

Germany-Geesthacht: Diffraction apparatus
OJ S 159/2022 19/08/2022
Contract award notice
Supplies

Legal Basis:

Directive 2014/24/EU

Section I: Contracting authority

I.1. Name and addresses

Official name: Helmholtz-Zentrum hereon GmbH

Postal address: Max-Planck-Straße 1

Town: Geesthacht

NUTS code: DEF06 Herzogtum Lauenburg

Postal code: 21502

Country: Germany

Contact person: Vergabestelle

E-mail: einkauf@hereon.de

Telephone: +49 4152870

Fax: +49 415287-1750

Internet address(es):

Main address: <https://www.hereon.de>

I.4. Type of the contracting authority

Other type: non-profit making research institute with limited liability

I.5. Main activity

Other activity: scientific spectrum: high-performance materials, processes and environmentally friendly technologies for mobility, new energy systems and biomaterials

Section II: Object

II.1. Scope of the procurement

II.1.1. Title

Hexapod and Rotary Stage for BEER / ESS

Reference number: 2022/03-50531

II.1.2. Main CPV code

38530000 Diffraction apparatus

II.1.3. Type of contract

Supplies

II.1.4. Short description

1 Hexapod and Rotary Stage for BEER / ESS

The European Spallation Source (ESS) ERIC (European Research Infrastructure Consortium) as joint European project is a large scale, multinational research facility being built in Lund, Sweden, with a data management and software centre in Copenhagen, Denmark.

The European Commission has, by decision (EU) 2015/1478 of 19 August 2015, established ESS as responsible for constructing, operating, developing and decommissioning the Facility. The Swedish and Danish Governments have agreed to host ESS with Sweden as the host member state in accordance with Regulation (EC) No 723/2009.

The facility will be a world-leading centre for materials research and life sciences using neutrons and will host the world's most powerful neutron source.

BEER is a time-of-flight engineering diffractometer being built at the ESS.

BEER is intended to enable studies of condensed matter by observing the scattering of thermal or cold neutrons by a specimen.

The unique feature of BEER will be that a large number of short pulses are extracted from the long pulse of the ESS, which is unique after its completion, resulting in significantly higher neutron flux at the sample and thus higher intensity and broader resolution range while providing comprehensive detector coverage.

The Hexapod and the Rotary Stage are part of the Sample Stage Assembly for BEER / ESS.

The Sample Stage Assembly is responsible for the precise positioning and movement of samples and sample environment equipment into the neutron beam.

It is located in a pit within the experimental Cave of BEER and consists of an adapter plate, the Rotary Stage and the Hexapod.

The adapter plate will be provided by Hereon while the Rotary Stage and Hexapod are subject to the Contractor.

In this context Hereon is issuing a tender for the Hexapod and Rotary Stage

The scope of work includes all necessary tasks and deliverables for the operation of the Rotary Stage and the Hexapod as defined in the requirement specification:

I. Preliminary Design

II. Design

III. Production and assembly

IV. Factory Acceptance Tests (FAT)

V. Delivery to ESS storage facility

VI. Installation and alignment within the experimental Cave

VII. Site Acceptance Test (SAT) of the complete systems at ESS

VIII. Documentation in electronic and paper copy, including quality assurance documentation

II.1.6. Information about lots

This contract is divided into lots: no

II.1.7. Total value of the procurement

Value excluding VAT: 378 524,00 EUR

II.2. Description

II.2.2. Additional CPV code(s)

38000000 Laboratory, optical and precision equipments (excl. glasses)

II.2.3. Place of performance

NUTS code: SE224 Skåne län

Main site or place of performance: ESS - European Spallation Source Transportgatan 5 F03 / Gate E 22484 Lund (Sweden)

II.2.4. Description of the procurement

1 Hexapod and Rotary Stage for BEER / ESS

The Hexapod and the Rotary Stage are part of the Sample Stage Assembly for BEER / ESS. It is located in a pit within the experimental Cave of BEER at about 158m from the ESS moderator.

The pit for the sample stage assembly has an octagonal shape. The diameter of the pit is about 1900 mm and the height 1500 mm.

The Sample Stage Assembly consists of three subsystems: an adapter plate, the Rotary Stage and the Hexapod.

The adapter plate will be provided by Hereon while the Rotary Stage and Hexapod are subject to the Contractor.

The Rotary Stage will be mounted on an adapter plate (provided by Hereon) with kinematic mounts.

The adapter plate itself is mounted on the ground floor of the E01 building.

The Hexapod shall be mounted on the Rotary Stage either directly or using an adapter plate.

The height of the assembly should not exceed 1500 mm.

The hardware, cables and cable trays as well as the controller for the Hexapod are subject to the Contractor.

For the Rotary Stage the hardware and cable trays are subject to the Contractor while the motor, cables and controller will be provided by ESS and Hereon.

The Hexapod and Rotary Stage will be operated in a normal atmospheric pressure.

Under operation of the ESS source, they will face a spectrum of scattered thermal and cold neutrons as well as gamma radiation.

1. Rotary Stage

Payload weight ?3000 kg.

Bi-directional rotation of minimum 360 Grad. Multiple turns are not required.

Bi-directional repeatability ? 0.1

Vibrational amplitudes should not exceed ~10 ?m.

Rotation axis with maximum eccentricity of 20?m (in the x-y plane of the USCS)

Maximum wobble parameter of 7`` with respect to the z-axis of the USCS

The outer diameter of the Rotation Stage shall not be larger than 1350 mm.

The outer surface shall be circularly, i.e. the gearbox shall be within the radius of the outer surface of the rotation table.

The maximum height shall be below 250 mm without the motor

(exact position of the motor shall be discussed during the design phase)

The Rotary Stage shall be installed with its rotation plane perpendicular to the z-axis of the USCS on an adapter plate provided by Hereon

The Rotary Stage shall be delivered with cable carriers and electrical hardware necessary for operation except the motor, controller and cables which will be provided by ESS and Hereon.

The Rotary Stage shall be equipped with a brake or self-locking gears, which allow to lock the rotation axis by a torque of min. 1000 Nm in rest .

The total weight of the Rotary Stage shall not exceed 650 kg.

The Rotary Stage will be controlled by EPICS at ESS. The software integration into EPICS will be performed by ESS.

2. Hexapod

The Hexapod shall be placed on top of the Rotary Stage.

Payload weight ?2000 kg.

The Hexapod shall allow for a single axis travel range (all other directions at zero position) in x and y of $T_{x,y} ? +/-180$ mm and in z (vertical axis) of $T_z ? +/-200$ mm. The bi-directional repeatability shall be ?0.02 mm.

The rotation around x and y shall be $R_{x,y} \pm 6\text{Grad}$ (with Pivot point at $z=1638\text{mm}$, $x=0$, $y=0$) and around z $R_z \pm 30\text{Grad}$ with a bi-directional repeatability of $\pm 0.02\text{Grad}$.

Outer diameter $\approx 1500\text{ mm}$

Maximum height in the lowest position $\approx 900\text{ mm}$

The Hexapod z- axis (out-of-plane axis) shall be installed parallel to the z-axis of the USCS on the Rotary Stage

The Hexapod shall be delivered with all cables, cable carriers and electrical hardware necessary for operation.

The Hexapod shall be equipped with electrical actuators based on brushless technology which shall be able to be locked by a brake or self-locking gears.

All electrical components shall be compliant to EN 55024 and EN 55032.

The cable length shall be $\approx 30\text{m}$. The needed bending radius of the cables will be discussed during the kick-off meeting.

The Pivot point shall be adjustable along the z-axis by software between $z=0$ and 1638mm .

The total weight of the Hexapod shall not exceed 600kg .

The durability of one actuator shall be more than 3.25×10^6 cycles ($\sim 2.7 \times 10^4$ working hours) at constant load of 2000 kg (velocity = 1mm/s , travel range 200 mm).

The Hexapod controller shall be mountable inside a 19inch rack without further modifications.

The controller shall be able to act as an EtherCAT slave to enable connection to a higher-level control system/network.

The Hexapod will be controlled by EPICS at ESS. The software integration into EPICS will be performed by ESS.

The vendor shall ensure computer control interfaces are available to open the full functionality and provide documentation.

Further Hexapod, Rotary Stage and project related requirements for this tender regarding (for example, but not limited to:)

- Scope of Work and Supply
- Remuneration
- Declaration of Conformity
- Warranty Period
- Communication during Tender Process
(Alternative solutions, Tender Presentation, Offer technical Report)
- Product (f.e. General Information, Product Breakdown Structure, Installation Context, System Interfaces Points, Definitions, Functional Requirements, Allowed Materials, Operation Requirements, Integration, Specific Requirements, Acceptance Tests, Technical Documentation)
- Project Management
- Overview of Project Phases
- Quality Assurance and
- Product Documentation
- Contractual Agreements between Hereon and Subcontractor

are specified in enclosed documents

40046289 Agreement Subcontracto and its Annexes

40046289 Annex 1 (ESS Standards)

40046289 Annex 2 (Specification)

40046289 Annex 3 (Form Monthly Report)

(ea in current published version)

II.2.5. Award criteria

Quality criterion - Name: Quality and Concept / Weighting: 30

Price - Weighting: 70.00

II.2.11. Information about options

Options: yes

Description of options:

Pursuant to sec. 14 para. 4 no. 5 and 9 VgV (Procurement Ordinance - Vergabeverordnung), the right is reserved to award the repetition of similar services and/or deliveries corresponding to the basic project in a negotiated procedure without a competitive tender under the same conditions as the basic contract. Further information on the option of hourly paid work is contained in the procurement documents and the contract.

II.2.13. Information about European Union funds

The procurement is related to a project and/or programme financed by European Union funds:
no

II.2.14. Additional information

Section IV: Procedure

IV.1. Description

IV.1.1. Type of procedure

Open procedure

IV.1.3. Information about a framework agreement or a dynamic purchasing system

IV.1.8. Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: yes

IV.2. Administrative information

IV.2.1. Previous publication concerning this procedure

Notice number in the OJ S: [2022/S 065-168829](#)

IV.2.8. Information about termination of dynamic purchasing system

IV.2.9. Information about termination of call for competition in the form of a prior information notice

Section V: Award of contract

Title:

Auftragsvergabe SYMETRIE

A contract/lot is awarded: yes

V.2. Award of contract

V.2.1. Date of conclusion of the contract

01/08/2022

V.2.2. Information about tenders

Number of tenders received: 2

The contract has been awarded to a group of economic operators: no

V.2.3. Name and address of the contractor

Official name: SYMETRIE

Postal address: 10 Allée Charles Babbage

Town: Nimes Cedex 1

NUTS code: FRJ1 Languedoc-Roussillon

Postal code: 30035

Country: France

E-mail: contact@symetrie.fr

Telephone: +33 466294388

Internet address: <https://symetrie.fr/>

The contractor is an SME: yes

V.2.4. Information on value of the contract/lot

Total value of the contract/lot: 378 524,00 EUR

V.2.5. Information about subcontracting

Section VI: Complementary information

VI.3. Additional information

Bekanntmachungs-ID: CXU1YYDYYUB

VI.4. Procedures for review

VI.4.1. Review body

Official name: Vergabekammer des Bundes beim Bundeskartellamt

Postal address: Villemomblerstraße76

Town: Bonn

Postal code: 53113

Country: Germany

E-mail: vk@bundeskartellamt.bund.de

Telephone: +49 2289499-0

Fax: +49 2289499-163

VI.4.3. Review procedure

Precise information on deadline(s) for review procedures:

Precise information on the time limits for lodging appeals:

- Section 134 (2) of the GWB - information and waiting period obligation: a contract may not be concluded until 15 calendar days after the information pursuant to Section 134 (1) of the GWB has been sent. If the information is sent electronically or by fax, the period is reduced to 10 calendar days. The period shall commence on the day following the dispatch of the information by the contracting entity; the day of receipt by the tenderer and candidate concerned shall be irrelevant.

- The award procedure is subject to the provisions on review proceedings before the Public Procurement Tribunal (Section 155 et seq. GWB). Pursuant to Section 160 (3) GWB, the application is inadmissible to the extent that:

1. the applicant has recognized the asserted infringement of procurement regulations prior to filing the application for review and has not objected to it vis-à-vis the contracting entity within

a period of 10 calendar days; the expiry of the period pursuant to Section 134 para. 2 GWB shall remain unaffected,

2. violations of procurement regulations which are identifiable on the basis of the notice are not notified to the contracting authority at the latest by the expiry of the period for application or submission of bids specified in the notice,

3. violations of procurement regulations which are only recognizable in the award documents are not notified to the contracting entity at the latest by the expiry of the period for application or submission of bids,

4. more than 15 calendar days have elapsed since receipt of the contracting entity's notification that it does not intend to remedy a complaint. The preceding sentence shall not apply in the case of an application for a declaratory decision on the invalidity of the contract pursuant to Section 135 para. 1 no. 2 GWB. § Section 134 (1) sentence 2 GWB shall remain unaffected.

VI.5. Date of dispatch of this notice

15/08/2022