

Prioritizing and Establishing Mechanisms for the Formation of Space Traffic Management Standards, Guidelines and Best Practices

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ABSTRACT

On June 18, 2018, the U.S. National Space Council released Space Policy Directive – 3, National Space Traffic Management Policy (SPD-3). One of SPD-3's primary goals is the development of Space Traffic Management (STM) standards and best practices. The policy states that a critical first step “is to develop U.S.-led minimum safety standards and best practices to coordinate space traffic.” It also states that the U.S. should lead the world in developing improved Space Situational Awareness (SSA) data standards, develop a set of standard techniques for mitigating collision risks, and promote internationally a range of norms of behavior, best practices and standards for safe operations in space. It states:

The Secretaries of Defense, Commerce, and Transportation, in coordination with the Secretary of State, the NASA Administrator, the Director of National Intelligence and in consultation with the Chairman of the FCC, shall develop space traffic standards and best practices, including technical guidelines, minimum safety standards, behavioral norms, and orbital conjunction protocols related to pre-launch risk assessment and on-orbit collision avoidance support services.ⁱ

In total SPD-3 identifies the need for more than 40 different space traffic management (STM) related standards, best practices, and guidelines. Nevertheless, SPD-3 did not capture all the top-level standards, best practices, and guidelines that effective space traffic management will require. In addition, with the exception of updating the U.S. government's Orbital Debris Mitigation Standard Practices first, SPD-3 did not identify which standards, guidelines, and best practices should receive priority in their development. This paper assesses the completeness of the list of standards, best practices, and guidelines called out in SPD-3 and identifies gaps. Next, the paper discusses different prioritization methods. Finally, the paper identifies existing standards development organizations and calls for increased investment, faster work, and new mechanisms to facilitate the formation and proliferation of necessary STM guidelines, best practices, and standards.

ⁱ Presidential Memoranda, Space Policy Directive – 3, National Space Traffic Management Policy (SPD-3), Infrastructure and technology, June 18, 2018.