## Introduction

1. The purpose of this prospectus (and any associated published procurement notices) is for the Rural Payments Agency (the **"RPA"**) to make known its intention of a planned procurement and to commence the market engagement process (in advance of commencing any formal procurement process) for a geospatial analytics and remote monitoring platform.

2. Prospective tenderers are requested to read this prospectus and to complete a response to the market engagement questionnaire in Annex 1 by Friday 28th June 2024 10:00. Responses should be no longer than ten (10) A4 pages and should be returned to Neil.Widdop@defra.gov.uk.

## Disclaimer

3. This prospectus is written and provided in good faith; RPA reserves the right to alter any aspect of this document, or to not proceed with the potential procurement in any way. This prospectus summarises certain aspects of the potential procurement but does not purport to contain complete descriptions of it, nor to be all inclusive or contain all the information that a prospective tenderer may require when determining whether to take part in this market engagement process. No representation or warranty, express or implied, is or will be made, and no responsibility or liability is or will be accepted by RPA or any of its advisors as to the accuracy, adequacy or completeness of the information within this prospectus. This prospectus is not intended to form the basis of any investment decision or other evaluation by the recipient(s) and does not constitute and should not be considered as a recommendation by any person. RPA shall not be liable for any costs or expenses of any prospective tenderer in relation to any matter in connection with this market engagement process, howsoever incurred.

## Background

4. Defra is the UK government department which is responsible for improving and protecting the environment. Defra aims to grow a green economy and sustain thriving rural communities, and also support the UK's world-leading food, farming and fishing industries. Defra works with 33 agencies (including the RPA) and public bodies[1], collectively referred to as **"Defra Group"**.

5. The RPA is an executive agency sponsored by Defra. As the only accredited paying agency in England, the RPA makes payments to farmers, traders and land owners. The RPA also make payments on behalf of Natural England, and manages over 40 schemes to help ensure England has a healthy rural economy and strong rural communities.

6. Within England, the RPA are responsible for:

    (a) measures to boost the productivity of the farming industry;

    (b) helping to assure the provenance of our food, and contribute to the control of disease in livestock, through the monitoring of cattle movement and inspections of abattoirs and meat cutting plants;

    (c) delivery of subsidies and other payments to support our farming and food industry and incentivise environmental outcomes;

    (d) supporting innovation through grants and management of various funding schemes, helping to boost the rural economy;

    (e) providing import and export licenses for the agri-food sector;

    (f) providing subsidies to encourage uptake of milk in schools;

    (g) supporting free flow of trade through provision of certificates of free sale;

    (h) helping to regulate the markets for dairy and farm produce;

    (i) helping to boost the rural economy through rural development schemes and management of various funding schemes, such as the roll-out of super-fast rural broadband;

---

[1] https://www.gov.uk/government/organisations#department-for-environment-food-rural-affairs

(j) managing customer contact for a wide range of Defra Group services; and

(k) emergency support through sector intervention and crisis support.

7. The RPA's priorities, as set out in the RPA's 5 year strategy[2], are:

(a) successfully delivering agricultural transition[3], meeting both customer expectations and policy needs;

(b) reinforcing the RPA's reputation for delivering environmental outcomes through a quality service; and

(c) being an exemplar of the Civil Service's operational delivery profession[4] working in practice.

8. Satellite data is business critical for Defra and RPA to provide risk assurance in the delivery of the Farming and Countryside Programme (**"FCP"**) schemes which use the RPA's Rural Land Register (**"RLR"**). RPA's current monitoring/enforcement regime includes the updating of the RLR based on several types of intelligence:

(a) customer notified change;

(b) Proactive Land Change Detection (**"PLCD"**) using aerial photography and Ordnance Survey data to revisit land parcels every 3 years; and

(c) physical inspections and site visits.

9. RPA's existing analytics and viewing capabilities are aligned to older non-FCP schemes running from 2015 to 2024, however they are not fit for purpose to deliver the new FCP schemes from 2022 onwards as RPA were only checking around 2% of the country each year. For the new schemes, RPA are moving towards a national checks-by-monitoring approach.

10. The current compliance monitoring processes for FCP schemes are manual, resource-intensive, inefficient and have high fraud and error rates. They rely on field visits, paperwork, and subjective assessments, leading to delayed evaluations, increased administrative burdens, and only capture a small percentage of the entire population. These limitations hinder RPA's ability to promptly identify non-compliant activities and provide necessary guidance to farmers resulting in a higher error rate. As a first step, RPA acquired daily national coverage of high resolution (4m x 4m) satellite data to complement the free available weekly satellite data at a slightly coarser spatial resolution (10m x 10m). Both together will generate a large amount of data which enhance RPA's scope to continuously monitor the farmland and its seasonal dynamics such as crop growing and harvesting, mowing, buffer strips, hedgerows, winter cover and many more. These extensive data resources of daily cadence need to be processed, actionable insights extracted and disseminated in a timely manner.

11. To overcome these challenges, RPA requires an advanced technological solution capable of streamlining national monitoring processes, initially addressing the requirements of options AB15 (legume fallow), SW6 (winter cover crops), AB6 (extended over winter stubble), AB7 (whole parcel cereal), GS4 (legume with grassland), AB5 (nesting plots), and BE3 (hedge management) for countryside stewardship monitoring[5] in 2024, ensuring compliance with the Sustainable Farming Incentive (**"SFI"**) standards[6] and actions, being scalable to increasing demand in future years in terms of number of farmers but also in terms of policy requirements (e.g. more countryside stewardship options and SFI standards), and aligning with the environmental objectives of Defra's 25 year environment plan[7].

## Objectives for this project

12. The geospatial analytics and remote monitoring platform must have the following capabilities:

---

[2] https://www.gov.uk/government/publications/rural-payments-agency-5-year-strategy
[3] https://www.gov.uk/government/publications/agricultural-transition-plan-2021-to-2024
[4] https://www.gov.uk/government/organisations/civil-service-operational-delivery-profession
[5] https://www.gov.uk/guidance/countryside-stewardship-get-funding-to-protect-and-improve-the-land-you-manage
[6] https://farming.campaign.gov.uk/
[77] https://www.gov.uk/government/publications/25-year-environment-plan

(a) the platform must have state-of-the-art viewing and processing capabilities to extract suitable markers from aerial and satellite imagery which include but are not limited to existing RPA datasets such as Planet Scope, Planet Fusion, Sentinel-1, and Sentinel-2 based on RPA's land parcels and land cover. Suitable markers are mowing marker, greening/harvest marker, bare soil marker, homogeneity marker, crop type group marker, and land cover group marker;

(b) the platform should utilise a microservices architecture, enabling quick and easy scaling and efficient integration with existing and new processes through APIs;

(c) the platform must be compliant with technical geospatial standards, such as those listed on the national geospatial data standards register[8];

(d) the platform must have the capability to bring all satellite imagery and aerial photography, analysed and derived data from markers, parcel boundaries agreement data, and be able to visualise/query data via a single browser-based user interface;

(e) the platform must utilise role-based access control in accordance with Defra and pan-government cyber security standards;

(f) the platform must be modular, reusable and future-proofed, in a manner which is flexible and adaptable to the RPA's broader needs and developments in both technology and policy;

(g) the platform must be able to use aerial photography and high-resolution satellite imagery (PlanetScope, PlanetFusion, Sentinel-1 and Sentinel-2, or any other potential imagery sources) to monitor land cover and land cover change (crop types, grassland types, fallow legumes and grass swards, bare soil/winter cover), habitat creation (hedgerows, buffer, nesting plots, wetlands etc), water management (water body buffers), and other relevant parameters such as agricultural activities (tillage, harvest, mowing, establishing winter green cover), ensuring compliance with specific countryside stewardship options, the SFI standards and actions, and the environmental objectives of Defra's 25 year environmental plan;

(h) the platform must integrate, for its input and output data, via a Defra data integration hub (using either REST APIs or event messages), with existing RPA and Defra systems, and with third party systems;

(i) the platform should have a capability that allows machine learning algorithms and time series statistics to automatically process and analyse data collected from multiple sources (such as 3 yearly aerial photography and daily to weekly satellite images) ensuring accurate, timely and reliable compliance monitoring;

(j) the platform must have a capability that makes it possible to define and change between monitoring period depending on scheme option rules (e.g. within a year monitoring, across two years, or across multiple years); and

(k) the supplier must provide product delivery, user-centred services, and IT service management of the platform (with the optimal cloud hosting solution to be determined through this market engagement process).

13. Additionally, the platform should support the following optional services:

(a) the contract will provide the option for other Defra Group bodies to utilise the platform and/or the platforms outputs;

(b) the platform must have a product roadmap which includes functionality readily available in the proposed product suite beyond the functionality currently stated that the RPA or other Defra Group bodies may wish to implement through a future contract change;

(c) the platform may be required to exchange geospatial data and enable interoperability across new data and information systems;

---

[8] https://www.gov.uk/government/publications/uk-geospatial-data-standards-register/national-geospatial-data-standards-register

(d) the supplier must propose new ideas, innovations, and service improvements via a bi-annual continuous improvement plan; and

(e) the solution must provide APIs that will allow RPA and Defra to integrate aspects of the geospatial analytics and remote monitoring platform into other internal RPA and Defra services.

## Annex 1: Market engagement questionnaire

| No. | Question | Response type |
|---|---|---|
| 1. | Organisation details | Free text for:<br>• Organisation name<br>• First name<br>• Surname<br>• Job title<br>• E-mail address<br>• Phone number |
| 2. | Is your company an SME? | Yes/No |
| 3. | Are you happy to share your details with other prospective tenderers? | Yes/No |
| 4. | Are you happy to be contacted by the RPA for any follow on questions or attend a one-to-one session? | Yes/No |
| 5. | What software and services do you offer which are relevant to this project? Who are your major customers?<br><br>Please include details of no more than 5 relevant major deployments. | Free text response |
| 6. | Please describe your technology solution at a high level (e.g. high-level architecture, cloud/hosting deployment model, licensing options (i.e. SaaS, term license for deployment in Defra's PaaS)). | Free text response |
| 7. | How long should we allow for an implementation period? | Free text response |
| 8. | What is your route to market preference? | Select one option from:<br>• CCS Big Data & Analytics framework (RM6194).<br>• CCS Space-Enabled and Geospatial Services dynamic purchasing system (RM6235).<br>• CCS Vertical Application Solutions framework (RM6259).<br>• Open procedure.<br>• Competitive flexible procedure. |
| 9. | We have assumed the award criteria shall form 60% for technical solution, 10% for social value, and 30% for price. Do you agree with the proposed award criteria? | Free text response |

| No. | Question | Response type |
|-----|----------|---------------|
| 10. | Based on your experience of delivering equivalent services, which elements of the social value model[9] are related and proportionate to the subject-matter of the contract? | Select multiple options from:<br><br>• Theme 1: COVID-19 recovery (help local communities to manage and recover from the impact of COVID-19);<br><br>• Theme 2: Tackling economic inequality (create new businesses, new jobs and new skills);<br><br>• Theme 2: Tackling economic inequality (increase supply chain resilience and capacity);<br><br>• Theme 3: Fighting climate change (effective stewardship of the environment);<br><br>• Theme 4: Equal opportunity (reduce the disability employment gap);<br><br>• Theme 4: Equal opportunity (tackle workforce inequality);<br><br>• Theme 5: Wellbeing (improve health and wellbeing);<br><br>• Theme 5: Wellbeing (improve community integration). |
| 11. | We have assumed an initial contract term of 5 years, with the option to extend up to 8-10 years. Based on your experience of delivering equivalent services, what contract length should we be considering? | Free text response |
| 12. | Based on your experience of delivering equivalent services, what payment mechanism should be used for this contract (e.g. implementation based on fixed price, licenses based on per user, per organisation etc.)? | Free text response |
| 13. | Based on your experience of delivering equivalent services, what KPIs and SLAs should apply to this contract? | Free text response |
| 14. | Based on the information provided in this document, how much should we budget for the implementation and operation of the platform over an initial 5 year period? | Free text response |

---

[9] https://www.gov.uk/government/publications/procurement-policy-note-0620-taking-account-of-social-value-in-the-award-of-central-government-contracts

| No. | Question | Response type |
|-----|----------|---------------|
| 15. | Based on your experience of delivering equivalent services, please provide any additional insights that could help the RPA improve this proposed procurement exercise. | Free text response |