

## Objective

Develop a long-term storage solution for cryogenic propellant to maintain the fluid at proper conditions to allow for longer space missions.

### Key Goals

Maintain fuel temperature | Maintain pressure  
Reduce heat transfer | Reduce fuel loss  
Develop a prototype

### Targets and Metrics

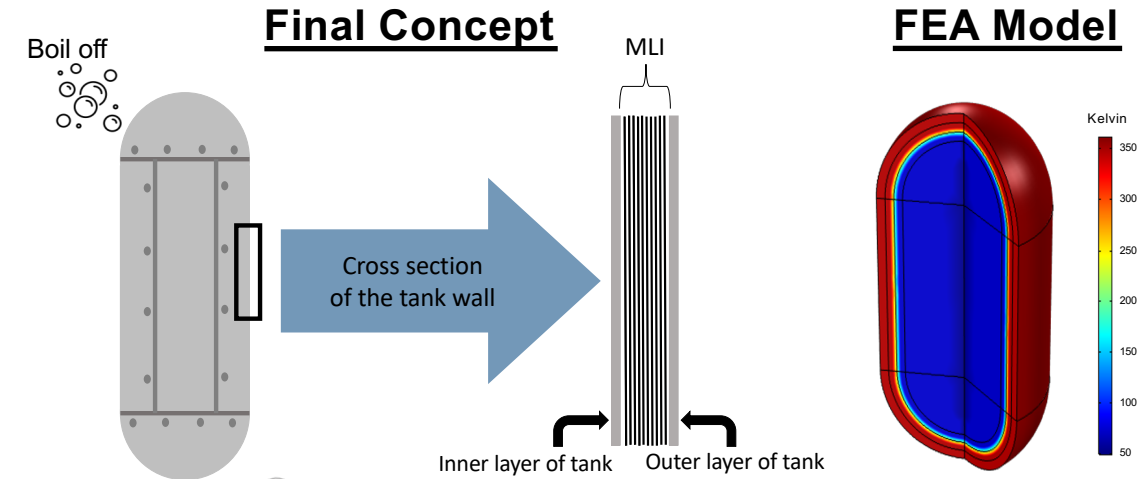
Withstand 6 Gs of force | Maintain structural integrity for 14 days | Allow a maximum of 10 kJ of energy per day into the system  
Maintain a pressure of 80-90 psi

### Nitrogen

Pressure: 80-90 psi  
Temperature: 77.8 K

### Hydrogen

Pressure: 14.5-72.5 psi  
Temperature: 20 K



**Material of Tank:** 316 Stainless Steel  
**Ambient Temperature:** Earth: 293.15 K, Moon: 89.8-379.8 K  
**Insulation:** Multi-Layer with Vacuum  
**Outer Surface:** Reflective Layer

Order parts

Assemble prototype

Begin testing

Analyze results

Final report