

Lost in Translation: The Case for Integrated Testing

The building of a spacecraft is complex and often involves multiple suppliers and companies that have their own designs and processes. Standards have been developed across the industries to reduce the chances for critical flight errors at the system level, but the spacecraft is still vulnerable to the introduction of critical errors during integration of these systems. Critical errors can occur at any time during the process and in many cases, human reliability analysis (HRA) identifies human error as a risk driver. Most programs have a test plan in place that is intended to catch these errors, but it is not uncommon for schedule and cost stress to result in less testing than initially planned. Therefore, integrated testing, or “testing as you fly”, is essential as a final check on the design and assembly to catch any errors prior to the mission.

This presentation will outline the unique benefits of integrated testing by catching critical flight errors that can otherwise go undetected, discuss HRA methods that are used to identify opportunities for human error, lessons learned and challenges over ownership of testing will be discussed.