

TECHNOLOGY ASSESSMENT & EXPERIMENT VERIFICATION

- Stringent scientific requirements can be met by existing technologies
- **Payload:**
 - Experimental test and breadboarding needed for electrical / signal wire routing, lock-unlock mechanisms, capacitance read-out and active damper control electronics
 - Inch-worm mechanisms exist for use in ultra-vacuum and high-radiation environments; they need to be space-qualified
 - Suspensions need to be characterised and tested for space-like environmental conditions
 - GGG ground experiment relevant to all above subjects
- **FEEP:**
 - thruster prototypes developed since many years at CENTROSPAZIO
 - thruster control electronics under development at LABEN
 - thruster endurance test and characterisation shortly to be started at ESTEC
 - flight demonstration planned in early 2000 on a Get Away Special canister on the Space Shuttle (Payload No. G-752)
- **Drag free control:**
 - real-life system cannot be tested on the ground. Verification by software simulator, incorporating test data of key elements (sensors, dampers, FEEP)