

**European tender
public procurement procedure
concerning
Acquisition of a Powder bed additive manufacturing
system for tungsten components**

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Reader's guide

The purpose of this Request for Proposal is to provide interested market parties all the information they require to be able to participate in this tender. The Request for Proposal also aims to provide insight into the minimum requirements and conditions for entering into and performing the Agreement, the objectives of the Contracting Authority and the planning of the progress of this tender.

Section 1 of this Request for Proposal looks at the background of this tender and gives a general description.

Section 2 provides a brief description of the Tendering Procedure to be followed.

Section 3 sets out the procedural and administrative conditions of this tender. These conditions apply during the entire Tendering Process unless they are departed from in a later tender document.

Section 4 describes the grounds for exclusion and minimum requirements the Contracting Authority will apply.

Section 5 describes the award criteria the Contracting Authority will apply when assessing the Proposals.

Section 6 describes the technical specifications of the Contract

The tender is executed in TenderNed. Should there be differences between the provisions in TenderNed and the provisions in this Request for Proposal, the provisions in this Request for Proposal prevail unless otherwise indicated.

The following **Annexes** are attached to this Request for Proposal (and are described in more detail in this document):

Annex 1: Glossary;

Annex 2: European single procurement document;

Annex 3: (Draft) Agreement;

Annex 4A and 4B: Reference Forms;

Annex 5: Price Form;

Annex 6: Minimum Requirements.

The Glossary contains the overview of some terms that are capitalised in this Request for Proposal.

1 BACKGROUND TO THE TENDER

1.1 Contracting Authority

NWO, the Dutch Research Council (Nederlandse Organisatie voor Wetenschappelijk Onderzoek), with its office in The Hague, is one of the major funding organizations for scientific research in the Netherlands and is a driver of quality and innovation in academia. Each year NWO invests nearly €900 million in curiosity-driven research, research into the challenges facing society, and research infrastructure. NWO is currently funding close to 6,300 research projects at universities and knowledge institutes.

The Institutes Organization of NWO (NWO-I), with its office in Utrecht, is an independent foundation under NWO. NWO I administers nine academic institutes working in the fields of physics, space exploration, mathematics & informatics, criminology, marine sciences and other fields. The NWO I office consists central departments supporting the institutes and the board of the foundation.

Both NWO and NWO-I are contracting bodies within the definition of the Dutch Public Procurement Act.

They are each independently responsible for the procurement of the products, services or works they need and the organization of tendering procedures (European or national) required to do so.

NWO-I, hereinafter the “Contracting Body”, is acting as the contracting body for this tender, and will ultimately be signing the Agreement with the Contractor(s). **Ambition in Powder bed additive manufacturing system for tungsten components**

The concerted, worldwide effort to achieve controlled nuclear fusion as a limitless, safe and zero-CO₂ power source has resulted in power plants with unprecedented volumetric power density. As a consequence the flux densities – of heat, hydrogen radicals and neutrons – to the reactor wall reach levels beyond anything seen before. Whereas solid state materials may ultimately fail, the concept of liquid metal walls is gaining acceptance as a possible path to success. Recent advances in this field were achieved by DIFFER in a collaboration with TU/e by combining 3D-printing technology to manufacture substrates, with exposure in the Magnum-PSI linear plasma generator. The LiMeS project aims at taking this concept to the next level, by exploring the physics and technology of the substrate-liquid metal-plasma system. Among the main components of the LiMeS infrastructure is a refractory metal additive manufacturing device. The ambition is to use this manufacturing system to produce prototype tungsten divertor components, with high quality and geometrical accuracy, as required in the application. The device will be used in an academic research environment and should therefore be suitable for future academic research on additive manufacturing of tungsten and other metals.

2 BRIEF DESCRIPTION OF THE TENDERING PROCEDURE

2.1 Tendering Procedure

The European tender takes place in accordance with a public procedure as set out in the (amended) Public Procurement Act 2012 (Bulletin of Acts and Decrees 2016, 241).

In connection with the Contract intended to be awarded, the Contracting Authority has sent the announcement of the European tender for the Contract for publication on www.TenderNed.nl and (via that site) in the Supplement of the Official Journal of the European Union. With the sending of the announcement, the Tendering Procedure has formally started.

2.2 Publication medium and digital documents

In this Tendering Procedure, all documents are made available digitally via TenderNed. All texts and files in TenderNed form an integral part of this Request for Proposal.

2.3 Planning

The draft tender planning to be applied is included in TenderNed under the tab 'planning'. No rights can be derived from this planning by Tenderers.

If the planning below deviates from the planning in TenderNed, the planning in TenderNed prevails.

Activity	Date/period
Dispatch Request for Proposal.	October 24 th 2022
Last date for raising questions for the Memorandum of Information.	November 4 th 2022
Dispatch Memorandum of Information.	November 18 th 2022
Submission of Proposal.	December 8 th 2022, before before 2.00 PM Central European Timezone (CET).
Provisional award.	December 2022
Final award (twenty (20) days after provisional award).	Begin January 2023
Sending Purchase Order/Signing agreement.	January 2023
Delivery of the system.	November 2023

2.4 Assessment procedure

The assessment procedure starts after the last date and time on which the Proposals must have been submitted. The assessment procedure will take place as follows:

2.4.1 Procedural/administrative requirements and completeness

Tenderers must observe the procedural/administrative provisions referred to in section 3 of this Request for Proposal. After receipt of the Proposal, it will first be tested whether these provisions have been observed and whether the submitted Proposals are complete. Conditional Proposals are put aside by the Contracting Authority.

2.4.2 Grounds for exclusion selection criteria and (minimum) requirements

If Tenderers pass the procedural requirements and completeness test of the Tendering Process, the Contracting Authority will subsequently assess whether the Tenderers are to be excluded from further participation in this Tendering Procedure on the basis of the listed exclusion grounds.

There will then be a test on the basis of the prescribed selection criteria (eligibility requirements) which a Proposal must minimally satisfy. After that there will be a test on the basis of the minimum requirements.

2.4.3 Assessment on Award Criteria

The Proposals which satisfy all the tests as set out above are assessed on the Award Criteria. The Contracting Authority intends, on the conditions as included in this Request for Proposal, to award a Contract to the Tenderer with the Best Price-Quality ratio.

If after application of the award criteria, the Proposals of two or more Tenderers are assessed as being the best (calculated on 2 decimal points), it will be decided by drawing lots in whose favour the awarding decision comes down.

During the entire Tendering Process and contract period Tenderers must satisfy all grounds for exclusion, eligibility requirements and minimum requirements.

3 PROCEDURAL AND ADMINISTRATIVE CONDITIONS

3.1 Content of the Proposal

The Proposal must be complete. This means that all requested documentary evidence and other information must have been included.

The Standard Forms must be filled in and signed in the requested manner. It is not permitted to add to and/or change the fixed text of the Standard Forms. The Standard Form is invalid if the fixed text of a Standard Form has been added to and/or changed unless express permission has been granted to this end by the Contracting Authority or it can be indisputably deduced otherwise from the Standard Form.

3.2 Applicability of conditions for this Tendering Procedure

Every Tenderer is expected to have taken notice of the conditions and other content of the Tendering Documents. By submitting a Proposal, the Tenderer declares its unconditional acceptance of the contents and applicability of this Request for Proposal. The **Annexes** to this Request for Proposal, the texts in TenderNed and one or more of the Memoranda of Information still to be published form an integral part of this Request for Proposal. If Tenderers act in contravention of, or fail to comply with this Request for Proposal, this may lead to exclusion from (further) participation in this Tendering Procedure.

3.3 Changes in Request for Proposal

During this tender, the Contracting Authority can make additions or changes to the Request for Proposal if new insights or developments require this. These changes will be notified to the Tenderers in Writing in one or several Information Memoranda.

Insofar as this Request for Proposal does not provide for particular situations, the Contracting Authority decides.

3.4 Proactive attitude/forfeiture of rights

This Request for Proposal and all accompanying **Annexes** have been prepared with care. Should a Tenderer nevertheless come across contradictions and/or defects, the Tenderer must notify the Contracting Authority of this in Writing in a timely manner via the contact person referred to in TenderNed. If subsequently it becomes apparent that this Request for Proposal contains contradictions and/or defects which have not been reported to the Contracting Authority, these are at the risk of the Tenderer.

(Potential) Tenderers must take a proactive approach during this tendering process. This means that they must notify any lack of clarity and defects in advance so that this Request for Proposal can be amended where necessary. If a (potential) Tenderer fails to report any objections, lack of clarity or defects immediately after publication of this Request for Proposal, but in any case before the end of the term applicable for submission of questions to the Contracting Authority, the (potential) Tenderer forfeits its right to object to such at a later stage.

3.5 Stopping the tender/non-award

The Contracting Authority is free to stop this Tendering Procedure at any time or not award the Contract.

The Contracting Authority also reserves the right not to award (parts of) the Contract or to proceed to a provisional award of the Contract.

If the Contracting Authority decides not to award the Contract, it will notify the Tenderers as soon as possible stating the reasons for this. In that case, the Tenderers cannot claim payment of any costs incurred in the context of this Tendering Process. No right to any follow-up contracts can be derived from the contract award.

3.6 Confidentiality

By participating in this tender, the Tenderer undertakes to keep all information it receives from the Contracting Authority in the context of this tender confidential insofar as this information has not been made public by the Contracting Authority and not to provide this to third parties. Such information may only be shared with employees and, insofar as applicable, with subcontractors involved in the Contract.

The Contracting Authority shall not disclose confidential information it receives from a Tenderer in the context of this tender to other Tenderers without the permission of the first named Tenderer. A Tenderer must always indicate which information it considers to be confidential.

To the extent the information is deemed confidential by the Tenderer, the Contracting Authority shall only provide this information to third parties with the permission of the relevant Tenderer or if the Contracting Authority is obliged to do this on the basis of a court ruling.

The Contracting Authority is not obliged to publish internal (tendering) documents, such as results of evaluations, tender comparisons, as well as advice relating to qualification and awarding, to Tenderers.

3.7 Intellectual property rights

By participating in the tender, any intellectual property rights of the Tenderers do not transfer to the Contracting Authority unless otherwise determined. Intellectual property relating to the Tendering Documents are and remain the property of the Contracting Authority.

3.8 Information exchange

The Contracting Authority guarantees the equal treatment of all Tenderers during the Tendering Process. The Contracting Authority does not provide information that can favour one or more Tenderers over others.

Request for information

All (potential) Tenderers have the opportunity to ask questions. Questions and/or comments can be submitted only via the “Questions and Answers” module in TenderNed. Questions must be submitted no later than on the date(s) and time(s) shown in the planning.

Memorandum of Information

The (anonymised) questions submitted will be included, with answers, in one or more Memoranda of Information. The Contracting Authority can also provide extra information by means of a Memorandum of Information. Memoranda of Information will be published on TenderNed.

The content of the Tendering Documents will, with due observance of that included in the Memoranda of Information, become definitive after publication of the last Memorandum of Information. Full acceptance of the Request for Proposal and the Agreement is a strict requirement for submitting the Proposal.

The Contracting Authority shall provide the last Memorandum of Information at the latest ten (10) Days before the final date for submitting a Proposal.

The Memoranda of Information form part of this Request for Proposal and in the event of amendments to this Request for Proposal or to one of the **Annexes**, will prevail over the text of this Request for Proposal. The Memorandum of Information of a later date shall also prevail over an Memorandum of Information of an earlier date.

All verbal information provided by or on behalf of the Contracting Authority has no legal validity whatsoever unless this information has been confirmed in Writing in an Memorandum of Information.

3.9 Language

All information exchange relating to the Tender takes place in English. Documents to be submitted by Tenderers must be drawn up in English.

If particular documents to be submitted are not available in English, the Contracting Authority will decide whether the submission of the document in another language will suffice (whether or not furnished with a translation into English). A Tenderer wishing to submit a document in a different language than English must submit a request to this end before submission of the Proposal to the Contracting Authority via the message module of TenderNed.

3.10 Conditions

All general conditions on the part of the Tenderer (such as delivery terms and conditions or payment terms) are expressly rejected. Only the definitive Agreement and other Tendering Documents shall apply in the performance of the Contract.

3.11 Proposal submission process

3.11.1 Only submitting a Proposal once

A Tenderer may only submit one Proposal, independently, as the main contractor with subcontractor(s) or as a Consortium of several other parties. If failing to comply with the above, only the first submitted Proposal will be considered.

It is only permitted to submit a Proposal from several different businesses within the same group if both the Tenderers and the holding or parent company can demonstrate that the Tenderers operate fully independently from each other and made the proposal independently. A group includes: a legal person together with its subsidiaries in the meaning of section 2.24(a) and 2.24(b) Dutch Civil Code.

3.11.2 Independently or in form of collaboration

Tenderers may submit a Proposal to this Tendering Procedure independently or in collaboration with other businesses. The following forms of Tenderers can be distinguished:

- Independent Tenderer;
- Collaborative arrangement of businesses as one Tenderer (Consortium);
- Tenderer is the main contractor and will use one or several subcontractors.

3.11.3 Independent Tenderer

In the event of a Proposal by an independent Tenderer, the Tenderer states to be able to perform the Contract completely independently (without having to make use of the capacity of third parties). The Tenderer must independently satisfy all the set requirements and submit the requested information.

3.11.4 Consortium

In the event of a Proposal by a collaborative arrangement of Economic Operators (Consortium), each business participating in the collaborative arrangement (Consortium Member) must independently submit the "Uniform European Single Procurement Document" with the Proposal including all the requested relevant statements/Annexes.

In addition, under part II A 'Information concerning the economic operator' of the Uniform European Single Procurement Document it must be stated which businesses are taking part in the Consortium, the role of the business within the Consortium must be stated (where in any event the lead manager of the Consortium is listed) and, if applicable, the name of the Consortium can be stated. When putting forward a collaborative arrangement as being the Tenderer, each Consortium member accepts joint and several liability for the performance of the Contract.

Consortium members must independently satisfy the grounds for exclusion. The Consortium must jointly satisfy the minimum requirements and selection criteria (eligibility requirements).

In its Proposal, the Tenderer must clearly state which activities will be carried out by which member or members of the Consortium.

3.11.5 Main contract / Subcontracting

In the event of a Proposal by a Tenderer who can independently satisfy the set requirements/criteria but nevertheless, as the main contractor, wishes to engage subcontractors for the performance of the Contract, all the same requirements as for an independent Tenderer apply. The Tenderer must state that it wishes to use subcontractors in part II D 'Information concerning subcontractors on whose capacity the economic operator does not rely' of the Uniform European Single Procurement Document. The Tenderer must also indicate which parts of the Contract it intends to subcontract to third parties and which subcontractors it proposes.

In the event of a Proposal by a Tenderer who cannot independently satisfy the set requirements/criteria and, as main contractor, can only satisfy the set requirements/criteria by using subcontractors or third parties, the Tenderer must indicate in the Uniform European Single Procurement Document for which requirements it relies on a third party/parties (stating the third party/parties on which it relies - see Part II C 'Information about reliance on the capacities of other entities' - of the Uniform European Single Procurement Document).

Both the main contractor and subcontractor(s) may not be subject to exclusion grounds. The main contractor and subcontractor(s) must jointly satisfy the minimum requirements and selection criteria (eligibility requirements).

The relevant subcontractor/third party must independently submit the "Uniform European Single Procurement Document" with the Proposal submission including the requested relevant declarations/Annexes. A Tenderer must also add a declaration showing that it actually has access to the resources of this third party/parties (subcontractors) required for the Contract. The engagement of subcontractors by the main contractor does not affect the liability of the main contractor towards the Contracting Authority.

3.12 Change of capacity/other changes

After submitting a Proposal, it is in principle not permitted to make changes to the composition of a Consortium and/or the deployment of the subcontractors/third parties put forward in the Proposal.

The Tenderer must notify the Contracting Authority immediately and in full about any changes in its legal form, share capital, capacity, use of subcontractor or other changes which may be important for the Contracting Authority to be able to assess its eligibility for performing the Contract or may be relevant to the Contracting Authority in any other way.

Changes are only permitted with the prior written approval of the Contracting Authority and on the basis of compelling reason(s) which the Tenderer must make plausible. The Contracting Authority may attach conditions to its approval of such changes.

3.13 Costs

The Contracting Authority does not reimburse costs incurred in the preparation and issue of a Proposal, including any further information to be provided. The Tenderer bears the risk of any costs and/or damage that (may) arise because the contract is not awarded or this Tendering Procedure is (temporarily/permanently) discontinued.

3.14 Variations

Variations are not permitted.

3.15 Proposal submission

The Proposal must be submitted digitally via TenderNed. Submission of the Proposal by post, fax, email or otherwise than set out above, is not permitted. The Tenderer ensures that declarations, **Annexes** and other parts of the Proposal are uploaded to the correct location in TenderNed. The digital documents must be submitted in a generally accessible format (preferably an open standard).

All documents and declarations to be signed must be signed by a representative of the company who is authorised to do so. This is demonstrated by the submission of an extract from the Chamber of Commerce, not being older than six (6) months calculated from the latest date of submission of the Proposal, showing explicitly that the person and/or persons who have signed the documents are authorised to represent the Tenderer. If the authority of the signatory cannot be

derived from the Chamber of Commerce extract, a valid power of attorney for the signatory must be added to the Proposal.

The Tenderer is responsible for the timely and complete submission of its Proposal. Therefore the Tenderer bears the risk of any delays which may occur in the submission of its Proposal such as computer or internet failures. The Proposal of the Tenderer becomes the property of the Contracting Authority.

Questions for Tenderers

The Contracting Authority is free to request Tenderers to explain, clarify or supplement their Proposal within a period to be determined by the Contracting Authority (including the submission of absent documents/information).

3.16 Opening of Proposals

The digital safe will be opened as soon as possible after release of the digital safe. A public tender hearing will not take place.

3.17 Validity and term of validity

The Proposal must be irrevocable and unconditional. Proposals that are not irrevocable and/or have conditions attached in any way (referring to their own general terms and conditions for example) are invalid and will not be considered.

The term of validity is in any event ninety (90) Days from the last date for the submission of the Proposals. If preliminary relief proceedings are pending against the award decision, the term of validity ends eight (8) Days from the day on which judgement was given in the preliminary relief proceedings.

3.18 Verification

The Contracting Authority will invite the Tenderer who might be eligible for a provisional award to a verification consultation in which the Tenderer must demonstrate how he complies with (specific) parts of the Request for Proposal. Prior to the verification, the Contracting Authority may put forward questions or parts which Tenderer must answer.

If the Tenderer cannot demonstrate that he meets all requirements and/or wishes, the Contracting Authority reserves the right to exclude the Tenderer from further participation in this Tendering Procedure.

3.19 Publicity

By submitting a Proposal, the Tenderer declares that the Contracting Authority is permitted to publish the name of the Tenderer.

3.20 Award decision - Objection clause

The Contracting Authority shall notify all Tenderers in Writing as soon as possible and simultaneously on the award decision.

If a Tenderer disagrees with the award decision notification, the Tenderer, on penalty of the complaint being declared inadmissible and the forfeiture of rights, must have within a period of twenty (20) Days from the date of the sending of the award decision notification, by serving a summons, commenced preliminary relief proceedings against the aforementioned award decision of the Contracting Authority with the (preliminary relief judge) at the District Court of East Brabant.

If preliminary relief proceedings have been commenced within this term of twenty (20) Days, there shall not be a final award of the Contract before a ruling has been given in the preliminary relief proceedings unless a compelling interest commands the immediate awarding. If no preliminary relief proceedings are filed within twenty (20) Days of the dispatch of the award decision notification, the stakeholders can no longer file further objections to the decision and have forfeited their rights in this respect. In that case, the Contracting Authority is therefore free to implement the decision made.

The Contracting Authority is entitled to terminate the Agreement with the favoured party/parties with immediate effect if it follows from a ruling from a court that the award decision is unlawful or that the Agreement is invalid or that, for

whatever reason, the Contract must be brought again to the market. The favoured party/parties cannot derive any rights towards the Contracting Authority from such termination decision for reimbursement of tendering costs, loss of reference, loss of profit or other loss.

3.21 Complaints

It is possible that dissatisfaction will arise between contracting authorities and businesses during the Tendering Procedure with regard to the actions of parties in the Tendering Procedure. This could lead to a complaint. In such a case, the Contracting Authority will handle the complaint in accordance with the 'Complaints Settlement in Tendering', dated 7 March 2013. These rules can be found on: <http://www.rijksoverheid.nl/documenten-en-publicaties/regelingen/2013/03/07/klachtafhandeling-bij-aanbesteden.html>

If a stakeholder has a complaint regarding this Tendering Procedure, the following actions are possible.

Complaints can be notified by email to the complaints information point of the Contracting Authority via email address: Tender.complaints@diffen.nl. A complaint will be dealt with as soon as possible.

If the complainant disagrees with the decision issued by the Contracting Authority on the complaint submitted, the complainant may submit the complaint to the Tendering Experts Committee set up by the Minister of Economic Affairs. If a complaint concerning this Tendering Procedure is submitted to the Tendering Experts Committee, the complainant is requested to send a copy to the contact person of the Contracting Authority referred to in TenderNed.

3.22 Applicable law and disputes

This Tendering Procedure is governed by Dutch law. Subject to the provisions in this Request for Proposal any dispute between the parties involved in this Tendering procedure in relation to this tender shall in the first instance be heard by the interim relief judge of the District Court of East Brabant.

4 GROUNDS FOR EXCLUSION AND MINIMUM REQUIREMENTS

4.1 Grounds for exclusion and documentary evidence

4.1.1 Grounds for exclusion

The Contracting Authority wishes only to conduct business with companies whose integrity is established.

The Contracting Authority rules out all Tenderers to which one of the mandatory grounds for exclusion apply (Part III A and B of the model ESPD), or one of the optional grounds for exclusion (Part III C of the model ESPD) which have been declared applicable by the Contracting Authority in the ESPD (**Annex 2** of this Request for Proposal), such with due observance of Section 2.87(a) and 2.88 of the (amended) 2012 Tendering Act. In order to show that such grounds for exclusion do not apply to the Tenderer or its sub-contractors, they must complete the ESPD (which has been added as **Annex 2** in TenderNed) truthfully and provide it with a legally valid signature and add it to the Proposal.

4.1.2 Documentary evidence

The Contracting Authority reserves the right to request the Tenderer to submit further documentary evidence or declarations. In connection with the application of this paragraph, the Contracting Authority can request the Tenderer to submit documentary evidence or declarations as set out in section 2.89 of the (amended) 2012 Tendering Act in order to be able to establish whether or not the Tenderer finds itself in any of the above-mentioned circumstances.

By submitting the European Single Procurement Document, the Tenderer also declares that it is able to provide the requested documentary evidence and declarations within the reasonable term indicated by the Contracting Authority. If the Tenderer fails to provide the documentary evidence and declarations within this term to the Contracting Authority, it is deemed not to be able to do so and this constitutes acting contrary to the procedure rules of this tendering procedure and the Proposal is invalid. A Tenderer with an invalid Proposal will be excluded from further participation in this Tendering Procedure.

The following documentary evidence relating to Grounds for Exclusion is eligible:

- Certificate of conduct for procurement;
- Payment history report of Tax and Customs Authority;
- Commercial Register extract.

4.2 Selection criteria (eligibility requirements)

For the prescribed selection criteria (eligibility requirements) below it applies that a Tenderer must satisfy those as a minimum. If the Tenderer does not satisfy one or several of these minimum requirements, the Proposal may be invalid and the Tenderer is not eligible to be awarded the Contract.

4.2.1 Professional qualifications

Registration in the national professional/commercial register

By signing the European Single Procurement Document the Tenderer declares to satisfy the following minimum requirement:

Requirement: The Tenderer is registered in the professional register or in the commercial register in accordance with the regulations of the Member State in which it is based.

Documentary evidence: For a Dutch Tenderer a registration in the Commercial Register of the Chamber of Commerce not older than six (6) months calculated from the latest date of submission of the Proposal suffices.

4.2.2 Technical and professional competence (experience)

For this tender the Tenderer must show his proven competence and/or capabilities. Therefore, he has to fill in Standard Form included in **Annex 4A and Annex 4B** of this Request for Proposal.

A. Experience with the delivery of a Powder bed additive manufacturing system for metal components (see Annex 4A)

The required minimum competences and/or capabilities for this tender to show with the applicable reference A are the following:

Experience in the delivery and installation of a Powder bed additive manufacturing system for metal components (see Annex 4A) comparable with the system in this tender to companies, universities or other research institutes within the last three (3) years counted from the date of submission of the Proposal as well as in providing service for this system.

B. Expertise in the additive manufacturing of tungsten components (see Annex 4B)

The required minimum competences and/or capabilities for this tender to show with the applicable reference B are the following:

Expertise in the additive manufacturing of tungsten components and knowledge on the required process parameters for a powder bed additive manufacturing system comparable with the system in this tender. This expertise should be convincingly demonstrated through at least one of the following:

1. Experience in the delivery and installation of a Powder bed additive manufacturing system suitable for and used for manufacturing of tungsten components (see Annex 4A), and comparable with the system in this tender, to a company, university or other research institute within the last three (3) years counted from the latest date of submission of the Proposal;
2. A publication (e.g. a journal paper or a white paper) demonstrating the capabilities of and expertise on additive manufacturing of tungsten with a quality comparable to what is required in this tender and with a system comparable with the system in this tender;
3. A demonstration of the capabilities of printing tungsten components with a quality comparable to what is required in this tender via a test print made on a system comparable with the system in this tender. For this test print, step files of relevant prototype designs are available via URL: <https://surfdrive.surf.nl/files/index.php/s/i2KzAuZR42MnAw>. The password will be given on request by sending an email to m.p.m.schoonen@diffier.nl

4.3 Minimum requirements in respect of the Contract

In respect of the minimum requirements set out below it applies that a Tenderer must in any event minimally satisfy those to be able to submit a conformal Proposal. The following minimum requirements are set:

4.3.1 Statement of Agreement to Tendering Documents

The Tenderer must unconditionally agree and comply with the requirements set out in this Request for Proposal and its **Annexes**, with due observance of any changes which arise from the Information Memoranda. The Tenderer must indicate in TenderNed to agree to this unconditionally.

4.3.2 Statement of Agreement to draft Agreement

The draft Agreement is included in this Request for Proposal as **Annex 3**. On submission of a Proposal, the Tenderer must unconditionally agree with the content of the draft Agreement with due observance of any changes which arise from the Information Memoranda. The Tenderer must indicate in TenderNed to agree to this unconditionally.

4.4 Verification by the Contracting Authority

The Contracting Authority is authorised to verify the information provided by the Tenderers, by asking the Tenderers to provide documentary evidence or declarations for example or by making enquiries at the clients of (or other stakeholders of) the reference projects.

5 AWARD CRITERIA

5.1 General

The Contracting Authority intends to award the Contract, under the conditions as included in this Request for Proposal, to the Tenderer with, from the point of view of the Contracting Authority, the Most Economically Advantageous Proposal, on the basis of the Best Price/Quality ratio.

All submitted Proposals that have satisfied the (procedural/administrative) requirements and completeness and the grounds for exclusion and minimum requirements test, are assessed on the basis of the award criteria set out below:

Award criteria	Maximum points score
AC1 Price.	25
AC2 Quality:	75
Total	100

5.2 Price (AC1)

The award criterion Price is assessed on the basis of the offered Total Sum (as entered in the Price Form , **Annex 5** of this Request for Proposal).

The total purchase price of the “Powder bed additive manufacturing system for tungsten components” includes all costs, such as design, fabrication, delivery, installation, guarantees and all additional costs for travelling and accommodation, as well as all costs in order to meet the mandatory requirements as mentioned in chapter 6 of this Request for Proposal and the additional wishes (unless stated otherwise) offered by the Tenderer in his Quotation.

- **Attention: The maximum available budget for this tender is € 620.000,-- (excluding VAT). If the price is higher than this available budget the Quotation will be laid aside.**

The Tenderer with the lowest offered Total Sum for the system receives the maximum points score available. A Tenderer scores on this criterium in accordance with the following formula:

The score on AC1 Price (P) will be calculated by means of the following formula:

$$S = (P_{lowest} / P) \times 25$$

S: score

P: total price Tender (excluding VAT)

P_{lowest}: lowest total price of all Tenders (excluding VAT)

5.3 Quality (AC2)

The quality of the Proposal will be assessed in relation to the wishes mentioned in the overview below.

	Wishes	Maximum points to gained for each wish:
1.	Fast and quality service is important for Differ. Ideally the tenderer should respond on technical problems within the same working day (8.00-17.00 CET) by phone, e-mail, or remote access and provide on-site engineering support within 48 hours. The tenderer has to show in detail how the service is organized. The following aspect will be judged: • Speed and quality of initial response; • Speed of on-site engineering support; • Speed of application engineering support. The description in detail how the service is organized has to be submitted by the Quotation (uploaded) in TenderNed. The assessors base their ratings on the overall picture for this wish and will therefore as a whole for this wish. (see also chapter 5.4 "Assessment" of this Request for Proposal where is explained how this works).	3
2.	A smaller printable gap size than the minimum requirement of 100 µm over a length of 4 mm and a depth of 1 mm for tungsten. 1 point per 10 µm below the required gap size of 100 µm. Specified gap sizes will be rounded to the nearest 10 µm with points awarded in 10 µm increments. The tenderer has to show by given in detail the size off the printable gap. This wish will be judged on basis of the specified size of the printable gap. (1 point per 10 µm below the required gap size of 100 µm, with a maximum of 4 points).	4
3.	A smaller printable feature size than the minimum requirement of 100 µm for tungsten. 1 point per 10 µm below the required minimum feature size of 100 µm. Specified feature sizes will be rounded to the nearest 10 µm with points awarded in 10 µm increments. The tenderer has to show by given in detail the size off the printable feature. This wish will be judged on basis of the specified size of the printable gap. (1 point per 10 µm below the required gap size of 100 µm, with a maximum of 4 points).	4

4.	A larger density than the minimum required density of 96% for tungsten. 1 point per 0.5 percent-point higher density than the minimum required density of 96%. Specified density will be rounded to the nearest 0.5 percent-point with points awarded in 0.5 % increments. The tenderer has to show by given in detail the density. This wish will be judged on basis of the specified density (1 point per 0,5% percent-point higher density than the minimum required density of 96%. Specified density will be rounded to the nearest 0.5 percent-point with points awarded in 0.5 % increments with a maximum of 5 points).	5
5.	A larger laser power density ($P/0.25 \cdot \pi \cdot d^2$) than the minimum required density of 0.1 W/μm^2. 1 point per 0.05 W/μm^2 higher power density than the minimum required power density of 0.1 W/μm^2. Specified power density will be rounded to the nearest 0.05 W/μm^2 with points awarded in 0.05 W/μm^2 increments. The tenderer has to show by given in detail the laser power density. This wish will be judged on basis of the specified laser power density. (1 point per 0.05 W/μm^2 higher power density than the minimum required power density of 0.1 W/μm^2. Specified power density will be rounded to the nearest 0.05 W/μm^2 with points awarded in 0.05 W/μm^2 increments, with a maximum of 8 points).	8
6.	A higher maximum building platform temperature than the minimum required temperature of 200 °C. 1.5 point per 100 °C higher temperature than the minimum required temperature of 200 °C. Specified temperature will be rounded to the nearest 100 °C with points awarded in 100 °C increments. The tenderer has to describe the technical capabilities of the heating system. The tenderer has to show by given in detail the maximum building platform temperature. This wish will be judged on basis of the specified maximum building platform temperature. (1.5 point per 100 °C higher temperature than the minimum required temperature of 200 °C. Specified temperature will be rounded to the nearest 100 °C with points awarded in 100 °C increments with a maximum of 15 points).	15
7.	Availability of print parameters for other materials than the required tungsten, 316L stainless steel (or equivalent), Ti-6Al-4V (or equivalent). 1 point for availability of print parameters for each of the following materials: molybdenum, M300, or equivalent hardenable tool steel, aluminium(alloy). Tender has to show in detail which print parameters are available. This wish will be judged on the available print parameters. (1 point for availability of print parameters for each of the following materials:	3

	molybdenum, M300, or equivalent hardenable tool steel, aluminium(alloy), with a maximum of 3 points).	
8.	Including powder bed and/or melt pool monitoring system. The tenderer has to describe the technical capabilities of the system. The tenderer has to show in detail the technical capabilities of the system. This wish will be judged based on the difference between the technical capabilities shown by all tenderes	10
9.	A lower maximum O₂-level in the build chamber than the required maximum of 100 ppm. 1.5 point per 10 ppm lower than the required maximum of 100 ppm. Specified O₂-level will be rounded to the nearest 10 ppm with points awarded in 10 ppm increments. Tender has to show in detail the O₂-level in the build chamber. This wish will be judged on the O₂-level in the build chamber of the system. (1.5 point per 10 ppm lower than the required maximum of 100 ppm. Specified O₂-level will be rounded to the nearest 10 ppm with points awarded in 10 ppm increments, with a maximum of 15 points).	15
10.	Including a second laser with a green wavelength and the capability of printing copper. The tenderer has to describe the additional specifications of the system. Tender has to show in detail the availability of a second laser with a green wavelength and the capability of printing copper. This wish will be judged on the availability of a second laser with a green wavelength and the capability of printing copper. If this is available 5 points will be given, if not means no points will be given for this wish.	5
11.	Extension of the maintenance contract beyond the required minimum of 5 years. 1 point per extra year beyond the required minimum of 5 years. The maintenance contract period will be rounded to the nearest year with points awarded in 1 year increments. The tenderer has to describe the content of the maintenance contract. This wish will be judged based on the years extension of the maintenance contract beyond the required minimum of 5 years. (1 point for each extra year with a maximum of 3 points).	3

The maximum points for all the Wishes that can be gained is 75 points.

Details regarding each wish have to be added to the Quotation.

Please note that your proposal to each wish is not without obligations, but will be part of the Agreement.

5.4 Assessment

AC1 - Price

Assessment of the award criterion Price (AC1) takes place under the direction of the Procurement Department of the Contracting Authority.

AC2 - Quality

Assessment of the qualitative assessment criteria is undertaken by an assessment committee, in which in any event the following are represented: permanent research staff of the Mechanics of Materials section of TU/e and permanent research staff of Differ.

The assessment committee gives its view on the basis of expert opinion and a comparison of the Proposals received. The assessors will assess and appraise the (sub) criteria by means of a rating figure ranging from 0 to 10, whereby 0 = extremely poor, 6 = satisfactory and 10 = excellent. Individual ratings are expressed in whole figures.

The assessors base their ratings on the overall picture for each award criterion. The parts for each criterion and the accompanying elements referred to are only listed in explanation for the benefit of the Tenderer and cannot be viewed as further “sub-criteria”. The listed subject matters and elements are not included in order of importance and are also not exhaustive.

The individual ratings are subsequently discussed in a plenary meeting after which individual ratings can possibly still be adjusted.

The ratings allocated by the assessors to each (sub) criterion are added up and subsequently averaged. This results in an average rating for each (sub) criterion. Finally, the average rating point for each sub-criterion is multiplied with the stated weighting factor.

Calculation example

The calculation of the points score for Wish 1, Onsite collaboration will take place as follows;

Ratings given by individual assessors:	6.0, 7.0, and 8.0
Average rating	$21/3=7$
Points score	$7/10 * 3 = 2,1$
In this example the score for Wish 1 = 2,1 points	

After this, all point scores for all Wishes are added up and there follows a total points score for the Award Criterion Quality (AC2).

Determination of total score

Finally, the achieved scores of the Award Criterion Price (AC1) and Quality (AC2) are added up. The Tenderer who after the point allocation achieved the highest overall total score will be considered by the Contracting Authority as the Tenderer with the Most Economically Advantageous Proposal from the point of view of the Contracting Authority.

After the assessment, the Tenderers will receive notification about the intended award and the intended rejections. The Tenderer cannot derive rights from the intended award in respect of the final award.

6 TECHNICAL SPECIFICATIONS

6.1 Technical specification

The following chapters describe the specific requirements for the system. A list has been attached with regard to the laid down mandatory requirements (M) in which Tenderers must confirm that Tenderers unconditionally meet the specific mandatory requirements.

Note: The Technical Specification mentioned in this chapter 6 may be amended by the Contracting Authority, as referred to in paragraph 3.8 of this Request for Proposal. Tenderers will be informed of any amendments to the Technical Specification by means of the Memorandum of Information. After the final Memorandum of Information is published, the Request for Proposal including any amendments as they stand at that moment become the final version.

Tenderers which meet the mandatory requirements shall be evaluated based on the data provided concerning the wishes on the degree in which they meet the wishes compared to the other Tenderers.

6.2 General requirements

Nr		M
1.	Electrical connection & power supply according European (Legal) standards.	M
2.	Delivery within 10 months of the final award date. (Including the Site Acceptance Test).	M
3.	Installation and training on use of the system.	M
4.	12 months warranty on major hardware components after successful Site Acceptance Test.	M
5.	10 years warranty on delivery of spare parts. Including but not limited to laser and optics.	M
6.	Maintenance contract of 5 years included.	M

6.3 Technical requirements

Nr		M
7.	Minimum size of build chamber: 170 x 200 mm (diameter x height).	M
8.	Capability of printing tungsten with the required accuracy (gap size, feature size, and density as specified below).	M
9.	Printable gap size of 100 μm ($\pm 10 \mu\text{m}$) over a length of 4 mm and a depth of 1 mm.	M
10.	Printable feature size (thickness) of 100 μm ($\pm 10 \mu\text{m}$).	M
11.	Minimum relative density of printed material of 96%.	M
12.	Smallest laser spot size (d) not larger than 70 μm ($1/e^2$ definition).	M
13.	Maximum laser power (P) of at least 300 W.	M
14.	Maximum laser power density ($P/0.25 \cdot \pi \cdot d^2$) of at least 0.1 W/ μm^2 .	M
15.	Capability for building platform heating to at least 200 °C.	M
16.	Adjustable powder layer thickness at least including the range 20-50 μm .	M
17.	Maximum required quality inert gas supply (argon or nitrogen) 5.0.	M
18.	Maximum O ₂ -level in build chamber of 100 ppm can be obtained and measured during operation.	M

19.	Open platform for machine control software at vector-level (full control over laser trajectory and laser settings). The accessibility of the print job control must be described by the tenderer.	M
20.	Available print parameters for tungsten, 316L stainless steel (or equivalent material), Ti-6Al-4V (or equivalent material).	M
21.	Change of printing material (including required machine cleaning) is possible by a trained technician in max. 8 hours. The procedure for changing the material of printing must be described by the tenderer.	M
22.	Including all required software for print job preparation and printer operation.	M
23.	Including filter system required for operation. Any additional system reasonably required for operation of the system must be included.	M
24.	Including powder sieving system/station (integrated or external). The powder sieving methodology must be described by the tenderer.	M

6.4 Financial aspects equipment:

Payment of the Purchase price of the "Powder bed additive manufacturing system for tungsten components" shall occur upon the attaining of the milestone given in the table below:

	Milestone	Percentage of the total of the Purchase price
1.	Upon ordering against bank guaranty of the system.	20%
2.	After delivery of the system.	60%
3.	Successfully installation and completed Site Acceptance Test of the system.	20%

Annex 1: GLOSSARY

A list of definitions of a number of terms that are capitalised in this Request for Proposal is presented below. Defined definitions may be used both in the singular and the plural.

Agreement: An agreement between the Contracting Authority and a Contractor with the aim to record the conditions in respect of the Contract(s) to be awarded.

Annex: An **Annex** to this Request for Proposal

Contract: A public contract as referred to in the (amended) Public Procurement Act 2012 related to the "Powder bed additive manufacturing system for tungsten components" for the Contracting Authority, as described in this Request for Proposal.

Contracting Authority: The Contracting Authority is Differ Eindhoven. The abbreviation Differ, are also used in the Tender Documents.

Contractor: The Tenderer to whom the Contract shall be awarded.

Days: Calendar Days.

European Single Procurement Document (ESPD): The Standard Form for the Tenderer's Statement as referred to in section 2.84 of the (amended) Public Procurement Act 2012.

Memorandum of Information: Information memorandum in which the Contracting Authority replies to anonymised questions asked by businesses and in which extra information may be provided if necessary.

Proposal: The offer submitted by the Tenderer for the performance of the Contract on the basis of the conditions included in this Request for Proposal.

Request for Proposal: Tendering document containing the conditions/provisions for the Proposal, as well as the award method of this Tendering Procedure. In addition, the Request for Proposal contains **Annexes** such as an Agreement on the basis on which a Tender must be submitted.

Standard Form: A Form in the form of a compulsory prescribed format belonging to this Request for Proposal to be completed by a Tenderer.

Tenderer: An economic operator having submitted a Proposal.

TenderNed: The digital tendering platform on which this Tendering Procedure is carried out and which is used to exchange information.

Tendering Documents: All documents in the Tendering Procedure provided by the Contracting Authority to the interested businesses/Tenderers.

Tendering form: The Standard Forms and other information as indicated in the **Annex** to this Request for Proposal.

Tendering Procedure: The procedure as set out in paragraph 2.1 of this Request for Proposal.

Writing: Every unit consisting of words or figures that can be read, reproduced and then notified, that may contain information transferred or saved by electronic means.

Annex 2: EUROPEAN SINGLE PROCUREMENT DOCUMENT

Separate document in TenderNed.

Annex 3: (DRAFT) AGREEMENT

Separate document in TenderNed.

Annex 4A and 4B: REFERENCE FORMS

Separate documents in TenderNed.

Annex 5: PRICE FORM

Separate document in TenderNed.

Annex 6: MINIMUM REQUIREMENTS

Separate document in TenderNed.