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Planning

UKRI-3142 EO DataHub Platform Software Infrastructure

UK Research & Innovation

F01: Prior information notice

Prior information only

Notice identifier: 2023/S 000-019718

Procurement identifier (OCID): ocds-h6vhtk-03e077

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Section I: Contracting authority

I.1) Name and addresses

UK Research & Innovation

Science & Technology Facilities Council, Rutherford Appleton Laboratory, Harwell

Oxford

OX110QX

Contact

Jacob Morris

Email

STFCProcurement@ukri.org

Telephone

+44 7514722745

Country

United Kingdom

Region code

UKJ14 - Oxfordshire

Internet address(es)

Main address

www.ukri.org

I.3) Communication

Additional information can be obtained from the above-mentioned address

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Other activity

Public Procurement

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

UKRI-3142 EO DataHub Platform Software Infrastructure

Reference number

UKRI-3142

II.1.2) Main CPV code

- 48000000 - Software package and information systems

II.1.3) Type of contract

Supplies

II.1.4) Short description

Data infrastructure for the UK is critical in the Earth Observation (EO) sector as it directly impacts the ability of UK science to produce world-leading information for discovery and policy, and the ability of our growing downstream industry to capitalise and invest in services built around UK capabilities and assets. The UK Government consistently recognises the value of EO capability with the importance of ongoing investment in the UK's role recognised in the National Space Strategy and at global events such as COP26. Research and analysis repeatedly point to the need to invest in a way which catalyses that investment and bridges the "data to information" divide. Evidence from engagement with users in the EO sector has shown that there are barriers to the effective exploitation of Earth observation data. These include fragmentation of data sources and services and the fact that source data may not be in a readily exploitable form. The EO DataHub (EODH) programme has been instigated to address these challenges. It represents a first phase of a national asset, supported by the government and specified with the Department of Science, Innovation and Technology (DSIT) alongside NERC. The programme is a pathfinder project led by the National Centre for Earth Observation through CEDA (<https://www.ceda.ac.uk>) at RAL Space and a partnership of public sector bodies. Its role is to: a) serve the UK national interest; b) offer all UK users a step-change in data access and quality from commercial to government actionees to researchers and students; c) mitigate and transition the Copernicus-related data activities to a UK-orientated model; d) provide a delivery approach which enables a much more rigorous, evidence-led legacy beyond the project - articulating UK capability, showcasing UK datasets, evidenced costs and user-specified sustainability needs. The successful tenderer will build, deploy and operate the Hub Platform (i.e. a set of software services

hosted on the public cloud) to assist application developers and Earth Observation domain experts to find, access, analyse and process EO data from multiple distributed sources in a consistent manner and in a form that is suited for easy use in software applications and services to end-user communities. The desired outcome is that through access to the platform, software developers and expert users can more easily implement applications and services which exploit EO data. Users of the Hub Platform will have a set of software tools and services that will allow them to discover, access, analyse and process EO and climate datasets, along with capabilities to build scalable workflows and their own applications. The contract will be for up to a maximum value of £2,000,000 including-VAT commencing in the early autumn of this year and completing by 31st March 2025.

II.1.5) Estimated total value

Value excluding VAT: £2,000,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.3) Place of performance

NUTS codes

- UKJ14 - Oxfordshire

Main site or place of performance

Oxfordshire

II.2.4) Description of the procurement

The overall objective is to develop and operate the cloud-based Hub Platform of the EODH, a software system to provide a common and consistent access layer to a range of EO data sources, and services to discover, manipulate and cache data products. The Hub Platform facilitates the development of applications which utilise EO data to produce value-added products, gain insights and support decision-making for given application scenarios. The Hub Platform is targeted at application developers and EO expert users to support them with services and data access to meet their needs.

The successful tenderer will need to develop an overall system architecture including interfaces and a data model. This must use appropriate standards and best practices. It should apply experience from examples of the successful implementation and operation

of federated and cloud-based infrastructures for the EO community. The architecture should reference and consider examples of infrastructures, standards and specifications in the EO sector such as the ESA Earth Observation Exploitation Platform Common Architecture, OpenEO, the EuroDataCube, ESA Thematic Exploitation Platforms programme, the Copernicus CDS, European Weather Cloud and European Open Science Cloud. Examples of standards and other literature include but should not be limited to the OGC family of specifications, reports from their interoperability experiments and testbeds, CF-netCDF, OpenID Connect, OAuth 2.0, STAC, and CEOS OpenSearch Best Practice. Parts of the required functionality may be delivered through existing off-the-shelf solutions and services from public cloud providers. The Tenderer is encouraged to reuse existing production-ready solutions wherever possible.

The Tenderer will implement services and interfaces as outlined in the system architecture on a public cloud provider. The Tenderer will need to work closely with the other funded work streams in the EO DataHub programme. This is critical to its overall success. The work streams are:

- 1) The DataHub Platform – the subject of this requisition specification.
- 2) Data streams – the integration of different sources of data into the Hub Platform.
- 3) Applications – the development of 3 software applications which exploit the functionality provided by the Hub Platform.

Note that the Data Streams and Applications work streams will be funded through separate ITTs which will be issued separately in the coming months.

Proposals are invited from individual organisations who would act as the prime contractor. We expect proposals to gather an expert team that is likely to include multiple organisations acting as sub-contractors to the prime.

The lead for the Hub Platform will become a part of the partnership and management of the EODH Programme.

If you are interested in this requirement, please email Jacob.Morris@ukri.org, referencing UKRI-3142 EO DataHub Software Infrastructure.

II.3) Estimated date of publication of contract notice

31 July 2023

Section IV. Procedure

IV.1) Description

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

The procurement is covered by the Government Procurement Agreement: No

Section VI. Complementary information

VI.3) Additional information

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<https://ukri.delta-esourcing.com/delta/viewNotice.html?noticeId=794663079>

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