

Marshall Space Flight Center

Payload and Mission Operations

Autonomous Systems

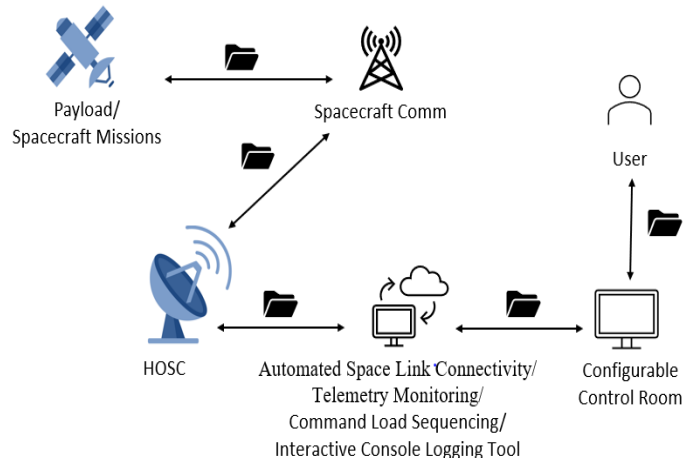
The Payload and Mission Operations Division (PMOD) has a variety of products and services that reduce the need for human-in-the-loop operations concepts. These tools and services include a unique suite of modifiable operations support products that works with the mission systems of the Huntsville Operations Support Center (HOSC) to reduce human involvement.



Free Flyer Satellite

Our team of experts in ground systems and command/data handling provides tailored operational support products for any payload and mission operations concept. We offer configurable solutions poised to support any sized payload and mission operations concept. We can ensure our ground systems are cost competitive and ready to meet the unique challenges of payload and mission operations.

This integrated approach enhances operational integrity and responsiveness, ensuring that teams can effectively manage mission success. This suite of products has a proven heritage supporting a variety of missions over the past two decades.



Autonomous Communication Path

PMOD Ops Support Products

PMOD offers a variety of unique and customizable operational support products aimed at improving mission efficiency and adaptability. These tools can be personalized to specific mission needs and easily modified for different operational contexts. Key products include:

- **Automated Space Link Connectivity:** Tools which provide automated communication links with NASA's SCaN assets, streamlining data exchanges and minimizing human oversight.
- **Telemetry Monitoring:** Tools for identifying anomalies, allowing for timely interventions, and maintaining operational integrity.
- **Command load sequencing:** Versatile solutions leveraging automation for command and file transfer, adaptable for diverse payloads and missions.
- **Interactive Console Logging Tool:** Offers real-time logging and monitoring, with flexible sharing options to keep stakeholders informed.



Configurable Control Room within the Huntsville Operations Support Center

Configurable Control Rooms

The HOSC is a 24/7, multi-mission ground systems operations facility that delivers user-oriented, highly adaptable services.

With a proven track record in flight mission support, PMOD provides turnkey operations areas, known as configurable control rooms, offering seamless connectivity to offsite locations and the flexibility to host customer systems onsite.

Additionally, PMOD offers a comprehensive, one-stop infrastructure to meet customers' mission needs—including command and telemetry, voice and video communications, and secure data storage.

Benefits and Advantages of PMOD Customized Solutions

PMOD tools offer a streamlined approach to managing daily operations, enhancing efficiency and effectiveness. This customizable system allows teams to tailor the tools to specific needs, creating a cohesive framework which promotes mission success. By minimizing the reliance on extensive human intervention, PMOD tools enable mission teams to focus on critical tasks, ultimately leading to improved outcomes and operational excellence.

- **Just-in-Time References:** Telemetry monitoring tool can deliver timely guidance on how to address the detected anomaly, ensuring that operators have the necessary information to make informed decisions.
- **Integration with C&DH:** Telemetry monitoring tool can work seamlessly with the C&DH system to send corrective commands, allowing for immediate adjustments to the observed state.
- **Automated Logging:** The results of these actions are automatically logged in the Interactive Console Logging Tool. This ensures a clear record of the event and the response taken.
- **User Notifications:** The console logging tool can notify the end user via text or email, providing real-time updates on the situation and the actions taken.
- **Configurable Control Rooms:** Enable seamless connectivity, customization, and shared cost efficiency across PMOD projects and programs.

National Aeronautics and Space Administration

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