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REQUEST FOR TENDER

SINGLE-PARTY FRAMEWORK AGREEMENT

Title:	PIF 338A Establishment of a single operator framework agreement for the supply, installation, and commissioning of a Multi-Material Drop-on-Demand (DoD) Inkjet 3D Printing / Deposition System
Contracting Authority:	Atlantic Technological University
Procedure:	Open
eTenders/OJEU ref:	8688258
Issue Date:	22 nd July 2026
Closing Date for Queries:	14 th August 2026 17.00 Hours Local Time
Closing Date for Tender Submission:	24 th August 2026 12.00 Noon Local Time
Submissions and Queries via:	eTenders only
Funding Acknowledgement	ATU wish to acknowledge funding from the Higher Education Research Equipment Grant (HEREG) 2026 to purchase the research equipment under this competitive process.

Contents

1	About the Contracting Authority.....	1
1.1	The Contracting Authority.....	1
1.2	Small and Medium Enterprise participation	1
2	Scope of the Framework Agreement	2
2.1	Type of Framework.....	2
2.2	Scope of Requirements under the Framework.	2
2.2.1	The Scope of the Framework	2
2.2.2	The Initial Contract	3
2.2.3	Additional / Call-Off Contracts under the Framework.....	3
2.3	Anticipated Timeline	4
2.4	Numbers admitted to the Framework.....	4
2.5	Duration of the Framework Agreement	4
2.6	Estimated Value for the Framework Agreement	4
2.7	Awarding Contracts under the Framework Agreement	5
2.8	Right to tender outside of the Framework	5
2.9	Compliance with the Terms and Conditions of the Framework Agreement	5
2.10	Award to Runner Up	5
3	Selection Criteria	5
3.1	Use of the European Single Procurement Document	6
3.2	Relying on the standing of other Entities	6
3.3	General Declarations and Financial Capacity Requirements	6
3.4	Technical Capacity Requirements	7
4	Award Criteria.....	9
4.1	Methodology for calculating the Cost Score	13
4.2	Methodology for scoring Qualitative Criteria	14
4.3	Post Tender Clarification	14
4.4	Verification.....	14
4.5	Clarification of Abnormally Low Tenders	14
4.6	Right to Confirm Suitability	15
5	Instructions for Tenderers	16
5.1	Closing Date for Tenders	16
5.2	Submission of Tenders.....	16
5.3	Queries	17
5.4	Extension of the Tender Deadline.....	17
5.5	Tender Validity Period	17
5.6	Discrepancies between Documents	18
5.7	Formatting of Tenders / Amending Tender Documents	18

5.8	Collusive Tendering	18
5.9	Confidentiality	18
5.10	Clarification of Tenders	18
5.11	Correction of errors	19
5.12	Change in the composition of a Tender	19
5.13	Interference and Inducement to Purchase.....	19
5.14	Conflict of Interest	19
5.15	Publicity.....	19
5.16	Right Not to Award	20
5.17	Notification of Tender Evaluations	20
5.18	Award Notices	20
5.19	Policy on Personal Debriefings	20
5.20	Copyright	21
5.21	Brand Names, etc.	21
5.22	Environmental Aspects	21
5.23	Knowledge and Skills Transfer	21
5.24	Currency and Payments	21
5.25	Irish Legislation and Law	21
5.26	Anti-Competitive Conduct.....	21
5.27	Accessibility / Dignity at Work.....	22
5.28	Withholding Tax	22
5.29	Freedom of Information	22
5.30	Late Payment	22
5.31	Data Protection	22
5.32	Responsibility of Successful Party	23
6	Appendix 1 Lot 1 Multi Material DoD Inkjet 3D Printing system - Specification of Requirements	24
7	Appendix 2 - Lot 1 DoD System	38
8	Appendix 3 Pricing Schedule Lot 1	38
9	Appendix 4 Tender Response Document Lot 1	38
10	Appendix 5 Tenderers Statement Lot 1	38
11	Appendix 6 Draft Framework Agreement, Goods Contract, and DPA Lot 1	38

Disclaimer

This document issued herewith ("the Document") is for information only and does not constitute, and shall not be interpreted as, an offer for sale, prospectus, or the basis of a contract.

Tenderers are recommended to read the documents thoroughly. While all reasonable steps have been taken to ensure that the information set out in the Document is accurate and up to date, no representation or warranty, express or implied, is or will be made or given in relation to the accuracy or the completeness of any information contained in the Document or otherwise provided by or on behalf of the Contracting Authority (in writing or otherwise) to any interested party or its advisers. No responsibility or liability for any loss or damage arising as a result of reliance on these documents, or for the information contained in these documents or for any omission is or will be accepted by the Contracting Authority or by any of its officers, employees, agents, or professional advisers. No officer, employee, agent, or professional adviser of the company has any authority to give or make any representation or warranty, express or implied, in relation to such information. The Contracting Authority's officers, employees, agents, and professional advisers expressly disclaim any and all liability arising out of such documentation or information and any errors or omissions in or from the documents and information.

The Contracting Authority reserves the right to discontinue the procurement process at any time.

Note

Please note that information relating to this Request for Tender, including clarifications and changes, will be published on the Irish Government Procurement Opportunities Portal www.etenders.gov.ie. Registration is free of charge and there is no charge for documents. Please note that the Contracting Authority accepts no responsibility for information relayed (or not relayed) via third parties.

The Contracting Authority have provided a Tender Response Document as a separate document for tenderers to use in preparing their response to this tender. This document and format must be used.

1 About the Contracting Authority

1.1 The Contracting Authority

Atlantic Technological University (hereinafter referred to as the “Contracting Authority”) is the authority responsible for this procurement.

Further information is available at our corporate website www.atu.ie

1.2 Small and Medium Enterprise participation

It is the policy of the Contracting Authority to promote participation by Small and Medium Enterprises (SMEs) on a fair and equal basis.

SMEs are encouraged to explore the possibilities of forming relationships with other SMEs or with larger enterprises to meet the financial, economic, or technical capacity requirements of the competition, if required.

Tenderers may include individuals, partnerships, limited companies, groupings, or any combination of the foregoing with or without legal personality. However, a grouping if successful will be required to establish legal personality to enter the framework agreement / contract.

Tenderers are reminded that they may rely on the resources of other entities to establish the requirements on condition that they can prove to the satisfaction of the Contracting Authority that they will have these resources at their disposal when necessary.

If the tender is from a consortium / joint venture, tenderers must ensure that all the relevant information is provided and where necessary, provide the information requested separately for each party. Relevant information relates to where a tenderer is relying on the resources to qualify (e.g. turnover, manpower, previous experience) and or to deliver contracts. The consortium must appoint a single point of contact who will assume overall responsibility for delivery, and who is authorised to sign the framework agreement / contract on behalf of all consortia members. The Contracting Authority will not act as an arbitrator between members of consortia.

2 Scope of the Framework Agreement

2.1 Type of Framework

The Contracting Authority proposes to engage in a competitive process for the establishment of a single-operator framework agreement for the supply, installation, and commissioning of Multi Material Drop-On-Demand (DoD) Inkjet 3D Printing/Deposition system to support research and development activities.

A framework agreement constitutes a means of establishing the overall terms and conditions in accordance with which, for a specified duration, individual contracts may or may not be awarded.

This competition relates to the following technology area:

Lot 1: Multi-Material Drop-on-Demand (DoD) Inkjet 3D Printing / Deposition System

The objective of this procurement is to acquire a high-performance, reliable, and scalable system capable of supporting cutting-edge research, advanced manufacturing processes, and innovation across a range of application areas. The system will facilitate multi-material additive manufacturing and support both current and future research activities.

The framework will also cover associated services, including installation, commissioning, training, maintenance, warranty support, and technical assistance. In addition, it will provide for the future procurement of a broad range of supplementary items and services, including but not limited to, system upgrades, software enhancements, accessories, ancillary and peripheral equipment, replacement parts, consumables, and other related goods and services required to support, maintain, enhance, or expand the functionality of the system throughout its operational life.

Thereafter the successful Economic Operator shall be eligible to be considered for all contracts awarded within the scope of the framework.

2.2 Scope of Requirements under the Framework.

2.2.1 The Scope of the Framework

The scope of the framework includes the supply, installation, commissioning, support, and lifecycle management of the system described, together with all associated goods, services, and optional elements necessary to ensure full functionality and ongoing operation.

This includes, but is not limited to:

- Supply of equipment and system integration services.
- Installation, commissioning, validation, and acceptance testing.
- User training, operator instruction, and provision of technical documentation.
- Maintenance, servicing, repair, and technical support services.
- Provision of software, software licences, updates, upgrades, and enhancements.
- Supply of accessories, add-ons, and ancillary equipment.
- Supply of consumables and materials (where applicable).
- Provision of replacement parts, upgrades, and system enhancements.
- Warranty services and extended warranty options (where applicable).

- Calibration, testing, certification, and performance verification services.
- Relocation, decommissioning, recommissioning, and reinstallation services (where required).
- Any other related goods and services necessary to support system performance, research activities, and future research, operational, and technological requirements throughout the term of the framework.

The framework is intended to provide flexibility to support evolving research, operational and technological requirements over its full duration.

2.2.2 The Initial Contract

The initial contract will provide for the supply, delivery, installation, commissioning, and validation of a Multi-Material Drop-on-Demand (DoD) Inkjet 3D Printing / Deposition System.

At a high level, the scope of the initial contract is expected to include:

- Supply and delivery of the system and all required core components.
- Installation, commissioning, and system validation.
- Provision of user training and technical documentation.
- Provision of initial warranty, maintenance, servicing, and technical support.

Full details of the requirements are set out in appendix 1 – Detailed Specification of Requirements

2.2.3 Additional / Call-Off Contracts under the Framework

Additional contracts (call-off contracts) may be awarded under the framework during its term for the provision of further equipment, upgrades, services, or other related requirements within the defined scope.

These may include, but are not limited to:

- Additional system modules, components, or upgrades.
- Software licences, upgrades, updates, or new functionalities.
- Accessories, ancillary equipment, and peripheral devices.
- Maintenance, servicing, technical support, and extended warranty agreements.
- Replacement parts.
- Consumables and materials (where applicable)
- Training and consultancy services related to the operation, development, or optimisation of the systems.
- Any other goods or services required to support the use, performance, maintenance, research activities, and future development of the system.

There is no guarantee of additional contracts. However, where such requirements arise, the Contracting Authority will award contracts in accordance with the framework terms and the procedures set out in this Request for Tender.

2.3 Anticipated Timeline

The following indicative timeline is envisaged for this procurement:

Issue RFT	As specified on title page
Closing Date for Queries	As specified on title page
Closing Date for Tender Submission	As specified on title page
Clarification/verification meetings (if anticipated)	TBC
Award decision	August 2026
Framework Agreement Commencement	August/September 2026

The dates provided above are estimates at the time of publication of the Request for Tender. The Contracting Authority will endeavour to run the process to this timetable, but this cannot be guaranteed.

2.4 Numbers admitted to the Framework

The framework agreement will be established as a single-party framework agreement with the tenderer selected following the tender stage and the application of the award criteria and subject to that tenderer meeting the minimum criteria and rules.

2.5 Duration of the Framework Agreement

The framework agreement will be for a maximum period of four [4] years.

The Contracting Authority confirms that the period of any contracts awarded under the framework agreement may extend beyond the date of expiry of the agreement.

2.6 Estimated Value for the Framework Agreement

It is envisaged that the maximum expenditure under the framework agreement will not exceed €350,000.00 excluding VAT over the full duration of the Framework Agreement.

It is emphasised, however, that this figure is provided strictly for indicative purposes only as there is no guaranteed expenditure under the framework agreement.

Maximum Funding Available for the Initial Contract

Tenderers should note that the maximum funding currently available for the initial contract to be awarded under Lot 1 is:

- **Lot 1:** €181,000.00 (inclusive of VAT and all costs associated with meeting the requirements of and delivering the initial contract)

It is emphasised, however, that this figure is provided strictly for indicative purposes only as there is no guaranteed expenditure under either of the framework agreements.

The above funding relates to the initial contract only and should not be interpreted as the maximum potential value of the Framework Agreement.

The estimated Framework Agreement value of €350,000 (excluding VAT) includes the value of the initial contract and any subsequent call-off contracts that may be awarded during term of the framework. While no expenditure is guaranteed beyond the initial contract, the Contracting Authority reserves the right to procure additional services/goods under the Framework Agreement, subject to available funding, business needs, and operational requirements.

2.7 Awarding Contracts under the Framework Agreement

Single-party framework agreement contracts may be awarded directly on foot of the original tenders or by consultation with the Framework Member and invitation to provide a supplementary tender within the constraints laid down in this tender documentation and the framework agreement terms and conditions.

2.8 Right to tender outside of the Framework

The Contracting Authority intends to use the framework for the procurement of requirements falling within its scope during the specified period; however, it reserves the right to go outside the framework for the procurement of any requirement without reference to the Framework Member(s). Admission to a framework does not guarantee the award of any contract to any Economic Operator, nor does it give the member(s) the right to be consulted in respect of, or tender for, any contract.

2.9 Compliance with the Terms and Conditions of the Framework Agreement

Admission to the framework agreement will be conditional upon acceptance of the Contracting Authority's Framework Terms and Conditions as appended at the relevant Appendix.

Tenderers are required to review these terms and conditions and indicate their acceptance thereof as part of their tender submission. Any reservation with regard to these terms should be submitted as a query in accordance with the procedure described in the Instructions to Tenderers (*Section 6*) of this document.

2.10 Award to Runner Up

If it is not possible following the conclusion of the competitive process to award the initial contract to the designated successful tenderer from this competitive process; the Contracting Authority reserves the right to award the initial contract to the tenderer with the next highest score based on the original competition, at any time during the tender validity period.

If, following the award of any contract under this framework agreement, the Framework Member cannot, for whatever reason, deliver the required services to the satisfaction of the Contracting Authority; the Contracting Authority reserves the right to award the contract to the next highest scoring tenderer emerging from the process at any time during the contract tender validity period.

3 Selection Criteria

The Contracting Authority is using the **Open** procedure for the award of this framework agreement, therefore, while all interested parties may submit a tender, only those demonstrating that they have the required level of financial and technical capacity will have their tender

considered. In order to demonstrate a tenderer's qualifications, tenderers are required to provide the information set out below in the Tender Response Document (TRD) which is based on a self-declaration model. However, tenderers are required to provide the minimum information required.

3.1 Use of the European Single Procurement Document

In accordance with Directive 2014/24/EU, tenderers may have compiled a European Single Procurement Document (ESPD), either electronically via the eESPD on eTenders or as a separate uploaded attachment with the tender response, which will be accepted as evidence of compliance with *Section 4.3* on condition that all information self-declared will be provided promptly on request at any time prior to an award decision.

3.2 Relying on the standing of other Entities

SMEs are encouraged to explore the possibilities of forming relationships with other SMEs or with larger enterprises to meet the financial, economic, or technical capacity requirements of the competition, if required.

Tenderers are reminded that they may rely on the resources of other entities to establish the requirements on condition that they can prove to the satisfaction of the Contracting Authority that they will have these resources at their disposal when necessary.

If the tender is from a consortium/joint venture, tenderers must ensure that all the relevant information is provided and where necessary, provide the information requested separately for each party. The consortium must appoint a single point of contact who will assume overall responsibility for delivery, and who is authorised to sign the framework agreement / contract on behalf of all consortia members. The Contracting Authority will not act as an arbitrator between members of consortia.

3.3 General Declarations and Financial Capacity Requirements

Tenderers are required to provide information on the following in the Tender Response Document. The criteria and rules outlined below are assessed on a pass/fail basis. Failure to comply with the requirements will result in the tender being considered inadmissible.

General Information	
Provide contact and general information on the tendering organisation - company name, address, and contact details for individual responsible for this tender and company overview as well as information on sub-contractors and consortium members if applicable.	
Financial and Economic Standing	
Tax Compliance	Confirmation that the tenderer / all parties associated with the tenderer are fully tax compliant. Please refer to the tax rules contained in the Tender Response Document.
Financial Capacity	(a) Confirmation that the tendering party turnover exceeded: €300,000.00 in at least one of the last three completed financial years or pro-rata if more recently established firms are tendering-however the firm must have been in existence for at least 6 months prior to the Tender Submission Deadline. (b) Confirmation of financial standing ensuring the tendering party has the financial capacity to pay its debts identified on the current statement of assets and liabilities as being the debts as they fall due. Evidence of both statements will be required prior to the award of any contract.
Insurance	Confirmation of the following insurances being in place:
Insurance Type	Required Level
Employer's Liability	€13 million
Public Liability	€6.5 million
Product Liability	€6.5 million
Declaration	
Complete the Declaration of Bona Fides as per Art. 57 of Directive 2014/24/EU as implemented by Regulation SI 284 of May 2016 and as contained in the Tender Response Document. Complete the Declaration regarding compliance with relevant statutory obligations as contained in the Tender Response Document. Where tenderers are established and operating outside of the jurisdiction of supply, compliance with equivalent legislation as applicable in the country of establishment / operation is required.	

Tenderers are required to provide information on the following in the Tender Response Document. The criteria and rules outlined below are assessed on a pass/fail basis. Failure to comply with the requirements will result in the tender being considered inadmissible.

3.4 Technical Capacity Requirements

Personnel and Skills	
Tenderers must provide information which demonstrates access to the minimum number of skilled personnel as indicated below and outlined in the TRD.	
Skillset Required	Minimum Number
Account Manager	1

Engineering Support	1
Trainer	1
Previous Experience	
Tenderers must refer to instances within the last three (3) years which demonstrate that they have successfully delivered services/goods of a comparable nature and scale on two (2) occasions . involving the features as defined in the TRD.	
Health & Safety Management System	
Tenderers must provide information which demonstrates operation of Health & Safety systems and procedures in line with all relevant Safety, Health & Welfare at Work legislation. Please complete the TRD. Evidence of compliance will be required as condition of contract award.	
Quality Assurance Management System	
Tenderers must provide information which demonstrates a commitment to quality assurance and provide details of quality assurance policies and systems and whether externally certified. Please complete the TRD.	
Environmental Management	
Tenderers must provide information which demonstrates operation of an appropriate environmental management system whether externally certified or in-house. Please complete the TRD.	
Data Protection	
Tenderers must demonstrate compliance with all General Data Protection Regulations and comply with ATU's GDPR Requirements. The Contracting Authority reserves the right to seek further information to verify compliance.	
Cyber Assurance	
Tenderers must demonstrate that appropriate measures are in place to ensure robust cyber assurance. This may include certification to an external standard (e.g., ISO 27001) or an equivalent internally managed Information Security Management System (ISMS). Please complete the TRD. Evidence of compliance will be required as condition of contract award.	
Declaration of Bona Fides	
Tenderers must complete, sign and date this Declaration. Non-compliant applicants under any of the headings will be automatically disqualified.	

4 Award Criteria

Only tenders which meet the Selection Criteria and are confirmed as valid and responsive to the specifications set out in this document will be evaluated against the award criteria. Tenderers should ensure that they have submitted sufficient relevant information to allow their tenders to be assessed under each of the award criteria set out below.

The framework will be awarded on the basis of the most economically advantageous compliant tender taking into account the following award criteria and weightings.

Lot 1- Multi-Material Drop-on-Demand (DoD) inkjet 3D printing system for advanced research applications.			
Criterion A	Weighting	Maximum Marks	Minimum Marks 50%
	55%	5500	2750
Title	The quality, technical merit, and suitability of the proposed solution for its intended research applications		
Description	Tenderers MUST demonstrate the quality, technical merit, functionality, and suitability of the proposed multi-material Drop-on-Demand (DoD) inkjet printing system for advanced research applications. Tenderers must provide sufficient technical information to enable the Contracting Authority to assess the proposed system's technical capabilities, functionality, performance characteristics, reliability, flexibility as a research platform, and overall suitability for the research application envisaged by ATU. This response is supplementary to, and does not replace, the requirement to complete Appendix 2 (Conformity with Technical and Functional Specification). The response MUST include: • A full technical specification of the proposed system, including confirmation of compliance with the requirements in Appendix 1. • Tenderers MUST clearly indicate any areas in which the proposed solution exceeds the minimum technical and functional requirements. • Details of the system's printing capabilities, including precision, resolution, speed, deposition control, and repeatability. • Information on multi-material functionality, including compatibility with a range of functional inks and materials. • Description of the system's flexibility as a research platform, including parameter access, ability to use bespoke inks and a range of commercial inks, adaptability, and suitability for experimental work. • Details of software, control systems, and data handling, including process control, drop monitoring, and data integration capabilities.		

	• Information on system reliability, stability, and performance consistency during operation. • Details of safety features, including CE marking (where applicable) and compliance with relevant standards. • Information on environmental performance, including energy consumption, consumables management, and emissions where applicable. • Images and/or diagrams of the proposed system. • Any additional features that enhance performance or usability in a research environment or research capability. Tenderers may include any other technical information relevant to the proposed equipment. This criterion will be evaluated as a whole. Responses must be limited to ten (10) x A4 pages excluding images and graphics. Tenderers MUST use the Tender Response Document provided to respond to this criterion. Generic company brochures, marketing materials and other supplementary documentation will not be considered unless expressly requested or permitted within the RFT. Tenderers must also complete and submit Appendix 2 (Conformity with Technical and Functional Specification). Appendix 2 will be assessed separately on a Pass/Fail basis and does not form part of the scored evaluation under Criterion A.		
Criterion B	Weighting	Maximum Marks	Minimum Marks 50%
	10%	1000	500
Title	Support, After Sales Service & Warranty		
Description	Tenderers MUST provide clear and detailed information on the support, after-sales service, maintenance, and warranty arrangements that will be available throughout the operational lifecycle of the proposed system. Tenderers must carefully review the requirements and specification set out in Appendix 1 and Section 2 of the RFT and ensure that their approach aligns with these requirements. The response MUST include details of: • Customer support arrangements, including helpdesk access, hours and days of operation in Irish time (GMT/GMT+1), contact methods, response times, and any support available outside normal Irish business hours.		

	• Fault reporting procedures, including incident logging, response times, resolution targets, and escalation processes for technical issues, faults, or system failures. • Repair and maintenance arrangements, including access to service engineers, engineer locations, spare parts availability, and typical lead times for replacement parts. • Preventative and corrective maintenance, including maintenance schedules, planned servicing arrangements, and any applicable service level agreements or maintenance contracts. • Remote support and diagnostic capabilities, where available, including the methods and scope of remote assistance that can be provided. • Training provision following installation and commissioning, including any ongoing, refresher, advanced, or specialist training available during the operational life of the system. • Warranty arrangements, including the duration, scope of coverage, exclusions, limitations, and any conditions applicable to the warranty. • Post-warranty support, including available service options, maintenance arrangements, and long-term support commitments for the proposed system. Responses are limited to six (6) A4 pages and MUST be submitted using the Tender Response Document provided. This criterion will be evaluated as a whole.		
Criterion C	Weighting	Maximum Marks	Minimum Marks 50%
	10%	1000	500
Title	Proposed Methodology, Programme for Delivery, Installation & Staff Training		
Description	Tenderers must demonstrate a clear, practical and achievable methodology and programme for the delivery, installation, commissioning and staff training associated with the proposed solution. Tenderers must carefully review the requirements and specification set out in Appendix 1 and Section 2 of the RFT and ensure that their approach aligns with these requirements. The response MUST include: • The proposed delivery timeline, including lead times from order through to installation and commissioning. • Details of the delivery and logistics approach, including transport, handling, and relevant site considerations. • A description of the installation and commissioning process, including roles, responsibilities, and any site requirements. • Arrangements for calibration, testing, and validation to confirm the system is fully operational.		

	• Details of project management arrangements, including coordination, communication, and progress reporting. • Identification of key risks and mitigation measures associated with delivery and installation. • Details of training to be provided to ATU staff, including on-site training, user instruction, and access to supporting training materials. Responses must be limited to six (6) x A4 pages excluding graphics and images. Tenderers MUST use the Tender Response Document Provided to Respond to This Criterion. This criterion will be evaluated as a whole.		
Criterion D	Weighting	Maximum Marks	Minimum Marks 50%
	10%	1000	500
Title	Sustainability and Value Add Services		
Description	Tenderers MUST describe their approach to sustainability, innovation, and value-add services in the delivery of the contract and framework agreement. Tenderers should address the following in their response: • How sustainable practices will be applied to the delivery, installation, and operation of the system, including: ○ Efficient use of materials and functional inks ○ Management of consumables and waste (e.g. inks, cartridges, cleaning fluids) ○ Energy efficiency of the system during operation and standby • How the proposed system supports sustainable research practices, such as minimising material waste, enabling precise deposition, or supporting use of advanced or environmentally responsible materials. • Any innovative features or approaches that enhance performance, efficiency, or sustainability of the system in research setting. Any value-added services offered, including: • The nature of the service • The benefit to ATU’s research activities • The proposed timing for delivery Responses must focus on practical, system-specific measures relevant to the proposed solution, rather than general organisational sustainability policies. Responses must be limited to four (4) x A4 pages excluding graphics and images. Tenderers MUST use the Tender Response Document Provided to Respond to this Criterion.		

	This criterion will be evaluated as a whole.		
Criterion E	Weighting	Maximum Marks	Minimum Marks
	15%	1500	N/A
Title	Cost		
Description	Tenderers must complete the Pricing Schedule at Appendix 3 in full. Tenderers must then insert the TOTAL EVALUATION COST from Tab 1 of Appendix 3 into the Form of Tender below. The amount entered in the Form of Tender must exactly match the TOTAL EVALUATION COST calculated in Tab 1 of Appendix 3. The Tenderer's pricing submission must include all costs, charges, expenses, fees, duties, and other amounts associated with the delivery, installation, commissioning, training, warranty, and support requirements specified in the RFT. Where a discrepancy exists between the amount stated in the Form of Tender and the Pricing Schedule, the Contracting Authority reserves the right to seek clarification and/or determine the value to be used for evaluation in accordance with the provisions of the RFT. Failure to complete Appendix 3 in full or failure to insert the TOTAL EVALUATION COST in the Form of Tender may result in a tender being deemed non-compliant.		

Tenderers should ensure in their tenders that they provide detailed information in respect of all aspects of the framework award criteria as stated above. This will enable the awarding authority to assess fully the extent of their offers.

Tenderers **MUST** achieve a minimum score of 50% of the available marks under criterion A, B, C and D. to remain eligible in the competition. Failure to achieve the minimum threshold under any one of these criteria will result in the tender being excluded from the competition.

4.1 Methodology for calculating the Cost Score

The following formula will be applied to the cost score:

The lowest cost tender that also meets all the minimum requirements of the qualitative award criteria will receive the maximum score achievable under this criterion. The scores of the other valid tenders will be calculated using the following formula:

Lowest Cost from a Bona Fide tender	A
Cost for the tender being evaluated	B
Maximum Points available for Cost	C
Formula employed	$\frac{A \times C}{B}$

4.2 Methodology for scoring Qualitative Criteria

Score	Category	Description
90 – 100%	Exceptional	An exceptional response demonstrating extensive understanding offering full assurance to client – fully supported with no reservations.
80 – 89%	Excellent	An excellent response demonstrating excellent understanding offering assurance to client – fully supported.
70 – 79%	Very good	A very good response demonstrating very good understanding offering assurance to client – strongly supported.
60 – 69%	Good	A good response demonstrating good understanding offering assurance to client – well supported.
50 – 59%	Acceptable	An acceptable response demonstrating a minimum understanding offering assurance to client - satisfactorily supported.
Less than 50% is unacceptable and considered ineligible from further consideration		

Marks in the score ranges outlined above can be awarded where responses so merit additional marks.

Tenderers MUST achieve a minimum of 60% of the available marks under each of Criteria A, B, C, and D to remain eligible in the competition.

4.3 Post Tender Clarification

At the discretion of the Contracting Authority, tenderers may be invited, in writing, to clarify certain aspects of their tender, particularly where information or documentation to be submitted appears to be incomplete or erroneous. However, all such requests will be made in full compliance with the principles of equal treatment and transparency and avoid any distortion of competition.

4.4 Verification

Award of contract/membership of the framework may be subject to attendance at a verification meeting. It would be essential that the key personnel assigned to this framework should be available and present at this meeting. If required, tenderers will be notified of the date, time, agenda, and format for such meetings as soon as possible.

A visit to the tenderer's premises may be required to clarify any questions or queries regarding the tender offer.

4.5 Clarification of Abnormally Low Tenders

If the Contracting Authority considers the tender submission to be commercially unsustainable or otherwise problematic considering the tendered price or any other financial matter (including proposed indicative hours), the tenderer shall be invited to provide clarification to the

Contracting Authority in respect of all elements of the tender submission that the Contracting Authority deems relevant. Any failure to satisfactorily comply with such a request, or to satisfactorily address the Contracting Authority's concerns, may, at the discretion of the Contracting Authority, result in the elimination of the tender in question based on it being considered abnormally low.

4.6 Right to Confirm Suitability

Tenderers should note that the Contracting Authority reserves the right to confirm that the financial and technical capacity of the tenderer is valid and unchanged prior to the establishment of the framework and award of any contract.

5 Instructions for Tenderers

5.1 Closing Date for Tenders

The closing date for tender submission is specified on the title page.

It is the responsibility of the tenderers to ensure that their tender is complete and is uploaded by the designated deadline. Tenders that are received late or via other means will not be considered in this public procurement competition.

It is important to note that only persons who have downloaded and accepted a document can upload a submission.

5.2 Submission of Tenders

Submission of Tenders

The Contracting Authority is using the post-box facility on eTenders, and tender responses must be submitted electronically via the eTenders post-box facility on www.etenders.gov.ie only. Only tenders submitted to the electronic post-box will be accepted. Tenders submitted by any other means (including but not limited to by email, post, or hand delivery) will not be accepted.

Tenderers must ensure that they give themselves enough time to upload and submit all required documentation before the closing date/time noting the use of the new eTenders platform. Tenderers should consider the fact that upload speeds vary. In order to submit a response to the electronic post-box, please note that you must ensure you have submitted the response completely. It is advisable to familiarise yourself with the new platform prior to the closing date.

Below we provide an overview of the key steps. Please note that the Contracting Authority take no responsibility for these steps being the totality of the steps required as different processes may require different actions.

If in doubt, please ensure you contact the eTenders helpdesk as follows:

Email: irish-eproc-helpdesk@eurodyn.com

Phone: +353-818001459

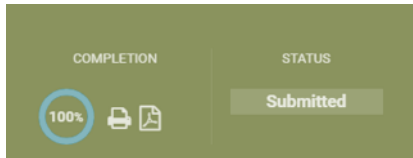
Accessing documents

It is important to note that you must ensure you ASSOCIATE your company with this competition in the first instance. To do this you must do the following:

- (a) Log-in to the system
- (b) Locate the competition using the Advanced Search by Contracting Authority or Resource ID
- (c) Click on the hyperlink for the competition which will bring you to the CfT Workspace
- (d) In the Show CfT Menu for the competition click on the “Expression of Interest” in the drop-down menu
- (e) Complete the “Association with the CfT” tab.
- (f) This will then provide you with a link to “Tender” under the Show CfT Menu

Submitting your Response

In responding to a competition without an electronic ESPD, a number of steps are required. The final step involves clicking on a Submit button and receiving the following status:



If you do not receive a message similar to above, you have not submitted your response.

Please note that the screen may say OFFLINE, this is a technical feature of etenders and does not mean you cannot submit. Also please note you may see the percentage field also saying 100% before you submit, this still requires you to go through the submit button.

Please upload your response as a ZIP FILE to protect the integrity of the file names.

It is the responsibility of the Tenderer to ensure that their tender is complete and is uploaded in accordance with the instructions provided on eTenders prior to the deadline as per the front page.

5.3 Queries

The closing date for submitting queries is specified on the title page.

All queries regarding this tender should be through the messaging facility on www.etenders.gov.ie, including any omissions which would prevent tenderers from submitting a comprehensive tender. Please submit queries as soon as possible.

In circulating responses, queries will be edited to avoid disclosing the identity of the querist and will be circulated to all parties who have expressed an interest in the procurement on the eTenders website.

5.4 Extension of the Tender Deadline

The Contracting Authority reserves the right, at its sole discretion, to extend the closing date for receipt of tenders by giving notice in writing (by post or electronic means) to all parties who have expressed an interest in the notice via eTenders no later than six days before the original closing date.

Tenderers will be responsible for any costs incurred by them in the event that they are required to attend clarification or other meetings or make a presentation of their proposals.

5.5 Tender Validity Period

To allow sufficient time for tender assessment a tender validity period of 12 months is required, this period commencing on the closing date by which the tenders are to be returned.

5.6 Discrepancies between Documents

A pdf version of the Request for Tender has been made available on eTenders. This document will be considered as the primary source document in this procurement process, word versions of documents where they are provided are being made available to assist tenderers in responding to the tender competition. Where there is a discrepancy between a pdf version and a word version, the pdf version will take precedence. Tenderers are requested to notify the Contracting Authority immediately of any anomaly. Where applicable the Contracting Authority will issue amended versions.

5.7 Formatting of Tenders / Amending Tender Documents

Tenderers must ensure they use the Tender Response Document (TRD) when preparing their submission.

Tenderers are prohibited from amending any text or content of forms or declarations or templates provided as part of this tender competition in their tender responses. Where amendments have been identified, the Contracting Authority may at its discretion eliminate the tenderer from further consideration. Likewise, failure to use the template documentation provided particularly in relation to costing / pricing may result in tenders being eliminated.

5.8 Collusive Tendering

If any tendering Party is found to have, at any time, offered to give or to have agreed to offer or give to any person, any bribe, gift, gratuity, commission or consideration of any kind as an inducement or reward for taking or forbearing to take any action in relation to the obtaining of its tenders, or for showing or forbearing to show any favour or disfavour to any person in relation to its tenders, the bid submitted by such tendering party shall be automatically disqualified and the circumstances surrounding such action shall be referred to the appropriate authority.

5.9 Confidentiality

After the official opening of tenders, information relating to the examination, clarification, evaluation and comparison of tenders and recommendations will not be disclosed to tenderers or other persons not officially concerned with such process until the award decision with the successful tenderer has been announced and in conformity with national laws.

Tenderers shall treat the details of all documents supplied to them in connection with this contract as private and confidential and shall not disclose the contents to a third party without the permission of the Contracting Authority.

Any effort by the tenderer to influence the Contracting Authority or their staff in the process of examination, clarification, evaluation, and comparison of tenders and in decisions concerning the award of the contract may result in the rejection of that tender.

5.10 Clarification of Tenders

The Contracting Authority is entitled, but not obliged, to seek clarification of tenders, including pricing breakdowns in the course of the evaluation process. No change in the price or substance of the tender shall be sought, offered, or permitted. To assist in finalising the tender evaluation, selected tenderers may be invited to attend clarification meetings with the Contracting Authority.

5.11 Correction of errors

Detailed pricing of all tenders will be examined for errors that might alter the tender pricing as determined from the figures on the tender form or as between the hard copy and electronic versions of the tender (if applicable). In general, the following approach will be applied to manifest errors - where there is a discrepancy between the unit price and the total amount derived from the multiplication of the unit price and the quantity, the unit price as quoted will normally govern.

The amount stated in the tender form will be adjusted by the Contracting Authority in accordance with the above procedure and, with the agreement of the tenderer, shall be considered as binding upon the tenderer. Without prejudice to the above, a tenderer not accepting the correction of their tender as outlined may have their tender rejected.

Where the Total Quote function has been activated on eTenders and a discrepancy arises between the amount in the Total Quote box and the tender submission, the amount in the tender submission shall take precedence.

5.12 Change in the composition of a Tender

Where a change in composition of a tender arises, this must be notified in writing to the Contracting Authority and formally approved by them.

The Contracting Authority reserves the right, but is not obliged, to disqualify any tenderer that makes any change to its composition after submission of a tender.

5.13 Interference and Inducement to Purchase

Any effort by the tenderer to unduly influence the Contracting Authority, relevant agency personnel or any other relevant persons or bodies in the process of examination, clarification, evaluation, and comparison of tenders and in decisions concerning the Award of Contract shall have their tender rejected. The presumptions (including as to any gift, consideration, or advantage) and other provisions under the Criminal Justice Act 2018, and all other measures for the time being governing the subject-matter in any applicable jurisdiction, shall be applicable.

5.14 Conflict of Interest

Any conflict of interest involving a tenderer (or tenderers in the event of a consortium bid) must be fully disclosed to the Contracting Authority. Any registrable interest involving the tenderer and the Contracting Authority or employees of the Contracting Authority or their relatives must be fully disclosed in the tender submission or should be communicated to the Contracting Authority immediately upon such information becoming known to the tenderer, in the event of this information only coming to their notice after the submission of a bid and prior to the award of the contract. Failure to disclose a conflict of interest may disqualify a tenderer or invalidate an award of contract, depending on when the conflict of interest comes to light.

5.15 Publicity

Tenderers shall not undertake (or permit to be undertaken) at any time, whether at this stage or after the award of the contract, any publicity activity with any section of the media in relation to this tender/agreement other than with the prior written consent of the Contracting Authority. Such consent shall extend to the content of any publicity. For the purposes of this paragraph, the

word “media” includes (but is not limited to) radio, television, newspapers, trade and specialist press, the Internet and email, accessible by the public at large and the representatives of such media.

The Contracting Authority will have the right to publicise or otherwise disclose to any third-party information regarding this process and the agreement.

5.16 Right Not to Award

The Contracting Authority does not bind itself to accept the most economically advantageous tender or any tender. It also reserves the right to accept or reject in whole or in part any or all tenders received, and, in particular, to source the requirement with more than one service provider.

The Request for Tender is issued in good faith; however, the Contracting Authority at its sole discretion shall not be obliged to award a contract or proceed to further stages in the procurement process and reserves the right to cancel the procurement process.

5.17 Notification of Tender Evaluations

All tenderers will be informed of the outcome of their tenders following tender evaluation and any necessary clarifications.

Potential outcomes can be:

- Establishment of Framework/Award of Contract
- Letter of Regret
- Decision not to proceed with the establishment of the Framework

The following information will be provided in the Letter of Regret – name of successful tenderer designate; the applicable standstill period (for EU tenders only); scores of tenderer being notified and that of the successful tenderer; the features and characteristics of the successful tenderer where they scored higher marks in specific criteria.

In the case of EU tenders only, the Contracting Authority will undertake not to award the contract for a period of at least 14 (or whatever period is stated in the notification letters) days from the date of notification of unsuccessful tenderers (‘standstill period’).

5.18 Award Notices

Following the award of contract, an award notice will be dispatched to the Official Journal of the European Union announcing the results of the competition. It should be noted that it is standard practice for the Contracting Authority to include the price of the winning tender or the range of prices of tenders received in the publication of the award notice as required under European procurement rules.

5.19 Policy on Personal Debriefings

Based on the provision of the information to unsuccessful tenderers as outlined above and due to resourcing constraints, the Contracting Authority will not be offering individual debriefing meetings to unsuccessful bidders.

5.20 Copyright

The Contracting Authority will have copyright ownership of any material developed for use by the Contracting Authority under the terms of this tender. The service provider may have a non-exclusive license to use such material but only for its own purposes (to be agreed with the successful tenderer).

5.21 Brand Names, etc.

Please note in relation to this tender document; where reference is made to a particular make, source, process, trademark, type, or patent, that this is not to be regarded as a de facto requirement. In all such cases it should be understood that the reference in question is accompanied by the words "or equivalent."

5.22 Environmental Aspects

The Contracting Authority is committed to the principles of environmental management in its activities and it encourages the implementation of sustainability principles in its procurement practices and throughout the delivery of all contracts.

5.23 Knowledge and Skills Transfer

It will be a condition of the contract that opportunities for the transfer of skills and/or knowledge from the successful tenderer's staff to the Contracting Authority staff will be availed of during the course of the contract or prior to the handing over of the finished work/product.

5.24 Currency and Payments

The currency and invoices in which all prices and rates shall be tendered, and which payments under the contract will be paid, shall be euro (€).

All prices and rates quoted should be on the basis of both VAT exclusive and VAT inclusive costs, clearly identifying the applicable rate of VAT.

A schedule of payments will be agreed with the successful tenderer and invoices shall be submitted in accordance with the terms agreed with the Contracting Authority.

5.25 Irish Legislation and Law

Tenderers should be aware that national legislation applies in other matters such as Employment, Working Hours, Official Secrets, Data Protection and Health and Safety. Tenderers must have regard to statutory terms relating to minimum pay and to legally binding industrial or sectoral agreements in the Contracting Authority tenders and in delivering contracts awarded to them. The contract(s) awarded on foot of this tender process will be governed by Irish law.

5.26 Anti-Competitive Conduct

Tenderers should take notice of the Competition Act 2002 (as amended, the "2002 Act"), which makes it a criminal offence for tenderers to collude on prices or any other aspects relating to this procurement competition.

5.27 Accessibility / Dignity at Work

The successful tenderer(s) shall comply with all relevant legislation relating to dignity at work. As a public body and employer, the Contracting Authority is committed to a policy of equality of opportunity for all personnel.

In line with the Disability Act 2005, accessibility requirements should be clearly stated in request for tenders / quotations where applicable. Under Section 27 of the Act the Contracting Authority is required to ensure that both the goods supplied, and services provided to it are accessible to persons with disabilities.

5.28 Withholding Tax

Where applicable, payments shall be subject to Irish 'Professional Services Withholding Tax' at the prevailing rate (currently at 20%) as laid down by the Revenue Commissioners in Ireland. Non-residents may be able to reclaim such deducted Tax from the Office of the Revenue Commissioners in Ireland, International Claims Section located currently at Government Buildings, Nenagh, Co. Tipperary, Ireland (Tel: +353 (0) 67 63400).

5.29 Freedom of Information

All responses to this Request for Tender will be treated in confidence and no information contained therein will be communicated to any third party without the written permission of the tenderer except insofar as is specifically required for the consideration and evaluation of the response or as may be required under law, including the Freedom of Information Act 2014, EU and Irish Government Procurement Procedures, or in response to questions, debates or other parliamentary procedures in or of the Oireachtas (the Irish Parliament).

Tenderers are asked to consider if any of the information supplied by them in response to this request for tenders should not be disclosed because of its sensitivity. However, any blanket or all-encompassing request for exemption from disclosure is not acceptable; tenderers must identify explicitly any such information and give relevant reasons for considering it to be economically sensitive or confidential in nature. If this is the case, tenderers should specify the information that is sensitive and the reasons for its sensitivity. The Contracting Authority cannot guarantee that any information provided by tenderers, either in response to this tender or in the course of any contract awarded as a result thereof, will not be released pursuant to the Contracting Authority's obligations under law, including the Freedom of Information Act 2014, or to those under EU and Irish Government Procurement rules. The Contracting Authority accepts no liability whatsoever in respect of any information provided which is subsequently released, or in respect of any consequential damage suffered as a result of such disclosure.

5.30 Late Payment

The Contracting Authority operates in accordance with EU Directive 2011/7/EU on combating Late Payment in commercial Transactions transposed into national legislation as S.I. 580 of 2012 and amended by S.I. No. 281 of 2016.

5.31 Data Protection

"Data Protection Laws" means all applicable national and EU data protection laws, regulations and guidelines including but not limited to Regulation (EU) 2016/679 on the protection of natural

persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (the “General Data Protection Regulation”), the Data Protection Act, 2018 and any guidelines and codes of practice issued by the Data Protection Commission or other supervisory authority for data protection in Ireland from time to time.

The Contracting Authority will be a Controller (where Controller has the meaning given under the Data Protection Laws) in respect of any Personal Data (where Personal Data has the meaning given under the Data Protection Laws) required to be provided by the tenderer in response to this Request for Tender.

The tenderer, as Controller in respect of any Personal Data provided by it in its Tender, is required to confirm by way of statement in the “Declarations” section of the accompanying Tender Response Document that all Data Subjects (where Data Subject has the meaning given under the Data Protection Laws) whose Personal Data is provided by the tenderer have consented to the processing of such Personal Data by the tenderer, the Contracting Authority, the Evaluation Team and the supplier of the eTenders website, for the purposes of the participation of the tenderer in this Competition or that the tenderer otherwise has a legal basis for providing such Personal Data to the Contracting Authority for the purposes of its participation in this Competition.

5.32 Responsibility of Successful Party

As a condition of award, it shall be the successful tenderer’s sole responsibility to ensure they have taken account of all obligations under the Contract including factors which might arise based on the withdrawal of the United Kingdom from membership of the EU.

6 Appendix 1 Lot 1 Multi Material DoD Inkjet 3D Printing system - Specification of Requirements

6.1 Lot 1 Multi Material Drop-On-Demand (DoD) Inkjet 3D Printing System

This specification outlines the minimum technical and functional requirements for a multi-material Drop-on-Demand (DoD) inkjet 3D printing system.

The system is intended to support advanced research in manufacturing, smart materials, biomedical engineering, pharmaceutical processes, and functional coatings. The requirements reflect the need for a flexible, high-precision, and open research platform capable of handling a wide range of functional inks and materials.

The system will be installed in dedicated research laboratory G0030 at ATU. A compact bench-top or small floor standing system (footprint within 1m x 1m) is needed. The printer itself does not require a dedicated extraction. Appropriate ventilation arrangements will be made by ATU.

All requirements identified as Mandatory (M) represent the minimum acceptable standard. Tenderers must demonstrate full compliance with these requirements. Any tender that does not meet one or more mandatory requirements will be deemed non-compliant and will be excluded from further evaluation.

Where Desirable (D) requirements are specified, these represent enhanced functionality or capability beyond the minimum requirements. Failure to meet a Desirable requirement will not result in exclusion from the competition. Tenderers should clearly identify any Desirable requirements satisfied by the proposed solution.

Key:

- **M** = Mandatory Requirement
- **D** = Desirable Requirement

Tenderers not meeting the mandatory requirements will be eliminated from the competition.

6.2 General Requirements for the Multi Material DoD Inkjet 3D Printing System

The multi-material Drop-on-Demand (DoD) inkjet 3D printing system **MUST** be suitable to support advanced research in:

- Advanced manufacturing
- Smart materials
- Biomedical engineering
- Pharmaceutical
- Biosensors
- Functional coatings

The system **MUST** provide a flexible, open, high-precision research platform capable of:

- Multi-material printing
- Handling a wide range of functional inks
- Supporting heated materials including waxes and phase-change materials
- High-accuracy gantry motion
- Supporting real-time droplet visualisation and optimisation

The proposed system must be a currently supported production model. Tenderers MUST identify the exact make and model proposed. References to product families, series, platform names, or equivalent products will not be accepted.

6.3 Functional Requirements

6.3.1 Multi-Material Printing Capability (M)

The system MUST:

- The system MUST have at least two independently controllable dispensing unit (printheads and/or dispensing heads).
- The system should support expansion to multiple independently controllable dispensing units to support future research.

6.3.2 Droplet Generation Performance (M)

The system MUST:

- Provide digitally actuated droplet formation with fully programmable waveforms.
- Support droplet volumes from picolitre to sub-microlitre range.
- Allow full programming and modification of actuation waveforms, including:
 - o Amplitude
 - o Dwell time
 - o Rise/fall profiles
 - o Multi-pulse sequences
- Provide independent waveform control for each printhead.

The system MUST NOT:

- Restrict access to waveform parameters.
- Impose proprietary limitations on actuator control.

6.3.3 Ink Compatibility (M)

The system MUST:

- Be capable of supporting a wide viscosity range from low-viscosity liquids to high-viscosity functional inks.

Tenderers MUST:

- State the minimum and maximum supported viscosity ranges at operating temperature.
- Identify any limitations associated with specific printhead configurations.

Tenderers MUST provide:

- Provide a full list of available printhead options and ink types
- Specify supported viscosity ranges.
- Detail material compatibility (e.g. solvents, aqueous, nanoparticle dispersions, waxes/PCMs)
- Describe any operational limitations.

6.3.4 Heated Ink Cartridge for Wax/Phase-Change Materials (M)

The system MUST either include, or be capable of being upgraded to include:

- Be capable of supporting at least one actively heated ink delivery module, either as part of the initial configuration or as an upgrade/add on within the terms of the framework agreement.
- Be capable of temperature control from ambient up to $\geq 55^{\circ}\text{C}$. (Higher temperatures are desirable.)
- Maintain temperature stability of $\pm 1^{\circ}\text{C}$ or better.
- Ensuring stable rheological behaviour during printing.

6.3.5 Drop-Watching and Jetting Visualisation (M)

The system MUST either include or be capable of being upgraded to include:

- An integrated real-time droplet observation system for tuning and optimisation. The specific imaging method (e.g. strobe LED, pulsed laser) is at the vendor's discretion. Tenderers should state their system's achievable pixel resolution and demonstrated volume/velocity measurement accuracy or repeatability.
- High-resolution imaging of droplets in flight, from at or near the point of ejection at the nozzle through a sufficient downstream distance to characterize droplet shape, velocity, and trajectory.
- The system MUST have the capability to provide droplet analysis outputs including:
 - Measurement of:
 - Droplet shape
 - Velocity
 - Volume
 - Satellite formation
- The system MUST allow full access to:
 - Raw data
 - Processed data

- Export in standard, non-proprietary formats

6.3.6 Open, Refillable, and Reusable Ink Cartridges (M)

The system MUST:

- Use fully refillable and reusable ink-wetted components:
 - Cartridges
 - Reservoirs
 - Nozzles
 - Connectors
- NOT rely on:
 - Proprietary single-use ink cartridges

The system MUST provide:

- Full user access to cleaning, purging, and refilling of ink paths
- Documented cleaning procedures and recommended solvents
- Wetted materials that are chemically compatible with a wide range of inks

6.4 Mechanical and Motion System Requirements (M)

Mandatory:

The system MUST:

Provide XYZ travel at least $\geq 200 \text{ mm} \times 100 \text{ mm} \times 20 \text{ mm}$. Larger travel ranges and/or additional clearance in the Z-axis direction are desirable for thicker substrate fixtures.)

Tenderers MUST specify:

- The available travel range for each axis.
- Any additional clearance available in Z-axis.

The System MUST Achieve:

- Accuracy: $\pm 25 \text{ }\mu\text{m}$ or better
- Repeatability: $\pm 5 \text{ }\mu\text{m}$ or better

Tenderers MUST specify system resolution for all motion axes.

The system MUST support:

- Point-to-point motion
- Vector-based motion.
- Continuous path printing

Desirable:

It is desirable that the proposed solution SHOULD:

- Support 5-axis printing
- Achieve print speeds greater than >100 mm/s. A higher speed is preferred.

6.5 Software Requirements (M)

The system **MUST** include software capable of:

- Controlling:
 - Motion axes
 - Printheads or dispensing heads
 - Substrate Temperature
 - Environmental modules
- Importing CAD/vector formats (e.g., DXF)
- Supporting scriptable and automated workflows
- Integrating with camera systems for alignment and monitoring

Tenderers **MUST** provide:

- Operating system requirements.
- Network requirements (if applicable).
- Data storage requirements.
- Backup and recovery.
- Third party software dependencies
- Cyber and Data Protection Protocols under Irish and EU Law where applicable.

6.5.1 Software Licensing and Updates (M)

All software and firmware associated with the system **MUST**:

- Be supplied with perpetual licences.
- Be fully included in the total system cost.
- Not require recurring licence fees for core functionality

The supplier **MUST**:

- Provide software updates, bug fixes, and security patches for the duration of the warranty and any support/maintenance agreement.
- Ensure that all updates are provided at no additional cost during this period.
- Demonstrate ongoing software development and support, including mechanisms for updating deployed systems.

6.5.2 Cyber Security and Compliance (M)

The Tenderer **MUST** ensure that:

- All software and firmware are maintained in a secure state.

- Security patches and updates are provided promptly.

The system **MUST** comply with applicable:

- EU cybersecurity requirements
- Data protection legislation (e.g., GDPR where applicable under Irish and EU law)

The system **SHOULD**:

- Support secure update mechanisms.
- Avoid known vulnerabilities in third-party software components.

6.6 Environmental Control and Substrate Handling (M/D)

Mandatory:

The system **MUST** include:

- Suitable Substrate fixtures where applicable:
 - Slide holders
 - Well-plate holders
 - Vacuum clamping platform
- Substrate heating $\geq 80^{\circ}\text{C}$
- Printhead cleaning and maintenance capability (e.g. integrated washing station, automated maintenance station, or equivalent cleaning solution).

Tenders MUST specify:

- Operating temperature range.
- Storage temperature range.
- Relative humidity requirements.
- Any vibration or environmental sensitivity considerations.

Enhanced Capability (D)

The system **SHOULD** support:

- Humidity control
- Ionisation
- Laminar flow and/or HEPA filtration

6.7 Accessories and Ancillary Equipment (M)

The system **MUST** include:

- Printhead mounting mechanisms.
- A safety enclosure or hood
- A suitable system frame or support structure

The system SHOULD include a starter kit sufficient to enable immediate installation, commissioning, and operation.

The starter kit SHOULD include:

- Initial set of printheads and/or nozzles as needed for operation.
- Refillable ink cartridges or reservoirs
- Cleaning and purging consumables
- Recommended solvents and cleaning fluids for supported ink classes
- Basic test inks or standard reference fluids (where applicable)
- Calibration substrates (e.g. glass slides or equivalent)
- Essential maintenance tools and consumables

The tenderer MUST:

- Provide a detailed list of supplied and add-on accessories, starter kit contents, and consumables.
- Identify any consumables or replacement parts required for operation.
- Specify expected service life and replacement intervals of consumables and wear components.
- Provide pricing for replacement consumables in appendix 3 pricing schedule for the Multi-Material Drop-on-Demand (DoD) Inkjet 3D Printing / Deposition System maintenance items, and spare parts.

6.8 Safety and Regulatory Requirements (M)

The system/solution MUST be designed to operate safely within a research laboratory environment without introducing unacceptable risks to personnel, facilities, or the environment.

6.8.1 Regulatory Compliance (M)

The Multi-Material Drop-on-Demand (DOD) Inkjet 3D Printing System MUST be CE marked and comply with all applicable European Union directives, regulations, and harmonised standards in force at the time of supply.

As a minimum, the system MUST comply with:

- Machinery Directive 2006/42/EC (or applicable Machinery Regulation).
- Low Voltage Directive (LVD) 2014/35/EU.
- Electromagnetic Compatibility (EMC) Directive 2014/30/EU.

The supplier MUST provide, with their tender submission:

- An EU Declaration of Conformity for the proposed system, or, where it is not available at tender stage, a written commitment that value EU Declaration of Conformity be provided within 7 days upon request by Contracting Authority.

- Relevant certification and test reports demonstrating compliance with applicable EU requirements and standards.
- Details of the standards to which the equipment has been tested and certified.

Failure to provide adequate evidence of compliance may result in the tender being deemed non-compliant.

6.8.2 System Enclosure and Operator Protection (M)

The system MUST:

- Include appropriate guarding or enclosure to prevent operator exposure to moving parts, heated components, and ink delivery systems.
- Provide safe access to working areas during setup and maintenance.
- Incorporate interlocks where access to hazardous areas is possible.
- Ensure safe containment of inks and fluids during operation.

6.8.3 Hazardous Material and Thermal Safety

The system MUST:

- Safely manage functional inks, including solvents, nanoparticle dispersions, and heated materials (e.g. waxes and phase-change materials)
- Include appropriate safeguards for heated components provided with the system.
- Minimise risk of leakage, spillage, or exposure to hazardous substances.

Where applicable, the tenderer SHOULD:

- Provide guidance on the safe use of solvent based inks including any ventilation or extraction requirements.

6.8.4 Emergency and Safety Systems (M)

The system MUST include:

- Emergency stop (E-stop) functionality accessible to operators
- Fault detection and safe shutdown capability
- Visual and/or audible warning indicators for system status and faults.

6.8.5 Electrical and Mechanical Safety (M)

The system MUST:

- Ensure all electrical systems are safely enclosed and compliant with relevant standards.
- Provide guarding for moving components.
- Be safe under normal operation, maintenance, and reasonably foreseeable misuse.

6.8.6 Ventilation and Emissions Control (M/D)

Mandatory:

- The system **MUST** be compatible with standard laboratory ventilation systems and enable safe operation with aqueous and solvent based inks.

Desirable:

It is desirable that the solution:

- Integrated filtration or localised extraction support
- Reduced reliance on external extraction systems

6.8.7 Safety Documentation and Associated Documents (M)

The supplier **MUST provide:**

- Full safety documentation in English
- Risk assessments and hazard identification.
- Safe operating procedures
- Installation and maintenance safety instructions

6.9 Delivery, Installation, Commissioning, Training, Warranty and Support Requirements

6.9.1 Delivery

The equipment **MUST** be delivered to the following location:

Laboratory G0030, First Floor
Business Innovation Centre (BIC)
Atlantic Technological University (ATU)
Ash Lane
Sligo
F91 YW50
Ireland

Delivery **MUST** be on a Delivered Duty Paid (DDP) basis and must include all associated costs, including transportation, insurance, customs clearance, and delivery to the final installation location.

Delivery **MUST** include off-loading, unpacking, positioning, assembly, and placement of the system in the designated location.

Any omissions will be deemed the responsibility of the tenderer and must be rectified at no additional cost.

6.9.2 Installation and Commissioning

All installation work must comply with applicable European health and safety regulations. Commissioning must include:

- System setup and configuration.
- Verification of system performance.
- Calibration and testing, where applicable.
- Demonstration of full operational capability.

6.9.3 Training and Documentation

The supplier MUST provide appropriate on-site/ or remote training covering up to eight (8) users nominated by ATU.

- Full system operation and software use
- Calibration and tuning of printheads.
- Handling of functional inks, including waxes and phase-change materials
- Use and maintenance of accessories and environmental modules
- Cleaning, maintenance, troubleshooting, and record management

The supplier MUST provide:

- User manuals
- Maintenance documentation
- Installation and commissioning documentation.
- Access to online training resources, user documentation updates, and technical support.
- Provide refresher training remote or on-site following installation, where needed.

6.9.4 Warranty

The system MUST include a minimum comprehensive warranty period of 24 months from successful commissioning and acceptance.

Longer warranty periods are desirable and should be clearly stated.

The warranty must include:

- Parts
- Labour
- Call-out charges.
- Travel costs

The tenderer MUST clearly define all inclusions and exclusions of the warranty.

Warranty services must be provided without additional cost for labour or parts during the warranty period.

6.9.5 Maintenance and Service (M)

The Tenderer MUST provide:

- Maintenance schedules and service intervals

- Consumables list with expected lifetimes and costs
- Mean Time Between Failure (MTBF) where available, for key components/Data
- Service contract options.
- Remote support response times
- On Site support response times
- Escalation Procedures
- Availability of loan equipment or alternative support arrangements where applicable.

6.9.6 Spare Parts (M)

The Tenderer MUST provide:

- A list of spare parts
- Confirmation of availability for a minimum of 7–10 years
- Typical lead times and replacement costs

6.9.7 Operational Costs (M)

The Tenderer MUST provide:

- Energy consumption estimates
- Ink consumption estimates for calibration and purging.

6.9.8 End-of-Life Disposal (M)

The supplier MUST provide:

- Disposal procedures
- WEEE compliance details
- Information on recyclability
- Guidance on decommissioning and handling of hazardous materials

6.9.9 Consumables and Reusability (M)

The supplier MUST clearly state:

- Whether printheads, dispensing heads, cartridges, reservoirs, and other wetted components are reusable, cleanable, repairable, or disposable.
- Any recommended cleaning procedures when switching between different ink formulations.
- Any ongoing costs associated with consumables or replacements.

6.10 Sustainability, Logistics and Site Requirements

6.10.1 Sustainability and Environmental Responsibility

The tenderer MUST demonstrate consideration of environmental impacts associated with the manufacture, delivery, installation, and operation of the system.

The system should be designed to minimise environmental impact where possible, including efficient use of energy and materials.

The tenderer MUST ensure that materials, components, and processes used in the supply of the system comply with applicable environmental regulations.

6.10.2 Packaging and Waste Management

The tenderer MUST be responsible for the proper handling and disposal of all packaging materials associated with the delivery and installation of the system.

Packaging MUST be minimised where possible and should be recyclable or reusable.

The tenderer MUST remove all packaging and associated waste from site following delivery and installation unless otherwise agreed.

6.10.3 Delivery and Site Access

The tenderer MUST ensure that delivery, installation, and removal of packaging are conducted in a controlled and safe manner.

The tenderer MUST be responsible for ensuring that all delivery routes, access requirements, and installation constraints are identified in advance.

The tenderer MUST coordinate delivery and installation activities with the Contracting Authority to ensure minimal disruption to site operations.

6.10.4 Access Equipment and Installation Resources

The tenderer MUST provide all equipment required to deliver and install the system safely, including any specialist access or lifting equipment where applicable.

The tenderer MUST not rely on the use of equipment owned by the Contracting Authority unless explicitly agreed in advance.

The tenderer MUST ensure that:

- All lifting and access equipment is suitable for the intended use.
- All equipment complies with relevant health and safety regulations.
- All operators of such equipment are appropriately trained and certified.

6.10.5 Site Safety and Compliance

The tenderer MUST ensure that all activities conducted on site comply with applicable health and safety legislation.

The tenderer MUST provide:

- Risk assessments
- Method statements
- Evidence of relevant insurance cover

6.11 Optional Modules (D)

In pricing schedule three (3) Tenderers should identify and provide pricing for any optional modules or future upgrade options compatible with the proposed system, where available.

- Additional printheads
- Additional nozzles or printhead configurations for higher throughput.
- Extended gantry travel
- Recirculating printheads
- Full environmental enclosures
- Automated droplet analysis and print optimisation systems.
- Additional substrate cooling modules.
- Vacuum degassing equipment or compatible ink preparation systems for removal of entrapped air prior to printing (where available or recommended)

Tenderers should clearly identify each option, confirm compatibility with the proposed system, and provide associated pricing.

6.12 Preventative Maintenance (M)

The Tenderer MUST provide a comprehensive preventative maintenance programme for the proposed system, including recommended service intervals.

All preventative maintenance costs must include labour, travel, replacement of standard wear components, and reporting.

The Tenderer must also provide details of routine operator maintenance requirements and recommended schedules.

Reactive support must include remote diagnostics during business hours and details of expected response times for remote support.

6.13 Site Visits

Site visits are not mandatory. Tenderers may request a site visit if they consider it necessary to understand the installation environment or access arrangements.

6.14 Contract Management

The Contracting Authority requires tenderers to nominate a dedicated contract manager who will act as the main point of contact for the duration of the framework. This person shall have the authority to deal with all matters in relation to contracts and be responsible for the satisfactory delivery of the supplies/services required. The duties of the contract manager will include the following:

- Overall responsibility for a good working relationship with the Contracting Authority
- Provide regular reports on performance as agreed with the Contracting Authority
- Meet as and when required to review and examine performance.
- Deal with disputes, complaints or concerns that cannot be adequately resolved.
- Proactively discuss with the Contracting Authority ways of improving efficiency regarding service delivery in general and providing suggestions for improvement and cost savings.

7 Appendix 2 - Lot 1 DoD System

Attached as a separate document.

8 Appendix 3 Pricing Schedule Lot 1

Attached as a separate document.

9 Appendix 4 Tender Response Document Lot 1

Attached as a separate document.

10 Appendix 5 Tenderers Statement Lot 1

Attached as a separate document

11 Appendix 6 Draft Framework Agreement, Goods Contract, and DPA Lot 1

Attached as separate documents.