



HEO Robotics response to Request for Information on Scope of Civil Space Situational Awareness Services - Agency/Docket Number RTID 0648-XV190 - Document Number 2023-01556

HEO Robotics (www.heo-robotics.com) is the world's first commercial in-orbit satellite inspection company providing Non-Earth Imaging (NEI). Our technology helps defence, governments, and commercial operators to visually monitor their spacecraft and other space objects.

HEO Robotics goal is to produce fully resolved imagery on any object within LEO, MEO and GEO regimes using unique 'Flyby' technology. 'Flyby' inspection is a highly cost-effective approach for conducting satellite-to-satellite intelligence, surveillance, and reconnaissance of resident space objects (RSOs) of interest to commercial, government, and military decision makers.

This type of on-orbit inspection utilises existing networks of earth observation (EO) satellite platforms to perform imaging as the sensor passes close to objects of interest (e.g. active satellites and space debris). This method presents several advantages to quickly build capabilities on objects in orbit without the time or cost required to develop bespoke imaging payloads or design and launch a dedicated satellite platform.

Currently HEO Robotics has access to over 30 space-based sensors with plans to increase this number to more than 50 in the next 12 months including launching its own space-to-space/NEI camera system (Holmes) that will allow it to service new orbital regimes to image satellites outside of the range of its existing fleet.

Following is HEO Robotics' response to the Request for Information on Scope of Civil Space Situational Awareness Services.

HEO Robotics has the following input to the Office of Space Commerce's planned scope of basic safety services to be provided via the Traffic Management System for Space (TraCSS) program:

- Data of space objects from a DoD catalog that is currently made accessible to the public through the space-track.org website is essential for ongoing operations of many commercial space businesses. The current level of information and frequency of updated data needs to be maintained and preferably increased. A more frequent update of TLEs (Two Line Elements) will increase the accuracy of conjunction calculations and improve Space Traffic safety.
- Services that are available from commercial vendors should be purchased by the government and redistributed to TraCSS (Traffic Management System for Space) users.
- Characteristics of space debris, satellites of non-participating owners/operators and unknown objects should be included in a robust satellite catalog to avoid collisions and other hazards. HEO Robotics has the technology to characterise space objects via flyby inspections. We encourage the Office of Space Commerce to stay in contact with HEO Robotics for assistance with the characterisation of above mentioned objects.
- The current scope of space situational awareness services mainly focuses on tracking and conjunction analysis. We suggest to include the following,
 - Object characterisation (size, materials, attitude, attitude rate)
 - Object state over time (sub-system changes, material changes)

For more information about commercially available Non-Earth Imaging and about the HEO Robotics Inspect platform please visit <https://inspect.heo-robotics.com/sign-in/?next=/>

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