



General Fusion

MIIFED 2013

MISSION

1. Demonstrate net gain from fusion
2. Demonstrate economically viable approach for fusion energy
3. Generate value for investors, enabled by strategic partnerships and a clear path to commercialization
4. Operate safely, for staff and the public, and deliver on the environmental benefits of fusion

generalfusion



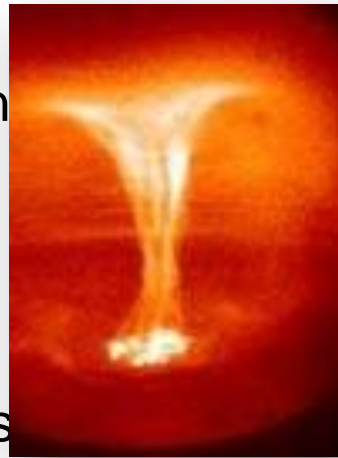
General Fusion

General Fusion is developing magneto-inertial fusion (MIF) technology.

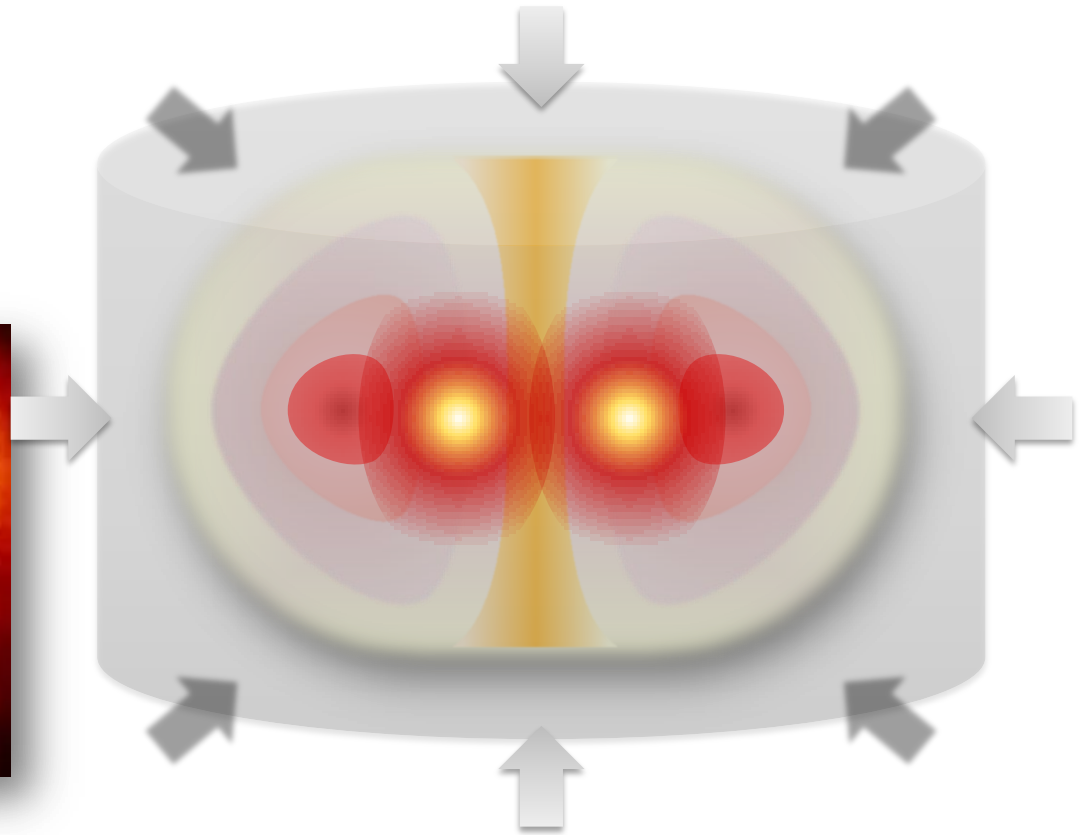
- Founded in 2002. Based in Vancouver, Canada.
- 65 employees, mostly experienced plasma physicists, engineers, and technicians
- \$55M in funding; 80% from financiers
- Partnerships with national laboratories and industry, including Los Alamos and Cenovus Energy
- MIF approach first developed in the 1970s. Application of modern industrial technologies enables new options.
- Technology has promising attributes for commercialization.

Magneto-Inertial Fusion

1. Form a torus of magnetized plasma

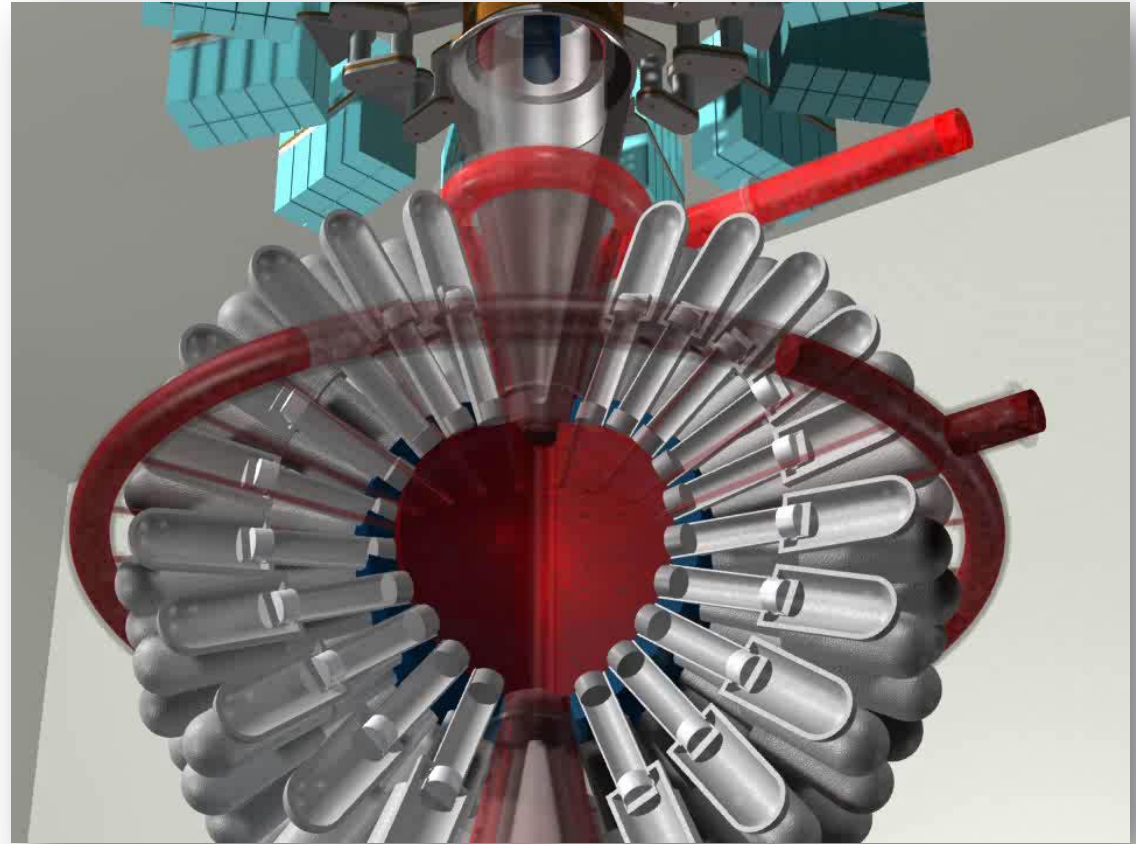


fusion conditions



4. Repeat

General Fusion's Acoustically Driven MIF



Practical

Compressed gas driver

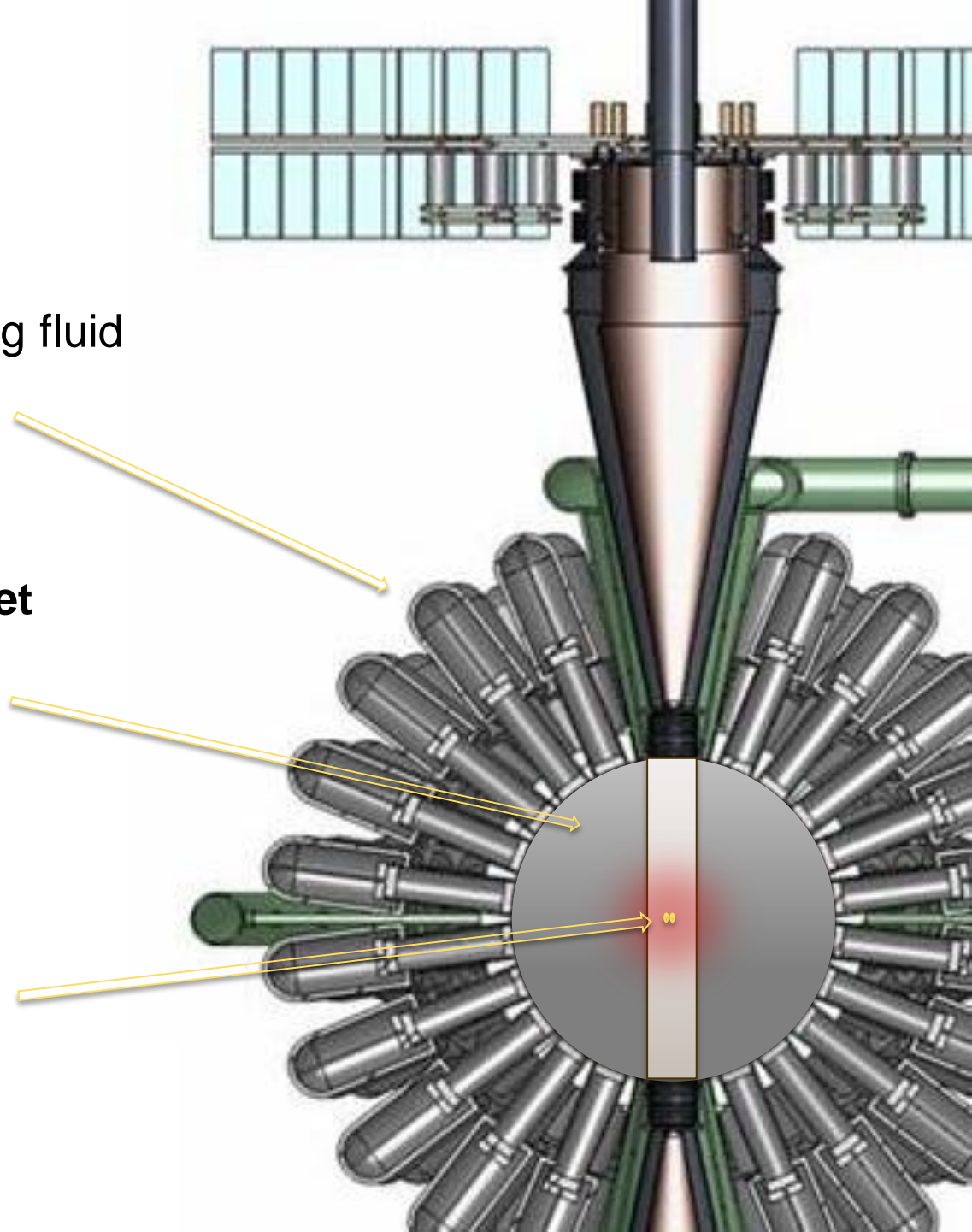
- Uses power plant working fluid
- Low cost

Thick Lead-Lithium blanket

- Extracts heat
- Shields structure
- Breeds tritium

Plasma target

- Pulsed system with no consumables

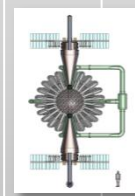


Development and Financing Plan

Technology Development Phases



Progress to Date



Proof of Principle

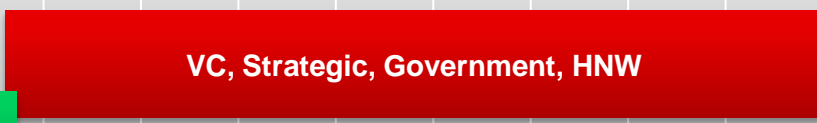
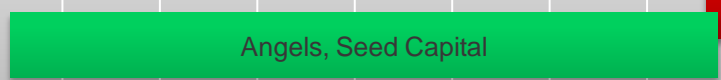


Research and Validation

Subsystem Development

Full Scale Prototype

Financing Phases



2002

2004

2006

2008

2010

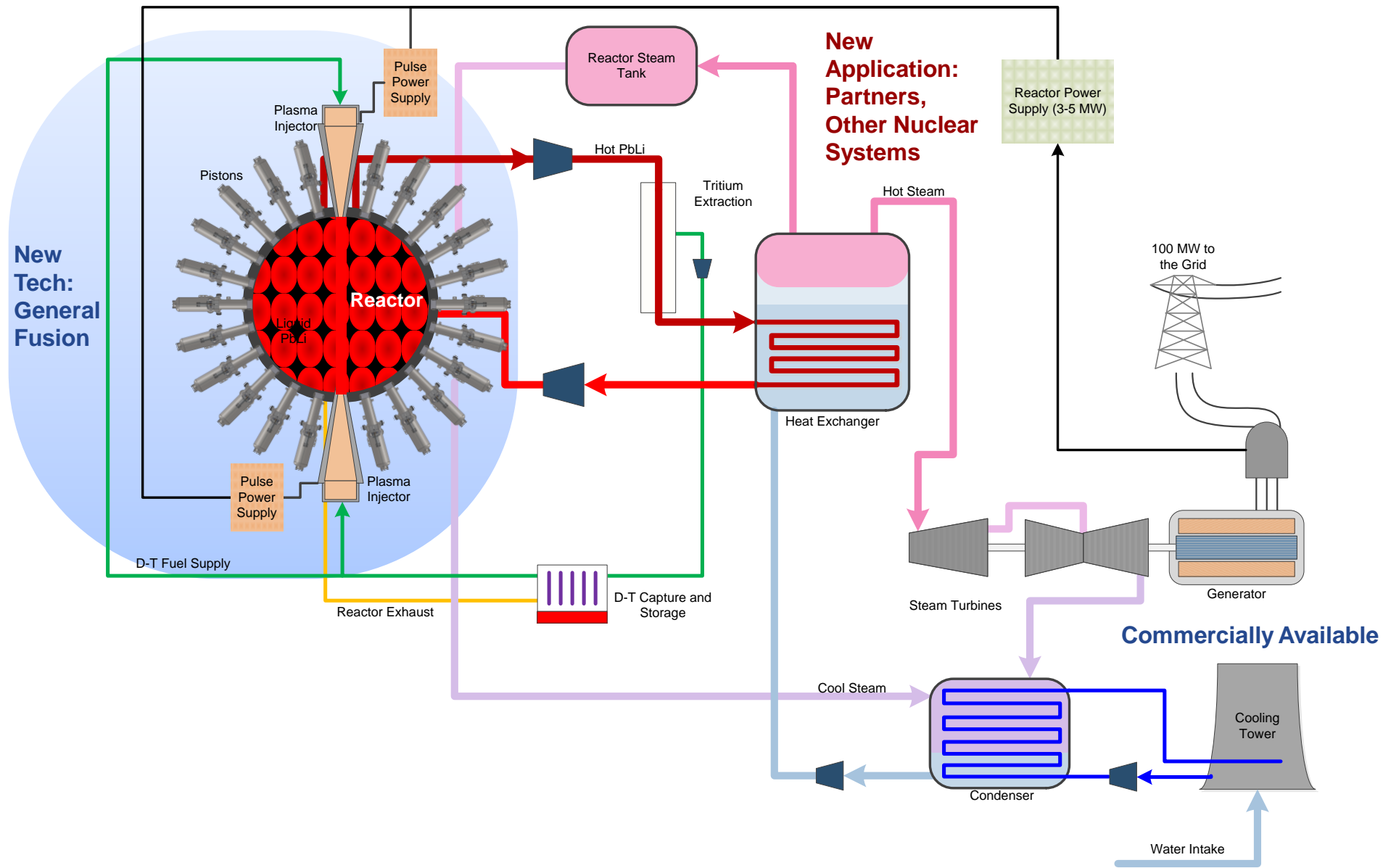
2012

2014

2016

2018

System Integration with Industry



The Financial Case for General Fusion

General Fusion is aggressively pushing ahead with experimental work to demonstrate MIF potential

- Core physics demonstration in 2014
- In a prototype configuration in 2018



Important
near-term
milestones

General Fusion's reactor concept addresses many long-standing fusion technology challenges

- Neutron damage
- Fuel breeding
- Heat extraction



Inherent
technology
advantages

Approach could deliver attractive system costs

- Capital cost ~\$1,900/kW
- Electricity production cost ~\$0.03/kWh



Competitive
economics

Future commercialization program could proceed quickly.
\$1T Opportunity.



Speed and
scale of
opportunity

Private Financing for Fusion

- Private capital is motivated by financial return
- Energy is a big opportunity
 - Huge market
 - Big challenges (GHGs, resource constraints, cost)
- Private financing for fusion requires
 - Reward that balances risk
 - Returns in an appropriate timeframe
 - Longer timescales can be acceptable if each phase allows investors a return

*“How is the investor after me going to make money?
Because if he can’t, then I can’t.”*

-- General Fusion Investor

Clean energy.
Everywhere.
Forever.



generalfusion

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