

Thursday, April 22, 2021

Connected Places Catapult

Supply Chain 4.0

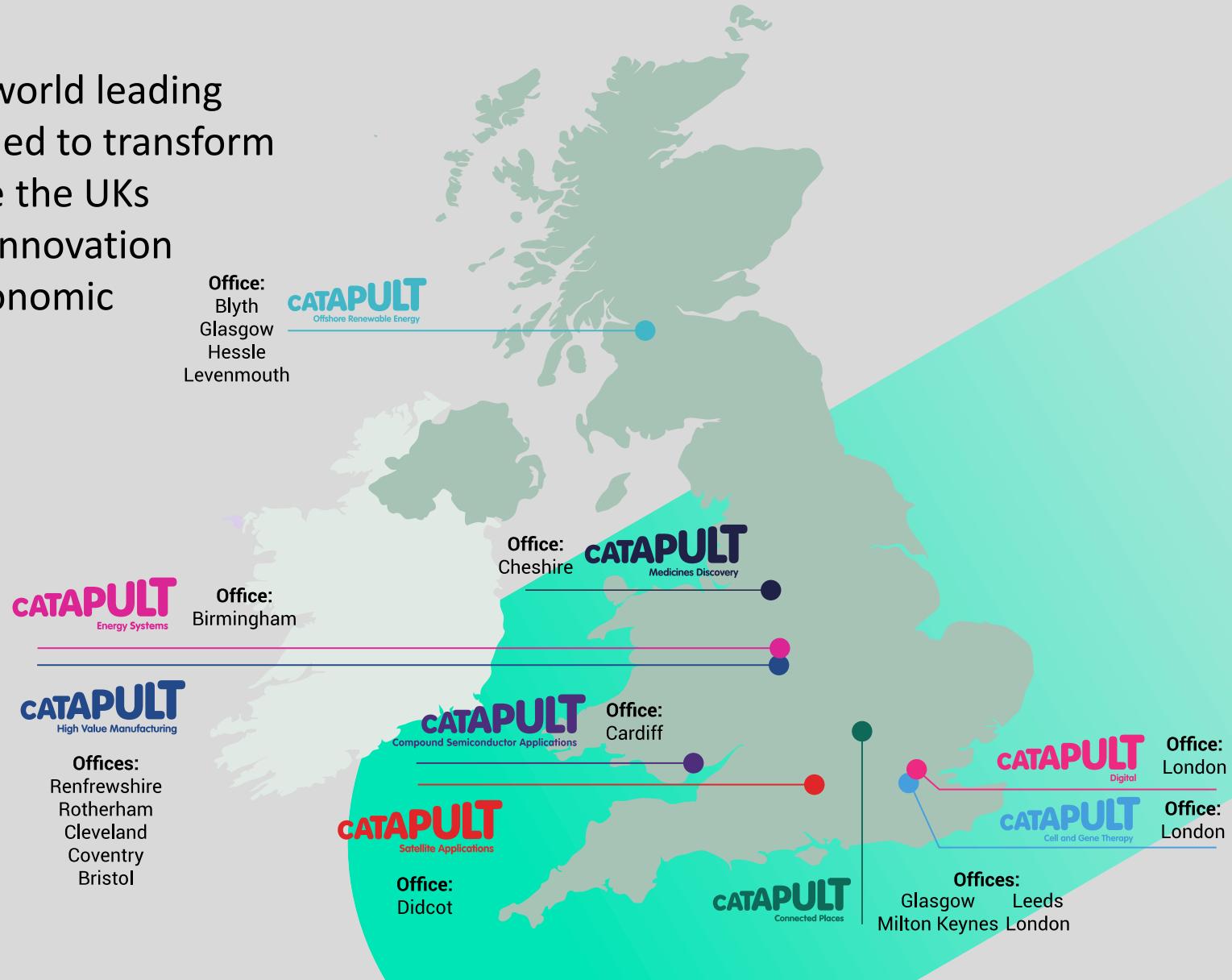
Tom White

Director of Modelling and Appraisal (Interim)



Catapults – a force for innovation and growth

A network of world leading centres designed to transform and accelerate the UK's capability for innovation and future economic growth.



9

Innovation Centres
across the UK

CATAPULT
Connected Places

Our role in the market

Increasing the SUPPLY of innovative products and services that meet market demand
by helping companies to commercialise innovation through demonstration, testing, development of standards and market exposure



Identifying new areas for MARKET MAKING and DISRUPTION
by stimulating richer engagement between academics and businesses, access to data and partnerships with government and regulators

Boosting DEMAND for innovation from intelligent customers
By improving methods of modelling demand, and supporting tools, resources and platforms that cultivate confidence and capability among buyers

Connected Places Catapult: How We Can Help

Setting the course

Technology can deliver operational savings, but may have organisational implications. Opportunities can include service level management, better utilisation of assets and revenue generation.

- Business Case/Modelling
- Impact Analysis
- Delivery Planning
- Concept of Operations

Business Planning

Make the right decision

Support throughout the innovation selection, from identifying the appropriate selection method to tender evaluation.

- Horizon Scanning
- Pre-qualifications
- Specifications for tender
- Evaluation

Innovation Selection

On the journey

- Programme assurance
- Project planning
- Stakeholder engagement
- Dissemination

Breaking down barriers

Working with Regulatory authority and industries to understand the safety, security and regulatory requirements that can reduce the barrier-to-entry.

- Certification framework
- V&V standard & methodology
- Understanding the application scenario

Learn and Apply

We can provide support throughout the implementation process, from technical assurance to testing, trial & demonstration.

- Trial review
- Impacts evaluation
- Knowledge transfer
- Dissemination

Evaluation

Confidence to deliver

From conception of an opportunity for application of technology, CPC can support identifying possible technology solutions, and framing a roadmap to delivery, including:

- Use cases and problem definition
- Market capability review
- Options analysis
- Roadmap development

Design

Confidence in design

Our Concept design methodology is based on a proven systems engineering approach, including:

- Use case development
- Requirements capture and prioritisation
- Specification development
- Operational design
- Prototype application design

We apply an **enterprise systems engineering approach** and use **technical expertise** to support the deployment of future transport solutions. This may include concept of operation, requirements, innovative design, understanding regulation, safety cases and validation methodologies for increasingly complex systems

Technology Programme

Development, Integration & Implementation

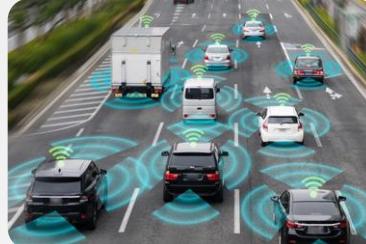
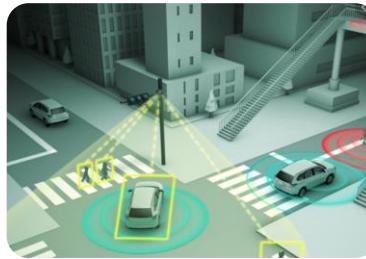
Make it happen

We can provide support throughout the implementation process, from technical assurance to testing, trial & demonstration.

- Support SME product development
- Technical Assurance
- Trial Development and review
- System Testing and integration testing
- Accelerators
- Demonstrators

Connected Places Catapult: Where We Work

- Public Transport
- Intelligent Transport Systems
- Critical Infrastructure
- Built Environment
- Health and Wellbeing
- Active Travel
- Future Fuels
- Maritime
- Urban Air Mobility
- Drones
- Future Flight
- Logistics and Freight
- Micro-Mobility
- Supply Chain
- Rail
- Connected Autonomous Vehicles



Supply Chain 4.0

The effectiveness and resiliency of supply chains is vital to the UK's national and regional economies.

Through COVID, our supply chains have never before been under greater scrutiny, or the globalised system tested to such a degree.

Digitalisation and decarbonisation of supply chains present the opportunity build an efficient, clean and resilient future for our places.

Covid-19: Supply chain problems could delay NHS tests

The Last Year...

FINANCIAL TIMES

Covid-19 has exposed the world's fragile, complex food supply chains

 The Independent

Labour calls on government to punish UK firms linked to PPE suppliers accused of modern slavery



COVID-19: one year on - what now for food supply chain?

The Guardian

Honda to close UK plant for four days owing to supply chain problems

BBC

Medicine supply chains into NI post-Brexit a 'high risk area'

logistics manager

The Impact to the Logistics Supply Chain following Brexit

RACONTEUR

Could COVID breathe new life into supply chains?



The future of UK supply chains in a disrupted world: Brexit and Covid-19

PRODUCTION ENGINEERING SOLUTIONS

COVID-19: UK manufacturers radically rethink supply chains

Bloomberg

Supply Lines

U.K. Gets Preview of Brexit Chaos With France's Truck Blockade

Oxford Mail

BMW's Mini Plant is preparing its supply chain ahead of Brexit

THE MANUFACTURER

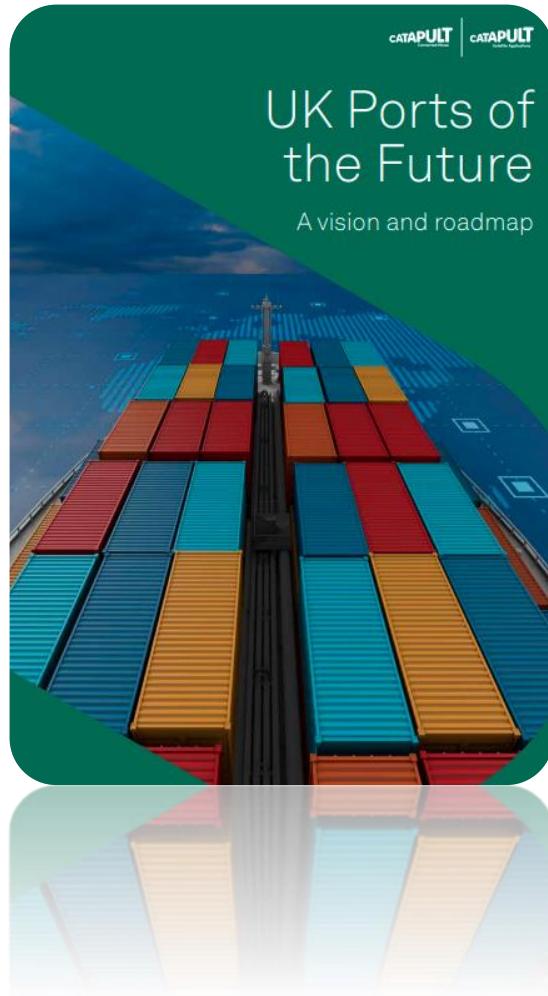
The impact of COVID on supply chains

Supply Chain Challenges

- **Decarbonisation** ambitions across multiple operators and modes in supply chains
- **End-to-end visibility** of data to enable greater transparency and identify **efficiency** and **resiliency** opportunities
- Post-COVID uncertainty, regional impacts and shifting behaviours – **responsiveness** to change
- **Collaboration** across stakeholders in the supply chain for systemic benefits
- Establishing workable **business cases and models** for new technologies and disruptive innovation



Study: Ports of the Future



Department
for Transport

- The UK is **reliant on ports** to move goods in and out of the country
- Employs over **100,000 people** handling **500 million tonnes** of freight every year
- Ports are essential, **multi-modal transport hubs**, with impacts well beyond the port security fence across supply chains
- **Digitalisation** and **decarbonisation** of the processes and interactions through ports offers the potential to level up our logistics and supply chains and deliver **regional growth** with **national impact**
- The project delivered a challenge-led **UK Ports of the Future blueprint** with impacts and principles transferable across supply chains

Ports of the Future – Whole Supply Chain Context



Supply Chain 4.0

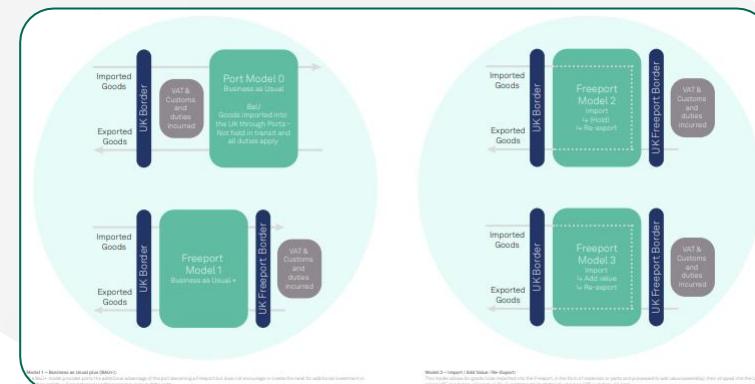
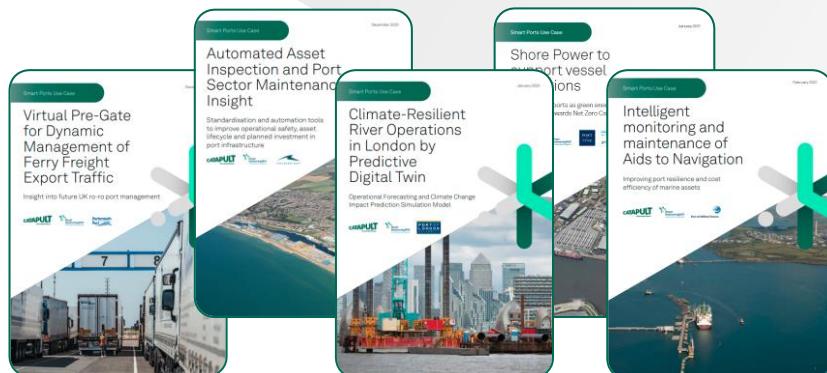
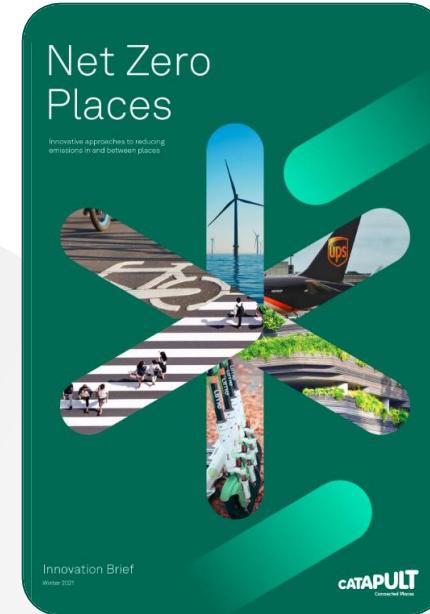
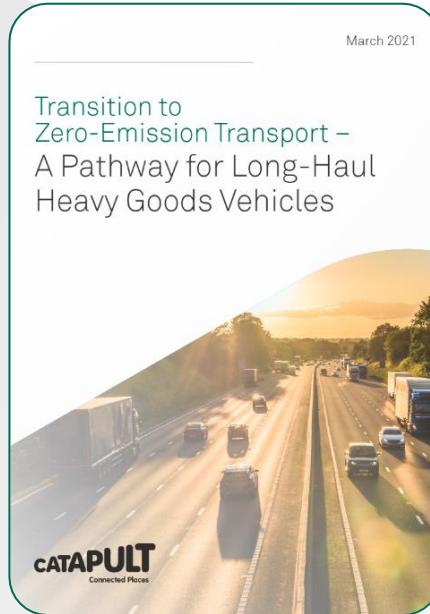
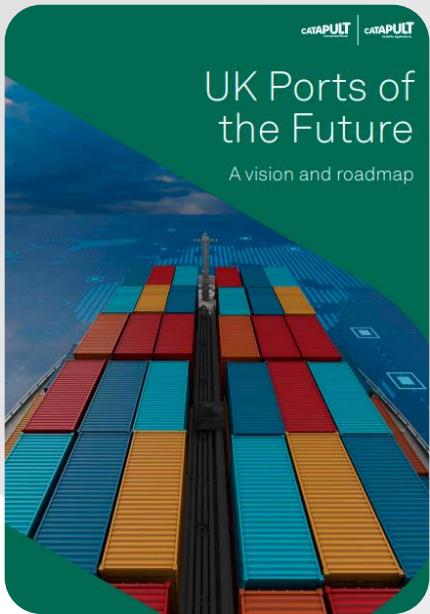
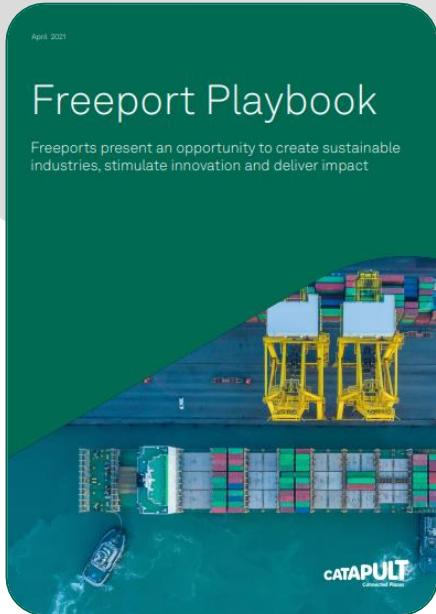


DCMS 5G Create: Connected Autonomous Logistics

- Funded under Department of Culture, Media and Sport **5G Create** programme
- Trial of 40 tonne **Connected and Autonomous Logistics** transfer vehicle across Nissan site in Sunderland
- Focussed to reducing **cost**, increasing **efficiency** and improving **safety** of operations
- **Collaboration** across stakeholders in the supply chain for **systemic benefits**
- Removing the safety operator through **5G connectivity**, allowing remote teleoperation and enabling fleet management for scaling
- Establishing workable **operational models, business models** and **market benefits**



Find out more...



Freeports as Centres of Innovation

Innovation, SMEs and Incubator Bases

UK Freeports have the potential to be serious engines of regional growth through attracting investment and stimulating innovation and collaboration. The Government specification for Freeports includes specific requirements on supporting the transition to Net Zero, and innovation more broadly - being required to work as an Innovation Hubs for regional growth. Freeports have the potential to work as:

- catalysts for commerce, creativity and prosperity
- new centres of excellence for the country as we decarbonise, automate and digitise our future. Examples include the electrification, connectivity and automation of vehicles in and around the Freeports to reduce pollution and ease congestion.
- magnets for new investments, jobs, skills development and the adoption of greener technology

Contact us

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