

IAF SPACE OPERATIONS SYMPOSIUM (B6)
Ground Operations - Systems and Solutions (1)

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ISS NATIONAL LAB RESOURCE UTILIZATION AND PLANNING

Abstract

The ISS National Lab (ISS NL) has been entrusted by the US Government and the people of the United States to manage and efficiently utilize a laboratory that exists in one of the most technically challenging and dynamic environments. Managing such a laboratory poses many logistical and technical challenges which are addressed using the Resource Utilization Planning System (RUPS).

The technical challenges of space flight dictate that projects face additional scrutiny and are often subject to more design flux and potentially longer project timelines than in traditional ground-based laboratories. In addition to these project design challenges, the resources allocated to the ISS National Lab are continuously in flux. The dynamic nature of the ISS flight plan, vehicle manifests, project verification, ISS vehicle maintenance, research facility availability, and crew time constraints necessitate an agile system that can incorporate ever-changing requirements for projects in all phases of development.

RUPS was developed in-house, leveraging the Salesforce platform to address these planning challenges. Utilizing Salesforce's customizable database structures, the ISS NL can ensure continuity as projects move through their entire lifecycle and map resource requirements to the appropriate flight, increment, and facility capability. This system and flexible database structure also allow for feedback loops to all ISS NL teams, so that as an organization we are able to respond to the continuously changing environment and address new resource utilization challenges as they present themselves.

Using RUPS and in conjunction with NASA, ISS NL is able to effectively manage and optimize the flight, increment, and facility resources available to it. Additionally, with an ever-growing pipeline of new projects, new commercial ISS crew vehicles, new research facilities coming online, and the rapidly growing commercial interest in the space sector, the ISS National Lab will undoubtedly face new and exciting challenges that it is prepared to address using the Resource Utilization Planning System.