

High Efficiency Propulsion Systems

Teignbridge Propellers International Ltd.
Ian Godfrey



The marine space is ripe for disruptive innovation

Sectors

Logistics

Energy

Minerals

Food

Pharmaceuticals

Military

Leisure

Enabling Technologies

Information and Communications

Artificial Intelligence

Autonomous systems

Robotics

Advanced manufacturing

Energy management

Shipping – propulsion + powering

Reduce fuel consumption and corresponding CO₂ by an average of 8% on most vessels and greater than 8% across the UK Heavy Duty Vehicle Marine Fleet

Marine transport

938m tonnes CO₂ in 2012

3.1% global emissions

Rising 50% - 250% by 2050

Key sources of CO₂



Chemical Tankers



Bulk Carriers



Container Ships

Reduce fuel consumption and corresponding CO₂ by an average of 8% on most vessels and greater than 8% across the UK Heavy Duty Vehicle Marine Fleet

Design optimisation
Off-design adaption
Blade replacement



SME Innovation

'Preserve the core and stimulate progress'

Jim Collins, Built to Last

Essential for long-term competitiveness

Ability to adapt quickly

Market downturns present opportunities

But... cashflow and time risks

Working in partnership with the ETI

R&D Financing - time, resource, skills, technology

Structured innovation

Accountability - credibility, accuracy, safety

Public + Private partnership - informed impact

Leverages internal investment

Leveraged Investment

Test Vessel - rapid prototyping

Additive manufacturing

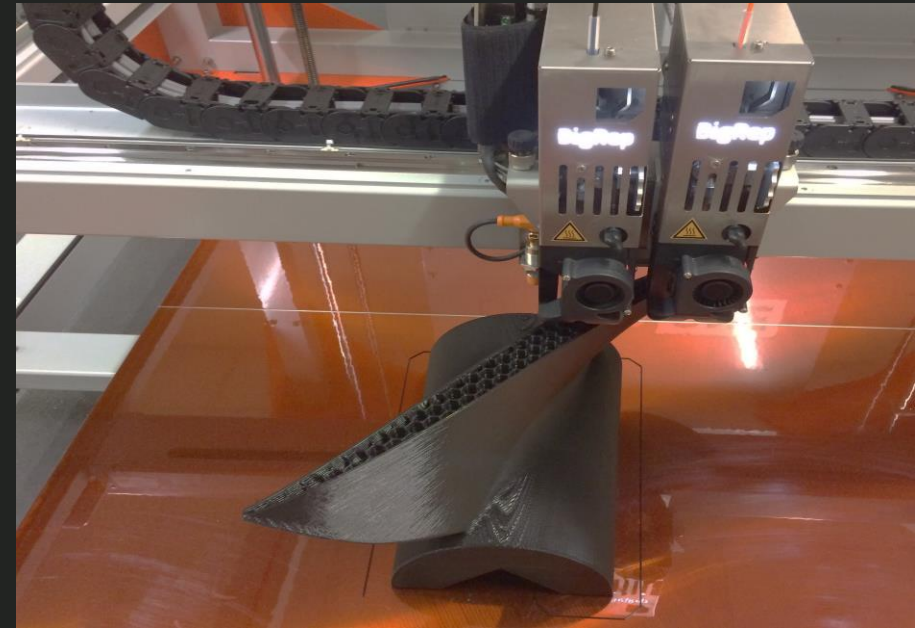
Factory facilities

Plus spin-off benefits...

Computational Fluid Dynamics

Staff, training and engagement

Knowledge of new markets



UK Benefits

Reducing CO₂

Creating jobs

Adding value to the local economy

Integrating with other investment

Exporting high value products

Thank you for listening

Ian Godfrey

Development Design Engineer

ian.godfrey@teignbridge.co.uk

