

# Materials Advance Chemical Propulsion Technology

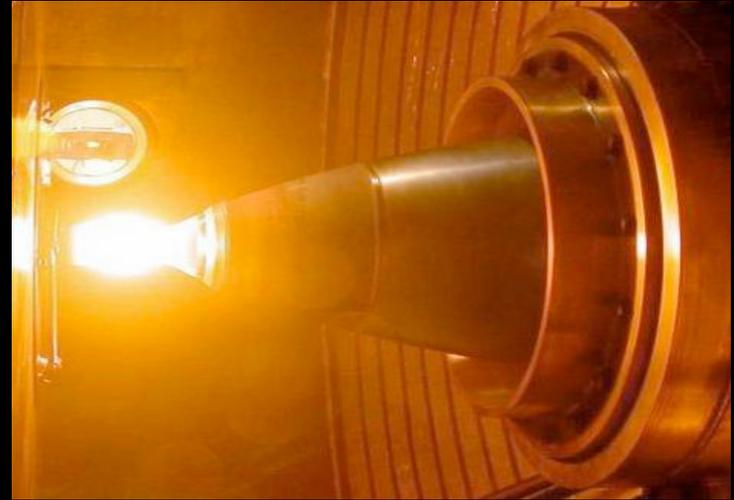


**Glenn Research Center  
Marshall Space Flight Center**

**Plasma Processes Inc. (PPI)  
Huntsville, Alabama**

## NASA Technology

- ◆ In the future, NASA hopes to utilize lower-cost propulsion systems for satellites, probes, and rovers
- ◆ Glenn developed the Advanced Materials Bipropellant Rocket (AMBR), an advanced chemical propulsion system that runs at extremely high temperatures



## Partnership

- ◆ NASA contracted PPI to modify a state-of-the-art engine design so that the combustion chamber could operate at high temperatures
- ◆ PPI continues to develop AMBR technology through a Small Business Innovation Research (SBIR) contract to improve the room-temperature yield strength of the combustion chambers

## Benefits

- ◆ PPI's method reduces fabrication costs for iridium-coated rhenium material systems
- ◆ The new chamber set a record for efficiency, which means a reduction in the propellant required to perform spacecraft maneuvers
- ◆ PPI has sold the technology in the commercial aerospace community