DEPARTMENT OF DEFENSE
UNITED STATES SPACE COMMAND
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MEMORANDUM FOR TO WHOM IT CONCERNS

FROM: HQ USSPACECOM/OFFICE OF THE CHIEF SCIENTIST

SUBJECT: FY28 Science & Technology (S&T) Priority List (STPL)

To ensure USSPACECOM maintains a decisive technological advantage against future threats, the Office of the Chief Scientist led a deliberate and multi-faceted effort to develop the command's FY28 STPL (the Command's third STPL). Anchored to operational needs identified by the FY28-32 USSPACECOM Integrated Priority List and it's working groups, the FY28 STPL was further refined by collaboration with other Combatant Commands, the broader S&T community, commercial innovators, and subject matter experts as well as AI-enabled horizon scanning for emerging technologies most applicable to USSPACECOM's mission.

The FY28 USSPACECOM STPL (unclassified version) is categorized by the following areas:

- Develop technologies that enable order of magnitude improvement in on-orbit mobility (e.g. novel propulsion systems, new fuels, maneuver optimizations, etc.).
- On-orbit servicing, assembly, and manufacturing systems that enable refueling, repair, reconfiguration, wireless energy resupply, and rapid replacement of assets.
- Cislunar and xGEO characterization, navigation, and communication and control technologies that enable Space Domain Awareness (SDA) and military operations in cislunar space and beyond GEO orbits.
- Multi-phenomenology SDA sensor fusion, combining radar, optical, RF and other phenomenology with AI-enabled analytics for rapid space object detection, tracking, characterization, and attribution.
- AI-enabled battle management and integrated space Command and Control (C2) to help orchestrate space fires, protection measures, and sensor integration to enable Find, Fix, Track, Target, Engage, and Assess (F2T2EA) cycles.
- Assured and alternative Position, Navigation, and Timing (PNT) for the joint force, including for the space service volume and beyond.
- Applications of quantum technologies for secure satellite communications and quantum sensing technologies to enable precision PNT and enhanced space object tracking.

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