

IISL COLLOQUIUM ON THE LAW OF OUTER SPACE (E7)

Space Traffic Management: From Space Situational Awareness and Space Surveillance and Tracking to developing Rules of the Road (4)

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SPACE TRAFFIC MANAGEMENT IMPLEMENTATION ROADMAPS AND REGULATORY
ARCHETYPES THAT BEST SERVE THEM

Abstract

The necessity of traffic management in space is a consequence of our “free use” of it over the past sixty years, culminating in a surging new population of mega constellations and micro satellites, numerous commercial mining, tourism and space-ops platforms, as well as the concomitant accumulation of space debris, all enabled by the development of reusable rockets. The economic, humanitarian and military advantages gained through this prolific development is counterbalanced by the difficulties posed to space operators in detecting and tracking objects, predicting their future trajectories and preventing collisions that could damage or destroy functional satellites and generate additional orbital debris. High-level policy components of space traffic management such as the provision of space situational awareness data and services, government oversight of private space activities and coordination among spacefaring countries to develop national systems extendable into a future international framework, have been mired in unresolved political debate for over a decade. But national efforts, such as NASA’s Orbital Traffic Management Study and the DLR’s white paper on the “Implementation of a European Space Traffic Management System”, as well as landmark international efforts, like the IAA “Roadmap for Implementation”, may provide practical guidance and an impetus to compel development of policy at national levels that is covalent with a foundation for an international coordinating body. This paper will discuss potential structural frameworks for international regimes modeled on existing successful bodies such as IACO, ITU, IADC, UNCUPUOS and others in light of the conclusions, recommendations and guidelines in these recent studies and conclude with a proposal for an ideal international organization that addresses the operational concerns, public policies and executive management issues identified as critical in the current colloquy among today’s space policy bodies.