

REQUEST FOR TENDER

SINGLE-PARTY FRAMEWORK AGREEMENT

Title:	Establishment of a Single Operator Framework Agreement for the supply, installation, and commissioning of a Multi-Metal Laser Directed Energy Deposition (DED) Additive Manufacturing System
Contracting Authority:	Atlantic Technological University
Procedure:	Open
eTenders/OJEU ref:	8658604
Issue Date:	15th July 2026
Closing Date for Queries:	7 th August 2026 17.00 Hours Local Time
Closing Date for Tender Submission:	17 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.

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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 an advanced additive manufacturing system to support research and development activities.

A framework agreement constitutes a means of establishing 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-Metal, Laser Directed Energy Deposition (DED) Additive Manufacturing 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-metal additive manufacturing and support both current and future research.

The framework will also cover associated services, including installation, commissioning, training, maintenance, warranty support and technical assistance. In addition, it shall provide for the future procurement of a broad range of supplementary elements, 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, enhance, maintain or expand the functionality of the system over its operational lifespan.

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 meet evolving research, operational and technological requirements over its duration.

2.2.2 The Initial Contract

The initial contract to be awarded under the framework will provide for the supply, delivery, installation, commissioning and validation of a Multi-Metal, Laser Directed Energy Deposition (DED) Additive Manufacturing System.

At a high level, the scope of the initial contract will include:

- Supply and delivery of the complete system and all required core components.
- Installation, commissioning, validation, and acceptance testing of the system.
- Provision of user training and all associated technical and operational documentation.
- Provision of initial warranty coverage, maintenance services, servicing arrangements and technical support.

Full details of the requirements are set out in:

Please refer to Appendix 1 – Detailed Specification of Requirements for Lot 1.

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.

The following list is indicative and non-exhaustive and is intended to illustrate the types of requirements that may arise during the term of the framework:

- 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.
- Calibration, testing, certification and performance verification services.
- Relocation, decommissioning, recommissioning, or reinstallation services.
- Additional equipment, technologies, capabilities, or enhancements intended to maintain, support, improve, or expand the functionality of the system.
- 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 €400,000.00 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:** €314,000.00 (inclusive of VAT and all costs associated with meeting the requirements of and delivering the initial contract)

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The above funding relates solely 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 €400,000 (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: €400,000.00 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 provide information clearly demonstrating successful delivery of two (2) previous comparable experience/projects, 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.

Award Criterion Lot 1: Multi-Metal, Laser Directed Energy Deposition (DED) Additive Manufacturing System			
Criterion A	Weighting	Maximum Marks	Minimum Marks 50%
	50%	5000	2,500
Title	The quality, technical merit, and suitability of the proposed solution for its intended research applications		
Description	Tenderers MUST demonstrate the quality, technical merit and suitability of the proposed Multi-Metal Laser Directed Energy Deposition (DED) Additive Manufacturing System for the intended research applications and clearly show how the proposed solution meets or exceeds the requirements set out in Appendix 1. Tenderers must provide sufficient technical information to enable the Contracting Authority to assess the proposed system's technical capabilities, functionality, performance characteristics and suitability for the research applications 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, bespoke technical specification of the proposed solution, including details of how the proposed solution addresses the requirements set out in Appendix 1 and Appendix 2. • Tenderers MUST clearly demonstrate how the proposed system supports multi-material deposition, in-situ alloying, process monitoring, and open research functionality, as outlined in Appendix 1. • Tenderers SHOULD clearly indicate any areas in which the proposed solution exceeds the minimum technical and functional requirements. • Images or diagrams of the proposed equipment. • Information on the safe operation of the system. • Details of care and maintenance, including routine and specialist servicing. • Model information, including when the system was introduced and any expected upgrade or replacement timeline. • Information on environmental considerations, including energy consumption, emissions (including noise), and any other relevant factors • Details of the system's safety features.		

	• Software, device interaction, and data processing capabilities. • Ancillary equipment, accessories, and available options. • Tenderers MUST confirm that the proposed system is CE marked, where applicable, and fully complies with all relevant EU directives, regulations, and harmonised standards. Evidence of conformity, including certification and declaration of conformity, must be provided. 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) A4 pages. Tenderers MUST use the Tender Response Document provided to respond to this criterion. Generic company brochures, marketing material 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%
	15%	1500	750
Title	Support, After Sales Service & Warranty		
Description	Tenderers MUST provide clear and detailed information on the support, after-sales service, maintenance and warranty arrangements available throughout the operational lifecycle of the proposed system. The response MUST include: • Customer support arrangements, including helpdesk access, hours and days of availability in Irish time (GMT/GMT+1), response times, and contact methods. Arrangements for support outside standard Irish working hours SHOULD also be clearly outlined. • Procedures for repair, maintenance, and breakdown support, including fault reporting processes, response times, resolution times, and availability of spare parts. • Details of preventative and corrective maintenance, including service schedules and any service level agreements (SLAs) where applicable. • Details of any ongoing, refresher, advanced or specialist training available following installation, and commissioning of the system. • Full details of the warranty, including duration, scope of coverage, exclusions, limitations, service arrangements during the warranty period, and any applicable conditions.		

	- Information on after-sales service arrangements, including technical support, remote diagnostics (where available), and escalation procedures, software updates (where applicable), and technical advisory services. - Details of the availability of spare parts, consumables and technical support form for the proposed system, including the anticipated period the support will remain available. Responses should be specific to the proposed solution and clearly demonstrate how the Tenderer will support ATU throughout the operational life of the system. Responses must be limited to six (6) A4 pages. This criterion will be evaluated as a whole. Tenderers must provide their response to this criterion solely within the Tender Response Document provided. Information contained in separate appendices, attachments, hyperlinks, brochures, marketing materials, or other documents will not be evaluated and will be disregarded for scoring purposes, unless expressly requested or explicitly permitted within the RFT.		
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 proposed delivery lead time, from placement of order through to installation, commissioning and operational handover. - An outline of the proposed project team and resources, demonstrating the Tenderer's capacity to deliver the project within the required timeframe. - The proposed approach to supply, delivery, installation and commissioning, including project management arrangements, progress reporting, communication protocols, and the management of risks and contingencies. - The proposed installation and commissioning arrangements, including any site , infrastructure and service requirements, and the respective responsibilities of the Tenderer and ATU. - The calibration, testing and validation processes to be applied, including any associated documentation, certification and records to be provided to ATU. - The arrangements for acceptance, validation and operational handover, including how compliance with ATU's requirements will be demonstrated. - The training to be provided to ATU staff, including training objectives, delivery method, duration, on-site training arrangements, training		

	materials, user documentation and any post-training support arrangements. Tenderers should ensure that the information provided is clear, structured, and specific to the proposed solution, and demonstrates a practical and achievable approach to delivery and implementation. Responses must be limited to six (6) A4 pages. This criterion will be evaluated as a whole. Tenderers must provide their response to this criterion solely within the Tender Response Document provided. Information contained in separate appendices, attachments, hyperlinks, brochures, marketing materials, or other documents will not be evaluated and will be disregarded for scoring purposes, unless expressly requested or explicitly permitted within the RFT.		
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 specifically to the delivery, installation, operation, maintenance and end-of-life management (where applicable) support of the proposed solution. • Any innovative approaches, technologies, methodologies or processes that will improve the delivery, performance, efficiency, effectiveness or user experience associated with the proposed solution. • Details of any additional services, benefits or enhancements offered at no additional cost to the Contracting Authority, including: • The nature of the service • The benefit to ATU • The proposed timing for delivery Responses should focus on practical, measurable and deliverable actions relevant to the delivery of the Contract and Framework Agreement, rather than general organisational policies, corporate statements or aspirations. Higher scores will be awarded to responses that demonstrate a clear, credible, and achievable approach to sustainability, innovation, and added value in the delivery of the contract. Responses must be limited to two (2) A4 pages.		

	This criterion will be evaluated as a whole . Tenderers must provide their response to this criterion solely within the Tender Response Document provided. Information contained in separate appendices, attachments, hyperlinks, brochures, marketing materials, or other documents will not be evaluated and will be disregarded for scoring purposes, unless expressly requested or explicitly permitted within the RFT.		
Criterion E	Weighting	Maximum Marks	Minimum Marks
	15%	1500	N/A
Title	Ultimate 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	A x C

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.

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

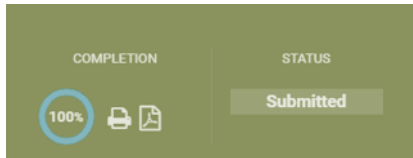
Accessing documents

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 Specification of Requirements

6.1 Scope of Requirement for the Initial Contract or Scope of Requirements under the Framework Agreement

The framework agreement will be established following this tender competition and will include the award of an initial contract. The initial contract will be awarded to the successful tenderer(s) shortly after the establishment of the framework.

6.1.1 Initial Contract

The initial contract will provide for the supply, delivery, installation, commissioning and validation of a:

- **Lot 1:** Multi-Metal Laser Directed Energy Deposition (DED) Additive Manufacturing System

The scope of the initial contract shall include, as a minimum:

- Supply and delivery of the complete system and all required core components.
- Installation, commissioning, and validation of the system.
- User training and provision of technical documentation.
- Provision of software licences needed for operation of the system.
- Warranty, maintenance, servicing, and technical support during the initial contract period.
- Any ancillary equipment, accessories or services needed to achieve full operational functionality in accordance with the Specification.

6.1.2 Scope of the Framework Agreement Lot 1

The Framework Agreement is intended to provide the Contracting Authority with ongoing access to equipment, goods and services associated with the operation, maintenance, enhancement, and future development of the system throughout the term of the Framework Agreement.

Accordingly, in addition to the initial contract, the Contracting Authority may award further call-off contracts under the Framework Agreement for requirements including, but not limited to:

- Additional system modules, components, upgrades, and enhancements.
- Software licences, updates, upgrades, and new functionality.
- Accessories, peripherals, and ancillary equipment.
- Maintenance, servicing, technical support, and extended warranty arrangements.
- Replacement parts and system consumables.
- Calibration, testing, and validation services.
- Additional training and consultancy services.
- System expansion, integration, or performance enhancement services.

Any other goods, works or services falling within the scope of the Lot 1 Framework Agreement and related to the operation, maintenance, or development of the system.

There is no guarantee that additional contracts will be awarded under the framework. However, where such requirements arise, contracts will be awarded in accordance with the terms and procedures set out in this Request for Tender.

6.2 Lot 1 – Multi- Metal Laser Directed Energy Deposition (DED) Additive Manufacturing System – Mandatory Technical and Functional Requirements

This specification outlines the minimum technical and functional requirements for a research-grade Multi-Metal Laser Directed Energy Deposition (DED) Additive Manufacturing System.

The system is intended to support advanced research and development activities, including (but not limited to) multi-material processing, alloy development, and innovative manufacturing approaches. As such, the requirements reflect the need for a high-performance, flexible, and open research platform.

All requirements identified as Mandatory (M) represent the minimum acceptable standard. Tenderers must demonstrate full compliance with these requirements. Any tender that fails to 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 reflect enhanced capabilities that support advanced research applications and may be considered during the evaluation process.

Key:

- **M** = Mandatory Requirement - (applies to both technical and functional requirements)
- **D** = Desirable Requirement - (applies to both technical and functional requirements)

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

6.3 General Requirements

The Tenderer MUST provide a Direct Energy Deposition Metal 3D Printer capable of printing six metal powders within the same build. Ideally, users can define printed components to be manufactured either as a single material, a combination of up to six materials with solid interfaces, or the six metals can be combined into a layer-by-layer gradient or uniquely alloyed for high entropy alloy research.

The system Must include a metal 3D printer using a high-power laser (minimum 700W laser power) to melt the metal as it is deposited to the layer wise printed component. The system MUST be capable of working with multiple metal materials in powder form. The machine must have user-programmable settings to control machine parameters on an as-needed basis alongside closed loop control.

This tender competition will consider metal additive manufacturing (AM) equipment that applies the following metal additive manufacturing technologies:

- Directed Energy Deposition (DED)
- Laser Metal Deposition (LMD)
- Or other similar approaches

Tenderers MUST clearly outline the proposed technology.

6.4 Lot 1 Multi-Metal Laser Directed Energy Deposition (DED) Additive Manufacturing System -Technical Requirements

6.4.1 System Type and Core Technology (M)

The system must be a Directed Energy Deposition (DED) metal additive manufacturing system using a high-power laser.

6.4.2 Laser Requirements (M/D)

Mandatory:

The system MUST:

- Provide a minimum laser power $\geq 500W$.
- Compliance with EN60825-1 laser safety standards

Desirable:

The system should:

- Provide laser power $\geq 700W$.
- Include adjustable beam diameter $\leq 400 \mu m$.

6.4.3 Powder and Material Requirements (M)

The proposed system MUST be capable of using metal build materials in powder form. It MUST also be compatible with other material suppliers (open platform), and the powder feedstock particle diameter usable MUST be between 45 and 150 μm .

The tendered system MUST be able to deposit six materials in the same build without the need to interrupt the process.

Powder feeding Must be possible without calibration or mechanical adjustment and the precision of the powder mixing and deposition should be noted. The system must be equipped with a means to avoid blockages in the feeding system.

The powder feeding rate MUST be 0.03 to 2g/min (using Ti-6Al-4V as the benchmark).

In addition to in-situ alloying, the system Must enable high entropy alloys (HEAs), functionally graded materials (FGMs), compositional gradients, metal matrix composites (MMCs), and dissimilar-metal joints.

The system Must include a powder calibration system and associated accessories.

6.4.4 Build Process Requirements (M)

The proposed system MUST use a layer-wise deposition process with a layer thickness capability of $150 \pm 50 \mu m$.

6.4.5 Material Compatibility (D)

The proposed system SHOULD process a range of engineering materials, including:

- Titanium alloys (Ti6Al4V)
- NiTi
- Stainless steels
- Nickel-based alloys (e.g. Inconel)
- Tool steels

The tenderer MUST provide:

- A full list of compatible materials (developed and in development)
- Details of any material limitations

6.4.6 Atmosphere Control (M/D)

The proposed system SHOULD use an inert gas supply to remove oxygen from the build environment. This can be either through the use of gas shielding or using an inert atmosphere through a build chamber purge. Ideally, both purge methods are available. The chamber Must have a class-1 leak rate that maintains O₂ levels ≤50ppm for high-quality metallurgy and print control.

Mandatory:

The system MUST have:

- Controlled atmosphere with oxygen levels ≤50 ppm

Desirable:

The system SHOULD have:

- Both inert gas shielding and chamber purge options

6.4.7 Build Volume and Motion (D)

The minimum build envelope SHOULD be at least 150mm x 150mm x 150mm.

The equipment SHOULD use a high-precision, 3-axis motion control for the precise deposition of the metal alloys during printing.

The build plate SHOULD have a preheating/ temperature control functionality to provide an insulating effect for high-temperature refractory-type metals. Note that it is acceptable for such a system to reduce the 150mm z- height requirement, such cases should be defined.

6.4.8 Safety and Enclosure (M)

Where the build volume has a view window, the safety cover & tinted glass/Perspex etc and the enclosure for the cabinet doors MUST be CE compliant for laser safety. The moving and hazardous components of the equipment (namely the laser head, powder feeding system and build volume MUST be fully enclosed (top, bottom, and sides) in a CE-compliant enclosure with appropriate interlocks for the equipment's safe functionality.

The enclosure MUST be sealed with a controlled atmosphere for optimised process control.

The system MUST:

- Be fully enclosed with CE compliance.
- Include interlocks, emergency stops, and laser-safe viewing protection.
- Ensure safe containment of hazardous components.

6.4.9 Physical and Space Requirements (M)

The maximum external system dimensions MUST not exceed 690mm * 690mm * 1400mm.

Note: This requirement applies only to the core system and does not include ancillary equipment or accessories such as chillers, vacuum units, gas supply equipment, extraction systems, or similar items.

The system weight SHOULD be no more than 300kg, excluding ancillary equipment accessories.

The overall operational footprint of the system, including required operator access, maintenance access, and any integrated accessories SHOULD not exceed 2000mm * 2000mm.

The overall installed height of the system, including light beacons, HMI arms, and any other attached components (where applicable), SHOULD not exceed 2200mm.

6.4.10 Electrical Requirements (D)

The system Should use a single-phase input voltage of 220 V, and a full load current not exceeding 15A.

7 Functional Requirements – Lot 1 – Multi-Metal Laser Directed Energy Deposition (DED) Additive Manufacturing System

7.1 Open System Access and Control (M)

The system MUST provide full open access to system parameters to allow work with new and non-OEM materials at zero cost to the Contracting Authority and MUST not be tied to proprietary build files requiring purchase from the Tenderer or any third party.

7.2 Post-Processing (M)

The built components from the proposed solution MUST not require de-binding, post-sintering or curing processes to make them serviceable.

7.3 Monitoring and Data Logging (D)

The proposed solution SHOULD be capable of monitoring and logging process data for each print for research and teaching purposes.

7.4 Expandability (D)

The system SHOULD be designed to allow the future integration of high-speed and/or thermal cameras, and other non-OEM process monitoring sensors for research purposes.

Where such integration has previously been achieved, Tenderers SHOULD give relevant examples.

7.5 Material Density (D)

Please provide the as-built densities achievable for each of the materials qualified for the equipment. The minimum allowable SHOULD be >96%.

7.6 Process Monitoring (D)

The system SHOULD have process monitoring capabilities. Example applications may include:

- Melt pool,
- laser power,
- O2 ppm, and
- Scan speed analysis from within the build volume.

These capabilities may be provided through integrated sensors and/or through the availability of process data.

Tenderers MUST detail all standard monitoring capabilities provided, and where optional extras are needed to meet this requirement, these MUST be identified and included in Appendix 3 Pricing Schedule.

7.7 Filtration (D)

The proposed system SHOULD have built in filtration for the exhaust air and minimise the need for external extraction.

8 Lot 1 – Software, Data and Control Requirements

8.1 Software Licensing and Updates (M)

All software, firmware and associated licences required for the full operation of the system MUST:

- Be supplied with perpetual licences.
- Be fully functional and unrestricted for the intended use of the system.
- Be included within the total tendered price.
- Include all licence fees necessary for installation, operation, maintenance, and administration of the system.

The Tenderer MUST provide evidence that the software platform is actively maintained and supported by the manufacturer. As a minimum, the Tenderer MUST provide evidence of software releases, updates, patches, enhancements, or version updates issued within the previous three years.

The Tenderer MUST provide all software updates, firmware updates, bug fixes, defect corrections, and security patches necessary to support the supplied system in a fully functional, secure, and supported state during the warranty and support period, at no additional cost.

Any defects or faults affecting the functionality, performance or security of the supplied hardware, software or firmware MUST be remedied by the Tenderer at no additional cost during the warranty and support period.

The Tenderer MUST ensure that all software and firmware are maintained in a secure state, including the prompt provision of security patches and updates to address known vulnerabilities, in accordance with applicable Irish and EU cybersecurity, information security, data protection and other relevant legislative requirements.

For the avoidance of doubt, new software modules, optional functionality, major software upgrades, hardware upgrades, accessories, and product enhancements released after contract award may be supplied at additional cost and may be procured through call-off contracts under the Framework Agreement.

8.2 Build Preparation and Control Software (M)

The system MUST be supplied with all required build preparation software and any other software required for operation of the equipment.

The system MUST include software for:

- Build preparation and positioning.
- Slicing and toolpath generation
- Process parameter control.
- Layer/ Part material composition.

The system **MUST** be supplied with at least two licence seats for the build preparation software and any other software required for operation of the equipment.

Typical capabilities should include:

- Single-line melt experimentation and control.
- Build positioning.
- Slicing of components
- Advanced use of lattices
- Support design
- Build simulation.

8.3 Software Capability (D)

It is desirable that the Software should support:

- Lattice structures
- Build simulation.
- Advanced process experimentation

The machine **SHOULD** have basic material parameter sets available. The supplier **SHOULD** detail and outline all material parameter sets provided.

8.4 Software Access and Data Export (M/D)

Mandatory:

The proposed solution **MUST** support:

- Data export functionality (e.g. CSV or equivalent)

Desirable:

The system **SHOULD**:

- Provide USB and/or Ethernet ports for data export.
- Support Ethernet and/or wireless connectivity.
- Enable export of process parameters (e.g. laser settings, material parameters)

8.5 User Interface (D)

It is desirable that the proposed system **SHOULD** include:

- A user-friendly human-machine interface (HMI) panel/screen for process control and monitoring at the machine.

The user interface should be designed in accordance with recognised usability and accessibility principles, including compliance with applicable Irish and EU accessibility requirements for digital systems where relevant.

8.6 Hardware, Compatibility, and Integration (M/D)

Mandatory:

Where applicable, the system **MUST** include:

- All necessary computer-related hardware required for operation.

Desirable:

The system **SHOULD** include:

- Required cables and accessories.
- Capability for data collection, analysis, and export
- Provision of associated documentation in English

8.7 Operating System Requirements (M/D)

Mandatory:

- Data export and file preparation software **MUST** operate on Windows 11

Desirable:

- The equipment software **SHOULD** run on an operating system no older than Windows 11 or equivalent where an industrial operating system is used.

8.8 Ancillary Equipment and Accessories

8.8.1 Ancillary Equipment (M/D)

Mandatory:

The proposed solution MUST:

Include all equipment needed for the safe and correct operation of the system, including:

- A closed-loop heat exchange chiller where required for the correct functionality of the system, including all necessary heat exchange fluids (excluding water)

Additional accessories required for day-to-day operation of the metal 3D printer, even if not explicitly stated elsewhere in the specification.

Desirable:

It is highly desirable that the proposed solution is provided with:

- Powder handling tools, e.g.
 - laboratory tower sieve and appropriate sieves,
 - powder separation vacuum cleaner/separator for cleaning and recovering metal powders.
 - Powder PPE (respirator, antistatic mat, gloves etc.)
- Gas regulator(s), suitable for Argon and/or Nitrogen gas

8.8.2 Starter Kit (M)

The proposed solution MUST include:

- The proposed solution MUST include:
- A minimum of 40 kg of metal powders across multiple materials, including material variation (e.g. approximately 4 kg per material) suitable for demonstrating the system's alloying capabilities.
- Sufficient powder quantities to be used across all material feed systems (e.g. six hoppers)
- A minimum of five build plates.
- A minimum of ten nozzles suitable for the powder sizes of the supplied metals in the starter kit
- All necessary consumables in sufficient quantity to ensure the system is fully operational from first startup and capable of producing multiple printed parts.
- This starter Kit must also be priced as an optional extra in Appendix 3, so that it will be available to purchase in addition to the kit supplied with the proposed solution at a future date.

8.9 Lot 1 Safety 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.

8.9.1 Lot 1 Safety and Regulatory Compliance (M)

The proposed system **MUST** be designed, manufactured, and operated in accordance with all applicable EU safety, health, and environmental regulations.

The system **MUST**:

- Be CE marked and fully compliant with all relevant EU Directives, including (where applicable):
 - Machinery Directive
 - Low Voltage Directive
 - EMC Directive
- Comply with EN60825-1 for laser safety.
- Provide documentation demonstrating compliance and certification.

8.9.2 System Enclosure and Operator Protection (M)

The system **MUST**:

- Be fully enclosed to prevent operator exposure to hazardous components, including the laser source, powder delivery system, and build area.
- Include laser-safe viewing panels where applicable.
- Incorporate interlocked access doors to prevent operation when open.
- Ensure safe containment of powders and emissions during operation.

8.9.3 Atmosphere and Hazardous Material Safety (M)

The system **MUST**:

- Maintain a controlled atmosphere within the build environment.
- Safely manage inert gases used during operation.
- Include measures to minimise risks associated with metal powders (e.g. dust, combustion, inhalation)

Where applicable:

- Compliance with ATEX requirements **MUST** be demonstrated, or justification provided where ATEX classification is not required.

8.9.4 Emergency and Safety Systems (M)

The system **MUST** include:

- Emergency stop (E-stop) functionality, accessible to operators
- Fault detection and safe shutdown capability
- Warning systems (visual and/or audible) for operational hazards

8.9.5 Electrical and Mechanical Safety (M)

The system MUST:

- Ensure all electrical components are safely enclosed and compliant with relevant standards (EU and Irish)
- Minimise risk from moving parts through guarding and interlocks.
- Be safe under normal use, maintenance, and foreseeable misuse.

8.9.6 Ventilation, Filtration and Emissions Control (M/D)

Mandatory:

The solution MUST manage.

- Safe handling and containment of process emissions

Desirable:

It is desirable that the proposed solution should have:

- Integrated filtration system
- Reduced reliance on external extraction systems

8.9.7 Documentation and Risk Information (M)

The tenderer MUST provide:

- Full safety documentation in English
- Operating manuals, risk assessments, and hazard information
- Clear instructions for safe installation, operation, and maintenance

8.9.8 Training and Safe Operation (M)

The supplier MUST:

- Provide safety training as part of system commissioning.
- Ensure operators are trained in safe handling of lasers, powders, and gases.
- Include instruction on emergency procedures.

8.10 Delivery, Installation, Commissioning, Training and Support Requirements

8.10.1 Delivery and Installation

The tenderer MUST be responsible for the full scope of supply, delivery, installation, and commissioning of the system to:

PEM Technology Gateway,
Finisklin Business Park,
Sligo,
Ireland,
F91 PD65

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.

The tenderer MUST:

- Provide all necessary equipment, tools, and personnel needed to safely complete delivery and installation, including any specialist lifting or access equipment.
- Ensure, all components required for full system operation are included.
- Ensure all hardware, cabling, accessories, and supporting equipment are supplied.
- The system is delivered as a complete and operational solution.

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

8.10.2 Installation and Commissioning

The system MUST be installed and commissioned by suitably qualified personnel.

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
- Demonstration of full operational capability

The system must be fully operational and validated prior to acceptance.

The tenderer must provide:

- Calibration certificates
- Validation documentation
- Test results demonstrating system performance.

8.10.3 Acceptance

Final acceptance of the system will be subject to:

- Successful installation
- Commissioning
- Validation

The system will not be considered accepted until all requirements have been met to the satisfaction of the Contracting Authority.

No final payment will be made until formal acceptance has been completed.

8.10.4 Training (M)

The tenderer MUST provide training for a minimum of four personnel following installation and commissioning.

Training must include:

- System operation
- Safety procedures
- Routine maintenance
- Troubleshooting
- Use of associated software

Training MUST ensure that personnel are competent to safely operate and maintain the system.

8.10.5 Warranty (M)

A minimum warranty period of 24 months must be provided.

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.

8.10.6 Service and Spare Parts (M)

The tenderer MUST ensure that spare parts, replacement components, and service support are available for a minimum period of five years following commissioning.

The tenderer must provide details of:

- Service support arrangements.
- Access to technical assistance
- Availability of replacement parts

8.11 Sustainability, Logistics and Site Requirements

8.11.1 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.

8.11.2 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.

8.11.3 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.

8.11.4 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.

8.11.5 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

8.12 Planned Maintenance

The tenderer **MUST** ensure that all works are planned and executed in a safe and controlled manner.

The Tenderer shall provide a comprehensive preventative maintenance programme consisting of a minimum of one (1) visit per annum.

Each visit must include full system inspection, calibration, servicing of all major subsystems, including laser optics, powder delivery systems, motion control, atmosphere control, filtration, and safety systems.

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 within 24 hours and onsite support within 72 hours where required.

8.13 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.

8.14 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

9 Appendix 2 - Lot 1 Mandatory Requirements Conformity with Technical/Functional Requirements

Attached as a separate document.

10 Appendix 3 Pricing Schedule Lot 1

Attached as a separate document.

11 Appendix 4 Tender Response Document Lot 1

Attached as a separate document.

12 Appendix 5 Tenderers Statement Lot 1

Attached as a separate document

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

Attached as separate documents.