Copernicus Sentinels Production Service Survey Form

May 2025

Executive Summary

The UK Space Agency (UKSA) is an executive agency of the Department for Science, Innovation and Technology (DSIT) and provides technical advice on the government's space strategy, supporting the UK space sector to deliver the government's vision. The National Space Strategy (NSS) highlights the UK's ambition to unlock growth in the UK space sector (Pillar 1) and grow the UK as a science and technology superpower (Pillar 3). To support our ambitions to deliver these objectives, this form is intended to provide some contextual information on the scope of the Copernicus Sentinels Production Service, highlight key areas of expertise relevant to its implementation and delivery and gather information on interested industrial entities as a first step toward a more detailed exchange on potential opportunities in this domain.

UKSA is a member of the European Space Agency (ESA). ESA is an international organisation that coordinates space activities of its 23 member states. The UK's membership enables our participation in ESA's programmes and missions, contributing to and benefitting from advancements in space technology and scientific research.

UKSA have worked in close collaboration with ESA to identify key questions that will provide insight to both agencies on the UK's current data capabilities, as well as any linked future potential opportunities for growth within the Copernicus programme. In light of this, all information provided in survey responses will be made anonymous and shared with ESA to inform understanding of UK input into the programme.

The UKSA Earth Observation Data team will be running a Webinar on **Friday 13th June at 2pm** to provide further background information and address any questions you may have. Please register for the Microsoft Teams event by emailing UKSAEOT@ukspaceagency.gov.uk quoting Copernicus Production Service RfI Q&A Webinar in the subject line.

If you believe this opportunity will be of interest to you or your organisation, please complete the form provided by **4pm Friday 27th June** and email to UKSAEOT@ukspaceagency.gov.uk quoting Copernicus Production Service RfI in the subject line.

I am grateful in advance for the time and effort taken in replying to this request for information.

Copernicus Programme Context

Copernicus is the Earth observation component of the European Union's Space programme. It provides accurate, timely and easily accessible information to improve the management of the environment, understand and mitigate the effects of climate change and ensure civil security. This initiative is headed by the European Commission (EC) in partnership with the European Space Agency (ESA).

In this context, ESA has developed the Sentinel satellites, specifically for the operational needs of Copernicus, and manages the operations of the Sentinel-1, Sentinel-2, Sentinel-3(land) and Sentinel-5P families.

Further information on the Copernicus Programme and the Copernicus Space Component operations managed by ESA can be found hereafter:

http://www.copernicus.eu/en
https://www.esa.int/Applications/Observing_the_Earth/Copernicus/Introducing_Copernicus
https://sentinels.copernicus.eu

Copernicus UK Contribution Context

The UK has been involved in Copernicus since its inception in 1998, playing key roles in developing data processing, ground-based validation techniques as well as contributing to key satellite instruments. Copernicus data is also widely used by UK academia, commercial and public sectors for activities such as climate change research, agriculture monitoring and management and emergency response.

The UK rejoined the Copernicus programme on January 2024, after a 3-year period outside of the programme due to EU Exit and subsequent negotiations between the UK and EU. The participation agreement provides the UK with a vital opportunity to both regain and build upon national expertise and capabilities that will embed the UK sector in the Copernicus programme.

Copernicus Space Component Operations Context

This form is intended to provide some context information on the scope of the Copernicus Sentinels Production Service, highlight key areas of expertise relevant to its implementation and delivery and gather information on interested industrial entities as a first step toward a more detailed exchange on potential opportunities in this domain.

The operations of the Sentinel-1, Sentinel-2, Sentinel-3 (land) and Sentinel-5P families are managed in a common ESA EO Operations Framework (EOF), based on a service-oriented architecture with well-identified components that exchange data through Internet respecting well-defined interfaces. A service presents a simple interface to its consumer that abstracts away the underlying complexity. Combined with deployments on public cloud infrastructure, the service approach offers large adaptability to evolution of the operational scenarios, in particular for what regards scalability.

In this context, the Sentinels Production Services are in charge of the systematic processing of Sentinel satellite data stream into user level data using a set of data processor software elements made available by ESA and in compliance with a set of service level requirements.

The Copernicus Production Services are procured through a 2-step procedure:

1. **Qualification Phase**: This phase qualifies service providers who demonstrate their capability to execute the Service described in the Frame Statement of Work (Frame SoW). Qualified providers are awarded a zero-cost Frame Contract and become eligible to bid in the Implementation Phase. There is no limit to the number of qualified providers.

2. **Implementation Phase:** This phase procures dedicated Copernicus Sentinels Production Services (Systematic Production and/or Reprocessing) through restricted competitions (RFP) among the Frame Contractors. Successful Frame Contractors are awarded a Work Order with financial commitments for the performance of the services. The number of Work Orders awarded is limited.

   Detailed information on the Qualification Phase Invitation to Tender (Frame ITT) for Copernicus Sentinel Production Services (AO 1-10180) is available on ESA STAR:

   https://esastar-publication.sso.esa.int/ESATenderActions/details/6801

Contact Details

- Company Name:
- Contact Person and Information:
- Email Address:
- Country of Registered Office:

Key Areas of Expertise

Key areas of expertise relevant to the implementation and delivery of a Sentinels Production Service.

The following items summarise the key areas of expertise relevant to the implementation and delivery of a Sentinels Production Service.

Please indicate with a number from 1 to 5 the relevance of the various areas of expertise for your company (1: lowest expertise, 5: highest)

1. Implementation of operational and scalable big data management workflows on cloud environments.
   ① ② ③ ④ ⑤

2. High performance service operations management on cloud environments.
   ① ② ③ ④ ⑤

3. Service delivery based on a Service Level Agreement and associated Key Performance Indicators.
   ① ② ③ ④ ⑤

4. Implementation and Management of RESTful and HTTP APIs for data catalogues, e.g. STAC.
   ① ② ③ ④ ⑤

5. Earth observation data management.
   ① ② ③ ④ ⑤

Additional Information

Additional information about your company and potential interest in the implementation and delivery of an operational Sentinel Production Key areas of expertise relevant to the implementation and delivery of a Sentinels Production Service.

6. Are you an ESA registered supplier?
   YES ○ NO ○

7. Is this procurement of interest to your company?
   YES ○ NO ○

8. Have you considered applying for the first phase of this procurement?
   YES ○ NO ○

9. Do you have existing capacity to complete any proposed activity associated with the Copernicus Sentinel production Service Frame?
   YES ○ NO ○

10. If no, can the required capacity be built within the timescale of the frame contract?
    YES ○ NO ○

11. If no, what additional resources would be required to meet capability and timescale requirements?
    a. Financial resources (if over £500K, please provide ROM of how much):

    <£100K £100-£200K £200-£300K £300-£400K £400-£500K >£500K

    b. Human Resources (please specify number and technical/skill requirements of roles:

    _____

    _____

    c. Physical infrastructure

    _____

    _____

    d. Please indicate if any human and physical resource requirements would be achieved with financial resourcing stated above:

    _____

    _____

12. Please provide estimated timescale required to meet the above requirements:

_____

_____

13. Please specify location of activities and physical assets:
    a. Location of activities/personnel:

       _____

       _____

    b. Location of physical assets:

       _____

       _____

14. Please state any existing national assets that are currently /planned to be utilised that are already present and operational within the UK and link easily with ESA interoperability and reusability requirements:

    _____

    _____

15. How might capability and expertise gained from Copernicus Sentinel Production Service activities feed into follow on activities (national or international)?

    _____

    _____

16. If you have not considered applying for the first phase of this procurement, please specify why.

    _____

    _____

    _____

17. What are the key areas of expertise of your company?

    _____

    _____

    _____

Complimentary Information

Please provide some complementary information to describe the expertise of your company in the following domains as relevant.

18. Big data management
    a. Size and scale of data management activities

    _____

    _____

    b. Additional information

    _____

    _____

19. Scalable cloud computing
    a. Which cloud providers do you currently utilise?

    _____

    _____

    b. How much of your current operations utilise each cloud provider?

    _____

    _____

    c. Why is this the case?

    _____

    _____

    d. Additional information

    _____

    _____

20. Big data management workflows on cloud environments

    _____

    _____

    _____

21. Service operations management on cloud environments

    _____

    _____

    _____

22. Service delivery based on a Service Level Agreement

    _____

    _____

    _____

23. Implementation and management of RESTful HTTP APIs

_____

_____

_____

24. Earth observation data processing

_____

_____

_____

25. Data security and privacy compliance, particularly in relation to EO data

_____

_____

_____

26. Sustainability and Environmental Considerations

_____

_____

_____

Relevant Past Activities Description

27. You are invited to provide any relevant examples of past activities where your company has successfully managed large-scale data workflows/data processing