

Space Systems Command Media Release



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Space Systems Command's Missile Track Custody Program Completes Critical Design Review, All Systems Go for Continued Development of Overhead Persistent Infrared (OPIR) Sensors

SUMMARY: Missile tracking from Medium Earth Orbit takes a huge leap forward with completion of Critical Design Reviews for Overhead Persistent Infrared (OPIR) sensors. All systems go for continued development of enhanced missile warning and tracking.

EL SEGUNDO, Calif. – Space Systems Command achieved a major milestone in its Missile Track Custody (MTC) program this month with the successful completion of two critical design reviews (CDRs) for next-generation missile warning and tracking sensors enabled by Overhead Persistent Infrared (OPIR) technology. One design is being developed by Millennium Space Systems and the other by Raytheon Intelligence & Space. Both are progressing on schedule.

“The CDRs proved the sensors designs are mature and we can move from demo to development,” said Lt. Col Gary Goff, materiel leader for strategic payloads with SSC’s Space Sensing directorate.

Upon completion, the MTC program’s payloads will track missile launches and hypersonic glide vehicles from Medium Earth Orbit (MEO) and will work in concert with current Space Based Infrared Systems (SBIRS) constellations operating in geosynchronous Earth and highly elliptical orbits (GEO/HEO) as well as in sync with the Space Development Agency’s (SDA) Tracking Layer satellites. Collectively, these constellations will enable multi-layered missile warning, detection, and tracking capabilities.

“Along with ground architecture in development, the MTC program will significantly enhance U.S. missile warning and tracking capabilities, particularly in the area of monitoring hypersonic glide vehicles,” said Goff.

“Both designs demonstrated the capability of the MTC system and how it will complement the overall missile warning and tracking architecture,” said Maj. José Arzate, MTC program manager, SSC’s Space Sensing Directorate. “Now that the payload CDRs and the baseline designs of the sensor are complete, we will work hand in hand with our industry partners to ensure we can get optimal performance.”

Preliminary design reviews (PDRs) for the MTC payloads were conducted in the fall of 2020 with six industry participants. After the PDR, the program employed a digital demonstration baseline and held a competition for the MTC Demonstration. The shift supported the funding constraints while enabling options to quickly acquire up to three space vehicles per agreement.

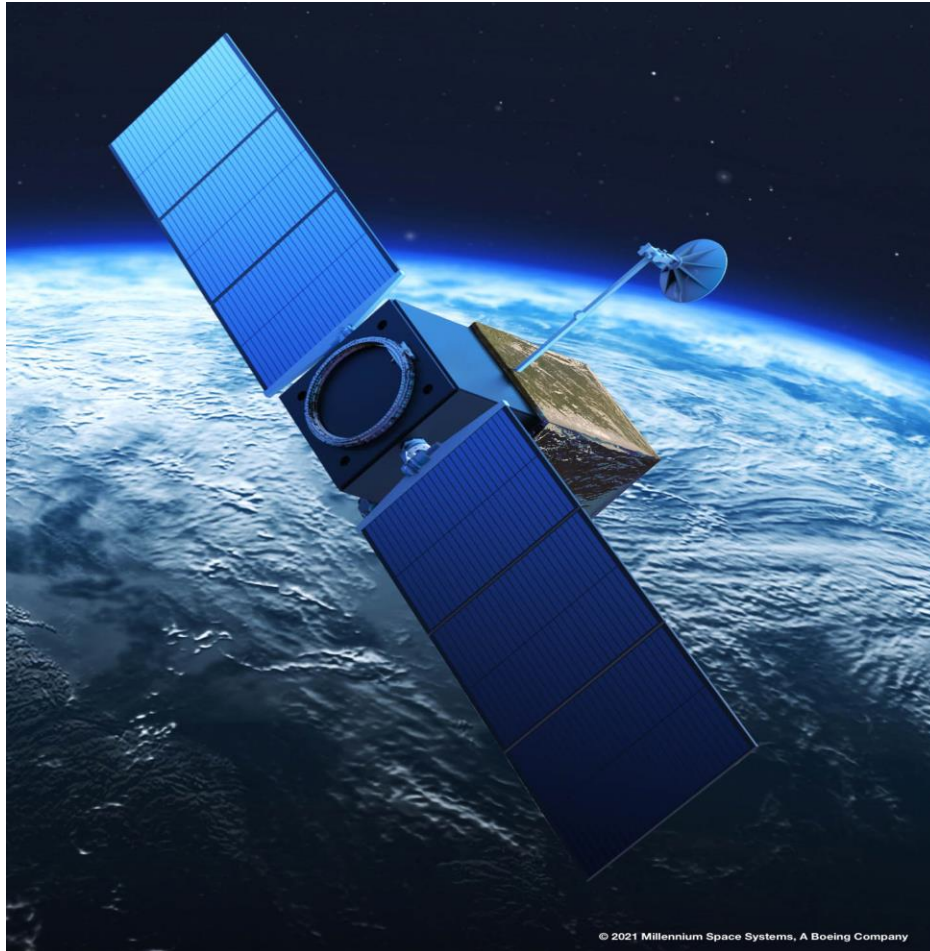
After a full source selection, agreements were awarded to Millennium Space Systems and Raytheon Intelligence & Space. Upon completion of the analysis of alternatives and the subsequent Space Warfighting Analysis Center’s Force Design, the Fiscal Year 2023 president’s budget supported the development of an initial warfighting capability for warning and tracking in MEO.

The next step is a system-level CDR projected for summer 2023 with the same two contracted companies and will involve the full space vehicle design. If successful designs are matured and proven, the program can then proceed into building multiple satellites to operate in a plane of capability as part of the MTC initial capability which is currently slated for two launches in late 2026.

Space Systems Command (SSC) is the U.S. Space Force field command responsible for rapidly identifying, prototyping, and fielding resilient space capabilities for joint warfighters.

SSC delivers sustainable joint space warfighting capabilities to defend the nation and its allies, while disrupting adversaries in the contested space domain. SSC mission areas include launch acquisition and operations; space domain awareness; positioning, navigation, and timing; missile warning; satellite communication; and cross-mission ground, command and control, and data.

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Missile Track Custody graphic (Courtesy of Millennium Space Systems)

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