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**Germany-Darmstadt: Command and control system
2022/S 091-249852**

Contract notice

Supplies

Legal Basis:

Directive 2014/24/EU

Section I: Contracting authority

I.1) Name and addresses

Official name: FAIR - Facility for Antiproton and Ion Research in Europe GmbH

Postal address: Planckstr. 1

Town: Darmstadt

NUTS code: DE711 Darmstadt, Kreisfreie Stadt

Postal code: 64291

Country: Germany

E-mail: sg227@gsi.de

Telephone: +49 6159712034

Fax: +49 6159713983

Internet address(es):

Main address: <http://www.fair-center.de>

I.3) Communication

The procurement documents are available for unrestricted and full direct access, free of charge, at: <https://www.dtv.de/Satellite/notice/CXS0YYEYRPE/documents>

Additional information can be obtained from the abovementioned address

Tenders or requests to participate must be submitted electronically via: <https://satellite.dtv.de/Satellite/notice/CXS0YYEYRPE>

I.4) Type of the contracting authority

Other type: large scale research lab

I.5) Main activity

Other activity: research

Section II: Object

II.1) Scope of the procurement

II.1.1) Title:

Controls and Beam Diagnostic Equipment

Reference number: 27/50086444FAIR

II.1.2) Main CPV code

42961000 Command and control system

II.1.3) Type of contract

Supplies

II.1.4) Short description:

For the construction of the first facility section of FAIR, special hardware and electronic components are required on the one hand, as well as support services for software integration into the accelerator's control system and beam diagnostic system. The hardware and software integration serves to ensure compatibility with the very complex and specific control system standards of the FAIR accelerator and is a main component of the scope of delivery. This includes the extension or development of so-called FESA classes with integrated LSA data supply by the accelerator control system as well as the connection to the campus-wide timing system based on a white-rabbit real-time network. In this context, special electronic and mechanical components are to be supplied, as well as programming and support services.

II.1.5) **Estimated total value**

II.1.6) **Information about lots**

This contract is divided into lots: no

II.2) **Description**

II.2.2) **Additional CPV code(s)**

30232700 Central controlling unit
31712110 Electronic integrated circuits and microassemblies
38424000 Measuring and control equipment
48960000 Drivers and system software package
72211000 Programming services of systems and user software
72212960 Drivers and system software development services

II.2.3) **Place of performance**

NUTS code: DE711 Darmstadt, Kreisfreie Stadt

Main site or place of performance:

FAIR - Facility for Antiproton and Ion Research in Europe GmbH Planckstr. 1 64291 Darmstadt

II.2.4) **Description of the procurement:**

According to the detailed specifications, several hardware equipment and mechanical actuators have to be customized, manufactured and tested as well as SPS programming and System Software has to be upgraded or newly designed. Also Support for Hardware and Software Integration into the FAIR systems is required.

II.2.5) **Award criteria**

Price is not the only award criterion and all criteria are stated only in the procurement documents

II.2.6) **Estimated value**

II.2.7) **Duration of the contract, framework agreement or dynamic purchasing system**

Duration in months: 36

This contract is subject to renewal: no

II.2.10) **Information about variants**

Variants will be accepted: no

II.2.11) **Information about options**

Options: no

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 III: Legal, economic, financial and technical information

III.1) **Conditions for participation**

III.1.1) **Suitability to pursue the professional activity, including requirements relating to enrolment on professional or trade registers**

List and brief description of conditions:

Supporting documents:

- 4. Self-declaration of suitability pursuant to Sections 123, 124 GWB (To be submitted with the participation request by means of self-declaration): Self-declaration of possessing the knowledge pursuant to Sections 123, 124 GWB is incorrect and that the cases mentioned therein do not apply - FAIR preprinted form
- 5. Company presentation (To be submitted with the participation request by means of self-declaration): "With the information asked for on the FAIR preprinted form, the number of employees over the previous three years - on the FAIR preprinted form under Company presentation"

III.1.2) **Economic and financial standing**

List and brief description of selection criteria:

Supporting documents:

- 6. Information on overall revenues and order-specific revenue (To be submitted with the participation request by means of self-declaration): Declaration of the total company turnover and the turnover in relation to the particular type of service to which the award relates, in both cases, in relation to the last 3 financial years - on the FAIR preprinted form under Company presentation.
- 8.1 Proof of commercial liability insurance (To be submitted with the participation request by means of self-declaration): "Proof of a commercial liability insurance must be provided.

III.1.3) **Technical and professional ability**

List and brief description of selection criteria:

Supporting documents:

- 9. Information about technical equipment, QM/QS, R&D (To be submitted with the participation request by means of self-declaration): Description of technical equipment, steps taken by the company to ensure quality and the company's investigation and research capabilities:
 - Self-declaration of readiness and possibility to make individual technical adjustments to standard hardware components, also for small series.
 - Self-declaration of readiness and possibility of individual interface programming, Firmware and software development, as well as accompanying services during development and installation.
 - Detailed description of the equipment and the test stand for UHV vacuum components and PLC-based slow controls.
- 10. Description of reference projects (To be submitted with the participation request by means of self-declaration): Description of comparable reference projects, including the project data asked for on the FAIR preprinted form.

Minimum level(s) of standards possibly required:

with the following minimum requirements for the references.

The references must not be older than 5 years and must be described in detail as to prove the following experiences:

- Experience in design, layout and test of tailored custom solutions with long-term accelerator operation in mind.
- Practical project experience with the design and implementation of customer-specific solutions in the field of large-scale research facilities and ideally already experience in the setup and operation of overall systems at accelerator facilities.
- Solutions, realized on modular concepts in close collaboration with the customer in order to incorporate the specific hardware and software interfaces of the accelerator complex.
- Experience in design, development and characterization of low-noise analogue electronics
- Experience in design, development, programming and debugging of state-of-the-art high-performance digital acquisition electronics with online digital signal processing in FPGAs.
- Experience in selection of radiation tolerant electronic components for front-end electronics, here the BPM pre-amplifiers, installed in the accelerator tunnels or niches.
- Experience with automation and data acquisition at accelerator facilities.
- Experience in the manufacture of UHV-capable drives, the execution of vacuum acceptance procedures and with the creation of the necessary software.
- Experience with the procurement, installation (commissioning), programming and maintenance of PLC-based controls and associated electronic components.
- Experience with the development and construction of state-of-the-art electronics, especially in the MütCA standard.
- Experience with the integration of external electronics via standardized interfaces, especially knowledge of the White Rabbit Timing System and its special timing receiver nodes.
- Experience with Intel/Altera Quartus Design Suite programming, with VHDL, with Intel/Altera Arria10 FPGA family, with Intel/Altera MAX10 FPGA family and with Arria10 FPGA power sequencing.
- Experience with the development and adaptation of special software for accelerator systems and with the corresponding integration into such systems (with Linux operating system).
- Experience with the development and maintenance of FESA classes and the necessary interfaces with connection to other important control system components (LSA, timing system, etc.).
- Extensive project experience in the development of control system software and the corresponding development languages (listing required).
- Many years of experience in programming in the languages C++ and Java/JavaFX, profound knowledge of the software framework FESA (Front-End Software Architecture), in the creation of FESA applications, in the familiarization with complex software frameworks (e.g. specific control system infrastructure of an accelerator), knowledge of standardized tools for the management of software projects (GIT, Subversion SVN, or similar), with SILECS Framework and with UNICOS Industrial Controls Framework.
- Experience with macro development for Rackplan, the Machinery Directive DIN EN 13849-1 and DIN EN 60204-1 and with WinCC-OA, S7 PLC, TIA Portal, S7 safety programming.

III.2) **Conditions related to the contract**

III.2.2) **Contract performance conditions:**

Supporting documents:

- 1. Act Regulating a General Minimum Wage (Mindestlohngesetz - MiLoG) (To be submitted with the participation request by means of self-declaration): Declaration as per Section 19 (3) MiLoG - FAIR preprinted form
- 2. Proofs for subcontractors (To be submitted with the participation request by means of self-declaration): "The name and address of each intended subcontractor must be given when submitting the tender. Each subcontractor used must meet the same suitability criteria as the primary contractor. Suitable proof for each subcontractor must be submitted. The subcontractor must also submit
- A declaration of availability (see Declaration of availability preprinted form) together with the request to participate/tender. - FAIR preprinted form"
- 3. Participation - General declaration within the meaning of Section 126b (German Civil Code -BGB) (To be submitted with the participation request by means of self-declaration): General declaration of the person making the declaration within the meaning of Section 126b BGB. If the person making the declaration is not named in the request to participate, the request to participate will be deemed to have not been submitted.
- 14. Russia sanctions - Declaration on Regulation (EU) 833/2014 (To be submitted with the participation request by means of self-declaration): On 08.04.2022, the Council of the European Union adopted Regulation (EU) 2022/576 amending Regulation (EU) No 833/2014 concerning restrictive measures in view of Russia's actions destabilising the situation in Ukraine. This entered into force on 09.04.2022. As a regulation, it has direct legal effect in the member states and has a direct impact on the award of public contracts and concessions.

Section IV: Procedure

IV.1) Description

IV.1.1) Type of procedure

Competitive procedure with negotiation

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

IV.1.4) Information about reduction of the number of solutions or tenders during negotiation or dialogue

Recourse to staged procedure to gradually reduce the number of solutions to be discussed or tenders to be negotiated

IV.1.5) Information about negotiation

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.2.2) Time limit for receipt of tenders or requests to participate

Date: 08/06/2022

Local time: 12:00

IV.2.3) Estimated date of dispatch of invitations to tender or to participate to selected candidates

Date: 09/06/2022

IV.2.4) Languages in which tenders or requests to participate may be submitted:

English

Section VI: Complementary information

VI.1) Information about recurrence

This is a recurrent procurement: no

VI.2) Information about electronic workflows

Electronic ordering will be used

Electronic invoicing will be accepted

VI.3) **Additional information:**

The offers will be evaluated based on the price-quotient-method. The following criteria have been determined:

Total Bid Offer: 70 %

Performance Criteria: (PC) 30 %

Performance Criteria, specified:

Fulfillment of the Technical Specification / Technical Concept: 50%

Quality Assurance, Test methods and development cooperation: 30 %

Delivery Schedule: 20 %

The detailed description of the criteria is found within the document "special_application_requirements".

Bekanntmachungs-ID: CXS0YYEYRPE

VI.4) **Procedures for review**

VI.4.1) **Review body**

Official name: Vergabekammer des Bundes

Postal address: Villemomblerstr. 76

Town: Bonn

Postal code: 53123

Country: Germany

VI.4.3) **Review procedure**

Precise information on deadline(s) for review procedures:

The competent reviewing authority is: Federal Public Procurement Tribunal

Villemombler Straße 76

53123 Bonn

Tel.: 0228 9499-0

Fax: 0228 9499-163

Email: vk@bundeskartellamt.bund.de

Website: <http://www.bundeskartellamt.de>

Candidate/ Bidder is requested to clearly identify those sections of the participation application (and eventually of the tender, if applicable) that contain a trade or business secret. If Bidder fails to do so, the Public Procurement Tribunal may, in the case of a review procedure, assume that Bidder has agreed to have these documents inspected (§165 para. 3 GWB). As Awarding Authority, FAIR is obliged to make the tender file available to the Public Procurement Tribunal immediately when initiating a review procedure (§ 163 para. 2 cl. 3 GWB).

Candidates/ Bidders have a right to expect the contracting authority's compliance with the Bidder-protecting provisions re: the tender procedure (§ 97 para. 6 GWB). If Candidate/ Bidder interested in the contract considers that Bidder's rights have been infringed through failure to comply with award regulations, the infringement must be reported to FAIR within ten calendar days (§ 160 para. 3 cl. 1 nr. 1 GWB).

Infringements identifiable on the basis of the announcement or the award documents must be asserted against FAIR within the deadline for submission of applications (or tenders) specified in the announcement (§ 160 para. 3 cl. 1 nr. 2 - 3 GWB).

If FAIR informs Candidate/ Bidder that FAIR is unwilling to redress its complaint, it is possible to file an appeal for review with the aforementioned Public Procurement Tribunal within 15 days of receipt of the notification (§ 160 para. 3 cl. 1 nr. 4 GWB).

Bidders whose tenders are not to be considered for the award will be informed prior to the award according to § 134 GWB. A contract may only be concluded 15 calendar days after this information has been sent by FAIR. In the case of transmission by fax or electronic means, this period shall be ten calendar days. It commences on

the day after dispatch of the information by FAIR. After this period has expired, a surcharge is possible, even if the deadline is not passed according to § 160 para. 3 GWB. An application for review would therefore have to be delivered to FAIR by the Public Procurement Tribunal before the expiry of the deadline according to § 134 GWB in order to prevent a surcharge.

According to § 135 para. 1 and 2 GWB, the ineffectiveness of a commission can only be established if it has been asserted in the review procedure within 30 calendar days of the conclusion of the contract but not later than six months after the conclusion of the contract. If the contracting entity has published the award in the Official Journal of the European Union, the period unenforceability shall end 30 calendar days after announcement of the publication of the award in the Official Journal of the European Union.

Information pursuant to Art. 13 GDPR on the processing of your personal data within the scope of our business relationship is available at:

www.gsi.de/data-protection

VI.5) **Date of dispatch of this notice:**
06/05/2022