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Tender

# **TENDER FOR THE SUPPLY OF OPTICALLY PUMPED MAGNETOMETERS AND ACCESSORIES FOR MAGNETOENCEPHALOGRAPHY - UNIVERSITY OF BIRMINGHAM**

THE UNIVERSITY OF BIRMINGHAM

F02: Contract notice

Notice identifier: 2022/S 000-012392

Procurement identifier (OCID): ocds-h6vhtk-033706

Published 12 May 2022, 2:42pm

## **Section I: Contracting authority**

### **I.1) Name and addresses**

THE UNIVERSITY OF BIRMINGHAM

University of Birmingham

BIRMINGHAM

B152TT

#### **Contact**

Kseniya Samsonik

#### **Email**

[k.samsonik@bham.ac.uk](mailto:k.samsonik@bham.ac.uk)

#### **Country**

United Kingdom

**Region code**

UKG31 - Birmingham

**Internet address(es)**

Main address

<https://www.birmingham.ac.uk/index.aspx>

**I.3) Communication**

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

[www.in-tendhost.co.uk/universityofbirmingham](http://www.in-tendhost.co.uk/universityofbirmingham)

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

[www.in-tendhost.co.uk/universityofbirmingham](http://www.in-tendhost.co.uk/universityofbirmingham)

**I.4) Type of the contracting authority**

Body governed by public law

**I.5) Main activity**

Education

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## **Section II: Object**

### **II.1) Scope of the procurement**

#### **II.1.1) Title**

TENDER FOR THE SUPPLY OF OPTICALLY PUMPED MAGNETOMETERS AND ACCESSORIES FOR MAGNETOENCEPHALOGRAPHY - UNIVERSITY OF BIRMINGHAM

Reference number

SC10696/22

#### **II.1.2) Main CPV code**

- 35125110 - Biometric sensors

#### **II.1.3) Type of contract**

Supplies

#### **II.1.4) Short description**

The University of Birmingham invites tenders for supply of

- At least 65 optically pumped magnetometer (OPM) sensors and associated electronics to be used for magnetoencephalography (MEG)
- An adjustable helmet or a set of helmets to arrange the sensors around the head of adults and children
- A MEG-compatible chair for patient and helmet(s) support

These items will be part of facilities for brain imaging at the Centre for Human Brain Health. The items will be combined in order to detect neuronal dynamics as well as localize neuronal signals in the brain.

#### **II.1.5) Estimated total value**

Value excluding VAT: £405,000

#### **II.1.6) Information about lots**

This contract is divided into lots: No

## **II.2) Description**

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

- 35125100 - Sensors
- 45223820 - Prefabricated units and components

### **II.2.3) Place of performance**

NUTS codes

- UKG31 - Birmingham

Main site or place of performance

Delivery Location is

Centre for Human Brain Health

University of Birmingham

B15 2SA

Birmingham, UK

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

The University of Birmingham invites tenders for supply of

- At least 65 optically pumped magnetometer (OPM) sensors and associated electronics to be used for magnetoencephalography (MEG)
- An adjustable helmet or a set of helmets to arrange the sensors around the head of adults and children
- A MEG-compatible chair for patient and helmet(s) support

These items will be part of facilities for brain imaging at the Centre for Human Brain Health. The items will be combined in order to detect neuronal dynamics as well as localize neuronal signals in the brain.

Details specified below.

We require the OPM sensors to have sensitivity below 15 fT/sqrt(Hz). The sensors will be used in the newly developed OPM lab at CHBH. The lab is in the proximity of elevators.

Therefore, we require that the sensors have operating range of at least  $\pm 100\text{nT}$  and the dynamic range of at least  $\pm 10\text{nT}$  with good linear response in that range. Regarding the bandwidth, we require that the system can record oscillatory brain activity (3-100Hz); ideally 1-100 Hz.

The helmet(s) accommodating the OPM sensors should allow sensors placement within millimetres from the subject's scalp. Participants for OPM-MEG research will be of all ages. Therefore, it will be required that the sensor array can be adjusted easily between different head sizes. The helmet(s) should allow the array of sensors to conform rapidly to the subject's head. We require that the helmet(s) is able to accommodate at least 60 sensors.

To obtain precise source localisation, we require that the sensors in the array have well defined placement and the position of each sensor can be established with 1mm precision. We require that the information on each sensor's placement can be automatically stored in the data output file for each measurement.

The system should also include a chair or a bed that has supports to fix the helmet in a desired position. The chair should be able to sit adults as well as children. The chair should be compatible with ultralow magnetic field environment requirements, be sturdy and comfortable.

We require all the items to be safe to operate on human subjects. The recording sessions are expected to last 1-2h, during which wearing the helmet should be comfortable for the subject. We require that sensors to not overheat during this time.

We request the electronics of the sensors to be fully integrated, simple, ready to use and easy to scale up. It should allow us to drive the sensor, retrieve data and interface the sensors with computers. The Data Acquisition unit/OPM controllers should have additional analogue and digital inputs and outputs. Additional head-position indicator (HPI) coils with a driver will be a benefit. Additional benefit will be if the format of the output files (raw and meta data) is compatible with conventional MEG devices and ability to import the files directly into MNE Python based software.

Overall budget for this item is up to £405,000.00 excluding VAT.

### **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: £405,000

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

Start date

23 June 2022

End date

20 December 2022

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

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## **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

13 June 2022

Local time

12:00pm

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

English

#### **IV.2.7) Conditions for opening of tenders**

Date

13 June 2022

Local time

12:01pm

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## **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**

The University of Birmingham

University of Birmingham

Birmingham

B152TT

Country

United Kingdom