

Prior Information Notice (PIN) on behalf of UK Space Agency

Subject: Space Surveillance & Tracking (SST) Data

Reference: CS20409

The UK Space Agency (UKSA) is an Executive Agency of the Department for Business, Energy & Industrial Strategy (BEIS). It is responsible for UK civil space strategy and provides a clear, single voice for UK space ambitions. At the heart of UK efforts to explore and benefit from space, it is responsible for ensuring that the UK retains and grows its world leading strategic capabilities in space-based systems, technologies, science, services and applications. It does this through well-designed policy initiatives, extensive international collaboration, targeted funding programmes, and an enabling regulatory regime that supports growth whilst safeguarding the UK's security interests.

Space surveillance is inherently a global endeavour. It involves the tracking and cataloguing of space objects, the monitoring of fragmentation events in space and mitigating the risk of objects re-entering Earth atmosphere and impacting ground. Collaboration is at the very heart of this activity and as Earth's orbit becomes increasingly congested, contested and competitive, the risk of events which carry long-term implications for the space operating environment is also increasing.

The UK has conducted civil operational Space Surveillance & Tracking (SST) for five years, working with EU and other international partners. The UK is now working to enhance its space surveillance and tracking capability needed to monitor and warn of hazardous events in orbit. The UK Space Agency and Ministry of Defence have been working together on SST since 2016, and have recently announced the next step in their joint initiative to enhance the UK's awareness of events in space and further develop the digital, analytical and sensor data needed to grow the UK's domestic space domain awareness (SDA) capabilities. In support of this, the UK may seek to procure external SST data from both national and international suppliers.

This Prior Information Notice is being issued to enable the UK Space Agency and Ministry of Defence to better understand market appetite and available capability to help shape a Statement of Requirement for a potential future competition. The scope of this Prior Information Notice is the supply of Space Surveillance and Tracking (SST) data, by which we mean data related to the position, velocity or trajectory of objects in orbit provided by sensors such as (but not limited to) telescopes, radars or laser. The scope of this Prior Information Notice does not include other Space Domain Awareness (SDA) or Space Situational Awareness (SSA) data, for example space weather or near-earth object data.

If you believe this opportunity will be of interest to you or your organisation, please register an Expression of Interest and complete the questionnaire available by 12 noon on Friday 13th November 2020 and email to professionalservices@uksbs.co.uk quoting CS20409 in the subject.

The Programme Team will be running a Webinar from 15:00-16:00 on Monday 19th October 2020 to provide further background information and to address any questions you may have – if you would like to join this webinar please email professionalservices@uksbs.co.uk quoting CS20409 in the subject with details of your company and email address for the

proposed attendees. A record of any questions and answers asked will be provided to all attendees and published if/when the project goes live.

For the avoidance of doubt, this notice is not a call for competition; a Contract Notice will be issued as a call for competition. Not registering an interest shall not prevent any supplier participating in a future procurement, nor is it intended that any information supplied as part of preliminary market consultation shall place any supplier at an advantage in a potential procurement process. UKSA reserves the right not to award a contract.

Timetable	
Register for Webinar by	Friday 16 th October 2020 At 14:00
Webinar on	Monday 19 th October 2020 At 15:00-16:00
Complete and return questionnaire by	Friday 13 th November 2020 At 12 noon

Questionnaire

This form is split into two parts: all questions in Section **A** must be answered, whilst Section **B** is optional and provides the opportunity to supply additional information on SST services which would be useful but is non-critical. All information provided will be treated as commercial in confidence. No information will be released publicly without explicit approval of the responding point-of-contact(s).

Section A: SST Data [Required]

1. Please provide a single named point of contact for your company/organisation, as well as basic details about your company, including:
 - a. Location of company head office / registered office.
 - b. Date company was founded / incorporated / registered at Companies House
 - c. If you have a UK office, the location of this head office.
 - d. Approximate number of employees in the company as a whole.
 - e. Approximate number of UK employees.
2. What areas of Space Situational Awareness (SSA)/Space Surveillance and Tracking (SST)/Space Domain Awareness (SDA) does your company/organisation cover?
3. Please describe the sensors you operate capable of providing SST data. For each sensor, or network of sensors, please list in no more than 500 words:
 - a. The type of sensor(s)
 - b. Where they are located geographically, including latitude/longitude/elevation of sensor. If you operate a network of sensors this information can be provided as a supplementary annex.
 - c. Whether the sensor can undertake surveillance, tracking or both
 - d. Altitudes or orbital regimes the sensor(s) observes
 - e. Approximate minimum object size routinely detectable
 - f. Instantaneous field-of-view and field of regard

- g. Any UK involvement in the sensor (for example, but not limited to, operating the Sensor or productions/maintenance supply chain)
 - h. Additional information if relevant and/or useful (e.g. Details of Angular/Range/Doppler/Frequency/Timing Precision)
4. Please describe, in no more than 500 words, how you supply SST data from sensors. This should briefly explain the following specifications:
- a. Output SST data (s) (e.g. Metric observations (position, time), calibrated photometry, raw imagery, sensor measures angles, range, range rate)
 - b. Output data format (s) (e.g. CCSDS TDMs, OEMs etc)
 - c. Availability of sensor for SST operation (e.g. mean monthly/annual availability %)
 - d. Average volumes of measurements collected over 24 hours
 - e. Data rate/cadence/duration of collect
 - f. Frequency/timelessness of data delivery
 - g. Data processing of observations (if any)/ details of corrections applied to output data
 - h. Quality assurance of data
 - i. Additional information if relevant and/or useful (e.g. cueing/acquisition method/typical tracking mode/ tracking constraints)
5. What are your conditions for data sharing to external partners? These might include contractual constraints or considerations in your pricing. Please consider specifically:
- a. Sharing data within UK government (central, agencies and arms-length bodies)
 - b. Sharing data with other international governments or supranational organisations (such as (but not limited to) ESA or the EU SST consortium)
 - c. Sharing data with industry users of SST services
 - d. Sharing data with academic or research communities for non-commercial or operational purposes.
 - e. Please note the UKSA would reserve the right to issue reports of orbital events, based on analysis of your data and/or other sources available to us but not including your data itself, to any of the groups listed above. Please confirm if you have any caveats or exclusions that apply.
6. What are the commercial arrangements you would consider if the UK wished to purchase your SST data? Please as a minimum describe your standard approach and to the best of your ability list any specific questions you would have if we wished to enter into the following arrangements:
- a. Contract for delivery of positional data on UK licensed, launched, UN-registered or operated spacecraft.
 - b. Contract for delivery of positional data on UK licensed, launched, UN-registered or operated spacecraft and positional data on any catalogued resident space object which has a perceived greater than 0.1% of colliding with a UK licensed object.
 - c. A call-off contract or framework where we would approach you for rapid collection and provision of positional data, on objects specified by us within agreed altitudes and orbital regimes, on a responsive basis.

- d. A 'sensor-time' arrangement where we pay for the daily use of specific sensor(s) and are free to task them as required.
- 7. What are your typical, rough order or magnitude pricing assumptions for the provision of SST data? When answering this question please detail as a minimum your standard pricing arrangement and to the best of your ability provide additional details on how your pricing model might respond if we wished to enter into any of the arrangements listed under 6a-d.

Section B: SST Services [Optional]

This section may be used to provide information on SST services your company/organisation provides. Whilst recommended, completion of this section is not mandatory.

- 8. In addition to the data you provide, do you also provide software packages, additional data processing and/or visualisation related to space surveillance and tracking? If so, please provide any specific details on these other packages or data services, including their pricing, licensing (or similar) constraints and if there are any export control or other agreements needed for the UK government to purchase them.
- 9. Though the focus on this Prior Information Notice is the procurement of SST data, companies also offer SST services (such as conjunction analysis) and products. Does your company /organisation also offer SST services beyond the provision of SST data? Please provide any specific details on these other packages or data services, including any pricing assumptions, licensing (or similar) constraints and if there are any export control or other agreements needed for the UK government to purchase them.