Award

DLSITT1063 - Computer Controlled Optical Surfacing MachIne at DLS

DIAMOND LIGHT SOURCE LIMITED

UK6: Contract award notice - Procurement Act 2023 - view information about notice types
Notice identifier: 2025/S 000-042444
Procurement identifier (OCID): ocds-h6vhtk-052a92 (view related notices)
Published 23 July 2025, 3:09pm

Scope

Reference

8049316

Description

Located on the Harwell Science and Innovation Campus in Oxfordshire, Diamond Light Source (DLS) is a leading-edge facility for science, engineering and innovation. Diamond

allows researchers from academia and industry to investigate the structure and behaviour of the world around us at the atomic and molecular level.

To continue delivering the world changing science that Diamond enables, the facility is being upgraded to Diamond-II, a coordinated programme of development that combines a major

machine upgrade with new instruments and complementary improvements to optics,detectors, sample environment and delivery capabilities, and computing, as well as integrated and correlative methods. This will be transformative in speed and spatial

resolution and will offer users streamlined access to enhanced instruments for life and physical sciences.

The Optics and Metrology Group at Diamond Light Source wish to procure and develop a computer-controlled optical surfacing (CCOS) machine. The CCOS machine will be used to complement the ion beam figuring (IBF) project at Diamond. It will be used to polish a variety of materials, including single crystal silicon (Si), used for X-ray mirrors, grating substrates, and multilayer mirrors substrates. It should be compatible with a range of sample sizes, up to 1000 mm (length) x 100 mm (width) x 100 mm (height). The machine should allow for polishing of various surface geometries. Using appropriate slurries and polishing heads, the machine should be capable of "super-polishing" silicon to obtain micro-roughness Sq below 0.5 nm rms, and ideally below 0.3 nm rms (as measured over a field of view of < 1mm). The machine should also be capable of deterministically polishing and correcting optical surface errors with a spatial period from 5 mm to the full length of the mirror. It should be capable of polishing strongly-curved, concave surface geometries. It is expected that the CCOS machine will be based on: a motorised stage for the workpiece (which may have one or more axes of motion, such as rotation); a motorized tool holder with at least five axes of motion (X, Y, Z, and two pivot axes A and B); a rotating polishing tool head; and a slurry feed to controllably provide polishing slurry to the tool head when it is in motion against the workpiece. An interchangeable polishing tool head that can be quickly and easily replaced, to provide suitable polishing for different sizes, shapes or materials of various optical surfaces. A simple method is also required to change the type of polishing slurry.

The scope of this contract is to supply, deliver, install and commission a computer-controlled optical surfacing machine based on an interchangeable rotating tool head, motorized tool

holder, mounting stage for the workpiece, and polishing slurry feed. The supplier is encouraged to comment on any aspect of the specifications and to identify possible modifications that could lead to either improved performance or reduced cost (without compromising the performance specification)

Contract 1

Supplier

- Changsha AFiSy Technologies Co., Ltd.

Contract value

- £238,000 excluding VAT
- £285,600 including VAT

Above the relevant threshold

Award decision date

23 July 2025

Date assessment summaries were sent to tenderers

23 July 2025

Standstill period

- End: 1 August 2025
- 8 working days

Earliest date the contract will be signed

6 August 2025

Contract dates (estimated)

- 6 August 2025 to 6 February 2026

- 6 months, 1 day

Main procurement category

Goods

CPV classifications

- 38000000 - Laboratory, optical and precision equipments (excl. glasses)

Contract locations

- UKJ14 - Oxfordshire

Information about tenders

- 2 tenders received
- 2 tenders assessed in the final stage:
  - 2 submitted by small and medium-sized enterprises (SME)
  - 0 submitted by voluntary, community and social enterprises (VCSE)
- 1 supplier awarded contracts
- 1 supplier unsuccessful (details included for contracts over £5 million)

Procedure

Procedure type

Open procedure

Supplier

Changsha AFiSy Technologies Co., Ltd.

- Public Procurement Organisation Number: PBJC-8538-LWPT

No.14 Jinzhuo Industrial Park, 118 Qingzhuhu Road, Kaifu District

Changsha City, Hunan Province

410000

China

Email: Zhou@mail.afisy.com

Website: https://www.afisy.com/

Small or medium-sized enterprise (SME): Yes

Voluntary, community or social enterprise (VCSE): No

Supported employment provider: No

Public service mutual: No

Contract 1

Contracting authority

DIAMOND LIGHT SOURCE LIMITED

- Companies House: 04375679
- Public Procurement Organisation Number: PNGG-3778-PWBM

Diamond House

Didcot

OX11 0DE

United Kingdom

Email: procurement@diamond.ac.uk

Region: UKJ14 - Oxfordshire

Organisation type: Public authority - central government