



February 27, 2023

Submitted via email to space.commerce@noaa.gov

Richard DalBello, Director
Office of Space Commerce
US Department of Commerce
1401 Constitution Ave NW
Washington, DC 20230

Re: RTID: 0648-XV190, Request for Information on Scope of Civil Space Situational Awareness Services, Docket No. 2023-01556

Dear Mr. DalBello:

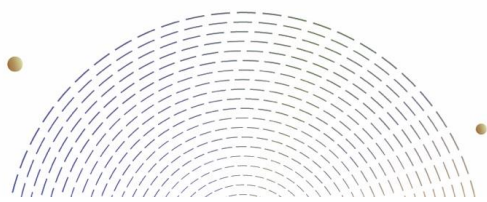
Mangata Networks (“Mangata”)¹ submits the following comments in response to the US Department of Commerce, Office of Space Commerce’s (“OSC”) Request for Information (“RFI”) published on January 26, 2023, to assist OSC in defining the scope of a civil space situational awareness (SSA) service.²

Mangata supports OSC’s efforts to formulate the Traffic Management System for Space (“TraCSS”) program. Mangata designed its non-geostationary orbit (“NGSO”) satellite system to use scarce orbital and spectrum resources efficiently. Indeed, Mangata’s system incorporates space sustainability by design. Specifically, Mangata’s NGSO constellation is a hybrid system operating in uncongested highly elliptical (“HEO”) and medium earth (“MEO”) orbits.³ This enables Mangata’s constellation to provide a robust, high-availability service to a number of consumer and government applications, while also protecting invaluable orbital resources. The system’s orbital configuration is constructed for accelerated deployment, providing service to all of North America and Europe with only 8 HEO satellites, and global coverage with only 32 satellites across MEO and HEO planes. Vital to the functionality and operability of

¹ Mangata Networks was founded in 2020 with a mission to deliver the lowest cost and highest performance capacity to anyone, anywhere by skillfully and cost-effectively combining terrestrial and satellite technologies to create a socially responsible, global network service provider. Our System is optimized for global cellular heterogeneous network backhaul, government, maritime and aero-mobility connectivity services with the aim of providing local networks, including cloud services, to under-connected or unconnected locations and to aircraft. *See generally Mangata Networks LLC Petition for Declaratory Ruling*, IBFS File No. SAT-PDR-20200526-00054, Call Sign S3068 (filed May 26, 2020) (“Mangata PDR”).

² *Request for Information on Scope of Civil Space Situational Awareness Services*, 80 Fed. Reg. 4970 (January 26, 2023).

³ *See Mangata PDR, Technical Narrative.*



Mangata’s constellation, as well as its launches, is a comprehensive and well-integrated SSA program that is responsive, up-to-date, and accurate to maximize the safety of our operations.

OSC should ensure services 4, 6, 9, 11, and 14 are included in the TraCSS program, as such services are vital to ensure space situational awareness.

In addressing the proposed SSA services, it is first important that we recognize that SSA services which have been proposed as “included” should not be reduced. Each of the fourteen services are integral parts of keeping space safe through coordination. While all of the services discussed are worthwhile, of utmost importance to Mangata are services 4, 6, 9, 11, and 14. Mangata urges OSC to ensure these services are “included” in the TraCSS program:

(4) Special CA Screening and CDM Production. This service ensures that any maneuvers do not pose new collision risks. The provision of this as an on-demand service will be vital to the formation and planning of satellites operations against other ephemerides.

(6) Launch Collision Avoidance (COLA) Screenings. This service is essential to space systems functions, as easily available COLA screenings will enable coordination and planning of launches.

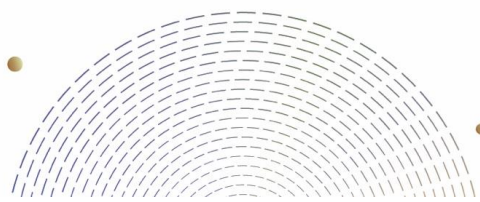
(9) Precision Probability of Collision Calculation. Calculations provided with each Conjunction Data Message (CDM) are extremely useful to the operations functions of satellite constellations. In providing the calculations, however, OSC should make public the methodology and algorithm(s) used in these calculations. These calculations should be maintained based on input in a publicly available dataset.

(11) Conjunction Object Solution Improvements with Additional Tracking. It is critical that this service remains in the list for “included” services to ensure that operators have additional observations for collision risk assessments.

(14) Space Weather Sensitivity. We believe that space weather warnings and advanced monitoring of space weather conditions will be extremely useful for our space systems during launches.

OSC’s SSA service should enable and assist with owner/operator (“O/O”) maneuver coordination.

The OSC’s SSA service should ensure commercial satellite operators have a means to coordinate COLA scenarios with maneuverable USG satellites that may not be able to communicate directly or openly with a commercial operator, similar to the role of the Combined Space Operations Center (“CSpOC”) Commercial Integration Cell (CIC). It is not clear if this would still be a CSpOC role or one that OSC would take over.



OSC should clarify the definition and classification of O/O regarding the TraCSS program.

Mangata encourages OSC to clarify the definition and classification of O/O regarding the SSA services proposed to help entities determine eligibility to participate in the TraCSS program. Mangata is a U.S. entity incorporated in Delaware with global operations, including hubs in the U.S. and United Kingdom. Mangata’s satellite system is currently licensed through the United Kingdom and an application for U.S. market access is pending before the United States. OSC should clarify that these services are intended to be provided to non-US O/Os and, further, seek a statement or guidance to help international satellite operators understand the requirements to be an O/O in the TraCSS program. Ultimately, the matter of space sustainability, orbital debris mitigation, and space situational awareness extends beyond terrestrial boundaries.

OSC should clarify on coordination with other Federal and international alignments.

OSC should further clarify how it intends to interact with CspOC and international SSA bodies. While OSC’s proposes expanding on cooperation with the DoD, OSC should release specific details on how the TraCSS program will interact with CspOC or other SSA bodies such as the European Space Agency Space Situational Awareness (SSA) Programme.

Specifically, OSC should address the following questions:

- (i) What is the relationship/plan, if any, with respect to CSpOC, where the community currently receives these services?
- (ii) Is the proposed TraCSS system going to replace Space-Track?
- (iii) Are there going to be redundancies between these departments and services?

Mangata appreciates OSC’s efforts in creating a robust SSA plan through the TraCSS program. We believe that the services proposed to be included in the TraCSS program are all very important to space safety and sustainability and therefore should not be removed from the final list of services. The TraCSS program is poised to play an integral role in maintaining the safety of commercial space. We would be happy to further discuss our objectives and viewpoints for the TraCSS program.

Respectfully submitted,

/s/Noah Cherry

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