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## Space Situational Awareness Workshop

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## Space Situational Awareness Workshop

The goal of the Space Situational Awareness workshops is to bring together stakeholders interested in space situational awareness (SSA). This includes practitioners, users of data, representatives of industry and the military, the scientific community, international organizations, and the satellite-tracking community. These stakeholders discussed how needs are changing with SSA, what improvements in SSA capabilities can be achieved in the near-term to medium-term, and how various stakeholder communities might better interact to draw on each other's strengths.

The first workshop was held in 2006. It was co-sponsored by the World Security Institute's Center for Defense Information. A workshop report can be found at: [http://www.cdi.org/PDFs/SSAConference\\_screen.pdf](http://www.cdi.org/PDFs/SSAConference_screen.pdf). The second workshop was hosted by Inmarsat in 2007 and was co-sponsored by the World Security Institute's Center for Defense Information and the Secure World Foundation. A summary of the discussions that took place at this workshop was published in *Space and Defense* 2: 1 (2008).

The summary provided here covers the third workshop held in 2009. This workshop was hosted by Intelsat and was co-sponsored by the World Security Institute's Center for Defense Information, the Secure World Foundation, and the George C. Marshall Institute. Areas of focus included: national and international perspectives on SSA; the challenges of the space environment;

governance issues related to safe and responsible behavior in the space environment; the state of SSA data sharing and the U.S. Commercial and Foreign Entities (CFE) Program; concepts and capabilities for improved SSA data sharing; and new opportunities in SSA.

At the 2009 SSA workshop, consensus emerged among all participants on the principal of data sharing. In this regard, the workshop served as a useful forum for dialogue on SSA data sharing among military, industry, academic, and think-tank experts from the U.S., Europe, and Russia. Participants viewed the recent the Iridium-Cosmos collision of 10 February 2009<sup>1</sup> as a watershed event on the need for better data sharing. It was recognized at the workshop that orbital conjunctions risks are always present. Further, the fact that statistical analysis of possible conjunctions are based on a short historical time frame and on incomplete data suggests that the frequency of conjunctions is likely greater than one can model or anticipate.

The Iridium-Cosmos collision also pointed to one dilemma of mitigation based on maneuvering an active satellite. The point was made at the workshop that, given uncertainty in predicting an orbital conjunction, if one was to maneuver a space asset there remained the possibility, nonetheless, that a collision could

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<sup>1</sup>On 10 February 2009, the Iridium 33 and Cosmos 2251 communications satellites collided over northern Siberia. The impact between the Iridium Satellite LLC-owned satellite and the 16-year-old satellite launched by the Russian government occurred at a closing speed of well over 15,000 mph at approximately 490 miles above the face of the Earth. The low Earth orbit location of the collision contains many other active satellites that could be at risk from the resulting orbital debris. See <http://www.stk.com/corporate/mediaCenter/news/iridium-cosmos> (accessed November 2009).

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still take place. This, in turn, would likely establish fault for liability on the party that undertook the maneuvering – the Liability Convention established the principal of fault-based liability for damages in space. A number of issues in the context of the Iridium-Cosmos collision were discussed: at what point do you take action to maneuver a space asset from a possible conjunction; whose obligation is it to maneuver, especially when a commercial provider owns and operates the space asset; and what are the resultant liability issues?

In terms of SSA data sharing, two specific cases were discussed at the workshop. One case concerned the U.S. CFE program for SSA data sharing. It was noted that since the inception of CFE in 2004, the program evolved from a more conservative and controlling view on data sharing to a more liberal and open view on data sharing. Indicative of this evolution is the openness among U.S. military leaders for European cooperation and involvement in SSA data sharing as well as using European assets to augment SSA capabilities of the U.S. military. The second case of data sharing discussed at the workshop dealt with the efforts of commercial satellite providers to develop and establish SSA data sharing arrangements among key commercial telecommunication satellite operators. In addition to a discussion on some of the specifics of this data sharing arrangement, there was a discussion on ways to expand the sharing arrangement to include the U.S. military.

*...openness  
among U.S.  
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leaders for  
European  
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and  
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in SSA data  
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