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IAF HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Commercial Human Spaceflight Programmes (2)

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IMPACT OF AMERICAN DEPENDENCE FOR HUMAN LAUNCH CAPABILITIES TO THE INTERNATIONAL SPACE STATION ON THE WORKING RELATIONSHIP BETWEEN NASA AND ROSCOSMOS

Abstract

Since NASA's cancellation of the Space Shuttle Program in 2011 without a completed successor vehicle, the US has been completely dependent on Roscosmos (the Russian Space Agency) for launching services. This reliance has increased cooperation between the two agencies due to necessary training and the execution of each launch. Seats onboard the Soyuz vehicle have increased in cost throughout the launch relationship, and a series of waivers have had to be instituted by the US Congress since launch costs qualify as a government-to-government purchase in violation of the Iran Nonproliferation Act. In order to end this dependence, decrease costs over time, and regain political leverage that reliance has diminished, NASA instituted the Commercial Crew Program. This program seeks to transport astronauts from NASA and other partner countries (USOS astronauts) to the International Space Station (ISS) from American soil, and its two main contributing entities are SpaceX and Boeing. With test flights being completed in early 2020 for both companies and crewed launches on the horizon, the era of NASA astronauts being transported via Russian Soyuz rockets is nearing its end. At this key transition point in the relationship between the two space agencies, we present a recommended action plan to effectively sustain relations in the absence of dependence while considering technology readiness level, raw launch capabilities, schedule delays, and political constraints.