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Award

## **Procurement of a Nikon Metrology XT H 225 X-ray CT system**

THE UNIVERSITY OF BIRMINGHAM

F15: Voluntary ex ante transparency notice

Notice identifier: 2023/S 000-017147

Procurement identifier (OCID): ocds-h6vhtk-03d6e8

Published 16 June 2023, 11:01am

### **Section I: Contracting authority/entity**

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

THE UNIVERSITY OF BIRMINGHAM

EDGBASTON

BIRMINGHAM

B152TT

#### **Contact**

Kseniya Samsonik

#### **Email**

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

#### **Country**

United Kingdom

#### **Region code**

UKG31 - Birmingham

**Companies House**

RC000645

**Internet address(es)**

Main address

[www.birmingham.ac.uk/index.aspx](http://www.birmingham.ac.uk/index.aspx)

**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**

Procurement of a Nikon Metrology XT H 225 X-ray CT system

Reference number

SC11727

**II.1.2) Main CPV code**

- 33115000 - Tomography devices

**II.1.3) Type of contract**

Supplies

**II.1.4) Short description**

The College of Life & Environmental Sciences require the purchase of a micro-computed tomography (CT) scanner, for use primarily by the Palaeobiology research group for the

analysis of fossils. The CT scanner that is sought is from a single supplier, Nikon, due to the unique setup of this system including two interchangeable reflection and rotating X-ray sources. The group does not currently have access to CT scanning facilities within the University of Birmingham. Current scanning is done at other facilities within the UK, which is not practical for many requirements, and there are no facilities within the UK that can facilitate some required experimental setups. This CT scanner represents new technology, including the latest in X-ray generation technology and next-generation panel detectors providing superior imaging.

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

This contract is divided into lots: No

#### **II.1.7) Total value of the procurement (excluding VAT)**

Value excluding VAT: £586,372.19

### **II.2) Description**

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

- 33111000 - X-ray devices

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

NUTS codes

- UKG31 - Birmingham

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

The College of Life & Environmental Sciences require the purchase of a micro-computed tomography (CT) scanner, for use primarily by the Palaeobiology research group for the analysis of fossils. The CT scanner that is sought is from a single supplier, Nikon, due to the unique setup of this system including two interchangeable reflection and rotating X-ray sources. The group does not currently have access to CT scanning facilities within the University of Birmingham. Current scanning is done at other facilities within the UK, which is not practical for many requirements, and there are no facilities within the UK that can facilitate some required experimental setups. This CT scanner represents new technology, including the latest in X-ray generation technology and next-generation panel detectors providing superior imaging.

#### **II.2.11) Information about options**

Options: No

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## Section IV. Procedure

### IV.1) Description

#### IV.1.1) Type of procedure

Award of a contract without prior publication of a call for competition in the cases listed below

- The procurement falls outside the scope of application of the regulations

Explanation:

The Nikon Metrology XT H 225 ST 2x X-ray CT system (hereafter Nikon XTH225ST2x) is a versatile CT scanner with a wide range of applications across palaeobiology, life sciences and related fields. The system has two interchangeable reflection and rotating X-ray sources that can be easily changed by the operator, offering the ultimate in flexibility for research work. These two independent sources permit high resolution micro-computed tomography of a broad range of materials from low-density biological samples to high-density fossils; the 225kV rotating source is unique to this genre of systems, offering unparalleled performance. High resolution CT of samples (minimum spot size 3 micrometres) can be maintained even at the high energies typically required to scan rock specimens, up to 225 kilovolts. The X-ray sources are both microfocus, representing the latest in X-ray generation technology. Furthermore, the open-tube source designs give easy access to the source, resulting in easy maintenance, high performance, and a low cost of ownership. Auto.Filament Control can also double the lifetime of the filament without having to resort to long-life filaments, which can lower the resolution of the scan. This facilitates the very long scans that are critical to the group's research, while also improving system availability.

The Nikon XTH225ST2x is capable of handling samples up to 50kg with a large swept CT diameter of 265mm. It is also equipped with a large (430 x 430 mm; 2880 x 2880 pixels), high specification Varex XRD4343CT detector panel. Multiple scans of taller samples can be 'stitched' together using the X.tend helical scan software to produce a single image with no cone beam artefacts. Combined with a large chamber, this allows a wide range of large, heavy, and technically challenging specimens to be CT scanned at high resolution with good x-ray penetration, beyond the capacity of other CT scanners. It includes a motorised FID (Focus to Imager distance) that provides maximum flexibility in magnification and 3D spatial resolution while also improving signal-to-noise ratio.

Members of the group have used Nikon setups at other institutions for over a decade, as well as other scanners, and are familiar with a range of instruments and their applications. While external facilities no longer meet the group's requirements for practical reasons

relating to transport of specimens and scanning times, no other instrument matches the technical capabilities of the Nikon XTH225ST2x. In addition to the 225kV rotating source, which is exclusive to the Nikon XTH225ST2x in this class of systems, the ability to manipulate FID, adjust all X-ray and scanning parameters, use offset CT, and accommodate large and heavy specimens within the sample chamber uniquely meet the group's needs. A custom advanced filtration kit of copper, tin, silver and aluminium in a range of thicknesses also provides the opportunity to further adjust x-ray properties depending on the sample, ultimately improving transmission and dataset quality.

Nikon have a long working relationship with the University of Birmingham and can offer value for money and ongoing support. XTH systems are designed, manufactured and supported from a UK factory at Tring, Hertfordshire. Therefore, a rapid response can be provided to any technical enquiries, with support from UK engineers based locally. Use of the instrumentation, including both CT data acquisition and reconstruction, is straightforward for users. The propriety InspectX software control allows for easy set-up of the system, which is especially important in this situation, where multiple users will use the system on an infrequent basis. This provides even more versatility for a range of applications and is unique on the market in terms of its control and customisation.

#### **IV.1.8) Information about the Government Procurement Agreement (GPA)**

The procurement is covered by the Government Procurement Agreement: Yes

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## **Section V. Award of contract/concession**

A contract/lot is awarded: Yes

### **V.2) Award of contract/concession**

#### **V.2.1) Date of conclusion of the contract**

16 June 2023

#### **V.2.2) Information about tenders**

The contract has been awarded to a group of economic operators: No

#### **V.2.3) Name and address of the contractor/concessionaire**

Nikon Metrology Europe N.V.

Leuven

Country

Belgium

NUTS code

- BE - Belgium

Justification for not providing organisation identifier

Not on any register

The contractor/concessionaire is an SME

No

#### **V.2.4) Information on value of contract/lot/concession (excluding VAT)**

Total value of the contract/lot/concession: £586,372.19

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## **Section VI. Complementary information**

### **VI.4) Procedures for review**

#### **VI.4.1) Review body**

University of Birmingham

Birmingham

B15 2TT

Country

United Kingdom