



Develop selected critical technologies to enable sample return mission in 04-05 time frame and to provide indepth R&D data for operational propulsion system development and investment strategy.

**Product Metrics**

- Min T<sub>op</sub> = -50°C
- Mr/JMr<sub>prop</sub> < 0.7
- F = 800 lbi
- Zero venting LO<sub>2</sub> storage during cruise

**State of the Art**

- Min T<sub>op</sub> = -0°C
- Mr/JMr<sub>prop</sub> < 0.15
- F < 800 lbi or > 10,000 lbi
- Thermo dynamic venting for cryo propellant conditioning

	FY97	FY98	FY99	FY00	FY01
Warm Gas Pressure System Technologies		Warm Gas Cavity Breadboard & System			
Low-Temp Propellant and Lightweight Tank Technologies			Warm Gas + Propellant Expansion		
Test and Evaluation			Hot Fire Blank Test of Full-Scale Breadboard		