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Tender

4473/CYMRU/RH/25 Drilling Spindle Integration

UNIVERSITY OF SHEFFIELD

UK4: Tender notice - Procurement Act 2023 - [view information about notice types](#)

Notice identifier: 2025/S 000-026345

Procurement identifier (OCID): ocds-h6vhtk-052297

Published 23 May 2025, 1:34pm

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Scope

Reference

4473/CYMRU/RH/25

Description

4473/CYMRU/RH/25 Drilling Spindle Integration

The University of Sheffield Research Centre (AMRC Cymru, located in Broughton, Flintshire) is in the process of creating an aerospace drilling and fastening centre to carry out projects and development activities centred around drilling and fastening capabilities.

The first stage of this project required the creation of a drilling machine. The current features of this machine are:

- a small drilling spindle,

- a rotational horizontal axis allowing the workpiece and spindle to rotate together from 0 to 180 degrees,
- an MQL system,
- an industrial vacuum for extraction during the drilling process
- a sensorised fixture and data acquisition system
- Beckhoff PLC controller connected to the drilling machine and MQL system.
- Power distribution board and air outlets

AMRC Cymru would like a knowledgeable supplier to complete the integration of an upgraded spindle (selected and purchased by AMRC Cymru), into the existing drilling machine. Additionally, a number of cell upgrades will be required. The supplier will be required to work closely with the AMRC and the chosen spindle supplier to ensure smooth integration, testing and commissioning.

To fulfil this tender, the following tasks are required:

- Integrating the new drilling spindle into the existing drilling jig, making the necessary modifications (e.g. creating mounting holes on the carriages).
- Designing, manufacturing and integration of movable X/Y axes to the existing drilling machine to allow movement of the sensorised fixture (Figure 2 below) to allow multiple holes to be drilled in one workpiece (coupon).
- Integrating the Fusion Systems Pure-Cut®+ scCO₂ system into the drilling spindle and cell and associated tooling to enable this such as scCO₂ compatible tool holders.
- Updating the Beckhoff control system to run the new drilling spindle via the HMI, including speeds, feeds and setting up the vibrational frequency and amplitude requirements. The spindle supplied will have the MS1215 Drive that will need to be integrated with the Beckhoff Control system.
- Updating the Beckhoff control system to allow movement on the X/Y axis via the HMI.
- Carrying out tests and commissioning work to ensure that all systems are working together and are able to carry out differing drilling parameters for tests (to be agreed at a later date with selected supplier).
- Updating the current UKCA marking to include the modifications that will be carried out that includes the new drilling spindle and the X/Y table.

- Full design review for acceptance of the proposal using a Preliminary Design Review, Critical Design Review and Final Design Review gate system.

Tender Process and Documentation:

This procurement is an open procedure conducted in accordance with the Procurement Act 2023.

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: 20th of June 2025 at 12 noon (UK time)

Total value (estimated)

- £125,000 excluding VAT
- £150,000 including VAT

Below the relevant threshold

Contract dates (estimated)

- 14 July 2025 to 1 April 2026
- 8 months, 19 days

Main procurement category

Services

CPV classifications

- 42000000 - Industrial machinery
- 43130000 - Drilling equipment
- 72228000 - Hardware integration consultancy services

Contract locations

- UKE - Yorkshire and the Humber
- UKE3 - South Yorkshire

Participation

Particular suitability

Small and medium-sized enterprises (SME)

Submission

Tender submission deadline

20 June 2025, 1:00pm

Submission address and any special instructions

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Tenders may be submitted electronically

Yes

Procedure

Procedure type

Below threshold - open competition

Contracting authority

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- Companies House: RC000667

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Sheffield

S10 2TN

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Contact name: Rachel Hirst

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Region: UKE32 - Sheffield

Organisation type: Public authority - sub-central government