

57th IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
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MANAGEMENT IN SPACE ACTIVITIES (IP)

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MANAGEMENT SYSTEM IN SPACE

Abstract

Space management also involves addressing legal and regulatory frameworks to ensure responsible use of space resources, prevent conflicts, and establish guidelines for space activities. As the private sector becomes more involved in space exploration, considerations around commercialization, intellectual property, and equitable access to space resources gain significance. Furthermore, advancements in artificial intelligence and automation contribute to enhancing efficiency in satellite operations and data analysis, influencing the trajectory of space management practices. Space management extends to space traffic management, tracking the increasing number of satellites and debris in Earth's orbit to prevent collisions and ensure long-term sustainability. The development of space situational awareness technologies is critical for monitoring and mitigating potential hazards in space. As we look toward future endeavors like lunar exploration and Mars missions, strategic planning and international cooperation will continue to be essential aspects of effective space management. Space management systems must be robust, adaptable, and capable of handling the challenges posed by the harsh space environment. Continuous monitoring, regular updates, and contingency planning are crucial aspects of successful space mission management. Managing systems in space involves coordinating a wide array of activities to ensure the success and safety of space missions. This includes planning, monitoring, controlling, and coordinating various aspects of space missions, whether they involve satellites, space probes, or crewed spaceflights. Here are some key components of a space management system: Mission planning, communication systems, navigation and guidance, power systems, environmental control, health monitoring, security and safety, data analysis and decision-making, resource management, remote operations, international collaboration, regulatory compliance. In conclusion, space management encompasses a multifaceted approach involving strategic planning, technological advancements, legal considerations, international collaboration, and sustainability efforts. As humanity continues to explore and utilize space, effective management practices will be integral to ensuring the success, safety, and responsible use of space resources.