



A Greener Evolution in Combustion

Current Internal Combustion Engine Limitations

Gasoline

- Lean combustion difficult

Diesel

- More expensive to build
- Expensive exhaust after-treatment

Fluctuating fuel costs

CO₂ Legislation Targets

- 2012 fleet 130 g/km, 2020 fleet 95g/km

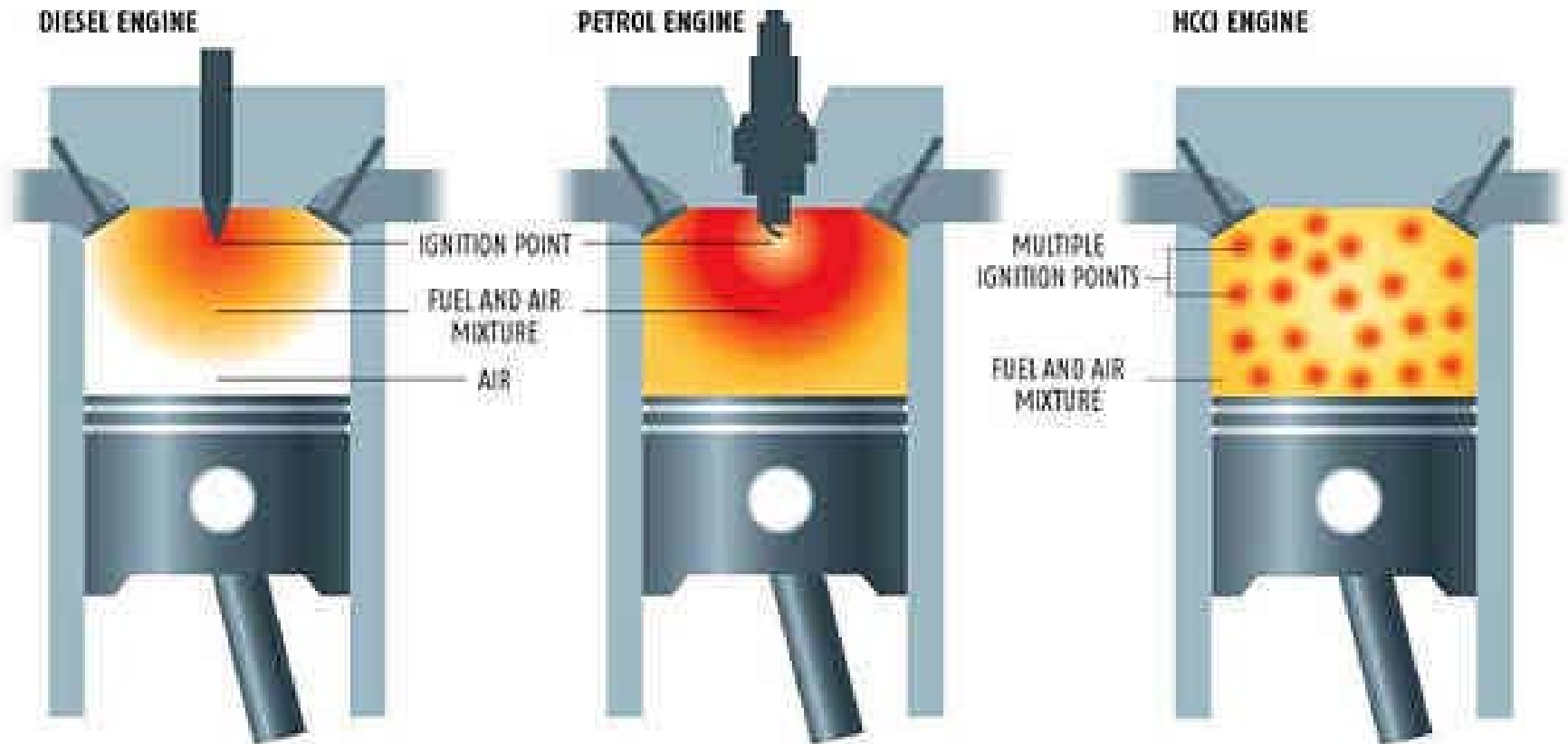
Brand value association with CO₂

Limited R&D budgets

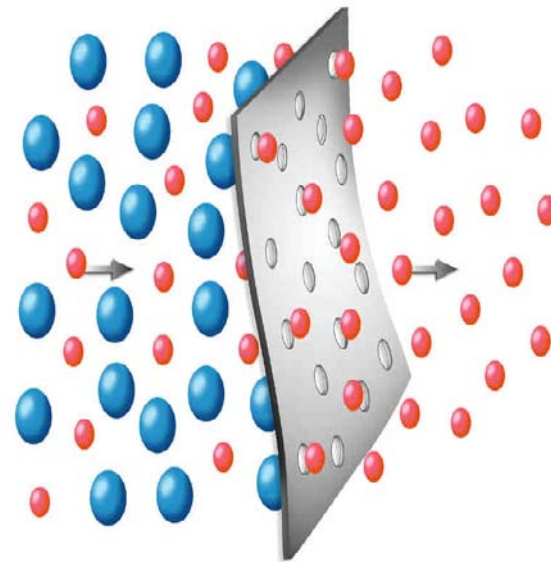
Fragmented solutions



The Solution



The Innovation



Milestones and Achievements



Technology principles developed and researched.



Independent testing, validation, and concept development.



2008



2009



The Team

David Tonery, Founder and Inventor

Mechanical Engineer

Enterprise Fellow of the Royal Society of Edinburgh

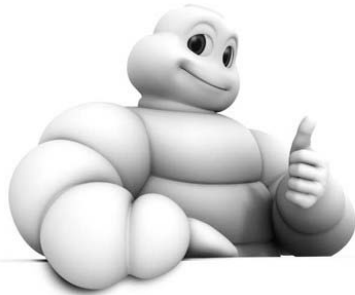
John Finlay Chief Operations Officer

Former roles

Managing Director of Kestrel Marine Group

General Manager of Ortec UK

Chairman of Focus Development Laboratories



Strategic Alliance

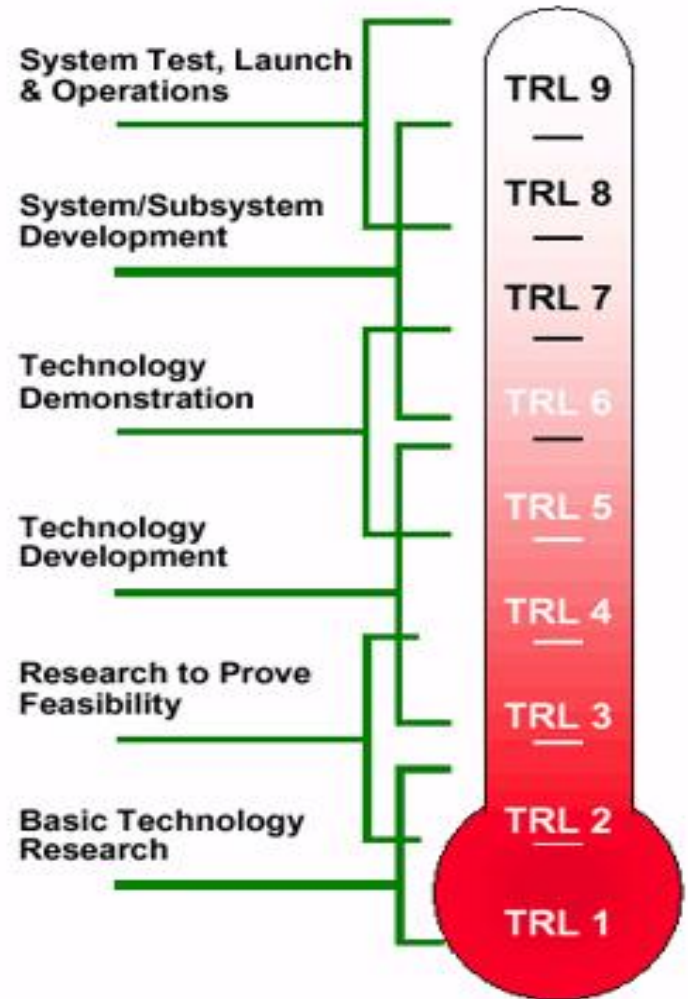
ZEOCHEM[®]

R&D Partner

Tier 1

In talks

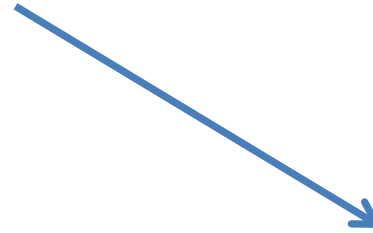
What next?



How do we exploit it?

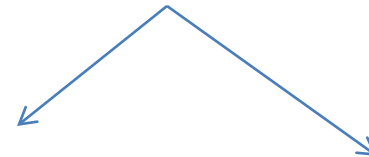
Oxy-Gen and Tier 1

Co-Development
Manufacture and licence



Off-Highway Applications

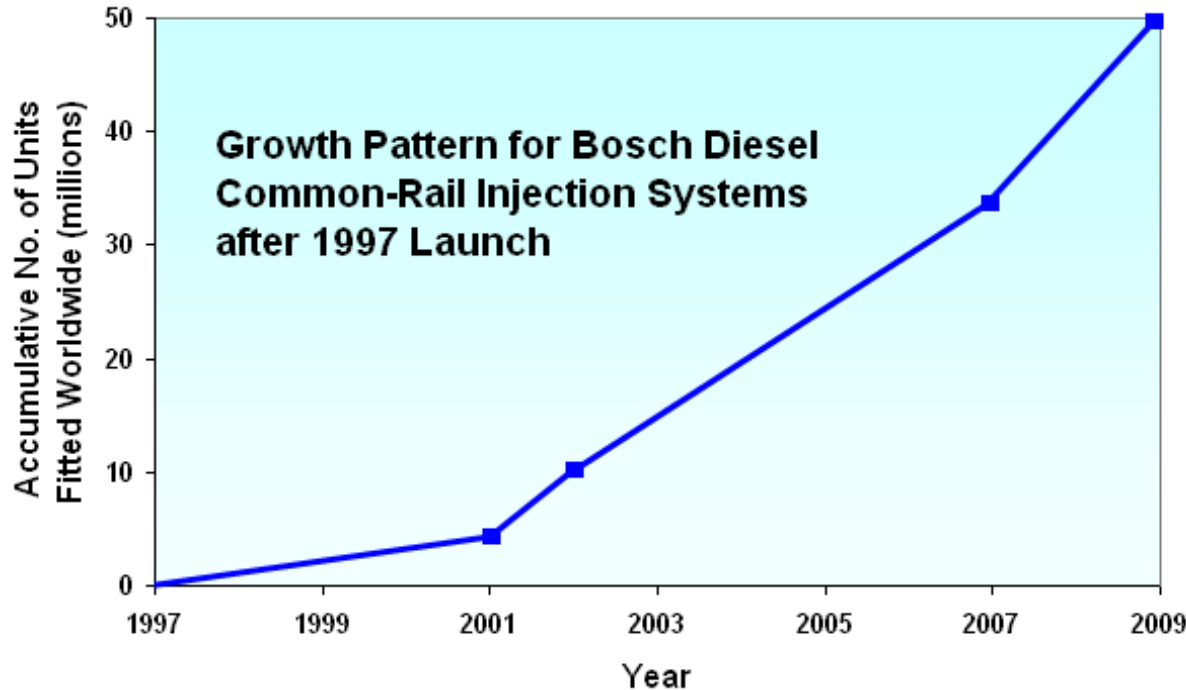
Original Equipment Manufacturer



HG

Auto

How many can we sell and for how long?



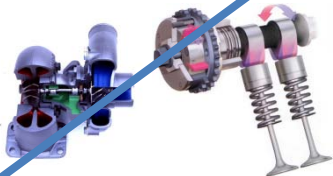
Common Rail Injection



Ford EcoBoost, 100,000 units on adoption
1.3m units globally within 3 years.

What about the competition?

Cost



Incremental Investment Per Vehicle

- Optimized ICE \$3,510
- Hybrid Electric \$5,400
- Plug-in Hybrid \$21,770
- Electric Vehicles \$48,500

Ref. McKinsey & Company

Complexity

What does the industry think?



“Once we realise HCCI, there’s a big chance we’ll just have one powertrain”. Honda Chief Diesel Engineer



GM Rescue Plan 2009, Technology Strategy , long term post 2015 objective one internal combustion engine, HCCI.

Key Objective

Development of HCCI Demonstrator

- Engage R&D partnerships with OEM's or Tier 1's
- Secure equity investment
- Leverage EU development funding
- Strengthen the technical and management team

