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Tender

2884/511/JS/AMRC/20 - Real time monitoring and control for automation

UNIVERSITY OF SHEFFIELD

F02: Contract notice
Notice identifier: 2021/S 000-006774
Procurement identifier (OCID): ocds-h6vhtk-02a1e7
Published 1 April 2021, 9:23am

Section I: Contracting authority

I.1) Name and addresses

UNIVERSITY OF SHEFFIELD

Western Bank

SHEFFIELD

S102TN

Contact

Jamie Shaw

Email

jamie.shaw@sheffield.ac.uk

Telephone

+44 1142221516

Country

United Kingdom

NUTS code

UKE32 - Sheffield

Internet address(es)

Main address

www.sheffield.ac.uk

I.3) Communication

The procurement documents are available for unrestricted and full direct access, free of charge, at

https://www.in-tendhost.co.uk/sheffield/

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

https://www.in-tendhost.co.uk/sheffield/

Electronic communication requires the use of tools and devices that are not generally available. Unrestricted and full direct access to these tools and devices is possible, free of charge, at

https://www.in-tendhost.co.uk/sheffield/

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Education

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

2884/511/JS/AMRC/20 - Real time monitoring and control for automation

Reference number

2884/511/JS/AMRC/20

II.1.2) Main CPV code

- 42997300 - Industrial robots

II.1.3) Type of contract

Supplies

II.1.4) Short description

2884/511/JS/AMRC/20 - Real Time Monitoring and Control for Automation

The University of Sheffield wishes to invite tenders for a 'Real Time Monitoring and Control for Automation' system on behalf of the Advanced Manufacturing Research Centre at Catcliffe, South Yorkshire.

Scope of Requirement

AMRC Integrated Manufacturing Group have a requirement for capability to measure the accuracy of multiple targets in six degrees of freedom. We require a system to improve robot path accuracy by measure and correct methodology, stream data such as robot positions to an external system for Digital twin activities, and a method to visualise robot path accuracy by comparison of programmed paths versus actual to continue to build upon previous work in improving robotic accuracy.

The system must be expandable to increase/add additional work area and be moveable between areas and robotic systems. This would mean that the proposed system must not be a permanent fixture / limited in use to the installed cell or to the connected robotic system.

The system is to be initially installed into a high accuracy robotic manufacturing test cell workspace of volume 6x6x3m (we currently do not have a CAD illustration of the space the

cell will occupy). The intended use is to track the robotic end-effector, relative to a work object (a designated feature within the workspace). The system should be able to improve both the static point accuracy (move-measure-correct) as well as dynamic path accuracy at a rate of several times per second and ensure that the path followed by the robot is as close to the programmed position as reasonably possible. The system should also be able to output telemetry data on actual vs programmed path for analysis.

The system will not be a permanent feature of accurate robotics work area and it should be able to be moved to other robotic cells for use. E.g. another use case would be that the system can be expanded (with more equipment such as additional cameras / sensors) to cover a cell volume of 10 x 10 x 3m housing a robotic serial arm on a linear conveyance track.

The data captured from the tracking system will used to update the robot path to achieve higher accuracy.

Data captured from the tracking system can be sent to update a digital twin at AMRC.

Software provided can compare a planned robot path with the actual robot path to visualise accuracy.

The addition of more sensors/cameras/trackers can be used to expand the work area to cover a wider range of the workshop.

Tender Process and Documentation:

This procurement is an open procedure conducted in accordance with the Public Contracts Regulations 2015

The ITT can be downloaded by registering and expressing your interest on the University`s e-tendering system https://in-tendhost.co.uk/Sheffield

If you have any questions or comments in relation to this tender they must be submitted via the In-tend System, this can be accessed at https://in-tendhost.co.uk/Sheffield

Completed tenders must be returned through the same e-tendering system.

Closing date for receipt of tenders: Tuesday 4th May 2021 at 12 noon (UK time).

II.1.5) Estimated total value

Value excluding VAT: £200,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 48921000 - Automation system

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Sheffield

II.2.4) Description of the procurement

2884/511/JS/AMRC/20 - Real Time Monitoring and Control for Automation

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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

Value excluding VAT: £200,000

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

Duration in months

24

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

Section III. Legal, economic, financial and technical information

III.1) Conditions for participation

III.1.2) Economic and financial standing

Selection criteria as stated in the procurement documents

III.1.3) Technical and professional ability

Selection criteria as stated in the procurement documents

Section IV. Procedure

IV.1) Description

IV.1.1) Type of procedure

Open procedure

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

4 May 2021

Local time

12:00pm

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

English

IV.2.6) Minimum time frame during which the tenderer must maintain the tender

Duration in months: 3 (from the date stated for receipt of tender)

IV.2.7) Conditions for opening of tenders

Date

4 May 2021

Local time

12:45pm

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

Electronic payment will be used

VI.4) Procedures for review

VI.4.1) Review body

High Court of England, Wales and Northern Ireland

London

Country

United Kingdom