



2020

Mutating Manufacturing

New Materials from an Entrepreneur's View

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2020

In the Future / In the Macro



Peak Oil

Demand for fossil fuels is on the rise and supply via exploration and refining is stagnant / declining

Geopolitics

Many nations are facing strong pressures to secure energy resources to insure survivability in the near and long term

Environment

There are substantial forces at work to reduce emissions in the world with almost uniform concurrence on the need to 'clean up' our planet

Terrorism



New Materials



New Fuels

Alternative fuels (e.g., H₂) will require new materials for manufacture and use.



New Ceramics Cylinder sleeves and wall coatings in ICE's

Alternative fuels (e.g., H₂) create new issues in ICE's

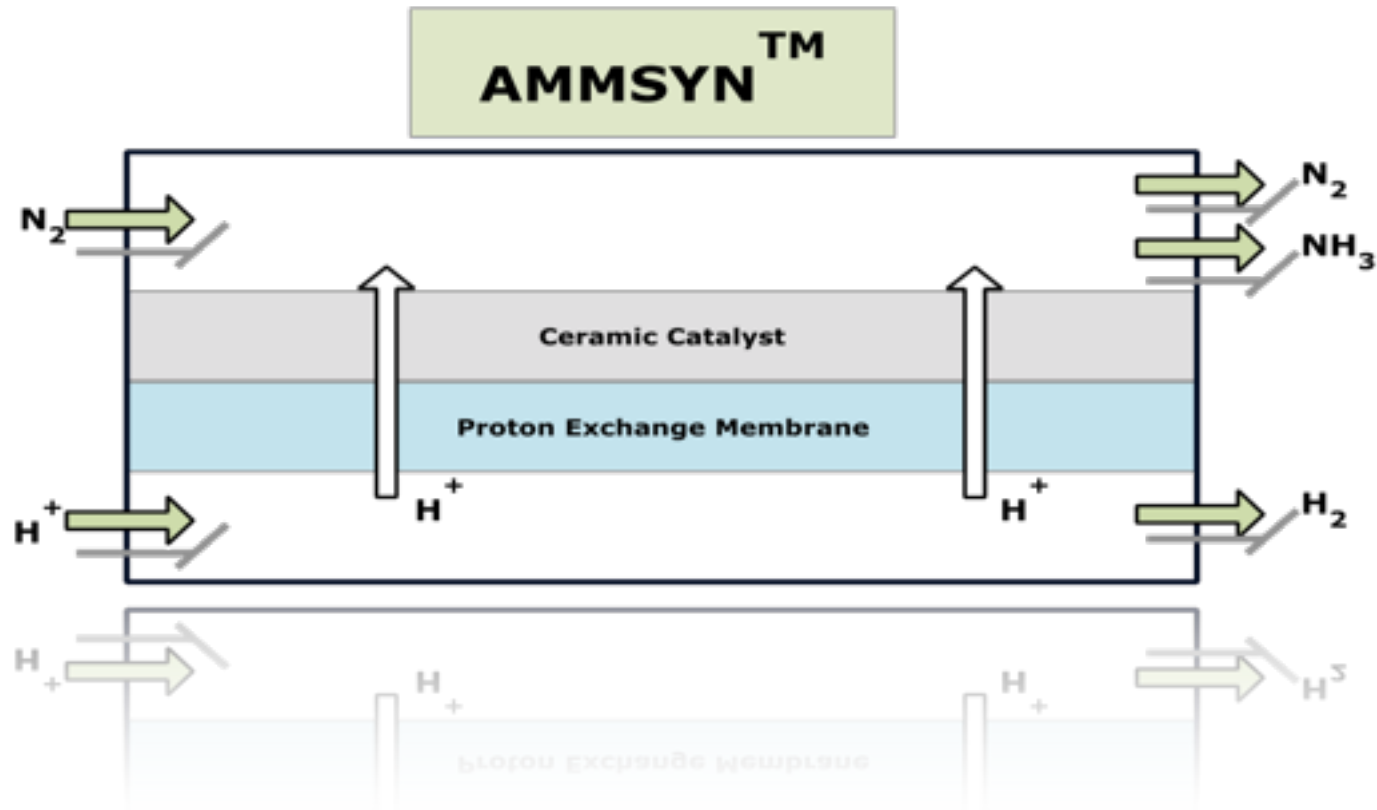


New Ceramics Rotary Engines

Capable of 25 HP from a "Coke-can" engine



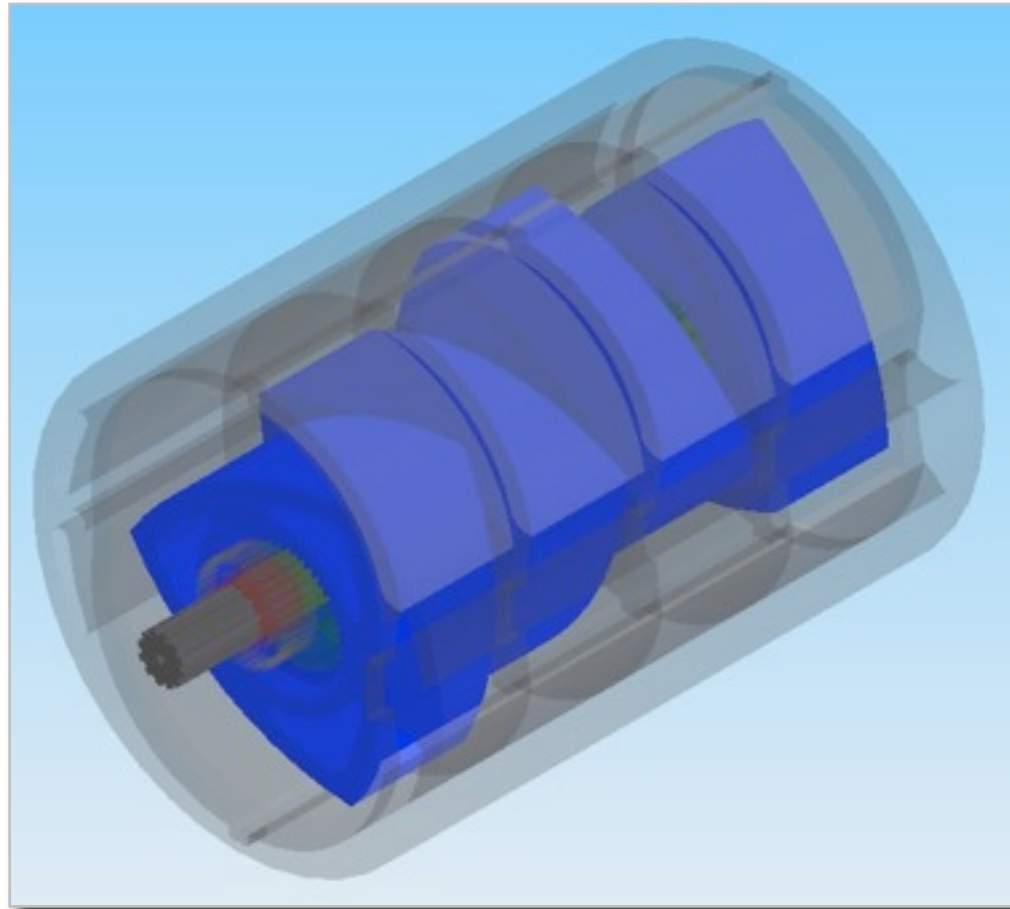
New Fuels



Cylinder Sleeves and Wall Coatings



Rotary Turbine







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Thank You!

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