DETechnologies

Memorial University of Newfoundland Faculty of Engineering and Applied Science

Overview

DETechnologies is a grad/undergrad led research group at Memorial University working to design, validate, build and prove Rotating Detonation Engine (RDE) technology. Our mission is to build a modular, green energy fueled research engine that can be used to empirically validate operating parameters across several designs.

What is a Rotating Detonation Engine?

An RDE is a novel rocket engine technology, proven in research environments but not well explored. RDEs operate on the principle of Detonation (supersonic combustion) around an annular combustion chamber. Harnessing the power of detonation results in a massive 25% efficiency gain over traditional deflagration (subsonic combustion) engines.

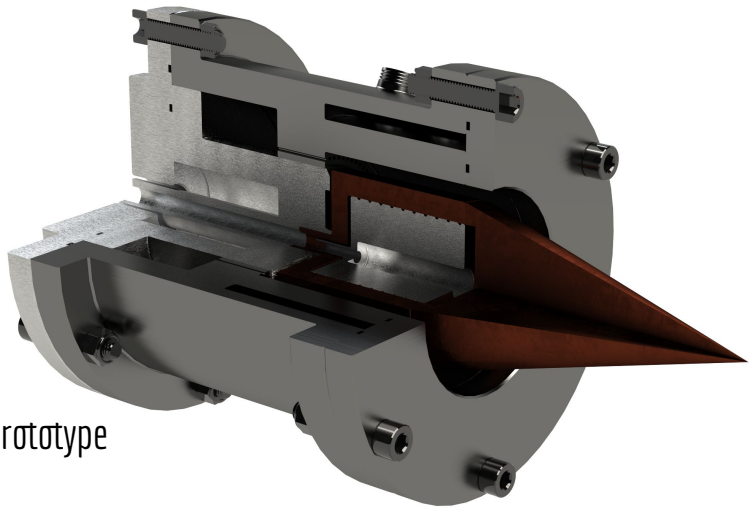
What can we do?

Our focus is on RDE combustion stability & operating consistency by working on multi-wave detonation, a liquid cooling system and a modular design for rapid, cost effective geometry modifications.

Scope & Project Objectives

Analytical design, CFD & FEA functional validation before building and testing a fully functional Rotating Detonation Engine

- Gas-Gas, non-premixed, orbital thruster
- Multi-wave detonation control
- Modular design
- Maximize thrust
- Liquid cooled

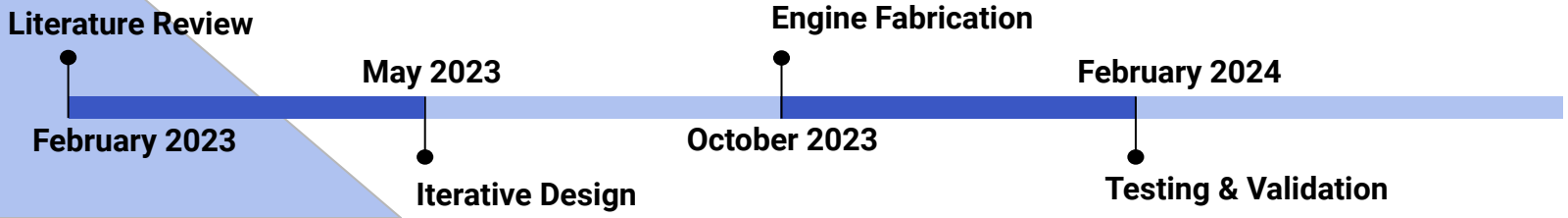


Areas Seeking Support

We are preparing to begin manufacturing a fully functional prototype and are seeking support in the following areas:

- Testing Equipment/Laboratory Space
- Computational Resources for Simulations
- Manufacturing Support
- Financial Support

Project Timeline



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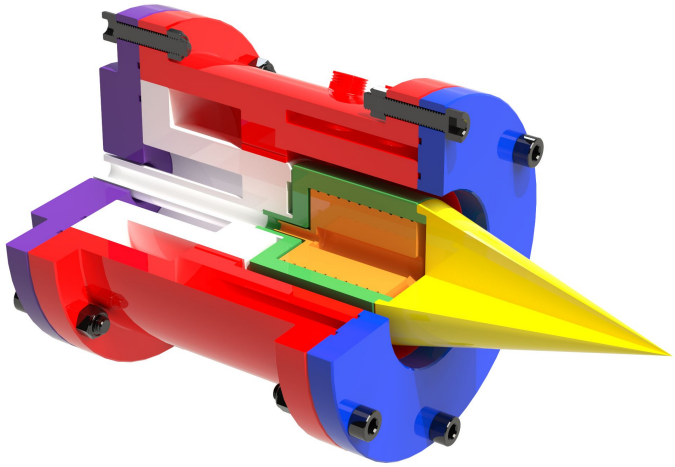
Support Levels

Manufacturing and testing budget totals **$150,000** which includes a full high precision component manufacturing, and sufficient safety equipment to ensure responsible operation of the engine. Several generic sponsorship levels are broken out below, contact us for custom requests.

	Platinum	Gold	Silver
	$25,000 +	$15,000	$5,000
Commemorative 3D Printed Model	✓	✓	
Information and Demo Event	✓	✓	✓
Logo on Team Gear	Large	Medium	Small
Logo on Website	Large	Medium	Small
Logo Size on Engine	Large	Medium	Small
Framed Thank-You Photo	✓	✓	✓

Contact Us!
DETechnologies@mun.ca
www.DETechnologies.ca



Meet the Team

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