



UK Research
and Innovation

FEI UK Ltd 3rd Floor

1 Ashley Road

Altrincham

Cheshire

WA14 2DT

FOIA Section 40 Personal Information

Date: 25th September 2023

Your ref: QUO-168719-L7Z0
R0

Our ref: UKRI-3327

Dear Jeremy

Award of contract for the supply of UKRI-3327 Cryo Dual Beam Microscope with added value equipment. Against HVLE LAB3123 NW Lot 18: Focused Ion Beam Microscopes

Following your tender/ proposal for the supply of Cryo Dual Beam Microscope with added value equipment to UKRI, we are pleased to award this contract to you. This contract call-off is a call-off from Framework Agreement for High Value Laboratory Equipment LAB3123 NW Lot 18: Focused Ion Beam Microscopes.

This letter ("**Award Letter**") and its Schedule(s) set out the terms of the Contract between:

- (1) **United Kingdom Research and Innovation**, a statutory corporation whose registered office is at Polaris House, North Star Avenue, Swindon, England, SN2 1FL ("**UKRI**"); and
- (2) FEI UK Ltd, 3rd Floor, 1 Ashley Road, Altrincham, Cheshire, WA14 2DT a company incorporated and registered in United Kingdom (UK) with company number 02380120 and registered VAT number GB765340427 whose registered office is at 3rd Floor, 1 Ashley Road, Altrincham, Cheshire, WA14 2DT (the "**Supplier**").

Unless the context otherwise requires, capitalised expressions used in this Award Letter have the same meanings as in the terms and conditions of contract set out in Schedule 1 to this Award Letter (the "**Conditions**"). Please do not attach any Supplier terms and conditions to this Award Letter as they will not be accepted by UKRI and may delay conclusion of the Contract.

For the purposes of the Contract, UKRI and the Supplier agree as follows:

Term

- 1 Commencement Date: 27th September 2023
- 2 Expiry Date: 27th March 2024

Description of Goods and/or Services

- 3 The Specification of the Goods and/or Services to be delivered is as set out in Schedule 2.

Charges & Payment

- 4 The Charges for the Goods and/or Services shall be as set out in Schedule 3.

- 5 All invoices should be sent, quoting a valid purchase order number (PO Number) provided by UKRI, to: Polaris House, North Star Avenue, Swindon, England, SN2 1FL..
- 6 To avoid delay in payment it is important that the invoice is compliant and that it includes a valid PO Number, PO Number item number (if applicable) and the details (name and telephone number) of your UKRI contact (i.e., Contract Manager). Non-compliant invoices will be sent back to you, which may lead to a delay in payment. If you have a query regarding an outstanding payment, please contact our Accounts Payable section either by email to finance@uksbs.co.uk or by telephone 01793 867000 between 09:00-17:00 Monday to Friday.

Supplier's Liability

- 7 The Supplier's Limit of Liability under this Contract shall be: 125% of the total Charges paid and payable to the Supplier under this Contract.

Notices

- 8 The address for notices of the Parties are:

UKRI

Polaris House, North Star Avenue,
Swindon, England, SN2 1FL

Supplier

FEI UK
Altrinch

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Attention: FOIA Section 40 Personal Information

Email:

Liaison & Disputes

- 9 For general liaison your contact will be [FOIA Section 40 Personal Information](#) or, in their absence,

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- 10 Pursuant to Clause 32.3, Disputes shall be escalated to the following individuals:

- (a) Stage 1 escalation:

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- (b) Stage 2 escalation:

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We thank you for your co-operation to date and look forward to forging a successful working relationship resulting in a smooth and successful supply of the Goods and/or Services. Please confirm your acceptance of the award of this contract by signing and returning the enclosed copy of this letter to Adam Rodgers at the above address. No other form of acknowledgement will be accepted. Please remember to quote the reference number above in any future communications relating to this contract.

Yours faithfully,

Signed for and on behalf of **Un**

Signature:

FOIA Section 40 Personal Information

Name:

Position:

Date:

27/09/2023

We accept the terms set out

Signed for and on behalf

Signature:

FOIA Section 40 Personal Information

Name:

Position:

Date:

Schedule 1 The Terms-

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1. DEFINITIONS AND DURATION

- 1.1 The Contract Documents listed in the Institution's Contract Particulars constitute the contract between the parties. In the event of a conflict between the provisions of any of the Contract Documents, a Contract Document listed higher shall prevail over one listed lower.
- 1.2 A word used in the Contract Documents where the first letter is a capital is defined in the Definitions Schedule or elsewhere within the Contract Documents. Where there is no definition none is intended. The definition shall apply to any word derived from a defined word.
- 1.3 The Contract shall begin on the Effective Date and end when the final payment and delivery is made under the Contract (whether for Equipment, consumables or Services) unless the Contract is terminated earlier in accordance with the Contract Documents or extended by agreement ("the Contract Period").

2. DUE DILIGENCE

- 2.1 The Contractor acknowledges that it has satisfied itself of all details relating to the nature of the Equipment and Services and has raised all relevant due diligence questions with the Institution. The Contractor shall not be entitled to any additional payment nor be excused from any liability under the Contract if it has misinterpreted any matter or fact relating to the Equipment, Services or the Specification.
- 2.2 The Contractor warrants, represents and undertakes to the Institution that:
- (a) all information, drawings, documentation and representations communicated to the Institution by the Contractor in connection with the Tender are true, complete and accurate in all respects; and (to reduce the risk of bribery) that all transactions done in contemplation or performance of the Contract have been fully and promptly recorded;
 - (b) it has made its own investigations and research and will not have entered into the Contract in reliance upon any assumptions or any oral or written information or representations which may have been made by the Institution other than express statements made in the Invitation to Tender;
 - (c) it has sufficient working capital, skilled staff equipment, licences, permissions and other resources available to provide the Equipment, consumables and Services in accordance with the Contract Documents;
 - (d) in sufficient time to enable the Institution to respond, the Contractor will notify the Authorised Officer
 - (i) of the proposed time and date for delivery during Institution normal working hours (for agreement with the Institution); and
 - (ii) (by way of written pre-installation report) of all preparations required to make the Site suitable for delivery, installation and operation of the Equipment, including equipment layout, utilities, floor loading, environmental conditions and access requirements; and any other reasonable assistance required from the Institution to facilitate delivery.

3. CONTRACTOR'S OBLIGATIONS (INCLUDING THOSE RELATED TO EQUALITY)

3.1 In Providing the Equipment and the Services the Contractor:

- (a) shall use Good Industry Practice;
- (b) shall use only new (or, where the Institution Contract Particulars so provides, refurbished or ex-demonstration Equipment), good quality materials and ensure the Equipment is fit for purpose and that the Equipment and Services comply with the Sale of Goods Act 1979 and the Supply of Goods and Services Act 1982, as amended or re-enacted;
- (c) shall use all reasonable endeavours to meet the Completion Date and comply with the Implementation Plan;
- (d) shall report to the Institution when requested on progress including against the Implementation Plan and allow or arrange inspection whether on its premises, those of a third party (provided the Institution meets any cost of inspection on third party premises which is set out in the Institution Contract Particulars) or the Institution's to enable the Institution to monitor progress in the Provision of the Equipment and the Services;
- (e) warrants and shall ensure that the Equipment
 - i. in combination with any Recommended Hardware will provide all components necessary to meet and deliver in all respects the requirements of the Specification and the Performance Standards and Criteria;
 - ii. subject to condition 3.1(e)(i) is fully compliant with the Technical Solution and manufacturer published specifications; and
 - iii. is free from all kinds of malicious software, including all viruses (for the avoidance of doubt the Institution acknowledges that if it chooses to run test versions of software, other than those provided by the Contractor for the purpose of carrying out the Tests, these may contain technical bugs);
- (f) without prejudice to the provisions of condition 5.2 warrants and during the period of any maintenance agreement shall ensure that:
 - i. Equipment components identified in the Institution Contract Particulars (and any Recommended Hardware) are fully compatible and will remain so whenever any component or Recommended Hardware is enhanced or updated by the Contractor or a manufacturer; and
 - ii. the Equipment is fully compatible with any equipment, hardware, software or communications links identified in the Specification as needing to be compatible;

- (g) shall provide sufficient competent and skilled staff to carry out its obligations under the Contract including to Maintain the Equipment;
- (h) if the Institution so requests, shall provide full details (other than irrelevant personal details such as home address) of such staff to the Institution, to enable it to security vet and approve the suitability of the staff, at least 10 working days before the staff require access to the Institution's premises or those of any third party;
- (i) shall comply with the requirements of any relevant UK or EU statute, order, regulation, directives, standard, code of practice, regulatory or international agreement from time to time in force which is relevant to the Equipment or Services including the requirements of the Health and Safety at Work Act 1974 and of any other legislation pertaining to the health and safety of employees and other persons and the Chemicals, (Hazard Information and Packaging for Supply) Regulations (CHIP2) 1994 and environmental legislation and laws (including in relation to the disposal of goods and waste products); and shall ensure that the Equipment is CE marked (or equivalent where produced outside the European Union) and compliant as applicable and that hazardous goods are packed, labelled and accompanied by data sheets (and any other relevant risk, safety phrases and emergency information) all in English;
- (j) shall, where the Construction (Design and Management) Regulations 2015 or any amendment or re-enactment of them apply to the Provision of the Equipment or the Services, comply with the provisions of the Regulations and without limitation perform the duties of principal contractor under the Regulations;
- (k) acknowledges that all Contractor materials (including goods, tools and equipment) used or left on any land or premises are used or left at the Contractor's sole risk; and shall where access is required to any land or premises (whether the Institution's or those of a third party)
- i. agree access arrangements with the Authorised Officer;
 - ii. comply with applicable working and health and safety rules and not interfere with the safety or convenience of staff or the public; and
 - iii. on or before Acceptance the Contractor shall remove all its materials, fully reinstate any damaged areas and leave the premises clean and ready for occupation;
- (l) (where required by the Institution) shall ensure that its staff and those of any sub-contractor carry at all times when on the premises of the Institution or a third party an identity card issued to it for access and produce the card when requested;
- (m) acknowledges that the Institution relies exclusively on the Contractor's skill and judgment expertise and experience;
- (n) (where the Technical Solution includes choice of components and design) accepts responsibility for and warrants the suitability of the choice of Equipment components and Equipment design including everything supplied by or obtained from third parties;

- (o) shall ensure that it does not unnecessarily interfere with the Institution's operations, employees or other contractors and shall co-operate with other contractors and Institution employees engaged on related projects or maintenance of related equipment to such extent as may be reasonably required by the Institution.

3.2 In Providing the Equipment and Services the Contractor shall not unlawfully discriminate (directly or indirectly) within the meaning and scope of any law, enactment, order or regulation relating to discrimination in the provision of services to the public or in employment (whether in race, gender, religion, disability, sexual orientation, age or otherwise) or any statutory modification or re-enactment thereof. The Contractor shall to the extent relevant to delivery of the Equipment and Services comply with the Institution's equal opportunities policies. The Contractor shall take all necessary steps to secure the observance of these provisions by all its servants, employees or agents and all sub-contractors employed in the execution of the Contract and promptly provide such information as the Institution may reasonably require. The Contractor shall notify the Authorised Officer immediately in writing as soon as it becomes aware of any investigation or proceedings brought against the Contractor under the relevant legislation. The Contractor shall co-operate with any investigation by the Institution or a person or body empowered to carry out such investigations in relation to alleged or suspected discrimination. If an investigation is commenced against the Contractor or the Institution, the Contractor shall attend and permit its employees to attend any meetings as required; allow access to and investigation of any documents or data deemed to be relevant to the investigation; and allow itself and any of its employees to appear as witnesses in any proceedings.

4. TESTS, ACCEPTANCE AND DEFECTS LIABILITY

4.1 Once installation is complete, the Contractor shall demonstrate the Equipment if so required by the Institution. The Institution shall have the right to test the Equipment in accordance with the Test Plan.

4.2 The Contractor shall give the Institution at least 5 Working Days' notice of when the Equipment will be ready for testing and shall co-operate with the Institution in and provide assistance for the carrying out of the Tests.

4.3 If the Equipment passes the Tests, the Institution will give the Contractor a signed Acceptance Certificate provided that successful completion of an individual test does not constitute acceptance of the Equipment. The Acceptance Certificate shall be signed by the Authorised Officer upon satisfactory completion of all the Tests. For the avoidance of doubt it is acknowledged that

- (a) the Test Plan will include scope for rectification between Tests, so that if Equipment fails to pass the Tests, the Contractor will have an opportunity to repair any defects in the Equipment;
 - (b) where practical, repair will be carried out at the Institution's premises;
 - (c) defective parts will be replaced as deemed necessary by the Contractor;
- and
- (d) provided the Equipment then passes its Tests, as contemplated in the Test Plan, the Contract Price shall not be subject to adjustment.

- 4.4 (a) If the Equipment fails to pass the Tests the Institution shall have the right to accept the whole or any part of the Equipment as it shall decide, subject to such abatement of the Contract Price as may be reasonable in the circumstances.
- (b) In the event of a dispute as to the reasonableness of the sum, the matter shall be referred to an independent expert (whose decision shall bind the parties) to be appointed by agreement or otherwise as set out in the Contract Particulars.
- 4.5 The Contractor shall at its own expense and without delay make good, by repair or if necessary by the provision of replacement or additional items, any error or defect in the Equipment or the Services which:
- (a) is identified in any notice given by the Institution to the Contractor prior to Acceptance or;
- (b) develops or is identified and is notified to the Contractor by the Institution during the Warranty Period.

Substantial or persistent failure, during the Warranty Period shall constitute an irremediable breach for the purpose of condition 17(1)(a). The Warranty Period shall be for a minimum 12 months after Acceptance or as defined in the Contract Particulars.

5. CHANGE CONTROL REQUESTS

5.1 Change Control Requests

- (a) If the Institution wishes to vary the Equipment or the Services it shall submit a Change Request Form to the Contractor for quotation. The Contractor shall respond to such request within 5 Working Days (or such longer period as the parties may agree is reasonable) also specifying any changes which are reasonably necessary to the Contract including the Implementation Plan and Contract Price.
- (b) If the Contractor wishes to vary the Equipment or Services it shall submit a Change Request Form to the Authorised Officer.
- (c) The variation shall not be implemented by the Contractor unless the Authorised Officer notifies it in writing that the Institution accepts the Contractor's quotation or Change Request submitted in accordance with this condition. The notification in writing from the Institution shall only be valid if given by the Authorised Officer.
- (d) The Contract shall not otherwise be varied without the written agreement of the parties.

5.2 Equipment Robustness and Use

- (a) Where the Institution has advised the Contractor in writing of any projected growth in the use of the Equipment and in the event the Equipment fails to meet the Performance Standards and Criteria at any time within five years from the Completion Date or Acceptance

whichever is the later the Contractor shall Provide and Maintain at no additional cost to the Institution all additional items necessary to make the Equipment comply with the Performance Standards and Criteria.

- (b) In the event that any Equipment component is upgraded or replaced or support is discontinued generally by the Contractor or any third party supplier, the Contractor shall, notwithstanding that such upgrading or replacement or discontinuance of support would otherwise result in the withdrawal of the Contractor's or third party's support for the Equipment, continue to support and Maintain the Equipment in accordance with the Contract Documents and provide an up-to-date copy of the Source Code to the Institution.
- (c) Subject to condition 11.4 the Institution shall have the right to attach to implement or use on the Equipment, free of any charge by the Contractor, equipment or software not supplied by the Contractor.

6. DATES FOR COMPLETION

- 6.1 The Contractor shall use all reasonable endeavours to meet the Completion Date and any key dates specified as such in the Implementation Plan.

7. PAYMENT ARRANGEMENTS, PASSING OF TITLE AND RISK AND INSOLVENCY PROTECTION

- 7.1 The Contractor shall claim and receive payment of the Contract Price (set out in the Pricing Schedule within the Contract Particulars) as specified in the Implementation Plan. Unless otherwise stated in the Contract Particulars the Contract Price is a fixed price in UK sterling and is inclusive of all costs for the provision, delivery and testing of the Equipment and Services, including carriage to the Site, insurance, packaging, duty, bank charges and training. The Institution shall pay VAT on the Contract Price and any other payments due under the Contract at the rate and in the manner provided by law. The Institution may require the Contractor to provide a bank guarantee or an on demand performance bond (at the Contractor's expense) if payments in advance are agreed. Payment will be made, for goods and services supplied in accordance with the Contract, within 30 days of the end of the month in which the Authorised Officer receives a correct invoice, referring to the purchaser order (by number) where issued by the Institution. Any retention shall be released as provided in the Implementation Plan.
- 7.2 Risk in the Equipment shall pass to the Institution on Acceptance. Title shall vest in the Institution in proportion to the percentage of the Contract Price paid to the Contractor (ownership to be held jointly as tenants in common). Title shall vest fully in the Institution when the final payment of the Contract Price is paid. Where the Contractor retains the whole or part of the System at its premises after title has begun to vest in the Institution, the Contractor shall insure the System and mark it as the property of the Institution.
- 7.3 If the Contractor becomes insolvent as defined below before Acceptance, the Institution may elect by serving notice in writing on the Contractor at any time prior to winding up or appointment of a liquidator vest the whole or any part of the System in itself including to use the whole or any part of any software. If the

Institution so elects title in the System shall be deemed to vest in the Institution and the Contractor shall be deemed to grant an irrevocable licence to the Institution to use the whole or any part of any software, any work in progress and documentation then in existence in the terms set out in condition 11 and also to modify such software as it sees fit.

The Institution shall pay the Contractor such sum as may be reasonable in all the circumstances for the exercise of its rights under this condition to the extent that Contractor has not already been remunerated during the Contract Period, including giving credit to the Institution for all payments already made to the Contractor, and on the basis that payment for partly completed work shall follow the principles for payment set out in the Implementation Plan. In the event of a dispute as to the reasonableness of the sum, the matter shall be referred in accordance with condition 4.4(b).

- 7.4 Such election shall not prejudice or affect any right of action or remedy which shall have accrued or shall accrue thereafter to the Institution.

Insolvency shall mean any of the events specified in condition 17.1(a)(ii).

- 7.5 The Contractor shall have no right to any payment under the Contract Documents additional to the Contract Price except as agreed in accordance with condition 5.

8. ASSIGNMENT AND SUB-CONTRACTING

- 8.1 The Contractor shall not assign, sub-contract (except for matters which the Institution agrees are minor or incidental) or otherwise transfer the Contract whether in whole or in part without the prior written consent of the Institution. Any permitted sub-contracting shall not relieve the Contractor of its obligations under the Contract Documents, which obligations shall remain in full force and effect.

- 8.2 There shall be deemed to be an assignment if the Contractor disposes of a substantial part of its assets devoted to the business of supplying and maintaining equipment of the same or similar kind to the Equipment.

- 8.3 The Institution shall be free to assign or novate the Contract in whole or in part.

9. DELIVERY AND DOCUMENTATION

- 9.1 The Equipment may not be delivered to the Site without the prior permission of the Institution. The Contractor shall be responsible for the delivery of the Equipment and shall receive it and provide all labour, materials and plant required for its off-loading and installation. The Contractor shall be responsible for the safe custody of the Equipment until title and risk in it has passed to the Institution.

- 9.2 The Contractor shall deliver with the Equipment upon installation (and update in every subsequent software release) documentation in the media and format specified in the Contract Particulars.

- 9.3 No additional charge shall be made for packaging in which the Equipment is delivered. Such packaging shall remain the property of the Contractor except for

containers for consumable stores which shall not be returnable. If so requested the Contractor shall promptly collect and dispose of all packaging.

- 9.4 Unless otherwise set out in the Contract Particulars, the documentation for the Equipment shall comprise a complete set of user guides, operating manuals and technical maintenance handbooks and, where source code is provided, the documentation shall be at least as comprehensive as that which the Contractor provides to its own maintenance engineers. The Contractor shall ensure that each component forming part of the System is clearly marked with a functional title or code so that it can be easily identified in the relevant documentation.

10. PROJECT MANAGEMENT

- 10.1 Where Project Management Arrangements apply, the following sub-conditions shall have effect:
- 10.2 The names of the project management staff for the parties and arrangements for project management shall be as set out in the Project Management Arrangements. Without prejudice to the provisions of condition 3.1(h) neither party shall change its project management staff without the prior written consent of the other party, such consent not to be refused unreasonably.
- 10.3 The parties shall ensure that their project management staff meet at regular intervals and co-operate to secure satisfactory and timely completion of the Contract. The provisions of this condition shall in no way detract from or lessen the obligations of the Contractor under the Contract Documents including the obligation to comply with the Implementation Plan.
- 10.4 The Institution may require the replacement of any employee of the Contractor if in the Institution's reasonable opinion such employee has failed to perform his or her duties efficiently and competently.

11. LICENCE AND OTHER INTELLECTUAL PROPERTY PROVISIONS

- 11.1 Subject to any restrictions set out in the Contract Particulars the Contractor hereby grants the Institution an irrevocable, non-exclusive, non-transferable licence to Use the Software and, where source code is provided, to modify the Software.
- 11.2 The Institution may grant access to its internal and external auditors, employees and contractors who need to have access, subject to the reasonable requirements of the Contractor to protect the confidential nature of the Software.
- 11.3 This Licence also permits without further charge the use of the Software (subject to any reasonable undertakings the Contractor may require to preserve confidentiality of the software and prevent unauthorised disclosure or disclosure to business competitors) by
- (a) any third party which performs any service previously performed by the Institution's employees using the Software and
 - (b) the Institution to process the data of third parties where this is necessary for the exercise or better performance of the Institution's business.
- 11.4 Other software may be added to the Equipment and the Equipment may be used together with other software or on or with any hardware or other equipment.

However, if the Contractor can show on reasonable grounds that the combination is unsuitable and a defect occurs, the Institution may serve a Change Request Form in accordance with condition 5 in respect of the work necessary to repair any defects in operation of the Equipment which work shall be chargeable to the extent caused by use with the Equipment of other software, hardware or equipment. The Institution shall bear the cost of any investigation by the Contractor to establish the cause of the defect if the investigation shows that the combination caused the defect.

- 11.5 The Contractor shall have a non-exclusive, revocable licence to use Institution Material during the period of the Contract solely in order to perform its obligations under the Contract. Intellectual Property Rights in work done by the Institution and in Institution Material shall remain vested solely in the Institution. All such items, shall be kept confidential, shall be surrendered upon demand in good and serviceable condition (fair wear and tear allowed) and shall be used by the Contractor solely for the purpose of performing the Contract. No copy will be made without the consent in writing of the Authorised Officer. All such items shall be at the Contractor's risk and insured by it at its own expense against the risk of loss, theft or damage. Institution Material, including data, shall be kept in a distinguishable form so it can always be separated from other material and returned. At the end of the Contract Period the Contractor shall return to the Institution or destroy, as the Institution shall direct all Institution Material in the Contractor's possession.
- 11.6 The Contractor shall not use the name, any adaptation of the name, any logo, trademark or other device of the Institution (including in any advertising, promotional or sales materials) nor shall it cite the Institution as a reference site without prior written consent obtained from the Authorised Officer in each case.
- 11.7 All Intellectual Property Rights (a) in any work deriving from the Institution's Intellectual Property Rights and (b) (unless otherwise set out in the Contract Particulars) in any work paid for within the Contract Price and done specifically for the Institution to adapt the Equipment or Software for the Institution's specific needs or to write additional material, documentation or code shall be the Institution's property (and accordingly kept confidential). To the extent that the Intellectual Property Rights are capable of prospective assignment, the Contractor hereby assigns those rights to the Institution and to the extent that they are not the Contractor undertakes to assign those rights to the Institution or its nominee as and when they are created. The Contractor shall be entitled, subject to condition 18, to utilise any generic knowledge, skills expertise, programming tools, problem solving methodologies and associated checklists, templates or forms developed in performance of the Contract which may have general applications for other clients.
- 11.8 The Contractor owns the Intellectual Property Rights in Specific Work and retains ownership of its pre-existing background Intellectual Property Rights deployed to Provide or Maintain the Equipment or Services. The Institution shall have a free, irrevocable non-exclusive licence to use
- (a) such background Intellectual Property Rights and techniques as is necessary to make full use of the Equipment and Services and
 - (b) any Specific Work for publication, teaching and research and as background intellectual property for research projects (including commercially funded research, collaborative research pursuant to EU or other government research funding and applications for the same) and also to license other academic institutions for research purposes.

11.9 Nothing in the Contract shall prevent or delay a student of the Institution submitting any thesis to the Institution for assessment or examination

11.10 Except to the extent that infringement arises because goods or services are made to the Institution's design or instructions, the Contractor warrants that use of the Equipment or Services will not infringe the Intellectual Property Rights of any third party.

11.9 11.11 The Institution shall provide a copy to the Contractor of any proposed publication or disclosure of Specific Work at least 30 days before the date of the proposed publication or disclosure. Within 30 days of receipt by the Contractor of the proposed publication or disclosure the Contractor shall either:

- (a) provide written consent to the proposed publication; or
- (b) reasonably request that the Institution delay or amend the proposed publication to enable the Contractor to remove confidential information it contributed to the Specific Work or to enable a patent application to be filed. The delay or amendment requested by the Contractor shall be reasonable and in any event shall be no longer than three months from the date the Institution provided a copy of the proposed publication to the Contractor under this condition.

11.10 11.12 If within 30 days of receipt of the proposed publication the Contractor does not:

- (a) provide consent under condition 11.11(a); or
- (b) request a delay or amendment under condition 11.11(b),

the Contractor shall be deemed to have given consent for the proposed or disclosure.

12. ESCROW ARRANGEMENTS/UNDERTAKINGS

12.1 The Contractor shall during the period of any software licence comply with and/or procure and ensure compliance with the escrow arrangements in respect of the Equipment set out in the Contract Particulars.

13. THIRD PARTY SOFTWARE

13.1 Where third party software is supplied the terms of any licence whether to the Contractor or to the Institution and whether or not appended to the Contract Documents shall not be construed as modifying or releasing the Contractor from its obligations under the Contract in any respect.

13.2 In particular, but without limiting the generality of conditions 11.1 or 13.1, should the owner of any third party software purport to remove, restrict or otherwise interfere with the Institution's use of the Software, the Contractor shall ensure that functionally equivalent software is provided forthwith at no cost to the Institution so that the Institution's continued use of the Equipment in accordance with the Contract is unaffected and unimpeded.

14. MAINTENANCE

- 14.1 Unless otherwise agreed, the Contractor shall Maintain the Equipment from its Acceptance for the charges set out in the Pricing Schedule in the Contract Particulars for the Guaranteed Maintenance Period in accordance with the terms set out in this condition 14. The Institution may terminate Maintenance by giving the Contractor at least 90 days' prior written notice to expire on an anniversary of Acceptance.
- 14.2 After the Guaranteed Maintenance Period, Maintenance shall continue until terminated by either party serving at least six months' written notice on the other party to expire no earlier than the last day of the Guaranteed Maintenance Period. In the event of such termination the Contractor shall make a pro rata refund of maintenance payments made by the Institution for maintenance to be provided after such termination date.
- 14.3 The Contractor may adjust its charges for Maintenance on each anniversary of Acceptance but any increase shall not exceed the Contractor's actual cost increases incurred in providing Maintenance during the period specified in the Contract Particulars.
- 14.4 The Contractor's fix times and escalation procedures are set out in the Contract Particulars.
- 14.5 The Institution may exercise its termination rights for hardware or Software Maintenance or in respect of both.
- 14.6 (a) Without prejudice to agreed fix times and escalation procedures, if a Critical Error occurs the Contractor undertakes;
- (i) to resolve the incident as quickly as possible including by giving on site assistance where necessary;
 - (ii) to escalate the matter to the next level of management within 1 hour of the occurrence and in the event that the incident is not resolved within 1 Working Day of occurrence, the Institution shall have the right to escalate the incident to the Contractor's manager in charge of its maintenance services for assistance in resolving such incident and such person will assume responsibility for reporting back to the Institution on a twice-daily basis with an update of progress being made in resolving the incident by the Contractor; and
 - (ii) in the event that the incident is not resolved within 2 Working Days, the Institution may require the relevant Contractor director to attend a management meeting at the Institution to review the incident and technical or project staff nominated by the Institution will be entitled to attend at the premises of the Contractor to oversee the work being carried out to resolve the incident.
- (b) The Institution may also terminate Maintenance in whole or in part if any of the following events occur:
- (i) More than 10% requests for Maintenance in any 3 month period are not fixed within the agreed fix time.
 - (ii) A Critical Error has existed in the operation of the Equipment for 1 week or more.

- (iii) A Significant Error has existed in the operation of the Equipment (and is causing additional expense) for 2 months or more.
- 14.7 The Institution shall also be entitled to service credits provided in the Contract Particulars on the occurrence of any of the events set out in 14.6(b).
- 14.8 Any person (other than Institution) who, under the terms of the Contract, is licensed to use the Software may ask the Contractor for Maintenance under separate arrangements from the Institution. In such event the Contractor shall contract with such person or persons at such price as may be reasonable in all the circumstances, having regard to the share of the support charge relevant to their use of the Equipment prior to the commencement of such separate contractual arrangements. In such event the fee to the Institution shall be reduced proportionately.
- 14.9 The Contractor shall only access the Equipment whether by remote diagnostics or otherwise with the prior consent and in accordance with procedures laid down by the Institution.
- 14.10 The Institution shall have the right to test work done in Maintaining the Equipment.
- 14.11 The Contractor shall take the lead in managing and resolving any maintenance requests even where equipment of third parties may be contributing to the problem. The Contractor shall co-operate fully with any such party to ensure prompt resolution. In the event of any difference between the Contractor and any such party, the Institution shall determine where responsibility lies and the Contractor shall comply with any reasonable instruction given by the Institution to secure effective resolution.
- 14.12 The Contractor shall from time to time make such modifications to the Equipment to ensure that the Equipment fulfils any change of legislation or new legal requirements which affect the Equipment or any function or facility contained within it.
- 14.13 The Equipment may not be removed in whole or in part from the Site for maintenance except with the Authorised Officer's prior written consent (removed items shall be at the risk of the Contractor) and provided
 - (a) removed items are marked as property of the Institution;
 - (b) loan items of the same or nearest equivalent specification are installed to keep the Equipment satisfactorily operational; and
 - (c) where any part of the Equipment is beyond economic repair, all data must be erased before disposal.
- 14.14 The Institution may procure consumable supplies and spares from the Contractor or elsewhere, provided they meet the minimum published manufacturer standards. If the Institution so requests, the Contractor shall make consumables and spares for the Equipment available for purchase for a period of 10 years from Acceptance.

15. INDEMNITY LIABILITY AND INSURANCE

15.1 Indemnity

The Contractor shall indemnify the Institution, its officers, employees, agents and other contractors against all liabilities, direct damages, costs, including legal costs on an indemnity basis, direct losses, expenses and third party claims, whether in contract, tort, under statute or otherwise, arising out of the Contractor's (or that of the Contractor's contractors, staff, employees or agents) wrongful act, default, breach of contract or of third party intellectual property rights or negligence in the course of or in connection with the Provision or Maintenance of the Equipment or Services.

15.2 The Contractor may, with the Institution's agreement, with a view to mitigating its liability under the provisions of condition 15.1 do any of the following at no cost to the Institution:

- (a) procure for the Institution the continuing right to use the Software; or
- (b) modify the Software so as to render it non-infringing; or
- (c) substitute other non-infringing software of no less general functional capability.

15.3 If the Contractor takes action under condition 15.2, then at no cost to the Institution, it shall, if so requested by the Institution

- (a) arrange suitable interim provision so that the Institution's business is not suspended or delayed during the action
- (b) provide implementation assistance and documentation where necessary as well as retraining Institution staff.

Unless otherwise agreed, the licence of any new non-infringing software shall be free of charge and for the period and on the same terms as the licence set out in condition 11.

15.4 Insurance

Without limiting its liabilities under condition 15.1 the Contractor shall effect and maintain (and provide proof to the Institution when required) and shall require its sub-contractors to effect and maintain, throughout the continuance of the Contract, adequate insurance of at least the types and amounts set out in Condition 15.5. Such policies shall contain a waiver of subrogation rights in favour of the Institution. The Contractor shall bear any and all excesses and deductibles incorporated therein.

15.5 Unless the Institution has agreed different levels of cover, the insurance policies referred to in Condition 15.4 are as follows:

- (a) Public and product liability insurance of at least £10 million (PL).
- (b) Unless otherwise agreed, professional indemnity insurance during the Contract period and for 6 years afterwards of at least £5 million.

- (c) Employer’s liability insurance as required by law to cover all employees of the Contractor engaged in the performance of the Contractor’s obligations under the Contract (EL).

These policies may be limited in respect of any one claim and in aggregate provided that any such limit shall be no less than that specified in this condition. The PL and EL policies shall contain an indemnity to principals clause.

- 15.6 Until title and risk in the Equipment has passed to the Institution the Contractor shall insure and keep insured the Equipment and Services with a reputable insurance company against loss or damage including additional costs charges and expenses of reconstituting or recompiling the Software.
- 15.7 In the event that the Contractor shall at any time fail to take out or maintain the insurances required under the Contract the Institution may take out and maintain such insurance and the Contractor shall pay to the Institution the amount of all costs and expenses incurred by the Institution in so doing.

15.8 Limitation

Subject to condition 15.9

- (a) Neither party shall be liable for any loss, costs, damages or expenses howsoever arising (“Loss”) of an indirect or consequential nature including any loss of profit, revenue or anticipated savings.
- (b) In respect of all other Losses each party’s liability shall be limited by reference to the types and amount of insurances required of the Contractor under the Contract:

Type of Loss	Limitation
Loss of a type required to be covered by insurance required under condition 15.5	The limitation of liability shall be the insurance level required under condition 15.5
Other direct Loss including wasted and/or unproductive staff time or other abortive costs	100% of the Price

- 15.9 Nothing in the Contract shall exclude or limit liability for death or personal injury caused by negligence, fraud or fraudulent misrepresentation, bribery, third party claims or the warranty in condition 11.10.

16. FAILURE TO PERFORM AND LIQUIDATED DAMAGES

- 16.1 Neither the Institution nor the Contractor shall be liable for any delay or failure to perform any obligation under the Contract if such delay or failure results from delay caused by the other party or circumstances which were not reasonably foreseeable at the date of the Contract and are beyond the reasonable control of the defaulting party.
- 16.2 The parties shall agree and record in writing the extent of any such delay and any amendments required as a result to the Implementation Plan or to any other provision of the Contract.

- 16.3 If the Contractor fails to meet the Completion Date the Contractor shall pay or allow to the Institution by way of liquidated damages the sums set out in the Contract Particulars.
- 16.4 The parties agree that having regard to the difficulty of quantifying precisely the Institution's loss arising from delay the sums set out in the Contract Particulars represent a genuine and fair pre-estimate of the Institution's direct loss in respect of additional maintenance other expenditure or wasted and/or unproductive staff time rendered unnecessary or wasted by the period of delay in completion and for loss of use of the Equipment.
- 16.5 The Institution may deduct such sums from any payments due to the Contractor. The payment or deduction of such sums shall not relieve the Contractor of any of its obligations nor deprive the Institution of any right or remedy under the Contract.
- 16.6 The Institution may terminate the Contract under condition 17 in addition to levying liquidated damages under this condition, in which case the Institution's right to damages shall be at large subject to credit being given for the liquidated damages under this condition received in respect of the loss to which they relate.
- 16.7 If the Contractor fails to provide Maintenance in accordance with the Contract Documents the Institution may without prejudice and in addition to any other rights under the Contract terminate the Contract under conditions 14 or 17 and recover by way of liquidated damages a pro rata percentage of the Contract Price for each year or part of a year outstanding of the Guaranteed Maintenance Period (for example one fifth for each outstanding year if the Guaranteed Maintenance Period is five years).

17. TERMINATION

- 17.1 Notwithstanding anything else contained in the Contract
- (a) either party may terminate the Contract forthwith on giving notice in writing expiring at any time if either of the following events occur:-
- (i) the other party commits any breach of any term of the Contract and (in the case only of a breach of Contract capable of being remedied) has failed to make remedy, within 15 Working Days after receipt of a written request from the other requiring remedy of such breach (such request to contain a warning of the intention to terminate);
 - (ii) the other party shall have a receiver or administrative receiver appointed of it or over any part of its undertaking or assets or shall pass a resolution for winding up (otherwise than for the purpose of a bona fide scheme of solvent amalgamation or reconstruction) or a court of competent jurisdiction shall make an order to that effect or if the other party shall become subject to an administrative order or shall enter into any voluntary arrangement with its creditors or shall be unable to pay its debts or cease or threaten to cease to carry on business;
- (b) the Institution may terminate the Contract forthwith on giving notice in writing expiring at any time if any one or more of the following events occur:-

- (i) if the Contractor has failed to meet the Long Stop Completion Date;
- (ii) the Equipment fails any of the Tests;
- (ii) the Contractor is in breach of any of the provisions of condition 2.2 or 3.1(e) or (f);
- (iv) where the Equipment has not been subject to a reliability test in operational use and the Equipment fails to meet the Performance Standards and Criteria for a cumulative period of 24 hours or for eight hours in one continuous period at any time within the first calendar month of live running when the Institution is open for business;
- (v) purported assignment in breach of condition 8.1;
- (c) the Institution may also terminate the Contract forthwith on giving notice in writing expiring at any time if any person associated with the Contractor offers, promises or gives a financial or other advantage to bring about improper performance in relation to the award or execution of the Contract (“bribery”) or attempts to defraud or succeeds in defrauding the Institution.

17.2 If the Institution terminates the Contract, the Contractor shall promptly refund any pre-payments and, if so requested, remove the Equipment from the Site, failing which the Institution may despatch the Equipment to the Contractor at the Contractor’s risk and cost.

17.3 Termination does not affect the accrued rights of either party. Conditions 11.5 to 11.10, 15, 17.3, 18 and 19 survive expiry or termination of the Contract.

18. CONFIDENTIALITY AND DATA PROTECTION

18.1 The Contractor and the Institution shall ensure that all information of the other party which is marked confidential, the Software and personal information as defined in the General Data Protection Regulations 2018 are held in confidence, used only for the purposes of the Contract and unless otherwise agreed shall be disclosed only to those employees, contractors and internal and external auditors or advisors who

- (a) need to know for the purposes of the Contract and
- (b) understand and are bound to observe the confidential nature of the information.

These obligations shall survive expiry or termination of the Contract for 5 years.

18.2 The provisions of condition 18.1 shall not apply to such information if it is: -

- (a) in the public domain otherwise than by failure of the receiving party to comply with condition 18.1, or
- (b) in the possession of the receiving party before these confidentiality obligations came into effect, or

- (c) obtained from a third party who is free to disclose the same;
 - (d) information which the Institution is advised must be disclosed by law, including under the Freedom of Information Act 2000 or any successor legislation, or by order of a court of competent jurisdiction.
- 18.3 To the extent that any Institution data or information is personal data within the meaning of the General Data Protection Regulations 2018:
- (a) the Contractor will process such data and information only in accordance with the Institution's instructions and the requirements of the General Data Protection Regulations and Principles;
 - (b) it shall be made available, at no charge to the Institution, in response to any subject access request;
 - (c) the Contractor will not transmit such data or information to a country or territory outside the European Economic Area without the Institution's express consent; and
 - (d) the Contractor will take appropriate technical and organisational measures to prevent unauthorised or unlawful processing and accidental loss or destruction of, or damage to, such data and information.
- 18.4 Institution data, including personal data, shall not be removed from Institution premises without the prior written consent of the Authorised Officer. If the Contractor, its employees or sub-contractors shall accidentally or wilfully destroy any Institution data or make an unauthorised alteration, the Contractor shall reinstate the data within 5 Working Days or reimburse the Institution's reasonable costs for doing this.
- 18.5 At the end of the Contract Period the Contractor shall return or destroy as directed by the Institution all Institution Material in the Contractor's possession.

19. GENERAL CONDITIONS, INTERPRETATION AND EURO COMPLIANCE

19.1 Interpretation

The headings in this Contract are for ease of reference only. Words preceding "include", "includes", "including" and "included" shall be construed without limitation by the words which follow those words.

19.2 Waiver

No forbearance, delay or indulgence by either party in enforcing any of the provisions of the Contract shall prejudice or restrict the rights of that party nor shall any waiver of its rights operate as a waiver of any subsequent breach. No waiver of any provisions of the Contract shall be effective unless it is expressly stated to be a waiver and communicated to the other party in writing.

19.3 Entire Contract

Except in the case of fraud or fraudulent misrepresentation the Contract supersedes all prior agreements and constitutes the entire agreement between

the parties relating to its subject matter. No addition to or modification of the Contract shall be binding unless made by written instrument signed by duly authorised representatives of each of the parties.

19.4 Notices

Notices which are required to be given under the Contract shall be in writing. Notices to the Institution shall be addressed to the Authorised Officer and sent to the invoice address stated on the Purchase Order or if none in the Contract Particulars. Notices to the Contractor shall be sent to its address set out in the Contract. Either party may designate a different address in England for service of notices by notice given in accordance with the provisions of this condition, or as required by the Institution if located in Scotland. Notices may be delivered personally or by first class pre-paid letter and shall be deemed to have been served by hand when delivered, if by first class post 48 hours after posting.

19.5 Law and Jurisdiction

The Contract shall be governed by and construed in accordance with the laws of England and the parties submit to the exclusive jurisdiction of English courts or as required by the Institution. .

19.6 Third party rights

A person who is not a party to the Contract shall not have any rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any term, but this does not affect any right or remedy of a third party which exists, or is available, apart from that Act.

19.7 Dispute Resolution

The parties shall resolve disputes arising out of or in connection with the Contract (other than under conditions 4.4 or 7.3) in accordance with the Dispute Resolution
Proce
in ac
Noth
cour

FOIA Section 40 Personal Information

Signature of

Print Name:

Position:

Date:

All terms and conditions are mandatory. Agreement to any amendment(s) must be reached prior to any award of this framework agreement, should agreement not be reached NWUPC reserve the right to exclude your submission as non-compliant. Any Non-Compliance MUST be detailed in section 19 of the ITT prior to Your submission.

DEFINITIONS SCHEDULE

DEFINITIONS

“Authorised Officer”	the Institution employee authorised, either generally or specifically, to sign the Purchase Order or such other person notified from time to time (or their designate), confirmation of which may be obtained from the relevant Department or Secretary of the Faculty Board.
"Acceptance"	notification by the Institution under condition 4.3 that the Equipment has passed all the Tests.
“Acceptance Certificate”	written notification from the Institution that the Equipment is accepted as being in accordance with the Specification.
“Change Request Form”	as provided in the Contract Particulars or otherwise agreed with the Contractor.
"Completion Date"	the date (stated in the Implementation Plan) by which the Equipment is to have passed all the Tests.
“Conditions”	these Conditions of Contract.
"Contract"	the Contract constituted by the Contract Documents.
"Contract Documents"	the documents set out in the Contract Particulars.
“Contract Particulars”	the document entitled Contract Particulars which sets out the specific details for the Contract (normally annexed to a Purchase Order).
“Contract Period”	as defined in condition 1.3.
"Contract Price"	the price for the Equipment set out in the Pricing Schedule.
“Critical Error”	an incident is materially affecting the usability of the Equipment to the point where the Institution cannot conduct critical functions within its normal course of business.
“Dispute Resolution Procedure”	as provided in the Contract Particulars.
“Effective Date”	the date of any form of agreement signed by the parties; otherwise it shall be date of the Purchase Order.
"Equipment"	as specified in the Contract Particulars or Purchase Order, including the Software.

“Framework Agreement”	an agreement or other arrangement between one or more contracting authorities and one or more economic operators which establishes the terms (in particular the terms as to price and, where appropriate, quantity) under which the economic operator will enter into one or more contracts with a contracting authority in the period during which the framework agreement applies.
“Good Industry Practice”	means using standards, practices, methods and procedures and exercising that degree of skill, care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person engaged in providing equipment and services of a similar type to that contemplated by the Contract.
“Guaranteed Maintenance Period”	as provided in the Contract Particulars.
"Implementation Plan"	as provided in the Contract Particulars.
"Invitation to Tender"	as provided in the Contract Particulars.
"Index"	Retail Prices Index as published by the National Office for Statistics or such other index as may be published in substitution.
“Institution”	an organisation procuring Equipment and Services for which the Framework Agreement is open to universities, organisations not classified as a university but with an .ac.uk URL, and members of the Higher Education Consortia including any new and successor organisations falling under this remit.
“Institution Material”	Institution specifications, tools, information, know how, instructions, plans, drawings, patterns, models, designs, data, including personal data, equipment or other material made available to or obtained by the Contractor in connection with the Contract.
“Intellectual Property Rights”	patents, trademarks, service marks, registered designs, copyrights, database rights, design rights, confidential information and any other right recognised in any jurisdiction.
“Long Stop Completion Date”	as specified in the Contract Particulars.
"Maintain"	to ensure that the Equipment continues to meet the Specification and Performance Standards and Criteria, including: In relation to hardware:

to maintain, repair, and keep in good operating condition in accordance with the manufacturer's recommendations by regular preventative maintenance and by responsive maintenance and by the provision of updated documentation.

In relation to Software:

to investigate and correct software errors or failures by the Software to comply with the Specification, to provide and install versions of the Software (including updated documentation) developed by the Contractor and/or required as a result of changes to the Equipment operating software, to advise (by telephone when requested) about the hardware operating procedures and difficulties.

"Performance Standards and the Criteria"
Tests.

the performance standards and criteria set out in Specification together with those agreed for the

"Pricing Schedule"

as provided in the Contract Particulars.

"Project Management Arrangements"

as provided in the Contract Particulars;

"Provide"

to sell supply license sub-license customise deliver install commission test rectify (for the purpose of achieving Acceptance), support and Maintain.

"Purchase Order"

the Institution purchase order for the Equipment.

"Recommended Hardware"

the hardware and other components recommended by the Contractor to support the Equipment whether or not listed in the Contract Particulars.

"Services"

all Services and work necessary to Provide and Maintain the Equipment including all telecommunications links, data transfer, back record conversion, project management, installation, documentation, training and maintenance which are required to provide a live and working Equipment complying with the Specification.

"Significant Error"

the Institution is unable to use an important feature and as a result is being caused major inconvenience, but is not prevented from continuing with its business operation.

"Site"

as provided in the Contract Particulars.

"Software"

the software and associated technical documentation (together with amendments to the Software made during the provision of

Maintenance) all as provided by the Contractor to meet the requirements of the Contract.

"Source Code"

software in eye-readable form such that it can be compiled or interpreted into equivalent object code together with all technical data information drawings and documentation necessary for the understanding use reproduction modification correcting and enhancing of such software.

"Specific Work"

work done specifically for the Institution and paid for within the Contract Price or work done in collaboration with the Institution and in either case the Contractor retains Intellectual Property Rights either through operation of law or by agreement with the Institution.

"Specification"

as provided in the Contract Particulars.

"Technical Solution"

as provided in the Contract Particulars.

"Tender"

the mini-tender under the Framework Agreement as provided in the Contract Particulars.

"Test Plan"

as provided in the Contract Particulars.

"Tests"

the Tests including the opportunities for rectification and re-testing set out in the Test Plan.

"Training"

all tuition guidance assistance and documentation to staff to enable them to perform their roles in relation to the Equipment and to enable the Institution to use the Equipment to best advantage and to meet the requirements of the Specification.

"Use"

means the use of the Software in any or all of the following ways: loading, installing, executing, utilising, storing and displaying the Software (in whole or in part) to provide business systems and the processing of data in accordance with the Contract; and copying the Software to create a reasonable number of backup copies.

"Warranty Period"

the period specified in the Contract Particulars beginning on the date specified in the Contract or from the making good of any defect or error in accordance with condition 4.5(b), whichever is the later date

"Working Day"

Monday to Friday 9am to 5.30pm excluding UK bank holidays.

Schedule 2 Specification-

Specifications of A High Throughput and Highly Automated Cryo-FIB System Dedicated to Preparation of Frozen, Thin Lamella Samples from Biological Specimens for High-Resolution Tomographic Imaging at the MRC Laboratory of Molecular Biology (LMB), Cambridge

Summary of microscope deliverables:

- **A complete high throughput and highly automated Cryo-FIB for the preparation of cryo-lamella samples for TEM tomography of frozen-hydrated biological materials.**
- **The new instrument must be adapted to the physical room constraints.**
- **The supplier must be able to perform an initial site survey snapshot.**
- **The supplier must be able to provide service, support, and training for the new instrument.**
- **The supplier must accept full responsibility for provision and installation of a complete and fully operational system even if third party suppliers are involved.**
- **The new instrument must be delivered no later than November 2023.**
- **The new instrument must be operational no later than 3 months after delivery.**
- **Innovation & added value, including extra configuration and accessories as options, are desirable.**

Specifications

The MRC LMB seek to acquire a new high throughput and highly automated cryo-focused ion beam (cryo-FIB) instrument. The new instrument must have advanced optics including a field emission gun, a two (or more)-condenser electron column with sensitive in-lens for secondary and backscattered electrons (SE & BSE) and in-chamber secondary electrons detectors (ETD, SE). The instrument will require a focussed ion beam (FIB) attachment that supports specimen milling with a Gallium liquid metal ion source (Ga-LMIS).

The new cryo-FIB instrument must be a state-of-the-art microscope for preparing cryo-lamella samples for TEM tomography of frozen-hydrated biological materials. The instrument must include innovative electron and ion optics with state-of-the-art patterning controls and a dedicated cryo-stage, cooling, loading and transfer system, which allows for streamlined production of high quality cryo-lamellas for TEM tomography. The new instrument must be provided with highly automated user-friendly

software. The system will be fitted with controls that are simple enough to be used by a non-expert user and robust enough to withstand heavy daily use.

The supplier of the new instrument must provide a complete cryo infrastructure including a large capacity liquid nitrogen Dewar for extended runtimes, heat exchanger, digital flow controls, load-lock system, sample preparation station, controller, and transfer device.

The new instrument will have the following specifications:

1. Electron Optics

- a. The electron optics of the new instrument must feature a pre-aligned electron column optimised for high resolution and for beam stability.
- b. The electron column must have a field emission electron gun (FEG) with the highest possible brightness to provide enhanced spatial coherence, and with high emission stability for high-resolution imaging.
- c. The proposed SEM system will be provided with optimized high current and high-resolution optics. The tendering organisation should specify the details of these. The electron column must operate at voltages of 200 V to 30 kV, beam current range of 1.5 pA to 400 nA and resolution better than 5 nm at 30 kV at cryo temperature with in-lens detectors. Resolution at Room temperature: at Optimum working distance: 1.6 nm at 30 kV, 2.6 nm at 2 kV.
- d. The FEG tip must have a lifespan better than 1 year.
- e. The new instrument must feature a Faraday cup for precise (1 pA to 2 uA) measure of the electron beam current.
- f. The tendering organisation should state the possible acceleration voltages for the SEM part of the proposed instrument.
- g. The proposed SEM system will be provided with an automated aperture system.
- h. An integrated battery backup for IGPs on the electron column for FEG safety is expected.

2. Ion Optics

- a. The ion optics must be a field emission focused ion beam optics with liquid metal ion source (Ga-LMIS) emitting Gallium ions with a drift suppression mode as standard for non-conductive samples. The tendering organisation should specify the details of the ion emitter.
- b. The ion column must operate at a voltage range 500 V – 30 kV, beam current range of 1 pA – 100 nA in fine enough steps (continuous dial-up), a resolution better than of 3 nm at 30 kV at room temperature and better than 7 nm at cryo

temperature. The tendering organisation should specify the FIB Beam currents that can be achieved.

- c. The proposed FIB system will be provided with an automated aperture system to achieve optimum beam sizes and current densities for each beam current.
- d. The ion source must have a lifespan better than 1300 hours.
- e. The new instrument must feature a Faraday cup for precise (1 pA to 2 uA) measurement of the ion beam current.

3. Sample loading

- a. The new instrument must have an integrated cryo transfer system compatible with AutoGrids, TomoGrids and FIB-AutoGrids, high-pressure freezing (HPF) specimen planchets, as well as the standard pin stub-type specimen holders. The supplier should provide starting kits of the above grids and planchets.
- b. The cryo transfer system must be able to transfer at least 10 grids at one time, be contamination-free and be able to maintain at liquid nitrogen temperature (< -170°C).
- c. A cryo specimen loading station and tools and essential accessories must be provided for

loading cryo specimens

- d. A cryo-lift-out system is highly desirable and could be quoted separately.
- e. The new instrument must be supplied with a platinum sputter coater and film thickness monitor.
- f. The new instrument must be able to load room temperature samples.

4. Condenser System, Objective Lens and Lens design

- a. The new instrument must be at least two-lens condenser system.
- b. The new instrument must have stable field-free electron-magnetic and electrostatic lenses with constant power supply.
- c. The lenses must provide maximum stability and reproducibility by minimizing thermal drift, lens hysteresis, crosstalk between optical components and to have fast switching between different operational modes.
- d. The objective lens must have minimized aberrations at the eucentric position.

5. Specimen stage

- a. The new instrument must be fitted with a high-precision cryo sample stage suitable both for milling and for tissue imaging.

- b. The new instrument must be equipped with a fixed fully rotatable cryo-stage capable of constantly keeping samples at vitreous temperatures ($< -170^{\circ}\text{C}$).
- c. The cryo-stage stage must be suitable for in situ lamellae preparation.
- d. The cryo-stage must be compatible with AutoGrids, TomoGrids, FIB-AutoGrids, high-pressure freezing (HPF) sample carriers (planchets) and standard stubs. The cryo-stage must have HPF sample planchets holder compatible with LMB's existing HPF devices Leica EM HPM100 and HPF Compact 03 (Wohlwend GmbH).
- e. The cryo-stage must be a 5-axis computer controlled with a range of movement specified in μm for the X, Y and Z axis and in degrees for tilt and rotation.
- f. The cryo-stage must have the following specs: multi-directional stage drive, 360° rotation, compucentric rotation and tilt, XY range: 110 mm, Z range: 65 mm, tilt range at cryo: -15° to $+55^{\circ}$.
- g. The cryo-stage must be provided with a cooling system with fast cooling (cooldown time < 20 minutes for the cryo-stage) and with a holding time of the liquid nitrogen reservoirs more than 24 hours.
- h. The cryo-stage must have high stability: maximum stage drift rate $< 30 \text{ nm} / \text{min}$ s at cryogenic temperature.
- i. The cryo-stage should have reproducibility of $\leq 0.5 \mu\text{m}$ after specimen shift for $500 \mu\text{m}$ in X or Y direction.
- j. An automatic drift compensation system is essential.
- k. The cryo-stage must be supplied with a stage tracking system, capable of recording and re-calling the specimen areas, in digital and graphic forms.
- l. The cryo-stage must be able to work at room temperature for standard pin stub specimens.

6. Vacuum system

- a. The new instrument must have a complete oil-free vacuum system equipped with high-capacity high volume pumps.
- b. The vacuum system must be capable of reaching pressures better than 1×10^{-4} Pa at room temperature and better than 1×10^{-5} Pa at cryo conditions.
- c. The new instrument is expected to operate at ultra-high vacuum to both minimise sample contamination (must be $< 2 \text{ nm/h}$) and maximise the life of the electron source, especially for cryo-EM use.
- d. An integrated battery backup for IGPs on the electron column, a FEG safety mechanism.
- e. A specimen anti-contamination device positioned close to the specimen stage must be provided, and this should include a Dewar capable of achieving a cryogenic 'hold time' of at least 24 hours.

7. Detectors and Cameras

- a. The new instrument must feature an in-chamber secondary electron detector optimized for use across the available kV and current range.**
- b. The new instrument must feature a set of in-lens /low-column secondary electron and backscattered electron detectors for high resolution images.**
- c. The new instrument must feature an integrated IR-CCD camera for in-chamber viewing of samples (e.g. the cryo-FIB shuttle) and an in-chamber Nav-Cam for navigation.**
- d. The new instrument must be equipped with a colour optical camera for directly acquiring an image of samples mounted on the specimen stage must be provided.**
- e. The colour optical camera must be optimized to capture images at the analytical working distance when the system is under vacuum so areas of interest can be found and investigated.**

8. Cold-Platinum Deposition GIS

- a. The new instrument must provide a solution for non-beam assisted deposition of Platinum onto frozen-hydrated samples using a proven cold deposition protocol.**
- b. The new instrument should include includes the gas precursor, injection needle, gas injector system and controller.**

9. Platinum Sputter Coater

- a. The new instrument must have an in-chamber retractable sputter coater for applying conductive coatings.**
- 10. The microscope must have a water chiller, water-cooled. The chiller's specification must meet the requirement of the microscope and accessories.**

11. Software Features

- a. An appropriate software package must be offered for full system control, direct-to-disc image acquisition, SEM / FIB image acquisition and for basic image analysis as part of proposed microscope system.**
- b. The software must offer the highest level of automation and intuitive user interface and allow automated preparation of in situ lamella samples in cryo conditions.**
- c. The software must enable correlation of LM and EM data, tiling and stitching of regions of interests.**

- d. The software must enable correlation of SEM and TEM data.**
- e. The processing must allow users to run unattended complete batch milling overnight in-situ lamella preparation.**
- f. Drift correction for precision milling must be provided and demonstrated to be reliable and efficient.**
- g. A Python-based application programming interface (API) providing access to microscope functions, including imaging, patterning, detector control, stage movement control and gas injection systems must be provided.**
- h. It is expected that this software must, as far as possible, be intuitive to the user for basic operation and therefore not require extensive training to be provided.**
- i. The complete package of software proposed by the tenderer must be fully compatible with all the hardware components proposed as part of the microscope system.**
- j. The user interface for the microscope system must be expected to allow multiple users each with individual logins, user profiles, saved settings and acquisition protocols.**
- k. An offline licence must be provided to allow the image processing steps required to take place whilst the main system computer is busy with other image acquisition tasks.**
- l. The software provided must provide tools to assist the user in creating an imaging configuration.**
- m. The software provided must allow combinations of all the following imaging modes: SEM imaging, FIB imaging, serial block face stack imaging, lamella preparation.**
- n. Software must allow rapid data transfer between the main system computer and a second computer provided by the MRC for this task.**
- o. The MRC expects that the data and metadata acquired, and subsequently analysed and/or manipulated, by the user to be saved in a default format which is widely compatible with other software packages.**
- p. The software provided as part of the proposed microscope system may also allow images and data to be exported in proprietary formats including TIFF, JPEG, BMP, PNG, AVI, CSV**
- q. The software must include image analysis tools for the application of common analysis methods to images including 3D rendering of image stacks and image segmentation.**
- r. It is expected that the software package provided with the imaging system to include a browser version to allow users to view images, export data and images as well as carrying out basic processing and analysing functions.**
- s. It is expected that such a browser would be free and ideally available for Windows and Mac operating systems.**

- t. Remote Operation is expected including hardware and software.

12. Service, support and training

- a. The supplier must provide a service with a response time of 24h/48h (24 hours response by telephone or remote diagnosis or visit by engineer, and 48 hours response onsite by engineer visit or remote service)
- b. Onsite training and support are expected. At least 10 days' on-site training by Application team is highly expected
- c. Workflow validation on site is expected.
- d. Application Support is desirable.
- e. Remote diagnosis is expected.

13. Innovation & Added Value

- a. UKRI will give due consideration to any tender response, whether of standard manufacture or of an alternative design solution that provides and delivers innovation, good design, accounts for on-going product development and clearly demonstrates measurable subsequent benefits.
- b. UKRI encourages the bidders to put forward value added solutions (specimen/EM-grid preparation apparatus, specimen holder, grid cartridges/frozen grid exchange accessories).
- c. Additional sample vitrification capacity is needed so consideration should be given to the provision of suitable instrumentation as part of the response.
- d. A system for in-chamber CLEM (correlative light electron microscopy) is highly welcomed, e.g. fluorescence microscope and software.
- e. A Collaboration Proposal between the supplier and UKRI is highly welcomed, in order to maximise future development of the use of the machine.
- f. We are also offering demonstration time on the instrument when installed at the MRC LMB, should a vendor find this attractive and helpful. We offer this in return for potential discounts.
- g. Extra two years warranty (on top of the standard one-year manufacturer's warranty) is desirable and should be quoted separately.
- h. Labour and parts should be included in the warranty.
- i. 24h / 48h response time is expected for service calls as part of the warranty.
- j. Preventive maintenance service visits once per year as part of the warranty.

Pricing Summary (in GBP)	
FOIA Section 43 Commercial Information	
Total	£300,000

Collaboration Proposal

FOIA Section 43 Commercial Information