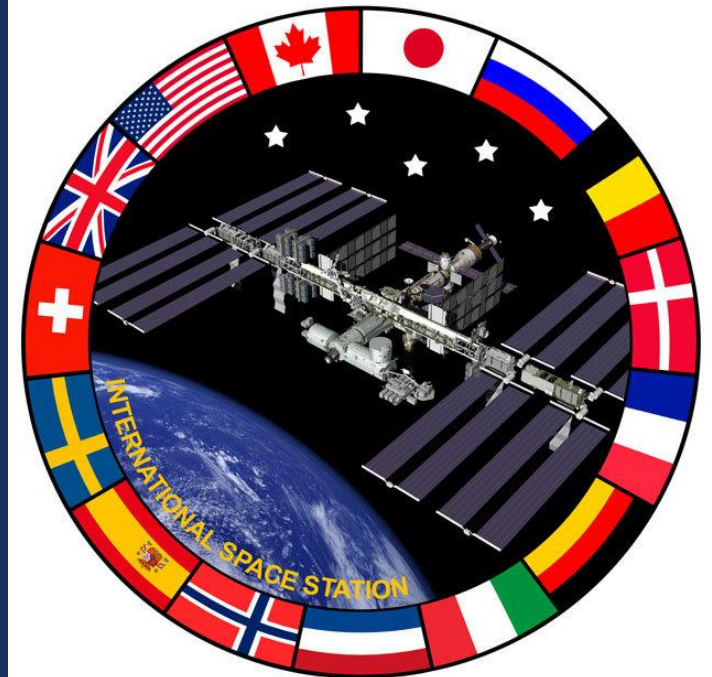
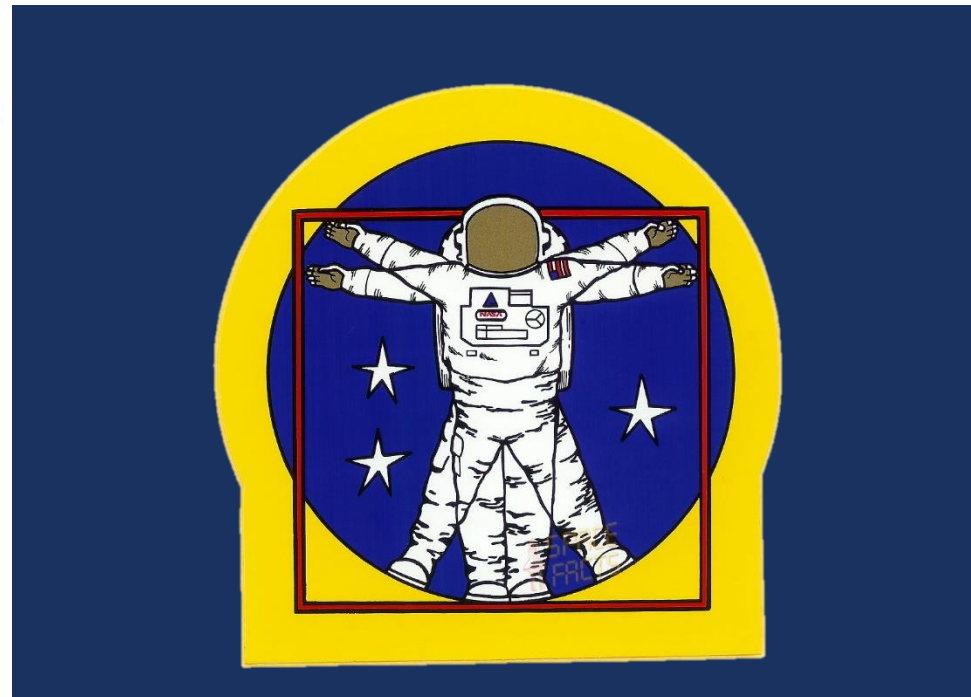
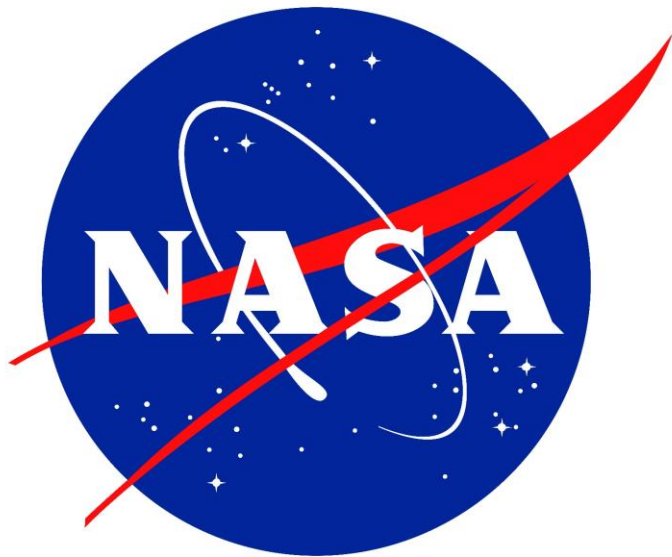


GRAPHICS, VIRTUAL REALITY AND TRAINING

AN OVERVIEW OF THE VIRTUAL REALITY TRAINING LAB AND THE PROTOTYPE IMMERSIVE TECHNOLOGIES LAB



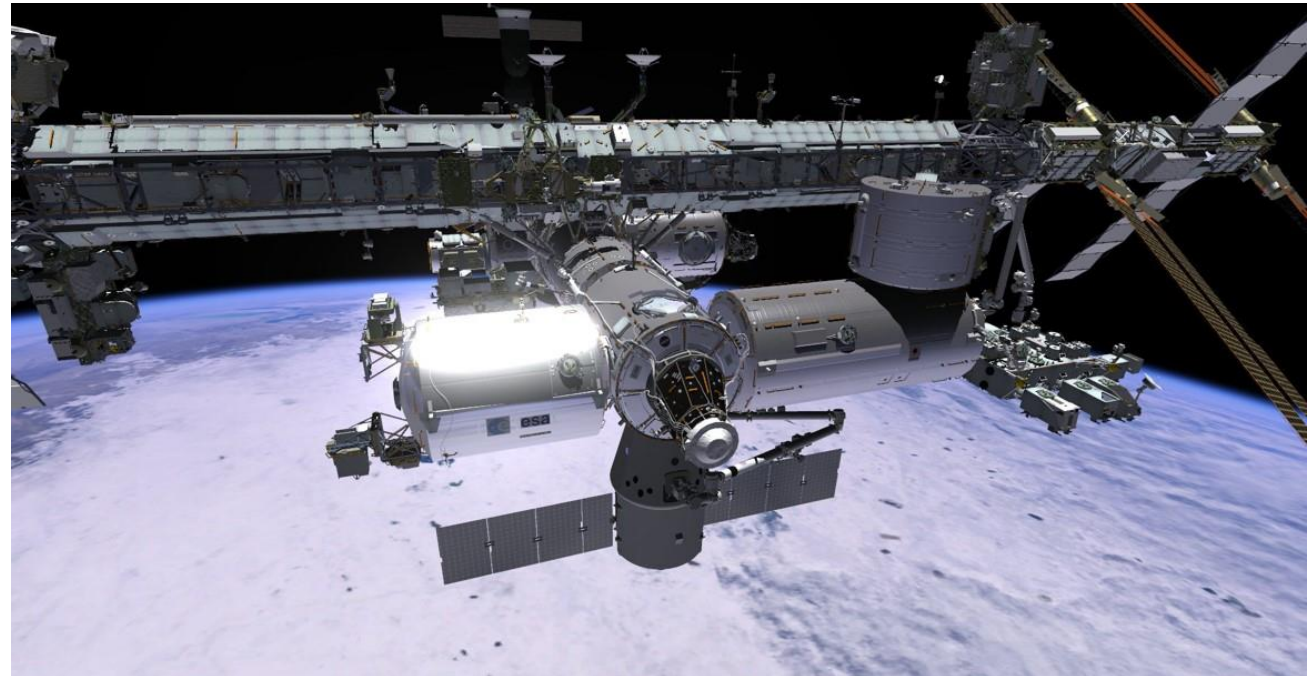
HISTORY AND PURPOSE

- Started in the 90s
- Need for reconfigurable graphics
- Need for an analogous immersive training environment

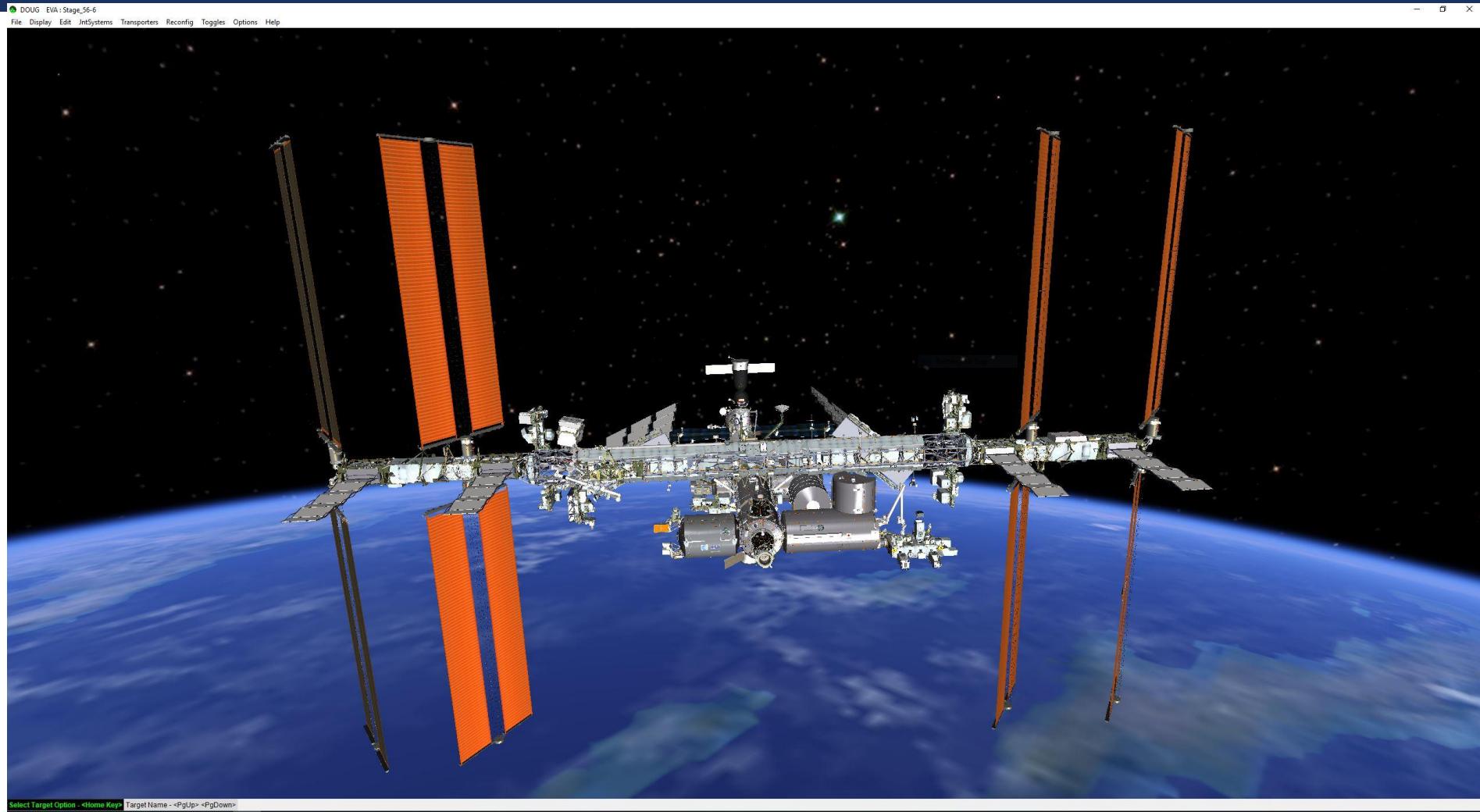


TRAINING SYSTEMS AND PRODUCTS OVERVIEW

- Dynamic On-board Ubiquitous Graphics (DOUG)
- Mass Handling Training Scenarios
- Robotic Workstation (RWS) Training
- EVA Training Procedure Development (Reconfigs)
- Simplified Aid for EVA Rescue (SAFER)
- Virtual Reality Trainer System (on-board)



DYNAMIC ONBOARD UBIQUITOUS GRAPHICS

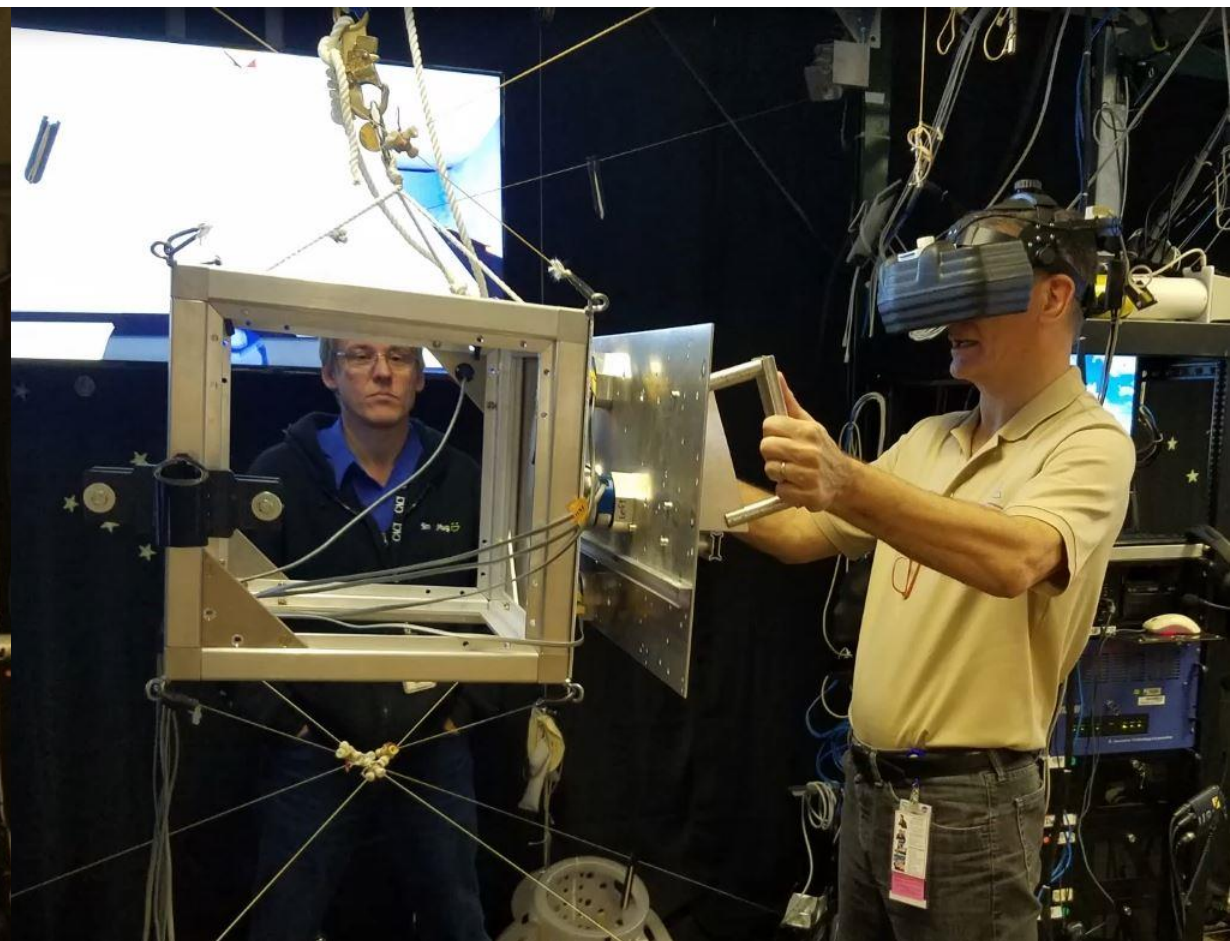
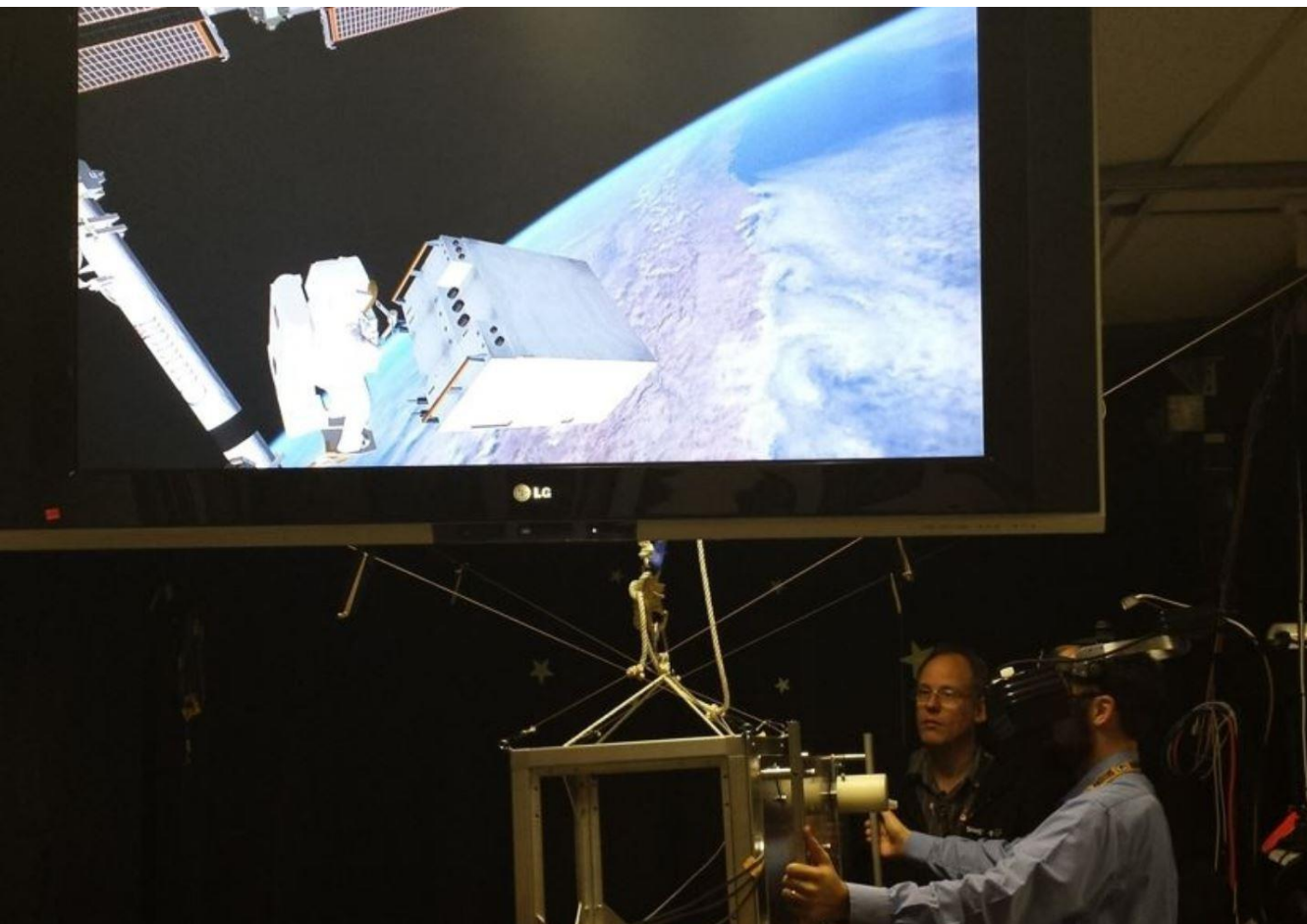


WHAT IS DOUG?

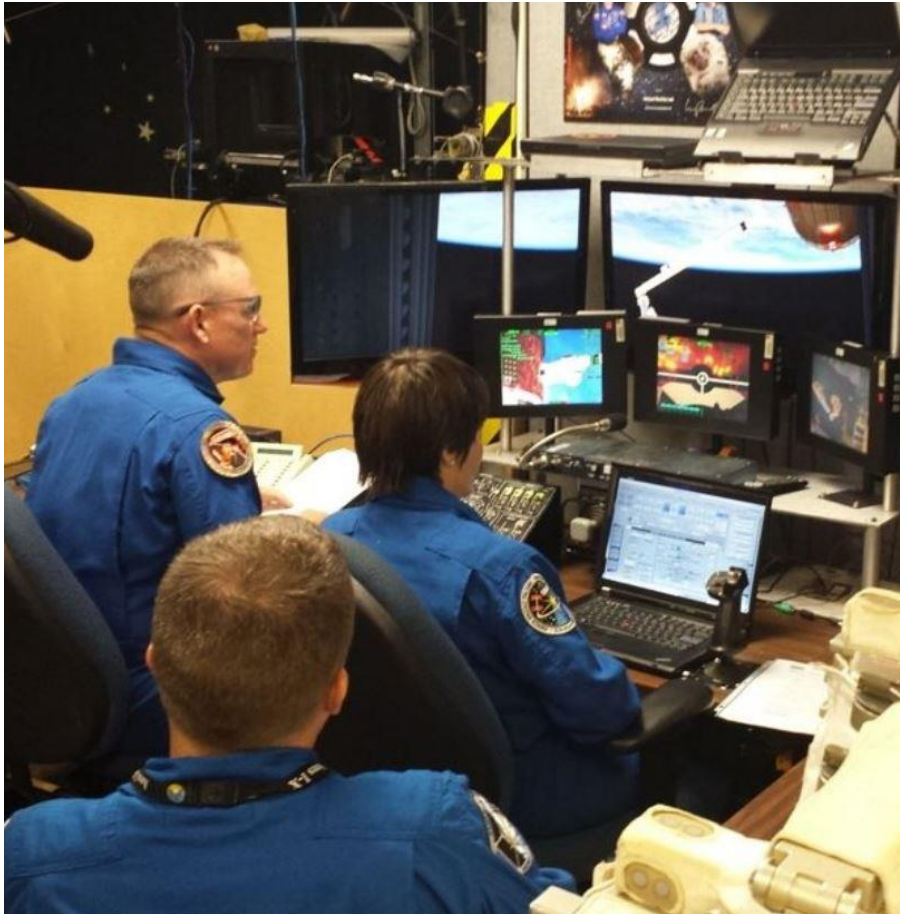
- 3D Viewing tool and graphics engine
- Can load up-to-date scene configurations
- Used for Exploration Applications (EDGE)
- Utilized on-ground and on-board for training simulations and planning



MASS HANDLING TRAINING



ROBOTICS WORKSTATION TRAINING



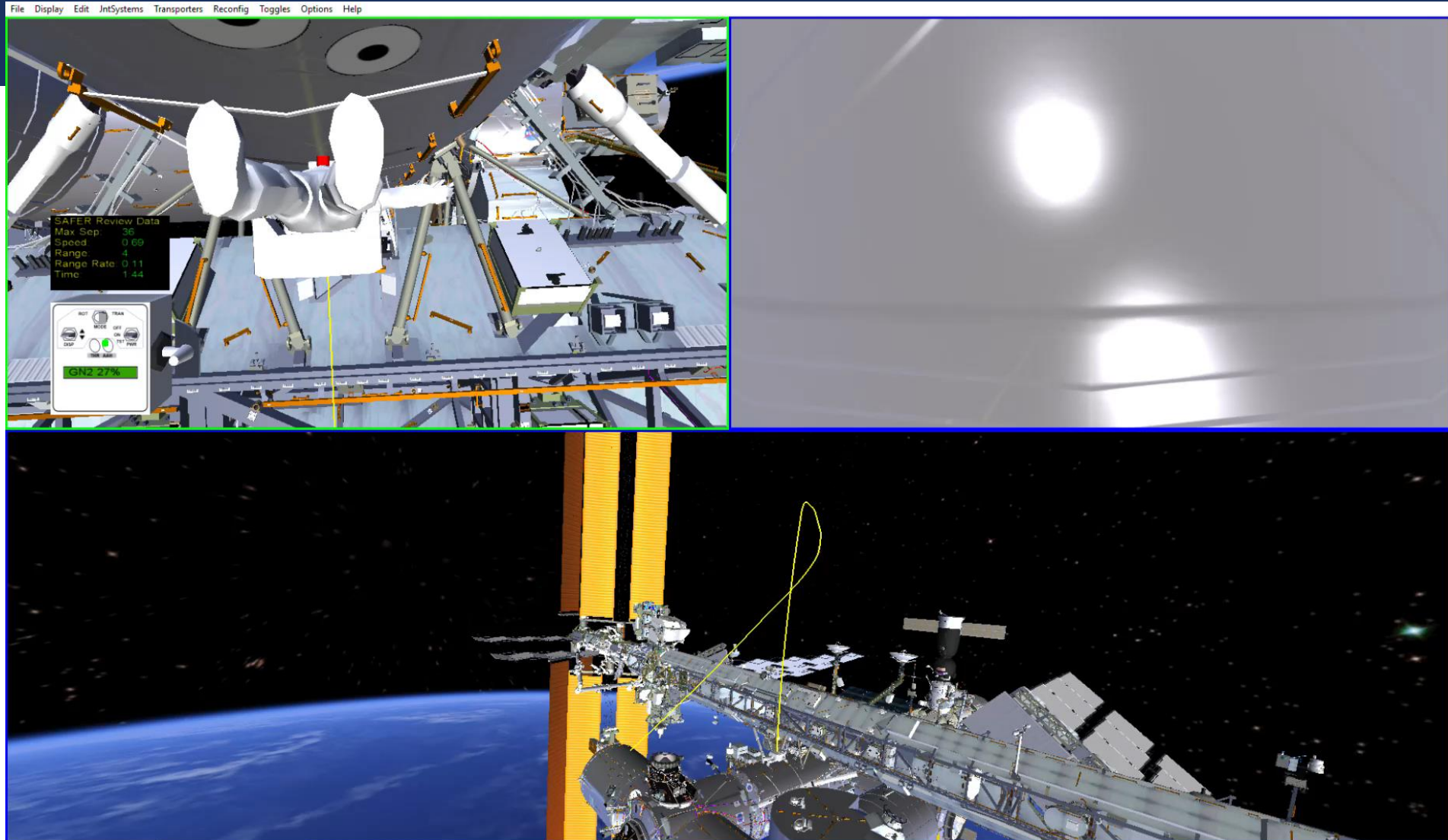
EVA (SPACE WALK) TRAINING PROCEDURES



SAFER TRAINING



SAFER REVIEW TOOL



VIRTUAL REALITY TRAINER



VIRTUAL REALITY TRAINER EST. SPRING 2018



THE VIRTUAL REALITY TRAINING LAB



PROTOTYPE IMMERSIVE TECHNOLOGIES ...AND BEYOND

