

# Your Innovation Partner

## Agenda

- OGTC Introduction
- National Subsea Centre
- Digital & Low Carbon Projects



**Graeme Rogerson**  
28/04/20



# Our Goals



## Unlock

Unlock the full potential of the UK Continental Shelf



## Anchor

Anchor and grow a diversified cross-sector energy supply chain



## Inspire

Inspire a culture of innovation to deliver net zero solutions



£180 million funding from the Aberdeen City Region Deal



# Technology Vision



## Fix today



Data access



Asset inspection



Production optimisation



Revitalise exploration



Efficient decommissioning



Alternative well barriers

## Unlock potential



Tieback of the Future



Integrated energy



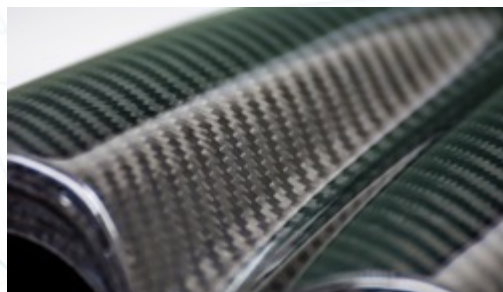
Automation



Remote operations



Artificial intelligence



New materials

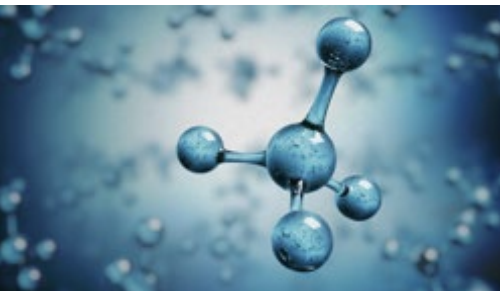
## Transform tomorrow



Low carbon operations



Reusable infrastructure



Hydrogen delivery



Data driven



Unmanned facilities



Zero carbon developments

Transforming the industry for the net zero future



# 10-year Roadmap



## Driving



### Solution Centres

Unlock UKCS potential & anchor the supply chain

Add >£8bn value

Digital Transformation

Net Zero

Subsurface

Wells

Decommissioning

Marginal Developments

Asset Integrity

### TechX Accelerator

Accelerate 100 new start-ups

Add >£2bn value

15 new spin outs

50% commercialisation

£100m co-investment syndicate

### National R&D Centres

Create at least two national R&D centres

Increase R&D capability

National Decommissioning Centre with the University of Aberdeen

National Subsea Centre with Robert Gordon University

Anchor the supply chain

### Culture of Innovation

Thought leadership for the industrial transition

Ready for the future

Horizon scanning

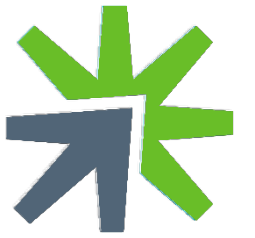
Cross-sector network

Academic network

Inspiring the next gen

# Solution Centres

[www.theogtc.com](http://www.theogtc.com)



## Driving



Digital	Subsurface	Decom	Wells	Marginal Developments	Asset Integrity	Net Zero
10% increase in production efficiency	MER UK: add up to 20 bn barrels	35% cost reduction	50% lower well construction costs	50% marginal fields under development	50% cost reduction	Net zero basin
Digitally enabled supply chain	Discover more	Late life management	Optimise design	Tieback of the Future	Risk based inspection & data analytics	Net zero emission offshore O&G operations
Digital & data architecture	Develop more	Post COP OPEX reduction	Flawless delivery	Facility of the Future	Detection & condition based monitoring	Hydrogen production
Smart facilities	Recover more	Innovative removal	Maximise production	Integrated energy	Enhanced inspection techniques	CO2 capture technology
Digitally enabled worker		Optimise abandonment	Optimise abandonment		Repair & mitigation solutions	H2 & CO2 transportation & storage technology
Production optimisation						

Delivering solutions to industry challenges



# TechX Accelerator



## Driving

15 new  
spin outs

### Ventures

Creating start-ups  
with technologies  
for a low carbon  
economy

100 new  
start-ups

### Pioneers

Supporting start-ups to  
validate and  
commercialise exciting  
new technology ideas

50%  
commercialisation

### Market entry

Helping technology  
companies from other  
sectors enter oil and  
gas

£100 million  
investment

### Co-investment

Unique funding  
opportunities for  
companies exiting  
TechX



**Accelerating game-changing companies**



# National R&D Centres



## Driving



## Partnering

With R&D institutions and innovation centres across the UK and internationally

## Enhancing

The research R&D capability of universities and other organisations

## Developing

New technologies that deliver for the UK and internationally

**Industry-led R&D in partnership with academia**



# Culture of Innovation



## Connecting

### Working across our innovation network

#### Horizon scanning

Identifying and interpreting emerging technologies & trends

#### Cross-sector network

Leveraging technology strengths from other sectors

#### Academic network

Harnessing expert advice and technical capability

#### Inspiring the next generation

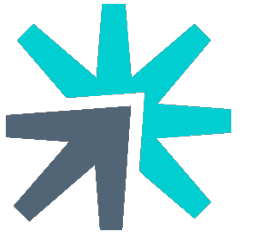
Educate, excite and inspire the next generation of talent



To be ready for the future

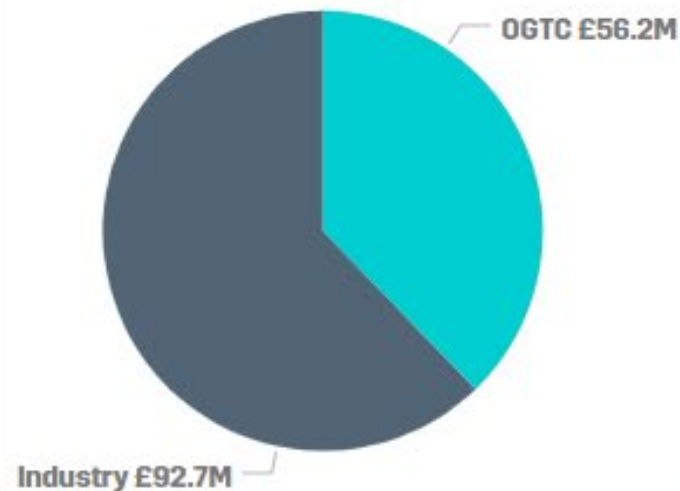


# Our Track Record



## £149M Invested

Co-Investing in industry-led projects to develop and deploy new technologies.



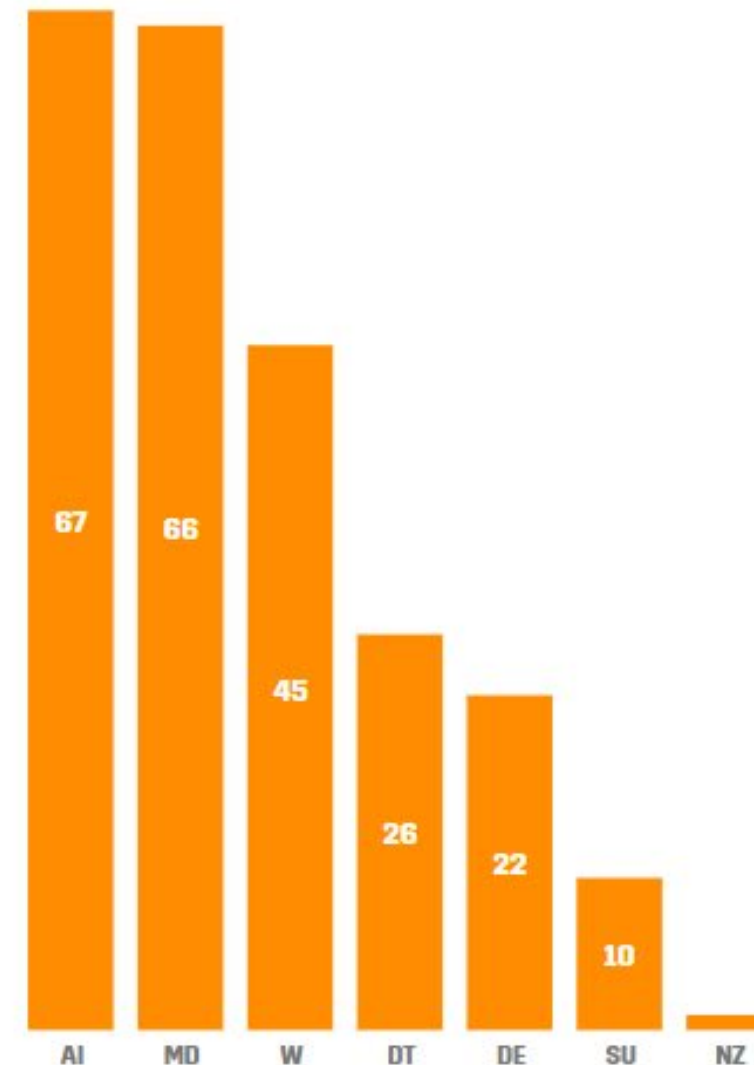
## 1,060+ Technologies Screened

Harnessing the power of an ever-expanding range of transformational new technologies.



## 237 Approved Projects

Delivering technology projects to fix today, maximise recovery and transform tomorrow.

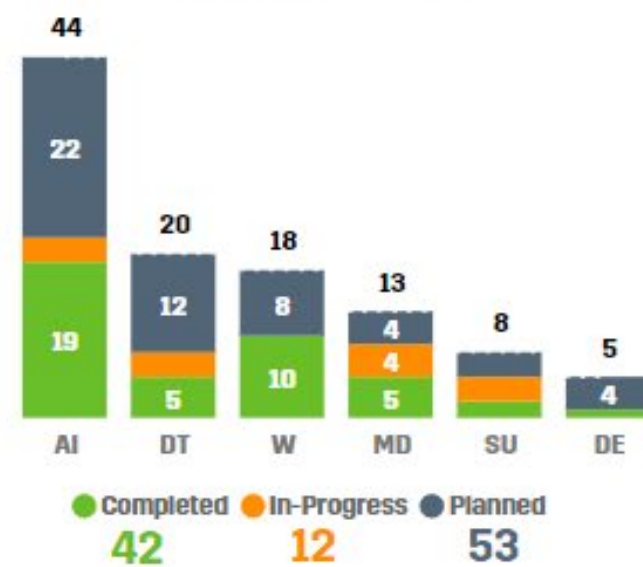


## Memberships

138 Bringing together Operating, Supply chain and technology companies to drive innovative new solutions.

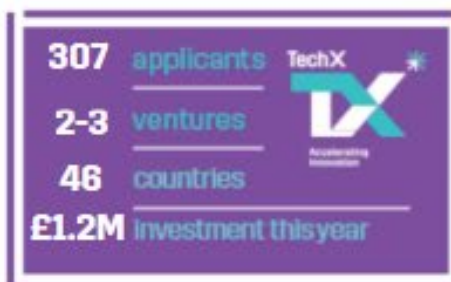


## Field Trials



## 20+ TechX Startups

Accelerating innovation by helping a new generation of entrepreneurs take their technologies to market - faster.



Government Industry Schools Community



## Visitors

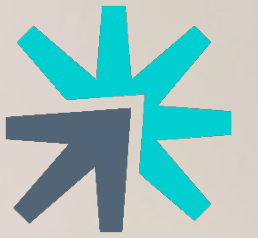
23,500+

Creating a culture of innovation in the region through exciting events and workshops.

Delivering strong results



# Industrial Transition



## A cleaner industry

Decarbonise  
operations



## Net zero carbon basin

Integrated  
energy



## Global net zero

Our  
contribution



**Working across the energy sector to be part of the solution**



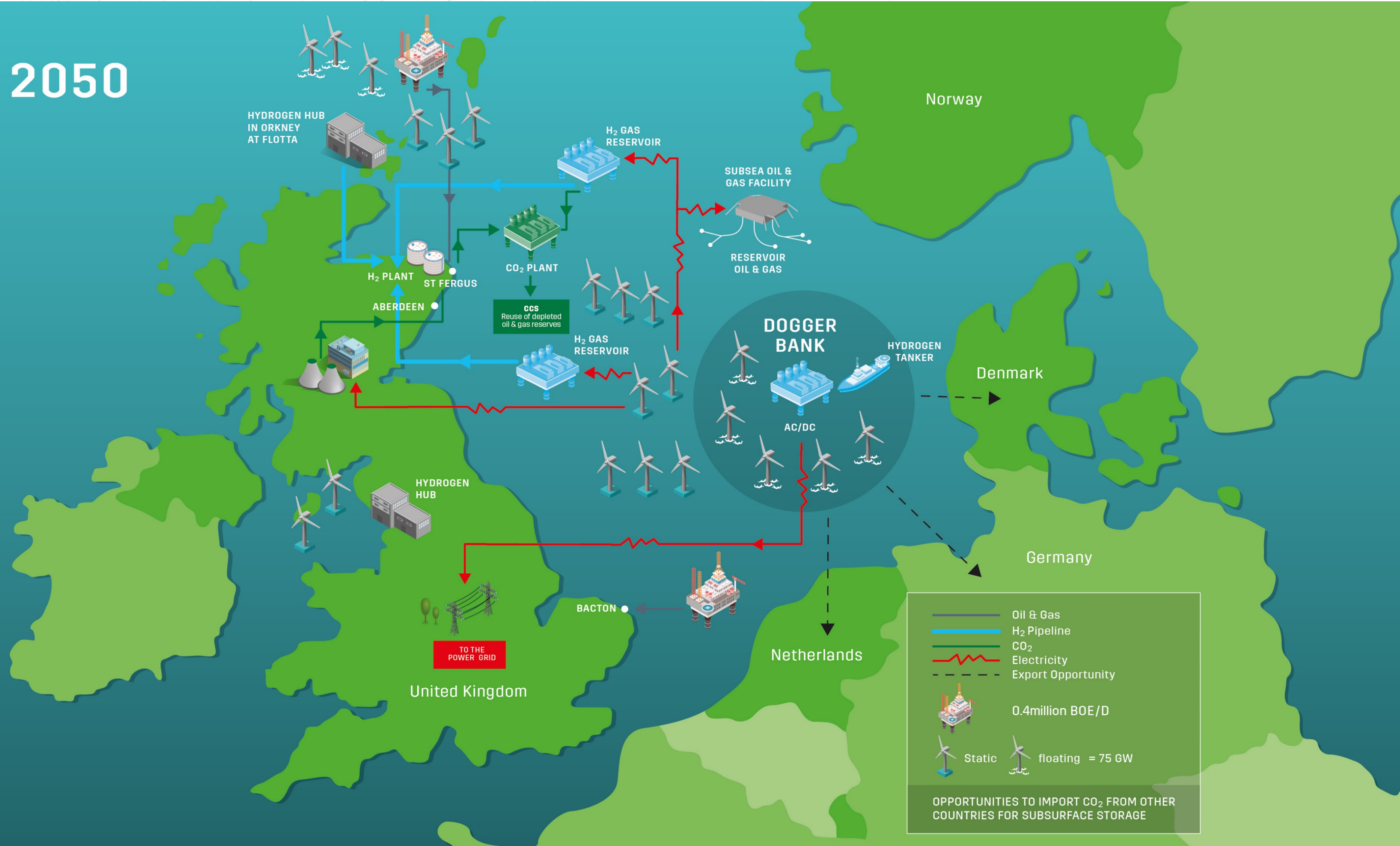
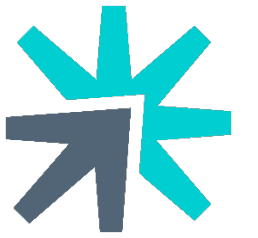
2019



Energy 2019



2050



## Energy 2050 – A reimagined North Sea



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28/04/20



# Background



## Value

**£20<£100 billion**

Global market value by 2035

**£8 billion**

Current value to the UK of 40% market share

**£40 billion**

Potential five-fold increase in value to the UK

## Jobs

**45,000**

Jobs currently supported

**1,000+**

Companies currently operating in the sector – 600 in Scotland

**180,000**

Potential additional jobs created by five-fold market share increase

## £14M Funding



HM Government



The Scottish Government  
Riaghaltas na h-Alba

**Accelerate your R&D programme**



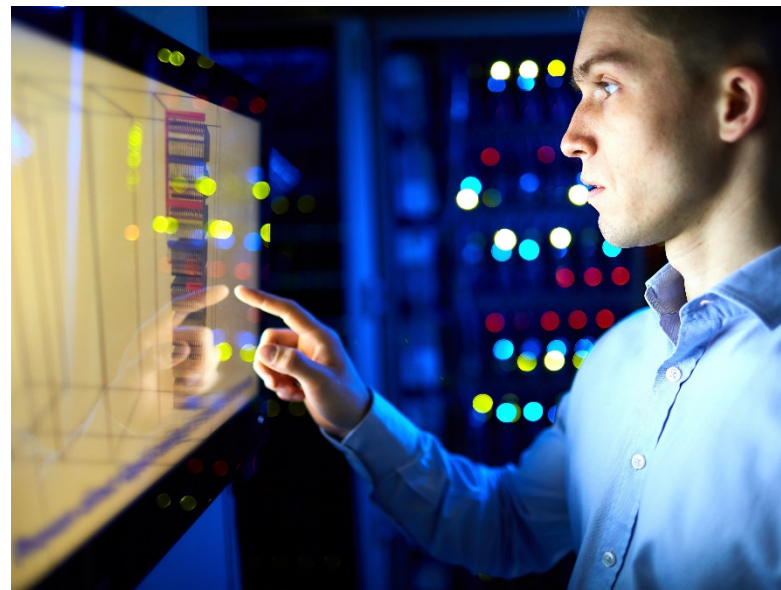
# Ambition

**Accelerate the development and adoption of underwater engineering and technology to unlock the full potential of the UK Continental Shelf and maintain the UK's leadership position in this growing global market.**

**The OGTC and RGU working in partnership with industry**



# Focus Areas



**Faster**

**50%** faster  
development



**Cheaper**

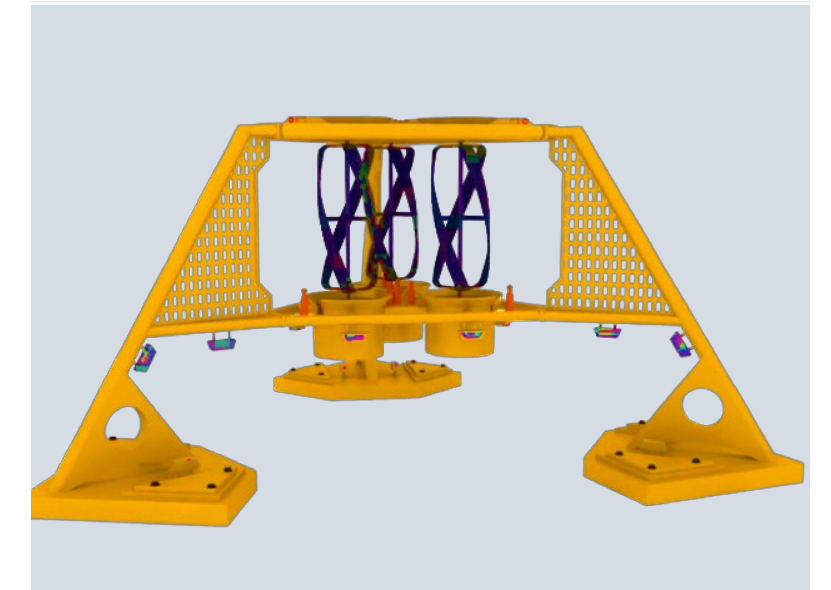
**50%**  
lower cost



**4<sup>th</sup> GENERATION**

**Smarter**

Subsea 4.0



**Cleaner**

Lower  
carbon

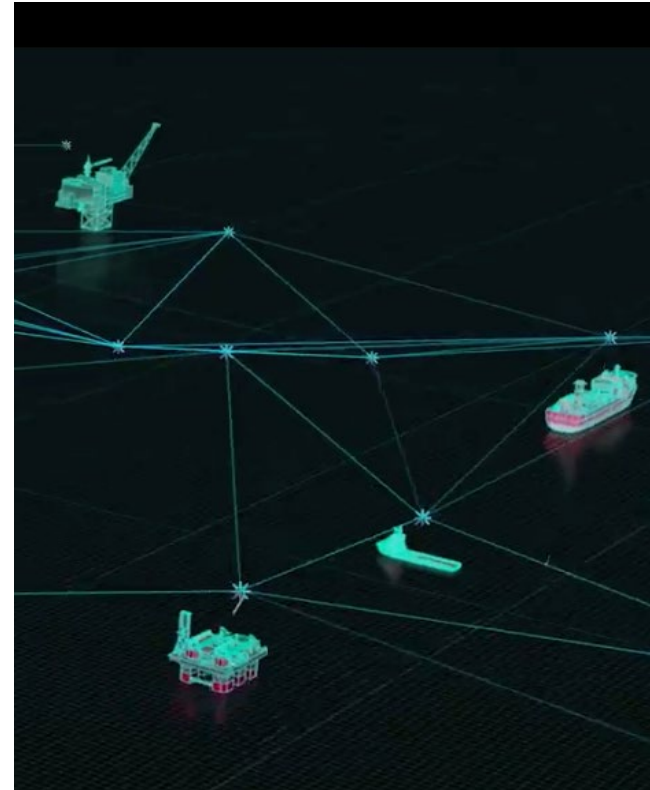
**Accelerate your R&D programme**



# Partners



**Operators**



**Supply Chain**



**Technology  
Developers**



**Regulators**



**Cross Industry**

**Accelerate your R&D programme**



# Update



**Office and workshop space secured at the International Industrial Estate (Aberdeen Airport)**

**Unit 3, International Avenue, ABZ Business Park, Dyce  
1,200m<sup>2</sup> Office Space / 600m<sup>2</sup> Workshop / 2,000m<sup>2</sup> Yard**



**Chris Pearson**  
**NSC - Director**



**Prof John McCall**  
**NSC - Head of Academic Research**

**Accelerate your R&D programme**



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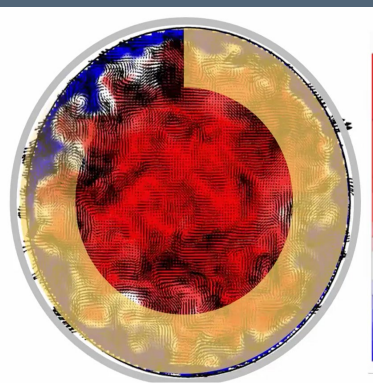
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# Projects



## Subsea Digital



### Exnics A-EYE flow surveillance

Industry-first non intrusive, retrofittable subsea multi-phase meter.

Based on a universal high performance laser which can detect nano scale optical variances on pipe wall

Potential saving of ~£500 million  
to the UKCS

[www.exnics.com](http://www.exnics.com)



### AI Exploration

Ai Exploration is developing the first low-cost, accurate multiphase composition metering platform.

The technology, developed from the medical industry is based on an electrical sensing technique.

Potential saving of ~£500 million  
to the UKCS

[www.theogtc.com](http://www.theogtc.com)

Delivering projects that move the dial



# Projects



## Subsea Net Zero



### EC-OG subsea power hub

Ground-breaking marine turbine  
technology for powering subsea wells

Lowers the lifecycle cost of subsea  
fields and reduces carbon footprint

Potential £200 million  
saving to UKCS

[www.ec-og.com](http://www.ec-og.com)



### Ocean Power Technologies PB3®

World's first autonomous marine  
powered buoy for monitoring and  
protecting subsea architecture

Intelligent monitoring system could  
remove the need for guard vessels

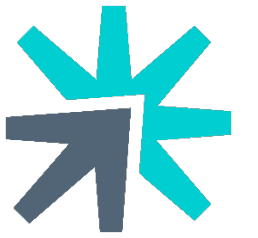
Potential £4 million capital saving per field  
and £2 million saving per year in vessels

[www.oceanpowertechologies.com](http://www.oceanpowertechologies.com)

Delivering projects that move the dial



# Take Away



**Solution Centres**

Roadmap info : [www.theogtc.com](http://www.theogtc.com)

**Technology Ideas :** Apply online or contact Solution Centres  
Alignment with Roadmap  
Industry Support

**Tech X**

**Follow Updates on Linked-in**  
**Yearly in-take for 4 month Programme**

**NSC**

**Graeme.Rogerson@theogtc.com**



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