CT System according to the schedule given by CUHKMC.	M		
2.3	The Successful Tenderer shall complete the installation of the CT System on offer within 3 months after the delivery.	M		
2.4	Regular bi-weekly progress reports on the installation shall be submitted to CUHKMC during the course of installation.	M		
2.5	Tenderers shall confirm that appropriate means of transportation can be arranged by themselves for the delivery of their equipment to the installation site. They shall confirm with CUHKMC that the route of delivery to the installation site is of sufficient width, height and floor loading etc. for the passage of their equipment.	M		
2.6	A drawing of the delivery route shall be submitted with the Tender return.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
2.7	No temporary storage space for any equipment shall be available within the construction site before the completion date. If any equipment item arrives earlier than the agreed delivery schedule, the Successful Tenderer shall be responsible for the storage of the equipment.	M		
2.8	Tenderers shall specify in their Tender returns the conditions of delivery, such as packing and necessary environmental requirements.	M		
2.9	The Successful Tenderer shall take out insurance to cover accidental damages to the equipment during the period of delivery, site storage, installation, testing and commissioning.	M		
2.10	The Successful Tenderer shall be responsible to clear away all packing materials, demolished and unused structural materials to a legal place after the delivery/installation of the equipment.	M		
2.11	The Successful Tenderer shall note that they shall be held responsible for any damage to CUHKMC property or that of the main contractor as may be caused during the equipment delivery and installation.	M		
2.12	Should any alterations or modifications of CUHKMC properties be required to facilitate the delivery, prior approval shall be sought. It is the Successful Tenderer's responsibility to restore all altered or modified structures to their original states after the delivery. The works involved shall be deemed to have been included and allowed for by the Tenderers in the returned Tender price.	M		
2.13	If due to tight schedule or other reasons that CUHKMC requires the Successful Tenderer to work at night time or some other specified time, the Successful Tenderer shall be prepared to do so at no additional cost.	M		
2.14	Where applicable, the Successful Tenderer shall be responsible for connecting the equipment to the corresponding infrastructure services provided. Any revision or addition work on the infrastructure services provided shall also be the responsibility of the Successful Tenderer subject to such work be approved by CUHKMC.	M		
2.15	Where applicable, the Successful Tenderer shall be responsible for relocating the electrical sockets, data ports, medical gas and vacuum outlets etc. in order to facilitate the installation of the equipment.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
2.16	The CUHKMC reserves the right to initiate and require the Successful Tenderer to attend work progress meetings or ad hoc meetings before or after the completion of installation.	M		
2.17	The Successful Tenderer shall observe all statutory requirements regarding safety. If the installation is carried out during the main contractual construction period, the Successful Tenderer shall comply with safety requirements as may be reasonably imposed by the main contractor.	M		
2.18	The Successful Tenderer shall make good the site upon completion of equipment installation.	M		
3.	Radiation Protection and Safety Requirements			
3.1	The as-built CT scan room has provisions for radiation protection done by the builder. Tenderers shall check from the composite drawings of the CT Suite and confirm the radiation protection and safety provisions before submitting the Tender returns.	M		
3.2	The Successful Tenderer shall be responsible for the addition and/or modification of these provisions, if found necessary, to meet the radiation protection requirement of not exceeding 3 microgray/hr behind a protection barrier when an exposure is made under the prevailing Hong Kong Radiation Ordinance. Additional cost incurred to the Successful Tenderer arising from such addition and/or modification shall be deemed to have been borne in the submitted Tender price.	M		
3.3	All voids found in the lead-lined partition/wall shall be made good and lead-lined by the Successful Tenderer to retain the integrity of radiation protection so provided.	M		
3.4	Lead over-lapping shall be provided at all joints, angles and nailing points etc. when the installation works involve the lead shielding in-situs.	M		
3.5	The floor trunking (cable trench) shall not compromise the integrity of the floor slab in the provision for radiation protection, otherwise lead lining is required to resume the degree of radiation protection so provided by the floor slab.	M		
3.6	All doors and door frames leading to the CT scan room shall be lead-lined and provide the same lead-equivalence as the adjacent walls. The doors and door frames shall be constructed that appropriate shielding geometry is achieved.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
3.7	The Successful Tenderer shall be responsible for the supply and installation of radiation warning lights above the doors leading into the CT scan room. The warning lights shall be synchronized with activation of X-ray.	M		
3.8	Provision of THREE sets of emergency stop buttons in the scan/control rooms with a protective guard for emergency disconnection of electrical power supply to the CT System on offer.	M		
3.9	Appropriate radiation warning signs (in Chinese and English) shall be provided on the doors leading to the CT scan room for display. The format and wordings used shall comply with the statutory requirements.	M		
3.10	Radiation safety of the CT scanner and the CT scan room shall be subject to an acceptance test by CUHKMC representative following the completion of installation by the Successful Tenderer. CUHKMC will not conduct any acceptance test pertaining to radiation safety until it has received full certification that the Successful Tenderer has conducted its own tests and found that radiation safety requirements have been met.	M		
3.11	A detailed drawing showing the final configuration of the provisions for radiation protection shall be submitted by the Successful Tenderer to CUHKMC for radiation licensing purpose.	M		
4.	Door Mechanism			
4.1	The door leading to the CT scan room from the main corridor:	M		
4.1.1	Lined with 5 mm thick of lead.	M		
4.1.2	Electrically-driven double-swing type.	M		
4.1.3	Provision of a foot-switch and a hand sensor for operation at the entrance both inside and outside of CT scan room.	M		
4.1.4	Deactivation of the foot-switches and hand sensors shall be allowed for by a button located in the CT control room.	M		
4.1.5	A door interlock mechanism shall be provided for locking the door when X-ray is activated.	M		
4.1.6	A button shall be provided near the entrance inside the scan room and near the scanning console to lock the door if required.	M		
4.1.7	The door lock shall be automatically released in case the fire alarm is activated.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
4.1.8	An electro-magnetic digital lock at the entrance outside the CT scan room shall be provided.	M		
4.2	The door between the CT scan room and control room:	M		
4.2.1	Lined with 5 mm thick of lead.	M		
4.2.2	Electrically-driven single-swing type.	M		
4.2.3	Provision of a foot-switch and a hand sensor for operation at the doorway both inside and outside of CT control room.	M		
4.2.4	Deactivation of the foot-switches and hand sensors shall be allowed for by a button located in the CT control room.	M		
4.2.5	A door interlock mechanism shall be provided for locking the door when X-ray is activated.	M		
4.2.6	The door lock shall be automatically released in case the fire alarm is activated.	M		
4.3	The Successful Tenderer shall supply and install stainless steel frames/corner guards at all doors leading to the scan room.	M		
4.4	Tenderers shall submit the configuration of the doors for the end-user's consideration.	M		
5.	Building Services and Builder Works Provisions			
5.1	The CT installation site consists of the CT scan room, control room and the computer room as denoted in Appendix I . The building service termination points provided by the builder will be located near the room entrances for connection with the corresponding services in the CT Suite by the Successful Tenderer. Tenderers shall refer to the composite drawings for details.	M		
5.2	The Successful Tenderer shall be responsible for all internal structural, fit out works and building services in the CT installation site.	M		
5.3	The Successful Tenderer shall be responsible for all building services and builder works which are deemed to be necessary by the end-user for proper installation, commissioning and subsequent operation of the equipment on offer.	M		
5.4	The Successful Tenderer shall work in collaboration with CUHKMC's contractor(s) to provide building services and builder works for the smooth operation of the CT System on offer.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
5.5	The Successful Tenderer shall be responsible for the following cabling works, if required:	M		
5.5.1	Provision and installation of cables with associated recessed floor cable trunkings: <ul style="list-style-type: none"> a. from the isolator to the equipment inside the CT scan room. b. connections between the CT scan, computer and control rooms. 	M		
5.5.2	All disturbed surfaces and finishes shall be made good after the works to the entire satisfaction of CUHKMC.	M		
5.6	Electrical installation: Supply and installation of power supply/ cables, power outlets, voltage stabilizers, line filters, protection circuits, circuit breakers and all other associated fittings/ wiring/ trunking and conduits etc. The installation shall comply with BS7671.	M		
5.7	The Successful Tenderer shall arrange the lighting fittings in accordance with the layout that suits the clinical operation.	M		
5.8	HVAC installation: The Successful Tenderer shall be responsible for any alternation, if required, to the central air-conditioning in relation to the equipment installation. This includes but not limited to additional air-conditioning system, chilled water supply and return pipework, air ducts, fan coil units, air grilles, fresh air duct, exhaust fans, thermostats and all other associated fittings/ wiring/ pipework etc.	M		
5.8.1	The Successful Tenderer shall be responsible for the provision of adequate air conditioning to the installation site if required. The temperature range and the relative humidity shall comply with operation requirements of the CT System on offer.	M		
5.8.2	Any cooling unit(s) for the system/transformer shall be provided with an acoustic hood and a ventilation device.	M		
5.9	Provision and installation of trunking and concealed conduits for the network cables of the PACS, RIS and HIS pertaining to the image and/or data transfer between these systems and the CT System on offer.	M		
5.10	Provision and installation of data ports and/or network switches for the networks of the PACS, RIS and HIS pertaining to the image and/or data transfer between these systems and the CT System on offer.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
5.11	<p>Fittings and furniture:</p> <p>The Successful Tenderer shall be responsible to provide all fixtures, fittings, furniture, cabinets and necessary facilities in the below listed areas.</p>	M		
5.11.1	<p>Scan room:</p> <p>Supply and installation of worktops, under bench cupboards for storage of accessories and consumables. The exact design shall be agreeable to the end-user.</p>	M		
5.11.2	<p>Control room:</p> <ol style="list-style-type: none"> a. Supply and installation of a switchable glass (smart glass) panel in front of the clear lead glass window of the CT scan room. b. Supply and installation of worktops, under bench cupboard with drawers/ partitions. c. Floor racks for workstations if placed underneath the worktop. d. All necessary PACS, RIS, IT, telephone ports shall be provided, including all necessary trunking works. e. Sufficient number of electrical power sockets in the control room area, including all necessary trunking works. Suitable filters, connectors and power supply shall be provided. f. A covered cable trench shall be provided at the back of each worktop to conceal the computer cables. g. Wall mounted cabinets and lockers shall be provided and installed in the control room for the storage of accessories/personal belongings. h. The sizes, design, materials and colour of the worktops and cabinets shall be agreeable to the end-user before installation. <p>Tenderers may elect to offer commercially available items of similar or better make and finish for the end-user's consideration.</p>	M		
5.11.3	<p>Signage:</p> <p>Signage for doors, rooms etc. shall match in materials, colours, style and quality to the signage at the adjoining areas.</p>	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
5.11.4	<p>Corner guards and kick plates:</p> <p>The Successful Tenderer shall supply and install stainless steel corner guards/kick plates at locations where deemed appropriate as considered by the end-user.</p>	M		
5.12	<p>The Successful Tenderer shall seek endorsement from CUHKMC on the following subjects, whenever applicable, before carrying out any actual work.</p> <ul style="list-style-type: none"> a. Architectural alteration b. Building services design/alteration c. Electrical installation d. Fire services installation e. Medical gas outlets relocation f. Signage design 	M		
5.13	<p>All the building service and builder works prepared by the Successful Tenderer shall carry one-year defect liability period commencing from the satisfactory completion of the work certified by CUHKMC.</p>	M		
5.14	<p>The Successful Tenderer or its sub-contractor(s) to be appointed by the Successful Tenderer to carry out the associated building works and E&M works shall be on the respective List of Approved Public Works Contractors under the Buildings Category and the List of Approved Suppliers of Materials and Specialist Contractors for Public Works under the relevant discipline maintained by the Development Bureau of the HKSAR Government (A full list can be obtained from the web page of the Works Branch of the Development Bureau). Where works to be carried out are governed by the provisions of the Buildings Ordinance, the Successful Tenderer shall also appoint an Authorized Person and, where necessary, a Registered Structural Engineer and/or a Registered Geotechnical Engineer to perform design, submission, supervision and project management duties to ensure that both the design and construction works comply fully with the prevailing legislations in all aspects. All works shall comply with the relevant General Specifications for Building, Building Services and Electrical and Mechanical Services Installations published by the HKSAR Government. Moreover, the Successful Tenderer shall ensure all works are executed with the site maintained in a safe manner in full compliance with the prevailing legislations and/or requirements introduced by CUHKMC.</p>	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
6.	Compliance to Building Services Requirements			
6.1	The Successful Tenderer shall observe all the following building service requirements for its installation works:	M		
6.2	All electrical works shall be carried out by registered electrical workers in accordance with the standards of materials and workmanship as mentioned in the specifications.	M		
6.3	All building service works including conduits, junction boxes, cables and pipe works etc. shall be concealed and no surface mounting will be permitted unless otherwise so agreed.	M		
6.4	All materials and workmanship shall comply with the latest editions of General Specification for Electrical Installation in Government Building of HKSAR, other relevant General Specification by Building Services Branch ArchSD, Code of Practice for Electricity (Wiring) Regulations by the Electrical & Mechanical Services Department and Supply Rules of the Electrical Supply Authority as relevant, and shall be approved by CUHKMC prior to the installation.	M		
6.5	All building works carried out by the supplier and/or its contractor shall meet the minimum standards set out in “General Specification for Building 2007” issued by ArchSD.	M		
6.6	All works shall comply with Building Ordinance Cap. 123 of Hong Kong Law and other related Legislations.	M		
6.7	All works related to the alternation of Fire Services installations, if applicable, shall comply with the latest edition of Code of Practice for Minimum Fire Services Installations and Equipment, Inspection and Testing of installations and Equipment and the standard set by the Loss Prevention Council.	M		
6.8	On completion, all builder’s and building service prepared by the Successful Tenderer shall be subject to an acceptance test conducted by CUHKMC.	M		
6.9	The Successful Tenderer’s contractor shall provide 2 sets of as-built drawings in AutoCAD/PDF format regarding all room layout design and installations.	M		
6.10	All drawings and calculations shall be submitted by an authorized person and/or Registered Structural Engineer under Buildings Ordinance.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
6.11	All building works and structural work shall be supervised by an authorized person and/or Registered Structural Engineer.	M		
7.	Insurance Coverage, Occupational Safety and Health			
7.1	The Successful Tenderer shall be responsible for the purchase of insurance coverage against any liability for personal injury, loss of life, damage to property and equipment etc. occurred as a result of or related to the work carried out by the Successful Tenderer or its representatives, which includes site preparation and construction work and equipment delivery, installation and testing.	M		
7.2	The Successful Tenderer shall take all reasonable steps to ensure the occupational safety and health at workplace for all its employees when performing their works related as specified in this Tender.	M		
7.3	The Successful Tenderer shall fully indemnify CUHKMC from and against any claims, actions, proceedings, demands and suits brought against and/or fines and penalties imposed on CUHKMC arising directly or indirectly out of or in connection with the failure of the Successful Tenderer to comply with any applicable statutory requirements including the Occupational Safety and Health Ordinance.	M		
7.4	24-hour emergency contact persons must be provided to the end-user and CUHKMC Administration. The persons must be at a managerial level of this Tender.	M		
8.	Hand-over of the Building Services Installations			
8.1	The Successful Tenderer shall be responsible for the hand-over of the building service installations to CUHKMC at the completion of the installation works and after the completion of the defect liability period.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
9.	Technology Substitution/Advancement			
9.1	The Successful Tenderer shall undertake to offer CUHKMC, and CUHKMC may at any time before delivery and at its sole discretion elect to obtain from the Successful Tenderer, any units of hardware or software in substitution where the substitute units contain more advanced technology or have performance characteristics similar to or better than any units of hardware and software on offer. Such substitute unit shall be offered to CUHKMC at the Successful Tenderer's prevailing prices including discount offered to CUHKMC under this contract. In the event that CUHKMC elects to obtain the substitute unit of hardware or software from the Successful Tenderer, the provisions of this Tender shall apply to such substitute units.	M		
9.2	Tenderers shall propose in their Tender returns any means pertaining to technology advancement to improve the workflow and performance of the equipment on offer for consideration of the end-user.	M		
9.3	The Successful Tenderer shall propose an upgrade solution for CUHKMC, including hardware and software and all other major systems, to ensure non-obsolescence of the CT System.	M		
10.	Supporting Documents Tenderers shall provide documentary evidence pertaining to the following clauses to demonstrate the stability and maturity of the system on offer and the quality of the services provided:			
10.1	Tenderers shall ensure that the equipment manufacturer of the main imaging system can meet the international standards ISO 9001 and ISO 13485 or equivalent.	M		
10.2	The main system shall have FDA clearance and/or CE certification.	M		
10.3	The offer shall have track records in clinical installation sites for at least 6 months. Tenderers shall provide details such as the installation locations and dates.	M		
10.4	The number of clinical sites currently using the same system shall be stated.	M		
10.5	A description of the local support services.	M		
10.6	Profiles of the local support staff in respect to their experience in technical and user support of the proposed systems.	M		

Section C: Delivery, Installation and Other Requirements				
Clause	Specification	Type	Yes/No	Details
10.7	Relevant documents from the manufacturers of the systems certifying at least THREE local engineers have received factory training for each system on offer and are eligible for discharging maintenance services to the system.	M		
10.8	The logistics of support services from overseas as a second line support to CUHKMC.	M		

- END OF SECTION C -

Section D: Healthcare Engineering Systems and Related Facility				
Clause	Specification	Type	Yes/No	Details
1.	General			
1.1	<p>Successful Tenderer shall be responsible for the design, manufacture, supply, site survey, equipment delivery, storage, installation, coordination with other contractors/ parties, authority and statutory submissions, statutory inspections, testing, commissioning, setting to work, performance demonstration, training, license and certificates and rectification of defects and maintenance during the Defects Liability Period of the following Healthcare Engineering Systems and Related Facility in order to comply with the requirements of provision of GA in the CT Scanner Room, and the requirements as stipulated in the Legislation, Regulations, Codes and all relevant statutory requirements:</p> <ol style="list-style-type: none"> a. Specialised ventilation system b. Isolated power supply (IPS) system c. Medical gas pipeline system (MGPS) d. All control and monitoring installations connected to existing CCMS system, central monitoring systems and all relevant modification works of the existing CCMS programming and installation and other systems e. All necessary electrical, mechanical and control installations, structural works, builder works, and all associated works for the installations and systems as stipulated in this Specification; f. All necessary decorative installations including, but not limit to cladding, covers, furniture, finishes and make good works etc. to cover the installation and systems as required g. All modification works of the existing systems include, but not limit to, the fire service systems <p>All other relevant installations, systems and works etc. to suit the latest statutory and authority requirements and comments, actual site conditions and all the relevant requirements which are not stipulated in this specifications.</p>	M		

Section D: Healthcare Engineering Systems and Related Facility				
Clause	Specification	Type	Yes/No	Details
1.2	The Healthcare Engineering Systems and Related Facility shall be designed by professional engineers and fully comply with the Code of Practice for Private Hospitals (2022 Edition) issued by the Department of Health Hong Kong SAR, China (the Code). Upon completion, the installations shall be certified by a registered professional engineer (RPE) under the Engineers Registration Ordinance (Cap 409) to be in compliance with the Code. The Successful Tenderer shall be responsible for all the testing, inspections, documentation, attendance for DH inspection all the relevant works for the authority and statutory submissions.	M		
1.3	The Successful Tenderer shall be responsible for the Works in compliance with the requirements as stipulated in the Technical/Specification/Compliance List and the Drawings. The Successful Tenderer shall be responsible for all incidentals, equipment, appliances, services, scaffolding, supports, tools, supervision, labour, fees, licenses etc., and all necessary to provide a safe and fully operable systems for the Employer's operation, relevant statutory requirements include but not limit to site work requirements, CUHKMC infection control requirements, all other relevant user's requirements. Any item required to conform with the requirements shall be provided.	M		
1.4	The Successful Tenderer shall be responsible for engaging qualified consultation, personnel, architect (AP), registered structural engineer and registered sub-contractors, as appropriate, for the design, calculations, preparation, installation construction and supervision of the works and all necessary statutory and authority inspections and submissions. The Successful Tenderer shall provide his own equipment for the Works.	M		
1.5	The Successful Tenderer shall be responsible for engaging qualified consultation, personnel, architect (AP), registered structural engineer and registered sub-contractors, as appropriate to design, review the architectural layouts, structural loads, plinths, wall slab openings etc. for all the new installations, systems, and relevant works and modification works. The Successful Tenderer shall be responsible for all the necessary statutory and authority inspections and submissions include, but not limit to relevant calculations, documentation, certificates and licenses.	M		
1.6	The Successful Tenderer shall be responsible for all liaison and coordination with owners/users/other contractors and all relevant parties, and the interface arrangements of the Works with the existing installations and site conditions etc.	M		

Section D: Healthcare Engineering Systems and Related Facility				
Clause	Specification	Type	Yes/No	Details
1.7	The Successful Tenderer shall provide all necessary equipment and accessories to suit the actual site conditions. The Successful Tenderer shall check the existing works provisions including the exact setting out of the installation and system locations, and existing installations to be interfaced etc.	M		
1.8	The Successful Tenderer shall carry out the Works without disrupting or affecting the safe and continuous operation of the areas. The Successful Tenderer shall make all necessary provisions to avoid interference to operation and fulfil all safety requirements as specified in the relevant Regulations Codes and Statutory. The Successful Tenderer shall be responsible for any non-office hour works.	M		
1.9	<p>The defect liability period (DLP)/warranty period is at least 12 months from date of acceptance of all the installations and systems.</p> <p>The Successful Tenderer shall be responsible for the comprehensive preventive maintenance services, repair and corrective maintenance services, 24-hour emergency fault call services, renewal of the license and certificates during the DLP/warranty period.</p> <p>The defect liability period (DLP)/warranty period shall fully cover the required labour cost and transport, spare parts, necessary tools and testing instruments etc. to restore the system and equipment to its normal operation conditions.</p> <p>The maintenance services within the warranty period shall be carried out in accordance with the maintenance procedures as described in the relevant equipment service manuals.</p> <p>The Successful Tenderer shall hold sufficient genuine spare parts to enable the equipment to be restored to its normal operational conditions within a time limit acceptable to the Employer.</p> <p>The Successful Tenderer shall inspect the whole equipment including all components at a regular interval recommended by manufacturer. This preventive maintenance service shall include all necessary repairs, replacement of parts, adjustments, calibration, cleaning necessary to ensure that the performance of the equipment conforms to the specifications.</p>	M		
1.10	The Successful Tenderer shall be responsible for all the submissions including submission schedule, programme, materials, drawings, T&C plan, work permits etc. for approval prior to the installations.	M		

Section D: Healthcare Engineering Systems and Related Facility				
Clause	Specification	Type	Yes/No	Details
1.11	The Successful Tenderer shall submit the as-fitted information, O&M manual, training plan, certificates etc. to Employer for record.	M		
1.12	The Successful Tenderer shall be responsible for engaging qualified and registered safety officer to ensure all works in compliance with all relevant local occupational health and safety legislation (i.e. Factory and Industrial Undertaking Ordinance and Regulations, Occupational Safety and Health Ordinance and Regulations, etc.) and other requirements including all risk assessments, methodologies, PPE for the workers, supervision of works and construction, and all relevant works.	M		
2.	Specialised ventilation system (SVS)			
2.1	The SVS shall comply with the ANSI/ASHARE/ASHE Standard 170-2021 “Diagnostic and Treatment” Class 2 imaging room, or equivalent international standard with the following key parameters: <ul style="list-style-type: none"> a. Differential pressure to adjacent area: Positive b. Minimum outdoor air change per hour: 3 c. Minimum total air change per hour: 15 d. Filter efficiency: MERV 14 e. Relative humidity: Max 60% f. Room temperature: 20-24 degree C 	M		
2.2	One specific air handling unit (AHU) shall be added in the existing plant room on G/F near the CT Scanner Room, with necessary chilled water pipe works and air duct works. The electricity supply and chilled water supply for the AHU shall be obtained in the said plant room.	M		
2.3	The existing air conditioning system in the CT Scanner Room shall be modified to meet the operational needs and the SVS requirements. Low level extraction shall be provided to meet the provision of anaesthetic gas requirements.	M		
2.4	The control and monitoring system for the SVS shall be provided and connected to existing CCMS system. The Successful Tenderer shall be responsible for all the associated works and modification works of the MGPS installations, programming and all relevant works.	M		

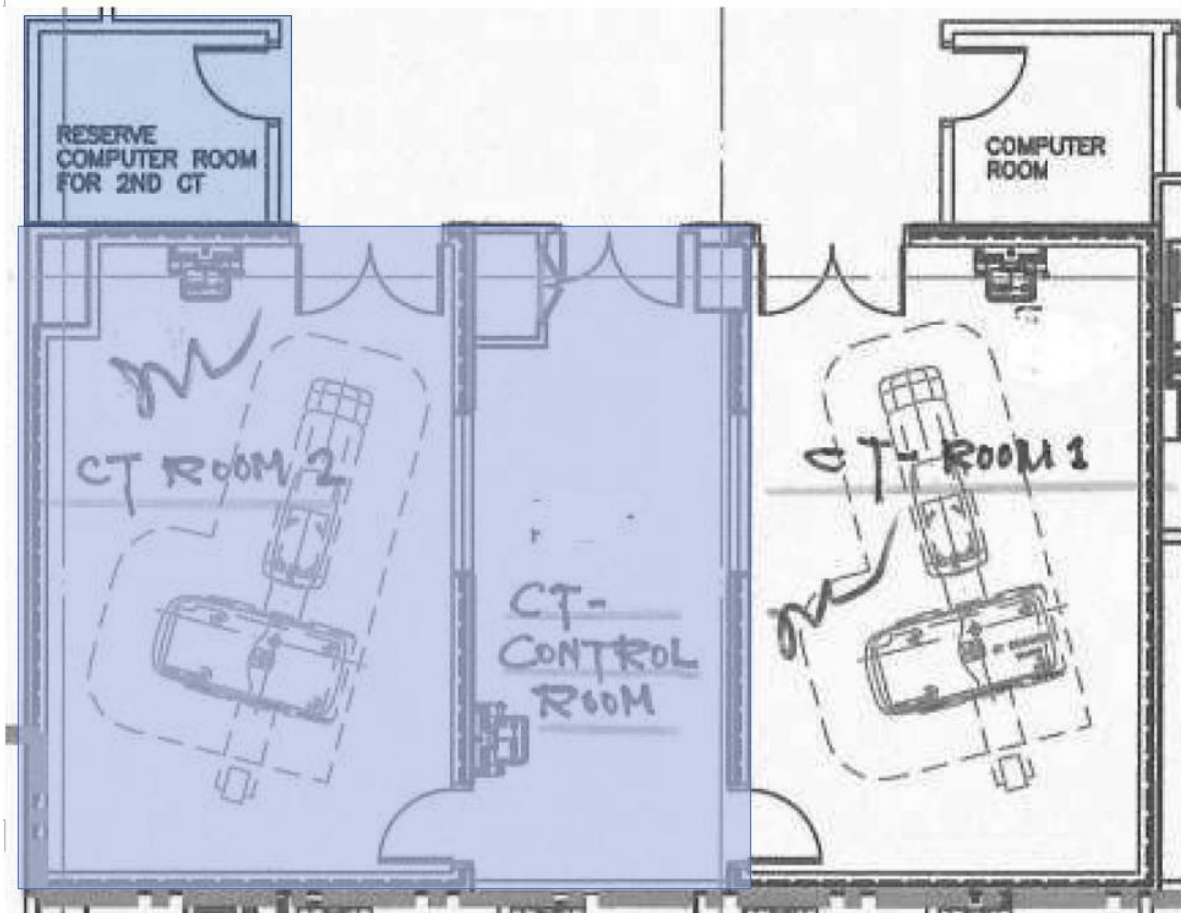
Section D: Healthcare Engineering Systems and Related Facility				
Clause	Specification	Type	Yes/No	Details
3.	Isolated power supply (IPS)			
3.1	One additional IPS system with rating of 2x8kVA shall be provided for the provision of IPS sockets in the CT Scanner Room.	M		
3.2	The IPS shall be located close to the CT Scanner Room and connected to the building UPS system with necessary cable containment and wiring works.	M		
3.3	Local alarm system for the IPS system at the CT Scanner Room and nurse station and connected to CCMS system shall be provided.	M		
4.	Medical Gas Pipeline Systems (MGPS)			
4.1	Successful Tenderer shall be responsible for the following medical gas and all piping works connected to the existing building MGPS and for connection within the CT Scanner Room: <ul style="list-style-type: none"> a. O2 b. N2O c. MA4 d. VAC e. AGSS f. AVSU g. Alarm h. Anaesthesia Information System Station 	M		
4.2	The monitoring system for the MGPS shall be provided and connected to existing MGPS monitoring system. The Successful Tenderer shall be responsible for all the associated works and modification works of the MGPS installations, programming and all relevant works.	M		
5.	Related Facility			
5.1	Successful Tenderer shall be responsible for the installation of 2 number of Network ports for connecting AIS and PACS	M		
5.2	Successful Tenderer shall be responsible for the installation of proper hand washing facility and all piping works and renovation job within the CT scan room area with the concerned contractor.	M		

Section D: Healthcare Engineering Systems and Related Facility				
Clause	Specification	Type	Yes/No	Details
5.3	Wall, fittings, floor, working bench, cabinet, data ports, power sockets and medical gases outlets of the above-mentioned clinical areas shall be provided if necessary. Proposed layouts and detailed designs shall be submitted by the Successful Tenderer for users' confirmation.	M		
5.4	Successful Tenderer shall ensure the smooth running of CT clinical service during installation of second CT system. Renovation during the weekends or public holidays shall pose no additional charge. Renovation schedule should be submitted by the Successful Tenderer for user's confirmation.	M		
5.5	The interior design and amenities of the CT scan room shall provide a patient-friendly imaging environment. The proposed layouts and detailed design shall be submitted by the Successful Tenderer for users' confirmation.	M		
5.6	Successful Tenderer shall be responsible to remove and dispose any objects during replacement and installation.	M		
5.7	Successful Tenderer shall be responsible for the purchase of insurance coverage against any liability for personal injury, loss of life, damage to property and equipment etc. occurred as a result of or related to the work carried out by the contractor or its representatives, which include site preparation and construction work and equipment delivery, installation and testing.	M		

– END OF SECTION D –

– END OF TENDER SPECIFICATIONS –

Layout of Second CT System Installation Site on Ground Floor of CUHKMC



(The blue shaded area denotes the boundary of the second CT Installation Site)

Note:

The layout drawings in electronic format (including the composite drawings and CAD diagrams) are available for viewing after signing a Confidentiality Non-Disclosure Agreement with CUHKMC, please contact CUHKMC at procurement@cuhkmc.hk.

CUHKMC IT Security Requirements

[Link to document](#)

**Highlights for Methodology & Message Standard
of Hospital Information System Integration**

[Link to document](#)

3 Total Life Cycle Cost

The total life cycle cost shall be included in the calculation of the Price Score. For each of the item offered in Schedule 4 – Price, the Tenderer is required to provide a detailed equipment calculation/projection of the Total Life Cycle Cost for each unit of equipment. The Total Life Cycle Cost shall be fully comprehensive and without hidden costs.

4 Post Warranty and Maintenance Service

- 4.1 The Tenderer shall refer to the Conditions of Contract on the detailed requirement of Guarantee and Warranty.
- 4.2 The Tenderer should quote in Schedule 4 - Price the whole annual post warranty maintenance services costs of the offered product commencing from the expiry of the Warranty Period. The post warranty maintenance services costs inclusive of charges of labour, regular calibrations, preventive maintenance (PM), corrective maintenance (CM), all spare parts and minor parts/components. The CUHKMC will include the post warranty maintenance services costs for Total Life Cycle cost evaluation. If Tenderer fail to quote such services costs for evaluation, the CUHKMC will treat such Tender as an incomplete offer. Tender with incomplete offer quoted in the Tenderer's Schedule will not be considered.
- 4.3 The annual post warranty maintenance services costs must be quoted in a dollar value and for each unit of the equipment. Any quotation submitted in a value equivalent to a percent of the equipment cost being quoted in the Price Schedule or a lump sum value is not allowed.
- 4.4 The CUHKMC may at its option enter into the post warranty maintenance services contract with the Tenderer for the duration at the CUHKMC's discretion.

5 Accessories/Components

- 5.1 The price(s) quoted for the item(s) in Schedule 4 - Price shall include all accessories/components for each unit of equipment per annum which is/are essential to the normal operation of the item(s).
- 5.2 The Tenderer shall quote the optional accessories/components with itemized prices for each unit of equipment per annum in Schedule 4 – Price for evaluation.

6 Operational Training

The Tenderer is required to provide free of charge operational training to operators/users. The operational training shall be designed to enable the operators/users to use the Goods safely, effectively and properly in all aspects. Tenderer shall specify in the Schedule of Compliance the type of operational training to be provided.

7 Service Training

The Tenderer is required to provide training on basic servicing of the Goods on-site for all service personnel who would normally be expected to service the equipment. A list of topics covered in the training shall be submitted in the Tender. Tenderer shall specify in the Schedule of Compliance the type of service training to be provided.

8 Submission of Tender

8.1 Two-Envelope Bidding

- a. This Tender shall be conducted in a two-envelope bidding process. Tenderer must submit the technical and price information in two separate sealed envelopes, one marked with the word “Technical Proposal” and the other with “Price Proposal” in the following manner:
 - Technical Proposal: contains the complete set of Tender documents **EXCEPT** Schedule 4 - Price and all supplementing quotations.
 - Price Proposal: contains the Schedule 4 - Price and all supplementing quotations.
- b. The CUHKMC will complete the technical assessment first by evaluating the technical proposal of the Tender according to the Requirements and Specifications and Document (if required). The price proposals of those Tender which can pass technical assessment will be evaluated further based on the price proposal.
- c. The CUHKMC will not accept the Tender proposals if the Tenderer fail to submit the technical & price proposal in two separate sealed envelopes.

8.2 Interested Tenderer must provide the following information in their Tender submission:

a. Schedule 1: Company/Organisation Profile

Tenderer must provide the following details to the CUHKMC:

1. Name and address of the company/business organisation.
2. Length and nature of business experience including without limitation experience in the performance and /or supply of the products.
3. A copy of its Articles of Association or other documents evidencing its business statuses.
4. Copies of current business registration certificate
5. Copies of all current licence(s) or permit(s) issued in favour of the Tenderer by the relevant authorities that are required to legally perform and or supply the products.
6. Documentary evidence of any agency claimed by the Tenderer in relation to the Tender, whether on a sole or exclusive basis or otherwise.
7. Relevant experience in local and overseas market in providing the products and or services in relation to the Tender.
8. The organisational structure of on-site installation team of equipment and phone number of contact persons.
9. Proven qualification and experience of maintenance service personnel in providing the equipment maintenance services in relation to the Tender.
10. If the Tenderer wishes to fulfil its obligations under this proposal through subcontracting or partnership with third parties, details including name of the subcontracting or partnership organisation and responsibilities should be stated;

b. Schedule 2: Overall Design Layout Proposal

The Tenderer should refer to Appendix I and submit a layout proposal for the CT System and other optional equipment and furniture for the future full functioned CT Suite, Imaging and Interventional Radiology Centre, G/F, No.9, Chak Cheung Street, Shatin, New Territories, Hong Kong. The layout proposal should include the following:

1. A proposal for the construction of the whole installation site formation works including all builder's works and E&M's works, the supply and installation of the Equipment and the associated site preparation for proper installation, testing and subsequent operation of the Equipment as required in Clause 1.7 of Section A of Tender Specifications.
2. A detailed equipment layout drawings and elevation drawings for the floor area where the Equipment will be installed as well as the network layout drawings for areas involved as required in Clause 1.13 of Section A of Tender Specifications.
3. A detailed proposal on how the Equipment and image workstations can be connected to the Picture Archiving and Communication System (PACS), Radiology Information System (RIS) and Hospital Information System (HIS) of CUHKMC to achieve an effective and efficient digital image/ data exchange for filmless operation as required in Clause 2.1 of Section A of Tender Specifications.
4. A delivery and installation project schedule detailing the expected period of various stages of installation for the delivery date as required in Clause 1.4.10 of Section C of Tender Specifications.
5. A drawing of the proposed delivery route as required in Clause 2.6 of Section C of Tender Specifications.

The layout should be in scale of measurements. The staff flow, material flow and logistics flow should be indicated clearly.

c. Schedule 3: Schedule of Compliance

The Tenderer should indicate the compliance of the specifications point-by-point for the Part VI. If Tenderer wish to include counter-proposal in their Tender reply, the CUHKMC reserves the right to accept or reject any such offer.

TWO set of brochures and technical data necessary for the full installation of each complete set of equipment including OEM items shall be provided as required in Clause 33.1 of Section B of Tender Specifications.

d. Schedule 4: Price

The price proposal should consist of the following areas:

1. Supply and Installation of Computed Tomography (CT) Scanning System, including all required features and ancillary items
2. Accessory Items
3. Site Preparation, Building Services and all necessary items
4. Post Warranty Comprehensive Maintenance Services (2nd to 10th year)

- 5. Total Tendered Sum
- 6. Optional Items
- e. **Schedule 5: Duly completed and signed Consent to Disclosure**
- f. **Schedule 6: Duly completed and signed Non-Collusion Certificate**
- g. **Schedule 7: Duly completed and signed Personal Data Privacy (Amendment)**
- h. **Offer To Be Bound**

The offer without full submission of the above will not be considered.

9 Selection Criteria

- 9.1 A marking scheme with weighting of 60% on Technical Assessment and 40% on Price Assessment will be adopted. Scoring distribution is as follows:

Selection Criteria	Weighting
Technical Assessment	60%
(a) Scoring of the marking scheme: <ul style="list-style-type: none"> i. The Tender specifications are classified into mandatory (M) and desirable (D) requirements. Only those offers meeting all mandatory requirements will be considered. A marking scheme will be applied. ii. The desirable requirements scoring of the Tender specifications are calculated as follows: $40 \times \frac{\text{No. of complied desirable requirements}}{\text{Total no. of desirable requirements}}$ 	40%
(b) Design of the equipment layout plan and operational flow of the CT Suite at CUHKMC.	10%
(c) Proven experience and track records in similar project for healthcare organizations in Hong Kong and overseas.	5%
(d) Proven qualification and experience of maintenance service personnel.	5%
Price Assessment	40%

All submitted proposals shall be assessed by Tender Assessment Panel. The Tender Assessment Panel's decision shall be final and does not owe a duty to justify or explain its decision.

9.2 Technical Assessment

The weighted technical assessment score of a proposal shall be determined in accordance with the following formula:

$$60 \times \frac{\text{Total technical score of the conforming proposal being assessed}}{\text{The highest total technical score among all the conforming proposals}}$$

Any offer which scores less than 30 marks in the Technical Assessment will be considered disqualified and shall not proceed to Price Assessment.

9.3 Price Assessment

The price assessment is calculated as follows:

$$40 \times \frac{\text{Lowest Tender price among the conforming proposals}}{\text{Tender price of the proposal being assessed}}$$

9.4 The offer obtained the highest combined score, i.e. technical score plus price score, would be recommended for acceptance.

Part VII
Schedule of Submissions
Schedule 1: Company/Organisation Profile

The Tenderer must provide the following details to the CUHKMC:

1. Name and address of the company/business organisation.
2. Length and nature of business experience including without limitation experience in the performance and /or supply of the products.
3. A copy of its Articles of Association or other documents evidencing its business status.
4. Copies of current business registration certificate
5. Copies of all current licence(s) or permit(s) issued in favour of the Tenderer by the relevant authorities that are required to legally perform and or supply the products.
6. Documentary evidence of any agency claimed by the Tenderer in relation to the Tender, whether on a sole or exclusive basis or otherwise.
7. Relevant experience in local and overseas market in providing the products and or services in relation to the Tender.
8. The organisational structure of on-site installation team of equipment and phone number of contact persons.
9. Proven qualification and experience of maintenance service personnel in providing the equipment maintenance services in relation to the Tender.
10. If the Tenderer wishes to fulfil its obligations under this proposal through subcontracting or partnership with third parties, details including name of the subcontracting or partnership organisation and responsibilities should be stated.

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

Schedule 2: Overall Design Layout Proposal

The Tenderer should refer to Appendix I and submit a layout proposal for the CT System and other optional equipment and furniture for the future full functioned CT Suite, Imaging and Interventional Radiology Centre, G/F, No.9, Chak Cheung Street, Shatin, New Territories, Hong Kong. The layout proposal should include the following:

1. A proposal for the construction of the whole installation site formation works including all builder's works and E&M's works, the supply and installation of the Equipment and the associated site preparation for proper installation, testing and subsequent operation of the Equipment as required in Clause 1.7 of Section A of Tender Specifications.
2. A detailed equipment layout drawings and elevation drawings for the floor area where the Equipment will be installed as well as the network layout drawings for areas involved as required in Clause 1.13 of Section A of Tender Specifications.
3. A detailed proposal on how the Equipment and image workstations can be connected to the Picture Archiving and Communication System (PACS), Radiology Information System (RIS) and Hospital Information System (HIS) of CUHKMC to achieve an effective and efficient digital image/ data exchange for filmless operation as required in Clause 2.1 of Section A of Tender Specifications.
4. A delivery and installation project schedule detailing the expected period of various stages of installation for the delivery date as required in Clause 1.4.10 of Section C of Tender Specifications.
5. A drawing of the proposed delivery route as required in Clause 2.6 of Section C of Tender Specifications.

The layout should be in scale of measurements. The staff flow, material flow and logistics flow should be indicated clearly.

Note:

Please note that the layout drawings in CAD format are available for viewing after signing a Confidentiality Non-Disclosure Agreement with CUHKMC, please contact CUHKMC at procurement@cuhkmc.hk.

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

Schedule 3: Schedule of Compliance

The Tenderer shall provide without any omission the following information in respect of their offer.

1 Statement of Compliance

I/we provide point-by-point comparison between the Tender specifications and the specifications of the offered product in the space provided in the Tender Specification.

2 Validity Period

Our/My offer remain valid for a period of **120 days** from the closing date of this Tender.

3 Particulars of Offer

Item	Description	Country of Origin ¹	Name of Manufacturer ²	Address of Manufacturer ³	Relationship between Tenderer and Manufacturer
1	Total Solution for Supply and Installation of Computed Tomography (CT) Scanning System				

Note:

1. Substantial place of manufacture of goods
2. Name of manufacturing facility/site of offered goods
3. Address of manufacturing facility/site of offered goods

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

4 Medical Device Administrative Control System (“MDACS”)

I/We confirm that I/we are willing to participate in the Medical Device Administrative Control System (“MDACS”) under the Department of Health (“DH”), the Government of the HKSAR.

4.1 () The products offered have been already listed under the MDACS with details as follows:

- i. Listing number issued by the DH: _____
- ii. Listed Global Medical Device Nomenclature description and Code: _____
- iii. Manufacturer (Make), Brand and Model: as given in Paragraph 3 above

4.2 () The products offered will be listed under the MDACS by _____ (date).

4.3 () The products offered will be listed under the MDACS according to the registration schedule of DH.

(Please put a tick in () and fill in _____ as appropriate)

5 Life Expectancy

() The offered product(s) is/are expected to have a normal life span of **10** years.

() The offered product(s) is/are expected to have a normal life span of _____ years.

(Please put a tick in () and fill in _____ as appropriate)

6 Warranty and Maintenance Service

6.1 Warranty Period

_____ months from date of acceptance of goods.

6.2 No. of preventive maintenance (PM) service during the warranty period: _____ times per year.

Person Authorized to Sign Tender

Name of Company with Company Chop: _____ Name and Title: _____

Telephone: _____ Email: _____

Authorized Signature: _____ Date: _____

6.3 Response time to fault report to carry out corrective maintenance (CM): within _____ hours.

Name of maintenance personnel: _____

Contact telephone number: _____

6.4 The annual post warranty maintenance services costs of the products for the first 9 years commencing from the expiry of the Warranty Period.

All-inclusive comprehensive post warranty maintenance services costs inclusive of charges for labour, microbiological tests, regular calibrations, preventive maintenance (PM), corrective maintenance (CM), all spare parts and minor parts/components.

7 Accessories/Components

7.1 I/We confirm that the Tender price(s) quoted in Table 1 of Schedule 4 - Price include all accessories/components which are essential to the normal operation of the product.

7.2 Itemized price list for the essential accessories/components is attached in Schedule 4 - Price.

8 Training

I/We confirm that the following trainings will be provided to the CUHKMC Representatives.

Operational Training: () Local briefing upon request.

() Formal local training (course outline attached).

Service Training: () Local training upon request.

() Formal local training (course outline attached).

(Please put a tick in () as appropriate)

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

9 Ordinances Concerning Product Safety

I/We confirm that:

- 9.1 Licence(s) for the provision of the offered product:
 is required for Hong Kong Ordinance.
 is not required.

- 9.2 Test certificate/report for the provision of the offered product is required and a copy of which:
 is attached.
 will be completed and submitted during acceptance of goods.

- 9.3 Test certificate/report for the provision of the offered product is not required.

- 9.4 The CUHKMC is required/is not required to maintain the license(s)/test certificate(s) for the possession or use of the offered product.

(Please put a tick in as appropriate)

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone: Email:

Authorized Signature: Date:

Schedule 4: Price (To be submitted separately in the envelope of the Price Proposal)

The price proposal should consist of the following areas:

- 1 Supply and Installation of Computed Tomography (CT) Scanning System, including all required features and ancillary items (Please complete Table 1).
- 2 Accessory Items (Please complete Table 2).
- 3 Site preparation, Building Services and all necessary items (Please complete Table 3).
- 4 Post-warranty Comprehensive Maintenance Services – 2nd to 10th year (Please complete Table 4).
- 5 Optional Items (Please complete Table 5).

The Tenderer must provide the breakdown of the cost to the tables. The **Total Tendered Sum** should align.

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

Table 1
(Price of the Main Equipment)

Item No.	Description	Quantity	Manufacturer	Brand	Model	F.I.S./Hong Kong Price Including Installation	
						Unit Price (HK\$)	Total Amount (HK\$)
1	Supply and Installation of Computed Tomography (CT) Scanning System, including all required features and ancillary Items (Detailed requirements please refer to clauses 1 to 22, 25 to 39 of Section B of Part VI – Tender Brief)	1 set					

Remarks:

1. The unit price quoted should comprise of all necessary components and accessories that required for the proper function and safe operation of the equipment, and comply with all the requirements in the Tender Specifications.
2. Tenderer is required to attach the price breakdown of the equipment, accessories with brand and model in separate sheet.
3. All prices of optional items, if any must be quoted separately and submitted with the Price Proposal.

Person Authorized to Sign Tender

Name of Company with Company Chop: _____ Name and Title: _____

Telephone: _____ Email: _____

Authorized Signature: _____ Date: _____

Table 2
(Price of Accessory Items)

Item No.	Clause (Section B of Part VI)	Description	Quantity	F.I.S./Hong Kong Price Including Installation	
				Unit Price (HK\$)	Total Amount (HK\$)
1	23.2 and its sub-clauses	Accessories for the CT table	1 set		
2	23.3 and its sub-clauses	Accessories for patient positioning	1 set		
3	23.4 and its sub-clauses	Ceiling mounted IV pole	1 set		
4	23.5 and its sub-clauses	Protection rail for CT table (if applicable)	1 set		
5	23.6 and its sub-clauses	Full length light-weighted lead aprons and thyroid shields	3 sets		
6	23.7 and its sub-clauses	Wall mounted lead apron rack with suspended hanger arms	1 set		
7	23.8 and its sub-clauses	Medical grade radiolucent flexible patient transfer board	1 set		
8	23.9 and its sub-clauses	Medical footstool with handrail	1 set		

Person Authorized to Sign Tender

Name of Company with Company Chop: _____ Name and Title: _____

Telephone: _____ Email: _____

Authorized Signature: _____ Date: _____

Table 2
(Price of Accessory Items – Con't)

Item No.	Clause (Section B of Part IV)	Description	Quantity	F.I.S./Hong Kong Price Including Installation	
				Unit Price (HK\$)	Total Amount (HK\$)
9	23.10 and its sub-clauses	Contrast medium warmer	1 set		
10	23.11 and its sub-clauses	Syringe sets for the contrast injector	200 sets		
Total (HK\$):					
<p>Remarks:</p> <ol style="list-style-type: none"> 1. The unit price quoted should comprise of all necessary components and accessories that required for the proper function and safe operation of the equipment, and comply with all the requirements in the Tender Specifications. 2. Tenderer is required to attach the price breakdown of the equipment, accessories with brand and model in separate sheet. 					

Person Authorized to Sign Tender

Name of Company with Company Chop: _____ Telephone: _____ Authorized Signature: _____	Name and Title: _____ Email: _____ Date: _____
--	---

Table 3

(Price of Site Preparation, Building Services and all necessary items)

Item No.	Description	F.I.S./Hong Kong Price Including Installation
		Total Amount (HK\$)
1	Site preparation and construction including all builder's works and E&M's works, and all required items of Section D : Healthcare Engineering Systems and Related facility.	

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

Table 4

(Price of Post Warranty Comprehensive Maintenance Services)

The annual post warranty maintenance services costs of the products for the first 9 years commencing from the expiry of the Warranty Period:

All-inclusive comprehensive post warranty maintenance services costs inclusive of charges for labour, regular calibrations, preventive maintenance (PM), corrective maintenance (CM), X-ray tube, Detector Assembly, LCD monitors, large display in the examination room, OEM, labour and all spare parts and minor parts/components:

Description	Comprehensive Maintenance Services Costs <u>per set per annum</u> (HK\$)									
	1 st year	2 nd year	3 rd year	4 th year	5 th year	6 th year	7 th year	8 th year	9 th year	10 th year
With 4 times of Preventive Maintenance (PM) annually	Free warranty period									
Response time to fault report to carry out CM: within _____ hours.										

Notes:

- 1 Post Warranty Maintenance Cost offered in percentage will not be considered.
- 2 Annual adjustments with reference to the percentage change in the Consumer Price Index published in the Hong Kong Monthly Digest of Statistics or other basis will not be considered.
- 3 Tenderer is required to attach the breakdown of the Post Warranty Maintenance Cost of each equipment.

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

Total Tendered Sum

Table No.	Description	Price (HK\$)
1	Supply and Installation of complete set of Computed Tomography (CT) Scanning System, including all required features and ancillary Items	
2	Accessory Items	
3	Site Preparation, Building Services and all necessary items	
4	Post-warranty Comprehensive Maintenance Services (2 nd to 10 th year)	
Total Amount:		

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:

Table 5
(Price of Optional Items)

Item No.	Description	Unit Price (HK\$)
1		
2		
3		
4		

Person Authorized to Sign Tender

Name of Company with Company Chop: _____ Name and Title: _____

Telephone: _____ Email: _____

Authorized Signature: _____ Date: _____

Schedule 5: Consent to Disclosure

To: CUHK Medical Centre Limited (CUHKMC)

Re: Total Solution for Supply and Installation of Computed Tomography (CT) Scanning System and Related Services for the CUHK Medical Centre Limited

We, *[insert the name of the consulting firm]*, hereby irrevocably authorise, consent and agree that if the CUHKMC agrees to engage us to carry out the Total Solution for Supply and Installation of Computed Tomography (CT) Scanning System and Related Services for the CUHKMC, the CUHKMC may, whenever it considers appropriate or upon request by any person (written or otherwise) and without any further reference to us, disclose to any person in such form and manner as the CUHKMC deems fit:

- (a) the fees, costs and expenses payable by the CUHKMC for engaging us; and
- (b) the fee proposal submitted by us on *[insert the relevant date]*.

We hereby waive and forego our right, if any, to make any claims against the CUHKMC for any losses, damages, costs, charges, liabilities, demands, proceedings and actions that may arise out of or in consequence of such disclosure by the CUHKMC.

Dated this _____ day of _____

SIGNED by *[insert the name(s) of the signator(ies)]*,)
the *[insert the post(s) of the signator(ies)]*)
of the *[insert the name of the company]*)
in the presence of : -

Signature of Witness

Name of Witness:

Occupation:

Address:

Schedule 6: Certificate of Non-Collusion

I/We certify that this is a bona fide Tender, and that I/we have not fixed or adjusted the amount of the Tender by or under or in accordance with any agreement or arrangements with any other person. I/We also certify that I/we have not done and I/we undertake that I/we will not do at any time before the date of notification of acceptance of this Tender any of the following acts:

- 1 Communicate to any person other than the person calling for those Tender the amount or approximate amount of the proposed Tender, except where the disclosure, in confidence, of the approximate amount of the Tender was necessary to obtain insurance premium quotations required for the preparation of the Tender;
- 2 Enter into agreement or arrangements with any other person that he shall refrain from Tendering or as to the amount of any Tender to be submitted;
- 3 Offer or pay or give or agree to pay or give any sum of money or valuable consideration directly or indirectly to any person for doing or having done in relation to any other Tender or proposed Tender any act or thing of the sort described above.
- 4 In this certificate, the word “person” includes any person and any body or association, corporation or unincorporated, and “any agreement or arrangement” includes any such transaction, formal or informal, and whether legally binding or not.
- 5 I/We expressly acknowledge and agree that, without prejudice to any other rights of the CUHKMC, if this certification is in anyway incorrect, or becomes incorrect prior to the award of this Tender, the CUHKMC may:
 - a. disqualify my/our Tender from consideration;
 - b. withdraw any confirmation of award of Tender already made, without penalty or liability;
 - c. disqualify me/us, our holding company and subsidiaries from participation in any future Tender issued by the CUHKMC for such period as the CUHKMC may in its entire discretion consider appropriate;
 - d. take such other actions, including reporting me/us to the government or regulatory authorities in Hong Kong or elsewhere, as the CUHKMC considers appropriate.

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone: Email:

Authorized Signature: Date:

Schedule 7: Personal Data (Privacy) (Amendment) Ordinance

The new provisions on data processors under the Amendment Ordinance had come into effect on 1 October 2012 and as such, I/we certify the following:

- a. I shall/We will and shall/will procure my/our employees, agents or representatives to comply with the provisions of the Personal Data (Privacy) Ordinance (the “Ordinance”) (including any amendments thereon from time to time), and any applicable codes of practice, guidance notes or regulations in the handling of personal data (as defined in the Ordinance from time to time) (“Personal Data”) collected by and provided to me/us for the purpose of this Tender/Agreement.
- b. I/We shall not keep Personal Data longer than is necessary for the fulfilment of the purpose (including any directly related purpose) for which the same are or to be used. I shall/we will:
 - i. return, destroy or permanently erase all such Personal Data;
 - ii. destroy or permanently erase all copies of such Personal Data made by me/us; and
 - iii. use all reasonable endeavors to ensure that anyone who has received any such Personal Data destroys or permanently erases such Personal Data and any copies made by it or him,

in each case, save to the extent that I am/we or the recipients are required to retain any such Personal Data by any applicable law, rule or regulation or by any competent judicial, governmental, supervisory or regulatory body.

- c. I shall/We will take all practical steps and have in place and maintain appropriate security measures to prevent unauthorized or accidental access, processing erasure, loss or use of Personal Data collected by or transferred to it having particular regard to:
 - i. the kind of Personal Data and the harm that could result if any of those things should occur;
 - ii. the physical location where the Personal Data are stored;
 - iii. any security measures incorporated (whether by automated means or otherwise) into any Goods in which the Personal Data are stored;
 - iv. any measures taken for ensuring the integrity, prudence and competence of persons having access to Personal Data; and
 - v. any measures taken for ensuring the secure transmission of Personal Data.

Person Authorized to Sign Tender

Name of Company with Company Chop: Name and Title:

Telephone:

Email:

Authorized Signature:

Date:
