Fact Sheet

Defense Advanced Research Projects Agency

3701 North Fairfax Drive
Arlington, VA 22203-1714

DARPA Conducting Study on Orbital Debris Removal

The Defense Advanced Research Project Agency (DARPA) is performing a study to better understand the issues and challenges involved with removing man-made debris from earth orbit. The study, known as Catcher's Mitt, is intended to address the increasing hazard from orbital debris faced by all U.S. and international space assets.

For several years space-faring nations have recognized the mounting risk posed by orbital debris. The U.S. Space Surveillance Network maintains a catalog of nearly fifteen thousand objects in orbit. This figure does not include hundreds of thousands of objects too small to be cataloged, but still large enough to pose a threat to operational satellites in orbit around the Earth.

Mitigation measures to minimize the generation of debris have been adopted by many countries in an attempt to slow the growth of the orbital debris population, with some success. However, two significant debris generating events during the past two years have resulted in a significant increase in the number of debris objects.

Current analysis indicates collisions between orbital objects could potentially lead to a sustained growth in the debris population. Debris mitigation alone will not be sufficient to prevent a continual increase in the number of debris objects.

The goal of DARPA's Catcher's Mitt study is to model the debris problem and its future growth, determine where the greatest problem will be for assets and then, if appropriate, explore technically and economically feasible solutions for debris removal. Data and input for this study is being gathered in three ways:

1) An International Conference, co-hosted by the National Aeronautics and Space Administration (NASA), on orbital debris removal to be held December 2009.

   - Speakers at the conference include severally internationally renowned orbital debris experts from NASA, the European Space Agency, Russia, Japan, and several other nationals, as well as numerous leaders from the aerospace industry.

   - With approximately 60 speakers and nearly 300 registered participants, this conference will explore not only the technical challenges of orbital debris removal, but economic, legal and programmatic considerations as well.

- Innovative solutions that will be discussed at the conference include the use of lasers, tethers, solar sails and other techniques for de-orbiting debris, as well as a variety of methods for capturing debris so it can be relocated to a safer orbit.

2) A Request for Information (RFI) where industry can submit concepts to solve subsets of the debris problem.

3) Utility studies conducted by NASA, Air Force, and DARPA to model the growth of the risk to space operations.

"DARPA intends to use the results of these three approaches to determine whether DARPA investment in a new program is warranted and where and how to be most effective. If justified, potential follow-on efforts might include a new DARPA led program, or DARPA support for an effort led by another U.S. government organization," said Wade Pulliam, a Program Manager with the Tactical Technology Office.

-END-

Media with questions, please contact Johanna Jones, (571) 218-4512 or Johanna.jones@darpa.mil.