

Eindhoven University of Technology, PO Box 513, 5600 MB Eindhoven, The Netherlands

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PCM2026-10179RfP

Procurement Department

Navigation address :
De Zaale, Eindhoven

www.tue.nl

Request for Proposal (RFP)

European tender

X-ray Diffraction System for Energy Materials Characterization (hereafter called “The Instrument”)

for

Eindhoven University of Technology



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

- Annex 1: Glossary;**
- Annex 2: European single procurement document;**
- Annex 3: (DRAFT) Agreement, including annexes;**
- Annex 4: Reference (Experience);**
- Annex 5: Price Form;**
- Annex 6: Minimum Requirements;**
- Annex 7: Award Criteria AC2 Wishes;**
- Annex 8: Declaration of Agreement Tendering Documents.**

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

ATTENTION: The Proposal must consist of all the documents they are listed on the checklist applicable to this Request for Proposal. You can find this checklist in the folder 'Aanbestedingsdocumenten' on TenderNed.

1 BACKGROUND TO THE TENDER

1.1 Introduction

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. This 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.

This Request for Proposal contains a number of **Annexes**, which are described in more detail in this document.

1.2 Contracting Authority

The mission of Eindhoven University of Technology is to educate students and to advance knowledge in science & technology for the benefit of humanity. We intertwine education and research to enable our students and scientists to become thought leaders and to design and achieve the unimaginable. We translate our basic research into meaningful solutions, in close collaboration with our public and private partners. We aim to be among the leading universities in science & technology. With an open eye to developments in the world around us, we aim to be an internationally defining academic institution that pushes the frontiers of science and technology and educates engineers of the future who are ready to face the complex challenges of the world of today and tomorrow:

- the sustainability transition;
- the technological revolution;
- the increasing impact of technology on our society.

These challenges, combined with other drivers of change, force us to take a position: we want to *lead the change* by our education, research, and valorization/impact.

The TU/e Campus is an open, green environment with the character of a city park, where people can work, study, live, engage in sports, and relax. While education and research remain the primary focus, they are embedded within a broader, vibrant ecosystem that fosters collaboration, innovation, and community. TU/e currently has approximately 13.000 students and 7.000 employees.

More information is available on the university's website: www.tue.nl.



1.3 Inorganic Materials & Catalysis, Energy Materials, Department of CE&C

The research of the Inorganic Materials and Catalysis group focuses on catalysis, materials science, and sustainable energy. Its primary objective is to achieve a comprehensive understanding of reactive processes at catalytic surfaces, often through a combination of experimental and theoretical studies on model systems. Advanced catalyst characterization techniques—increasingly performed under in situ or operando conditions—are closely integrated with theoretical approaches, including electronic structure calculations to model reaction dynamics and statistical methods to predict macroscopic performance.

More broadly, the Department of Chemical Engineering and Chemistry at Eindhoven University of Technology conducts extensive research on energy materials, including materials for electrochemical energy storage, solar energy conversion, and fuel production. This includes the development of advanced materials for batteries, hydrogen technologies, and photoelectrochemical systems, as well as process-oriented research to scale and integrate them into sustainable energy systems. These activities complement the catalysis research by addressing key challenges in the transition toward a carbon-neutral energy future.

To further strengthen these capabilities, the research group intends to expand its characterization facilities with an **“X-ray Diffraction System for Energy Materials Characterization”**.

The Dutch X-ray Characterisation Platform (DXCP) is a national, distributed research infrastructure designed to provide advanced, laboratory-based X-ray techniques for studying materials at the atomic scale. Its main goal is to enable a deeper understanding of how functional materials—such as those used in batteries, solar cells, catalysts, and coatings—behave under realistic conditions, thereby supporting innovation in the energy transition and the development of a circular economy.

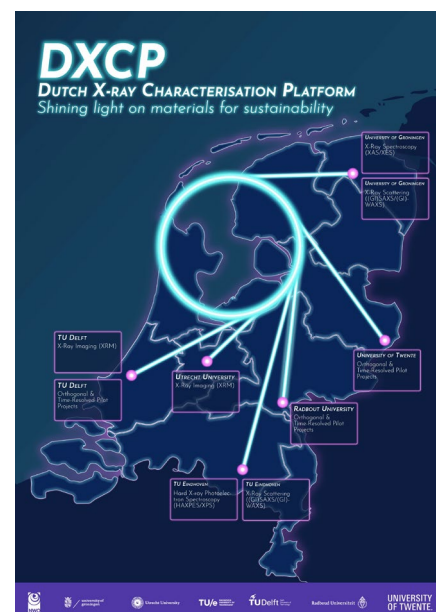
The platform operates as a virtual center consisting of three complementary university hubs in Eindhoven, Utrecht, and Groningen, each contributing distinct expertise and instrumentation. Together, these nodes form an integrated ecosystem that spans multiple length scales and combines structural, chemical, and spatially resolved information.

The Eindhoven hub focuses on surface-sensitive and structural techniques, including X-ray photoelectron spectroscopy (XPS) and X-ray scattering and diffraction (XRD, SAXS/WAXS). Its strength lies in probing surfaces, interfaces, and thin films, often under in situ or operando conditions, with relevance for catalysis and energy materials.

The Utrecht hub specializes in X-ray imaging and microscopy, enabling multi-scale visualization of materials and processes. Integrating these techniques with existing microscopy infrastructure provides spatially resolved insights into complex systems and extends applications beyond chemistry to areas such as life sciences and cultural heritage.

The Groningen hub focuses on spectroscopic techniques, such as X-ray absorption and emission spectroscopy (XAS/XES) and grazing-incidence scattering methods. This node provides detailed information on the electronic structure and bulk properties, contributing to a fundamental understanding of the material's functionality.

Together, these hubs offer a comprehensive and complementary approach, enabling researchers to correlate structure, chemistry, and performance across different scales and conditions, and strengthening the Dutch position in advanced materials research.



1.4 The Contract

The “X-ray Diffraction System for Energy Materials Characterization” will be purchased for the Inorganic Materials and Catalysis (IMC) group as part of the Dutch X-ray Characterisation Platform (DXCP). The instrument shall be a highly modular research diffractometer enabling diffraction and total scattering studies of advanced materials under ambient conditions and future in situ characterization studies requiring advanced sample environments.

The system shall support:

- high-quality powder diffraction;
- pair distribution function (PDF) analysis;
- transmission and capillary diffraction;
- texture and stress investigations;
- thin-film diffraction;
- SAXS/WAXS and reciprocal-space mapping.

The system shall be suitable for energy materials, catalysts, battery materials, hydrogen-related materials, thin films and nanostructured materials. A strong emphasis is placed on experimental flexibility, future expandability, and compatibility with advanced sample environments.

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.

This Tendering Procedure is executed on the TenderNed platform. All documents are made available digitally via TenderNed. All texts and files in TenderNed form an integral part of this Request for Proposal. 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.

2.2 Planning

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

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

Activity	Date/period
Dispatch Request for Proposal	August 28 th , 2026
Last date for raising questions for the Memorandum of Information	September 18 th , 2026
Dispatch Memorandum of Information	October 02 th , 2026
Submission of Proposal	October 19 th , 2026, before 2.00 PM Central European Time zone (CET).
Verification and Provisional award	October 2026
Final award – twenty - (20 days) after provisional award)	November 2026

2.3 Assessment procedure

The assessment procedure starts after the last date and time on which the Proposals must have been submitted. The assessment procedure consists of:

- Test on procedural/administrative requirements and completeness;
- Test on grounds for exclusion eligibility criteria and minimum requirements;
- Assessment on 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

This chapter 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

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 Tender 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 Tender Forms, unless express permission has been granted to this end by the Contracting Authority or it can be indisputably deduced otherwise from the Tender 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 the Tendering Documents. The Memoranda of Information still to be published form an integral part of these Tendering Documents. If Tenderers act in contravention of, or fail to comply with the Tendering Documents, this may lead to exclusion from (further) participation in this Tendering Procedure.

3.3 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.

3.4 Stopping the Tendering Procedure/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 Procedure. No right to any follow-up contracts can be derived from the contract award.

3.5 Confidentiality and intellectual property rights

By participating in this Tendering Procedure, the Tenderer undertakes to keep all information it receives from the Contracting Authority in the context of this Tendering Procedure 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 procedure.

The Contracting Authority shall not disclose confidential information it receives from a Tenderer in the context of this Tendering Procedure to other Tenderers without the permission of the first named Tenderer, with the exception of legal obligations of the Contracting Authority. A Tenderer must always indicate which information it considers to be confidential. By submitting a proposal, the Tenderer declares that the Contracting Authority is permitted to disclose the name of the Tenderer.

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.

By participating in the Tendering Procedure, 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.

3.6 Information exchange

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

Change in Tendering Documents

During this Tendering Procedure, 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 Memoranda of Information.

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

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.

Memoranda of Information

The (anonymised) questions submitted will be included, with answers, in the 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 Contracting Authority shall provide the last Memorandum of Information at the latest ten (10) Days before the final date for submitting a Proposal.

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. The memoranda of Information shall prevail over the text of this Request for Proposal, whereby a Memorandum of Information of a later date shall prevail over a Memorandum of Information of an earlier date. Full acceptance of the Tendering Documents is a strict requirement for submitting the Proposal.

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.

3.7 Proposal submission process

3.7.1 *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.

3.7.2 *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.

3.7.3 *Independent Tenderer*

In the event of a Proposal by an independent Tenderer, the Tenderer states that it is able to perform the Contract entirely independently (without making use of the capacity of third parties). The Tenderer must independently satisfy all the set requirements and submit the requested information.

3.7.4 *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” and a copy of the Registration in the national professional/commercial register with the Proposal, including all the requested relevant statements/Annexes.

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 and the role of the business within the Consortium (whereby, in any event, the lead manager of the Consortium is listed). When a Consortium puts forward a collaborative arrangement as 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.

3.7.5 *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, but 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.

3.8 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.

3.9 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 company representative authorized to do so. This is demonstrated by the submission of an extract from the Chamber of Commerce, possibly supplemented by a valid power of attorney, explicitly showing that the person (s) who signed the documents are authorized to represent the Tenderer.

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.

Opening of Proposals

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

Questions for Tenderers

The Contracting Authority is free to request that Tenderers explain, clarify, or supplement their Proposal within a period to be determined by the Contracting Authority.

3.10 Conditions, 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) may be invalid and will not be considered. All general conditions on the part of the Tenderer (such as delivery terms and conditions or payment terms) are expressly rejected.

The term of validity is in any event 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 8 Days from the day on which judgement was given in the preliminary relief proceedings.

3.11 Verification

The Contracting Authority can 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 that the 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.

3.12 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.

The Contracting Authority reserves the right to take a decision and make arrangements in cases the Tender documents do not provide.

3.13 Complaints

It is possible that dissatisfaction will arise between contracting authorities and businesses during the Tendering Procedure regarding the actions of the parties involved. 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: <https://www.rijksoverheid.nl/documenten/2013/03/07/klachtafhandeling-bij-aanbesteden>

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 the email address: Tenders.complaintsreportingpoint@tue.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 submitted complaint, the complainant may submit it to the Tendering Experts Committee established 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 in TenderNed.

3.14 Other

Language

All information exchange relating to the Tendering Procedure 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

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.

Variations

Variations are not permitted.

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, ELIGIBILITY AND MINIMUM REQUIREMENTS

This chapter describes the grounds for exclusion and minimum requirements the Contracting Authority applies.

4.1 Grounds for exclusion

The Contracting Authority wishes only to conduct business with companies whose integrity is established. The Contracting Authority may exclude all Tenderers to which one of the mandatory grounds for exclusion apply, or one of the optional grounds for exclusion which have been declared applicable by the Contracting Authority in the European Single Procurement Document (Annex), 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 European Single Procurement Document (**Annex 2** of this Request for Proposal) truthfully and provide it with a legally valid signature and add it to the Proposal. (Upload this **Annex 2** in TenderNed).

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 the Proposal may be 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)

Tenderer must satisfy the prescribed selection criteria (eligibility requirements) below as a minimum. If the Tenderer does not satisfy one or several of these minimum requirements, the Proposal may be invalid, and the Tenderer may not be 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: A registration in the Commercial Register of the Chamber of Commerce (or equivalent) not older than six (6) months calculated from the latest date of submission of the Proposal and must be Upload by Tenderer in TenderNed.

4.2.2 Technical and professional competence

For this tender, the Tenderer must show his proven competence and/or capabilities. Therefore, he must complete the Standard Form included in **Annex 4** of this Request for Proposal and Upload this **Annex 4** in TenderNed.

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

- To guarantee that the Tenderer has credible experience in delivery and support of at least one (1) “X-ray Diffraction System for Energy Materials Characterization” comparable with the Instrument for this tender. We request evidence of delivery and installation of an Instrument with a configuration similar to the one requested here to at least one university or other research institute (provide reference), as well as evidence of providing service for these Instruments in the past five (5) years.

The aforementioned five (5) years are calculated compared to the latest date of submission of the Proposal.

4.3 Minimum requirements in respect of the Contract

A Tenderer must in any event satisfy the minimum requirements set out below 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 all the requirements and conditions set out in the Request for Proposal and its **Annexes**, with due observance of any changes which arise from the Memoranda of Information. The Tenderer must indicate on the Declaration of Agreement Tendering Documents, **see Annex 8** of this Request for Proposal to agree to this unconditionally. Upload this **Annex 8** in TenderNed.

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 all provisions of the draft Agreement with due observance of any changes which arise from the Memoranda of Information.

4.4 Verification by the Contracting Authority

The Contracting Authority is authorized to verify the information provided by the Tenderers, by asking the Tenderers to provide documentary evidence or declarations, for example, or by making inquiries 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.	40
AC2 Quality:	60
Total	100

5.2 Price (AC1)

The award criterion Price is assessed based on the offered Price (as entered in the Price Form- **Annex 5** of this Request for Proposal). The purchase price of the “X-ray Diffraction System for Energy Materials Characterization” includes all costs, such as design, fabrication, delivery, installation, training, warranty, maintenance, and all additional costs required to meet the mandatory technical specifications (M) as described in **Chapter 6 of this Request for Proposal** and the additional wishes offered by the Tenderer in his Quotation.

For the assessment of this criterion, the Tenderer must add the fully completed Price Form (**Annex 5** of this Request for Proposal) to its Proposal. Therefore he has to fill in Standard Form included in **Annex 5** of this Request for Proposal and Upload this **Annex 5** in TenderNed.

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

$$S = (P_{\text{lowest}} / P) \times 40$$

S: score

P: price Tender **(excluding VAT)**

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

5.3 Quality (AC2)

The quality of the Proposal will be assessed against the wishes (W) outlined in the overview below.

Number:	Wish:	Maximum points to be gained for each Wish:
1.	<u>See for this wish number 6.4.4 in Chapter 6.4 of this Request for Proposal:</u> Additional Cu radiation capability including suitable optics and filters. Solutions offering rapid and user-friendly switching between Mo and Cu radiation, with fully integrated optics and software support, will score higher.	10
2.	<u>See for this wish number 6.4.8 in Chapter 6.4 of this Request for Proposal:</u> Detector active area $\geq 2500 \text{ mm}^2$. Preference will be given to detectors combining large active area, high count-rate capability, low maintenance requirements and compatibility with diffraction and total-scattering measurements using Mo radiation. Larger active detector areas will score higher. Larger active detector areas, resulting in improved collection efficiency and faster measurements, will score higher.	20
3.	<u>See for this wish number 6.4.9 in Chapter 6.4 of this Request for Proposal:</u> Detector capable of high-count-rate measurements without cooling media requirements. (Yes or No).	5
4.	<u>See for this wish number 6.4.11 in Chapter 6.4 of this Request for Proposal:</u> Accessible q-range optimized for laboratory-based PDF studies. Systems offering higher accessible q-range and superior performance for total scattering and PDF analysis will score higher.	15
5	<u>See for this wish number 6.4.13 in Chapter 6.4 of this Request for Proposal:</u> Future expandability towards capillary reactors, electrochemical cells, heating stages, SAXS/WAXS, GISAXS, texture and stress accessories without replacement of the core diffractometer. (Yes or No).	10

5.3.1 AC2 – Quality

*The maximum points for all the Wishes that can be gained is **60 points**.*

Details regarding each wish must be added to the Quotation in TenderNed. For the assessment of this criterion, the Tenderer must add the fully completed. Award Criteria AC2 Wishes (**Annex 7** of this Request for Proposal) to its Proposal. Therefore, he must fill in Standard Form included in **Annex 7** of this Request for Proposal and Upload this **Annex 7** in TenderNed.

Please note that your proposal for each wish is not without obligations and will be part of the Agreement.

5.4 Assessment

5.4.1 AC1 - Price

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

5.4.2 AC2 - Quality

Assessment of the qualitative assessment criteria is undertaken by an assessment committee represented by three (3) members of the Department of Chemical Engineering and Chemistry.

5.4.3 Determination of score AC2.1 and AC2.2

The assessment committee gives its view based on 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

Rating figure	description
0	no input
1	very bad
2	bad
3	more than insufficient
4	insufficient
5	moderate / weak
6	sufficient
7	more than sufficient
8	good
9	very good
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 they may still be adjusted.

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

Calculation example The calculation of the score for Wish 2 (*Detector active area $\geq 2500 \text{ mm}^2$ (Section 6.4.8)*) will take place as follows:

Ratings given by individual assessors: 6.0, 7.0, and 8.0

Average rating $21/3 = 7$

Points score $7/10 * 20 = 14$

In this example, the score for Wish 2 is 14 points

After this, all point scores for all Wishes are summed, leading the total points score for the Award Criterion Quality (G2).

5.4.4 *Determination of total score*

Finally, the point scores obtained from the Award Criterion Price (AC1) and Quality (AC2) will be summed. The Tenderer achieving the highest 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.

5.4.5 *Verification interview*

After the tenderer with the highest overall total score is known, this tenderer will be invited for a verification interview.

5.4.6 *Intended award*

After the assessment and a successful verification interview, 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 specifications

The following chapters describe the specific requirements. A list has been attached with regard to the laid down mandatory requirements 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 3.6 of this Request for Proposal. Tenderers will be informed of any amendments to the Technical Specification via 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, becomes the final version.

The tenderer must indicate in **Annex 6 MINIMUM REQUIREMENTS** of this request for proposal that it complies with the relevant requirement with comments if applicable and upload this Annex 6 in TenderNed.

Further, this chapter contains wishes marked with W. Tenderers that meet the mandatory requirements shall be evaluated based on the data provided concerning the wishes, to the extent they meet the Wishes, compared to the other Tenderers.

6.2 General:

Nr.		M / W
6.2.1	At least twenty-four (24) months warranty on the instruments and all components and software starting after successful acceptance by TU/e.	M
6.2.2	Free software updates and upgrades for a period of five (5) years for the whole system after successful acceptance by TU/e.	M
6.2.3	At least ten (10) years warranty on delivery of (electronic) spare parts after successful acceptance by TU/e.	M
6.2.4	Service Contract for 5 years (preventive maintenance including labor, preventive maintenance and travel costs) after successful acceptance by TU/e.	M
6.2.5	The maximum downtime per event is one (1) week.	M
6.2.6	The complete system must have CE certification. This includes, but is not limited to, the Machine Directive and the EMC Directive. Electrical connections & power supply according European (Legal) standards.	M
6.2.7	Documentation should include test reports, operation, and maintenance manuals written in English. Electrical drawings shall comply with IEC standards. All documents will be delivered in digital and printed form.	M
6.2.8	Delivery time <6 months after order.	M
6.2.9	Training and Application support for Operation and Maintenance shall be supplied.	M

6.3 Software and computer hardware:

Nr		M / W
6.3.1	Control PC with latest MS Windows (11 or newer) with license and monitor.	M
6.3.2	Software runs on MS Windows version 11 or newer and is compatible with updates.	M
6.3.3	Remote monitoring of the system for users.	M
6.3.4	Remote support from manufacturer via TeamViewer or similar.	M

6.4 Hardware:

Nr.		M / W
6.4.1	The instrument shall be based on a modular research diffractometer platform suitable for Bragg-Brentano diffraction, total scattering/PDF, SAXS/WAXS, thin-film diffraction, reciprocal-space mapping and future integration of in situ and operando sample environments. The platform shall permit straightforward reconfiguration between measurement geometries.	M
6.4.2	X-ray source: Mo-anode tube including suitable K β suppression optics and filters.	M
6.4.3	The system shall be optimized for laboratory-based total-scattering and Pair Distribution Function (PDF) measurements using Mo radiation. The selected configuration shall maximize accessible q-range while retaining sufficient angular coverage and data quality for conventional diffraction studies.	M
6.4.4	Additional Cu radiation capability including suitable optics and filters. Solutions offering rapid and user-friendly switching between Mo and Cu radiation, with fully integrated optics and software support, will score higher.	W1 (maximum points 10)
6.4.5	The system shall include a fully motorized incident beam optics assembly enabling automated switching between powder diffraction, transmission/capillary diffraction and thin-film measurement geometries. The system shall include motorized divergence slit assembly; motorized anti-scatter device; focusing optics for Mo radiation suitable for capillary transmission measurements and PDF analysis; parallel-beam optics for Cu radiation suitable for thin-film diffraction; all required Soller slits, collimators and beam-conditioning components.	M
6.4.6	Area detector capable of 0D, 1D and 2D operation.	M
6.4.7	Detector suitable for Mo-radiation diffraction and total scattering measurements.	M
6.4.8	Detector active area $\geq 2500 \text{ mm}^2$. Preference will be given to detectors combining large active area, high count-rate capability, low maintenance requirements and compatibility with diffraction and total-scattering measurements using Mo radiation. Larger active detector areas will score higher.	W2 (Max.20 points)
6.4.9	Detector capable of high-count-rate measurements without cooling media requirements.	W3 (Max.5 points)
6.4.10	Detector suitable for PDF, SAXS/WAXS and in situ studies.	M
6.4.11	Area detector capable of 0D, 1D and 2D operation. The accessible q-range shall be optimized for high-quality laboratory PDF analysis. Tenderers shall	W4 (Max. 15 points)

	specify the maximum accessible q-value and demonstrate suitability of the proposed configuration for total-scattering measurements on nanostructured, amorphous and partially ordered materials.	
6.4.12	The supplied software suite shall support instrument control; powder diffraction analysis; PDF analysis; reciprocal space mapping; thin-film diffraction analysis; detector calibration and data reduction.	M
6.4.13	Future expandability towards capillary reactors, electrochemical cells, heating stages, SAXS/WAXS, GISAXS, texture and stress accessories without replacement of the core diffractometer.	W5 (Max. 10 points)
6.4.14	The system shall include a fully integrated cooling unit connected to an external water supply, with automatic water-flow control to prevent condensation and reduce water consumption. The cooling unit shall include de-ionization or equivalent water treatment and shall not require additional floor space outside the instrument cabinet.	M

6.5 Scope of delivery

The Contractor shall supply, install, commission, and demonstrate a complete, fully operational **“X-ray Diffraction System for Energy Materials Characterization”** at Eindhoven University of Technology.

6.6 Factory acceptance test

Prior to delivery of the **“X-ray Diffraction System for Energy Materials Characterization”** to the Eindhoven site, a Factory Acceptance Test (FAT) must be conducted. The FAT consists of at least testing the basic functionalities and the mandatory requirements mentioned above.

6.7 Site acceptance test

Site acceptance test of the **“X-ray Diffraction System for Energy Materials Characterization”** consists of:

- The **“X-ray Diffraction System for Energy Materials Characterization”** will be inspected for damages.
- The proper functioning of the **“X-ray Diffraction System for Energy Materials Characterization”** will be verified by TU/e by demonstration of the following topics by the Tenderer.
 - Verification of goniometer performance, angular accuracy, and reproducibility using appropriate certified reference materials;
 - Verification of X-ray source performance, including stability, intensity, and proper operation of all supplied radiation configurations;
 - Verification of detector performance, including calibration, count-rate capability, and operation in the specified acquisition modes;
 - Demonstration of high-quality powder diffraction measurements using suitable reference materials, including verification of instrument resolution and data quality.
- The presence and quality of provided documentation will be verified.

6.8 Financial aspects

Payment of the Purchase price of the **“X-ray Diffraction System for Energy Materials Characterization”** shall occur upon the attainment of the milestones given in the table below:

	Milestone	Percentage of the total purchase price
1	Upon ordering against bank guaranty	30%
2	After delivery of the “X-ray Diffraction System for Energy Materials Characterization”	60%
3	Successfully completed Site Acceptance Test	10%

Annex 1: GLOSSARY

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

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

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

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

Campus: University site containing facilities for students and employees.

Days: Calendar Days.

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 of which a Proposal must be submitted.

Tenderer: An economic operator having submitted a Proposal.

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

Tender Form: The Tender Forms and other information as indicated in the **Annex** to this Request for Proposal.

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.

Contract: A public contract as referred to in the (amended) Public Procurement Act 2012 related to the installation and delivery of the “**X-ray Diffraction System for Energy Materials Characterization**” for the Contracting Authority, as described in this Request for Proposal.

Contracting Authority: The Contracting Authority is Technische Universiteit Eindhoven. The abbreviation TU/e and the English translation Eindhoven University of Technology are also used in the Tendering Documents.

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

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

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.

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.

Annex 2: EUROPEAN SINGLE PROCUREMENT DOCUMENT.

Separate document.

Annex 3: (DRAFT) AGREEMENT, INCLUDING ANNEXES.

Separate document.

Annex 4: REFERENCE (EXPERIENCE).

Separate document.

Annex 5: PRICE FORM.

Separate document.

Annex 6: MINIMUM REQUIREMENTS.

Separate document.

Annex 7: AWARD CRITERIA AC2 WISHES.

Separate document.

Annex 8: DECLARATION OF AGREEMENT TENDERING DOCUMENTS.

Separate document.