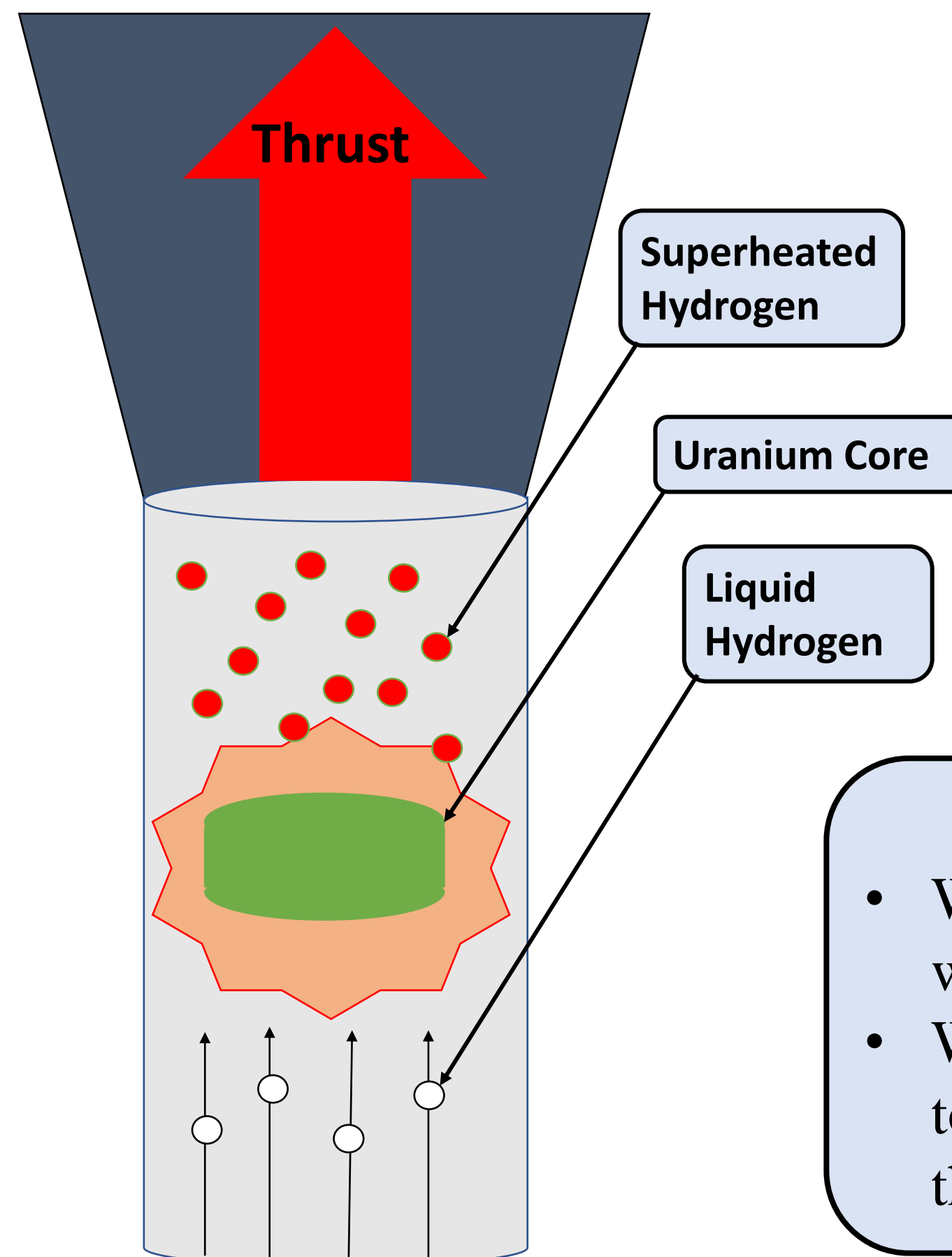


## Background

- NASA wants to send manned missions to Mars.
- Further research into Nuclear Thermal Propulsion engines could allow for faster and more efficient space travel.

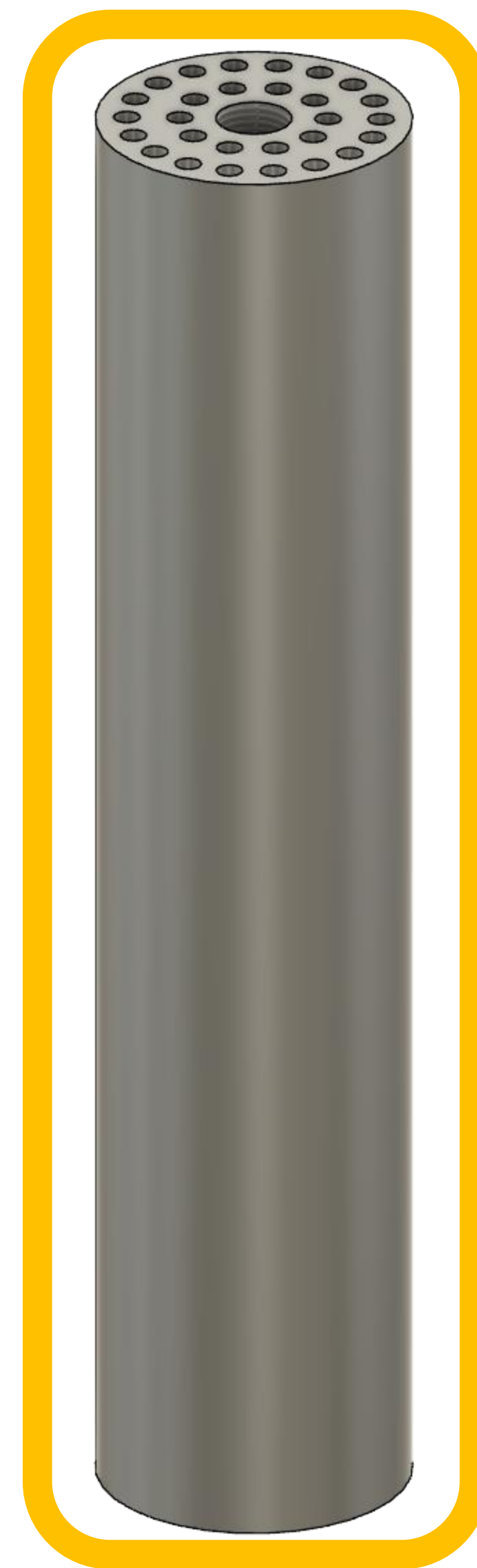
## Nuclear Thermal Propulsion

- Hydrogen is heated directly through nuclear fission and accelerated through a nozzle.
- The thrust is directly related to the thermal power of the reactor.



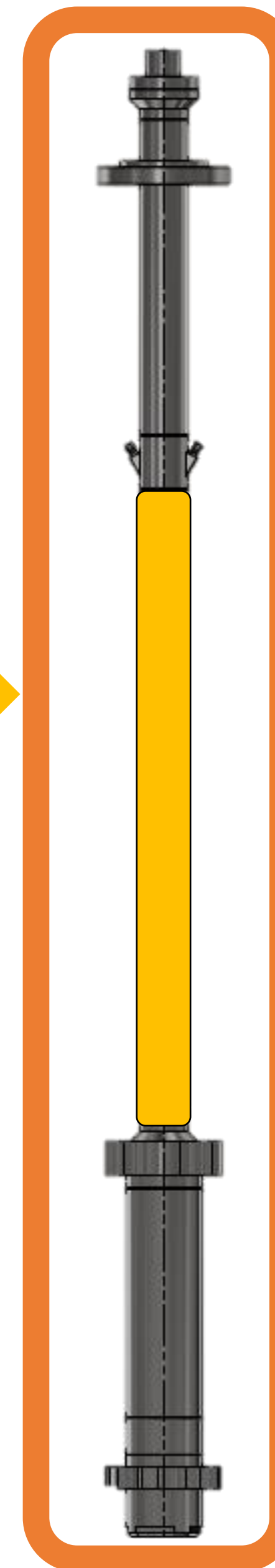
## Objective

The objective of the project is to develop and test a canister to go into Big BUSTER and the SIRIUS Module to test nuclear fuel compounds for thermal nuclear propulsion systems in the Transient Reactor (TREAT).



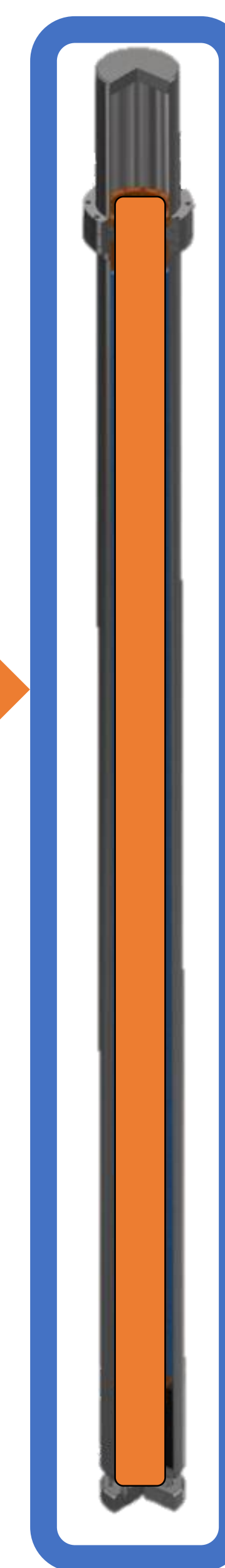
## Our Canister

- Will be created out of tungsten with a zirconium carbide coating.
- Will use straight pathed channels to bring hydrogen in contact with the nuclear fuel.



## SIRIUS Module

- This controls the flow of hydrogen to the canister.



## Big BUSTER

- This allows for scientific data to be gathered.



## TREAT Reactor

- The TREAT Reactor is a transient reactor that will be used to test different types of nuclear fuels.