Tender

ITT - High performance computing (HPC) cluster

National Physical Laboratory

F02: Contract notice
Notice identifier: 2022/S 000-002359
Procurement identifier (OCID): ocds-h6vhtk-030fd0
Published 26 January 2022, 10:45pm

Section I: Contracting authority

I.1) Name and addresses

National Physical Laboratory

Hampton Road

Teddington

TW11 0LW

Email

bronwyn.glossop@npl.co.uk

Country

United Kingdom

NUTS code

UK - United Kingdom

Internet address(es)

Main address

https://www.npl.co.uk/

I.3) Communication

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

https://lupc.bravosolution.co.uk/web/login.shtml

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

https://lupc.bravosolution.co.uk/web/login.shtml

Tenders or requests to participate must be submitted to the above-mentioned address

I.4) Type of the contracting authority

Other type

National Physical Laboratory

I.5) Main activity

Other activity

National Physical Laboratory

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

ITT - High performance computing (HPC) cluster

Reference number

126389

II.1.2) Main CPV code

- 30000000 - Office and computing machinery, equipment and supplies except furniture and software packages

II.1.3) Type of contract

Supplies

II.1.4) Short description

The requirement of the National Physical Laboratory [NPL] is a high-performance computing (HPC) cluster to perform numerical simulations in the area of quantum technologies. This involves the emulation of noisy quantum computers, multi-scale device simulations, and automation of quantum technologies using machine learning (ML). Example software that will run on this HPC cluster includes quantum computing emulators (such as QuEST, Qiskit, Qulacs), machine learning software (such as PyTorch, TensorFlow), and materials modelling software (such as quantum espresso, questaal, siesta). This HPC cluster therefore needs to be able to run a wide range of open source and proprietary applications, and provide a parallel development and runtime environment for software built locally. The development languages to be used in include Fortran, C, C++, Python and Cuda.

To these aims the HPC cluster needs to include a combination of nodes without and nodes with Graphics Processing Units (GPUs) accelerator cards, with high-speed network connections between nodes. The solution is to include fully functioning installation at an appropriate facility in a dedicated computer room, to be provided by NPL. The detailed requirements are specified in Section 5, and include showing all cabinets, ethernet networking, PDUS, operating system etc required to build a complete solution, given that the NPL will be providing space, power, cooling, connection to the network infrastructure and remote console access to the head-node.

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)

- 72000000 - IT services: consulting, software development, Internet and support

II.2.3) Place of performance

NUTS codes

- UK - United Kingdom

Main site or place of performance

To be confirmed

II.2.4) Description of the procurement

The requirement of the National Physical Laboratory [NPL] is a high-performance computing (HPC) cluster to perform numerical simulations in the area of quantum technologies. This involves the emulation of noisy quantum computers, multi-scale device simulations, and automation of quantum technologies using machine learning (ML). Example software that will run on this HPC cluster includes quantum computing emulators (such as QuEST, Qiskit, Qulacs), machine learning software (such as PyTorch, TensorFlow), and materials modelling software (such as quantum espresso, questaal, siesta). This HPC cluster therefore needs to be able to run a wide range of open source and proprietary applications, and provide a parallel development and runtime environment for software built locally. The development languages to be used in include Fortran, C, C++, Python and Cuda.

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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

Start date

24 February 2022

End date

1 September 2025

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

2.1.3 The Authority is using the LUPC Bravo e-tender portal to conduct the procurement process.

All Bidders must register their company via the LUPC Bravo Portal. This can be done via the following link https://lupc.bravosolution.co.uk/web/login.shtml

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: No

IV.2) Administrative information

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

Date

24 February 2022

Local time

3:00pm

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

Tender must be valid until: 25 May 2022

IV.2.7) Conditions for opening of tenders

Date

24 February 2022

Local time

3:00pm

Section VI. Complementary information

VI.1) Information about recurrence

This is a recurrent procurement: No

VI.4) Procedures for review

VI.4.1) Review body

National Physical Laboratory

Teddington

Country

United Kingdom