



# Dupont Summit 2017

*Science, Technology, and Environmental Policy*

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## **Presentation**

### **“Escalation and Deterrence in the Second Space Age”**

On October 4, 1957, the Soviet Union launched Sputnik 1, the first human-made object to orbit the Earth. Sixty years later, space-faring nations face a much different space environment; one that's more diverse, disruptive, disordered, and dangerous. Today's space domain presents a number of asymmetries that differ from other domains, creating a deterrence environment with unique policy implications.

The first space age, from 1957 to 1991, was dominated by the Soviet Union and the United States. In these early years of spaceflight, 93 percent of all space launches came from one of the two leading nations. Since then, the European Union, China, India, Japan, and other states have diversified this landscape and become key players in international space activity. The environment has also further diversified due to increased commercial activity. Private space companies have proven the success and viability of reusable first stages and low-mass satellite constellations. These disruptive technologies, among others, have the potential to significantly reduce the cost of access to space.

The increasing number of both space-faring nations and commercial space companies has caused the second space age to be more disordered than the first. The threat of rogue nations or non-state actors acquiring harmful technology has caused some policymakers to attempt to address and improve the largely symmetrical international laws and treaties that govern the space environment or to further regulate the increasing amount of commercial companies acting in this space. With such a long history of activity in space, the United States has grown increasingly dependent on its space assets for both civilian and military activities. Thus, aggressive behavior in the domain threatens American systems disproportionately.

As space diversifies, the dynamics between nations, companies, and individuals becomes increasingly important and complex. Instead of a peaceful scientific sanctuary in space, the second space age requires an evaluation of typical escalation and deterrence dynamics, including attribution, reversibility, resilience, thresholds, and asymmetries, and how they might apply to activities in space.

This study applies traditional deterrence theory to the second space age using historical examples from the dawn of the nuclear era and the results from a space crisis dynamics tabletop exercise held at CSIS which included experienced diplomats, academics in international affairs, retired military generals, and civil and commercial space experts.

#### *Speakers*

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