



ZIN Technologies

Space Systems & ISS Payload Operations

ISS System & Payload Operations



OPERATIONS OVERVIEW

- Operations Planning
- On orbit resource definition
- Concept of Operations Development.
- Ground Training
- Command Procedures
- Crew Training
- Crew Procedures
- Real Time Flight Operations
- Telescience Support Center (TSC)
- Payload/System Remote Command & Monitoring
- Data Management & Distribution
- Our Experience:
 - Real Time & Remote Operations
 - Build realistic operational timelines
 - Hands-on Crew Training
 - On Board Training (OBT) Training Products
 - Console Operator Certification & Training
 - Provide Commanding, Display, and Data Processing



ZIN provides operations support in the areas of payload planning and planning products, ground training for operators, flight rule definition, Ops TIMS and Real Time Operations.

Operations includes the many activities and products leading up to and including real time operations. The ZIN Team provides operations Planning Products: URC Inputs, OOS Review & Resource Planning, Operational Change Request (OCR) Generation & CoFR for Console Operations.

ZIN operates and maintains the NASA GRC Telescience Support Center (TSC). This facility can be used for the remote monitoring and command of systems and payloads aboard the ISS.



ZIN has extensive experience in crew training and crew procedures. Efficiencies are gained through the use of existing procedure templates and considerable in house experience in crew training.

- Since 2001, ZIN has supported over 30,000 hours of continuous on orbit ISS operations
- On orbit operations support includes diverse microgravity experiments and ISS system monitoring 24 hours a day, 7 days a week when necessary.
- End-to-end mission operations support beginning with initial planning extending through crew and ground team training and culminating with on orbit operations
- Space operations are conducted locally at the GRC TSC. ZIN is capable of providing remote command and telemetry monitoring so that teams can operate their payloads or systems from their home institutions
- Operations support, consultation and issue resolution are available with experienced operations personnel 24 hours a day, 365 days per year.



ZIN Technologies Inc.

6745 Engle Road | Middleburg Heights, Oh 44130
Phone: 440.625-2223 | johansonm@zin-tech.com | www.ZIN-Tech.com



ISS National Lab CASIS Implementation Partner

For 25 years, the ZIN engineering team has partnered with NASA management, scientific experts and industry to manage and develop space flight systems, from concept definition, design, development, and fabrication to system assembly, integration, test, launch, operations and return.

As an implementation Partner for the ISS National Laboratory ZIN can streamline ISS science facility utilization to researchers, businesses and educators to take advantage of the unique benefits offered through space-based investigations providing a variety of services to enable efficient execution of science initiatives.



Focus on Quality - Certified and Compliant with Industry and Government Quality Standards



Over 200 Payloads delivered, integrated and operated for shuttle, MIR, and ISS – 75% of all physical science research on ISS since 2001

OUR PRODUCTS & SERVICES

PRE FLIGHT:

ZIN provides a wide range of products and services and demonstrated experience for space-based science investigations.

- ❑ Access to a large repository of previous space experiments that align with promising commercial applications
- ❑ Collaboration with experienced payload developers and other subject matter experts to ensure successful experiment operations
- ❑ Utilization of unique capabilities and facilities for developing payloads
- ❑ Coordination with NASA and launch vehicle providers for transparent and easy interaction with investigators

IN - FLIGHT:

ZIN can support private sector product development and ensure seamless investigation implementation, including:

- ❑ Support of “real time” on orbit payload operations -Telescience Support Center
- ❑ Interfacing with ISS crew during experiment interaction
- ❑ Facilitation of data and software interfaces
- ❑ Coordination of contingency planning for mission changes to preserve science objectives

Primary Services:

- ❑ Hardware design, manufacture and certification
- ❑ Hardware analytical and physical integration
- ❑ Full lifecycle software, integration & testing
- ❑ Program management
- ❑ Export Compliance
- ❑ Hands-on crew training
- ❑ On-orbit operations

POST- FLIGHT:

After the project comes back to Earth, ZIN can assist with the following:

- ❑ All post-flight data & report requirements are submitted to the principal investigator in a timely fashion
- ❑ Post Flight Testing and Data Analysis
- ❑ Logistics support for sample and hardware return from ISS
- ❑ Identification and support at appropriate facilities for post-processing activities

ZIN Technologies Inc.

6745 Engle Road | Middleburg Heights, Oh 44130
Phone: 440.625-2223 | johansonm@zin-tech.com | www.ZIN-Tech.com