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Digital Catapult

OECD Workshop 21-22nd September

The impacts of digital transformation on innovation across sectors

CATAPULT
Digital

AGENDA

What are Catapults and what do they do?

Digital Catapult
- What we do
- Why we do it
- Sector driven
- Technology drivers
- Applied research
- How we do it
- Structure and people

What are Catapults and what do they do?

Catapults…
- Bridge the gap between research and industry
- Foster collaboration between organisations and sectors
- Get new ideas and technologies to market quicker
- Break down barriers to success
- Help SMEs get concepts to market
- Anchor innovation and jobs in the UK

They are…
- Expert
- Trusted
- Open access
- Independent
- Led by industry professionals

Address big issues…
- Systemic failures and complex, cross-sector challenges
- Short-term investment cycles
- Slow growth in productivity and competitiveness
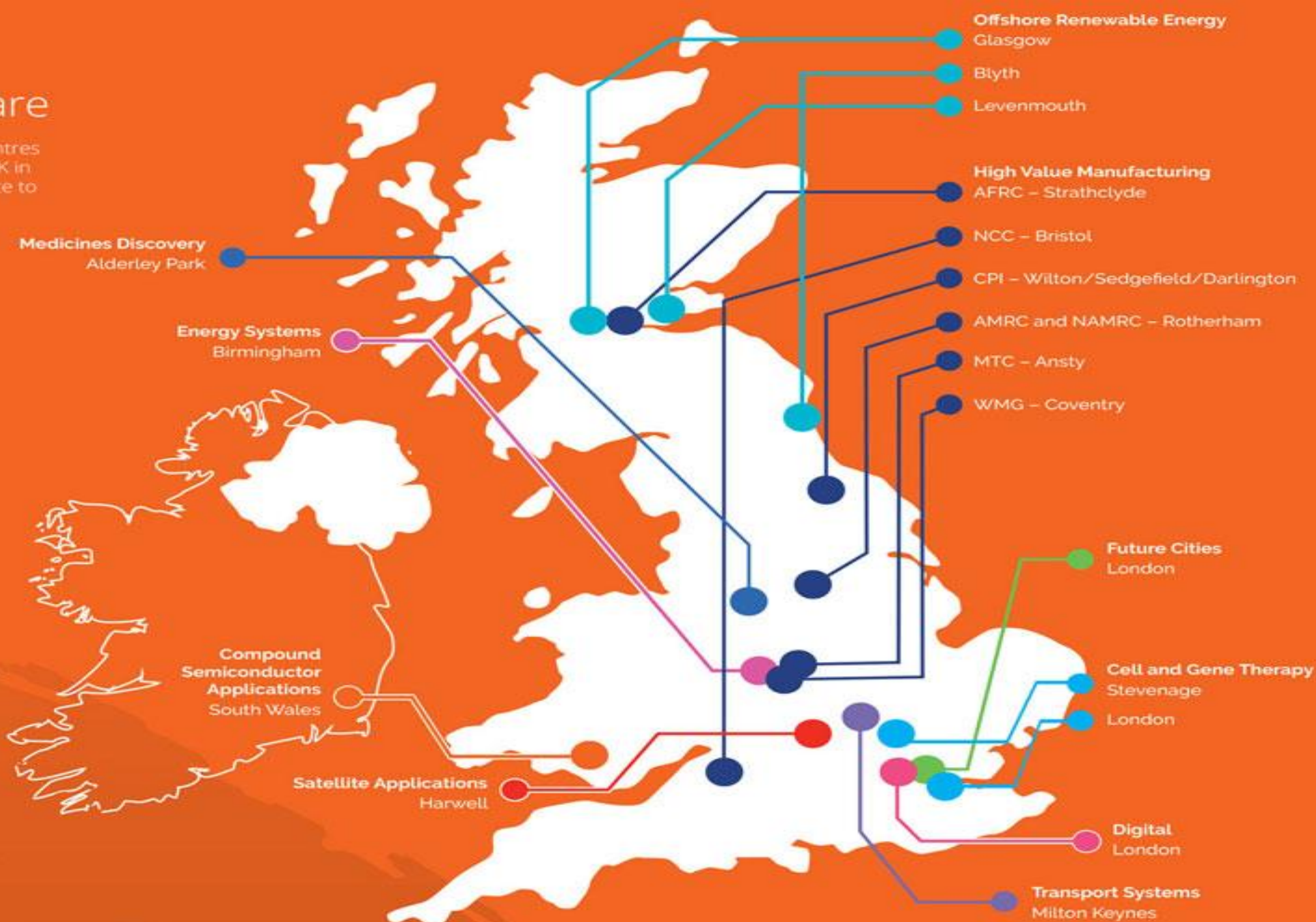- Wider adoption of enabling technologies such as artificial intelligence, biotechnology and robotics

Stimulate demand by…
- De-risking innovation
- Testing new ideas and technology in real-world scenarios
- Pump-priming new markets
- Sharing ideas across sectors
- Bringing large and small businesses together Making regulation fit for purpose

Catapults: where they are

Our network of Catapult centres is located throughout the UK in areas of strategic importance to each sector.

Offshore Renewable Energy
Glasgow
Blyth
Levenmouth

High Value Manufacturing
AFRC – Strathclyde
NCC – Bristol
CPI – Wilton/Sedgefield/Darlington
AMRC and NAMRC – Rotherham
MTC – Ansty
WMG – Coventry

Medicines Discovery
Alderley Park

Energy Systems
Birmingham

Future Cities
London

Compound Semiconductor Applications
South Wales

Cell and Gene Therapy
Stevenage
London

Satellite Applications
Harwell

Digital
London

Transport Systems
Milton Keynes

Regional Centres

Satellite Applications
· North East
· Scotland
· South West
· South Coast
· East Midlands

Digital
· North East and Tees Valley
· Yorkshire
· Brighton
· Northern Ireland

We work with companies of all sizes to transform their businesses through digital innovation

- Accelerating the practical application of digital technology

- Tapping into digital disruption to transform business

- From the grassroots up and the boardroom down

- Creating a culture of open innovation

Together we deliver commercial success and sustainable economic growth
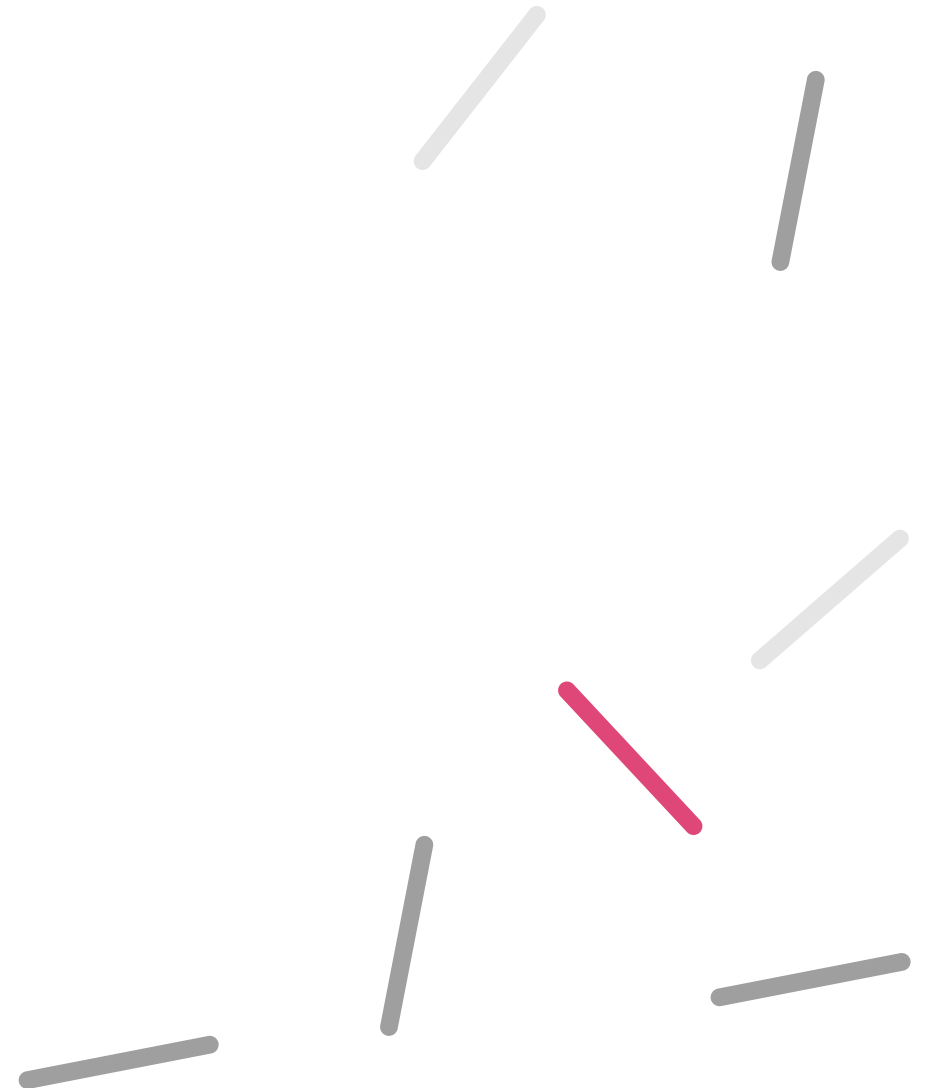
Digital Catapult empowers thousands of UK innovators to succeed creating growth and competitiveness on a global stage.

- Powering a digital economy
- Making the UK a better place to work and grow
- Giving UK companies an unfair advantage

A national digital strategy delivered locally

"Digital technology has the potential to yield an additional £55bn to the UK economy by 2020."

Dr Jeremy Silver
CEO, Digital Catapult

Digital Catapult focuses on sectors where digital innovation can make the greatest impact, to increase productivity, efficiency and scale

DIGITAL MANUFACTURING

Manufacturing contributes over **£6.7trillion** to the global economy

In 2015 exports of goods produced by manufacturing sector estimated **£257bn**

The sector provided **2.6m** jobs in the UK in 2015

Digital technology could revolutionise **productivity, quality** and increase **allocative efficiency** in supply chain management and pricing

Increasing productivity and creating new value from concept to production and supply chain across the life cycle of products
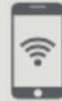
CREATIVE INDUSTRIES

Nine sub sectors with a **combined Gross Value Added of £84.1bn** in 2014

Employs **2.3m people** and supports **182,000 businesses**, mostly small and medium size companies

Higher bandwidth and increasing mobile access is leading to a revolution in content programming and new services

Making the UK the best place in the world to create content for immersive systems

DIGITAL HEALTH AND CARE

The UK digital health systems market was worth **£1.3bn** in 2014

The UK health analytics market was worth **£155m** in 2014

In 2015 the UK wearable medical device market was estimated to be between **£36m** and **£77m**

Enabling people to live longer, happier and healthier lives through digital technology

Tangible innovation delivers transformation and growth through the use of digital.

Digital Catapult has identified four key technology drivers that can positively disrupt business models, create competitive advantage and deliver a superior experience for customers:

- Data Driven
- Connected
- Intelligent
- Immersive

DATA-DRIVEN

Sharing and learning from data is critical for businesses to develop and grow.

Massive increases in the use of personal data have raised concerns and triggered new regulations. Digital Catapult is helping companies to develop new means of enhancing trust, privacy and security.

The aim is to enable businesses to build consumer engagement through new data transactions ensuring best practice across data responsibility, transparency, ethics and compliance. There is an opportunity for the UK to be the global leader in trust and responsible innovation in personal data.

In Smart Contracts Digital Catapult is are working with the UK Games Fund on Ethereum blockchain technology for managing IP

Cyber 101 is our national programme supporting cyber security businesses to help protect the UK from cyber attacks

CONNECTED

Connectivity delivers the transformative possibilities of digital technologies.

We need effective networks and digital infrastructure to deploy technologies at scale and harness the Internet of Things (IoT), removing silos of innovation and barriers to market.

Digital Catapult works to level the playing field for businesses, combining our technical and commercial expertise to help build the digital infrastructure of the future.

Things Connected is an IoT programme delivering the country's largest distributed IoT LPWAN

IoTUK is accelerating the adoption of IoT technologies

Digital Catapult's 5G test bed is helping users to shape the way services will be delivered by 5G in the future

INTELLIGENT

"The business plans of the next 10,000 startups are easy to forecast: take X and add AI."
Kevin Kelly, WIRED

The term "AI" is a single catch-all that describes a set of complex technologies that range from simple process automation to deep machine learning. The ability to automate, predict and deliver is at the very heart of digital innovation.

Digital Catapult opens up the power of intelligent technologies to a broad audience: facilitating access to large data sets for SMEs to train their algorithms; working with large businesses to continue to push the boundaries of what is possible in Artificial Intelligence (AI); and working with policymakers and academics to ensure the UK takes a lead in transparent and ethical AI applications.

Hacking Happiness, in partnership with the Royal Society, set out to better understand the human environment and its impact on wellbeing

Digital Catapult is the UK's official partner of IBM Watson's AI Prize investigating how humans can collaborate with AI to tackle the world's grand challenges

IMMERSIVE

Immersive technologies are revolutionising interactions between people and their environment

Recent advances in display and capture are opening up the opportunities of virtual and augmented reality technologies for consumer and business applications alike. The challenge is to drive sustainable, game-changing innovations that will make the UK the best place in the world to create immersive content.

Digital Catapult helps large businesses to test and showcase test their content, support SMEs to surface immersive innovations and partner with thought leaders in academia and industry.

Digital Catapult's Immersive Lab lets organisations showcase, test and develop the latest immersive innovations on cutting-edge technology

Augmentor is a ten week equity free support programme for immersive start-ups to test and develop new innovations

Delivering the value of applied research to the market

Rapid digital innovation can disrupt businesses or lead to new growth and opportunity.

Digital Catapult believes in helping scale-ups and traditional businesses access the best academic research and digital innovation to transform existing businesses and create new ones.

"From R&D to production, from supply chain to point of delivery, we work with companies to capture the benefits of digital transformation."

**Dr Marko Balabanovic
CTO, Digital Catapult**

How we make digital innovation happen

We make innovation happen by removing the barriers to growth faced by businesses.

Our interventions range from those that impact at sector level, to that are relevant to groups of companies in a sector and those that have a direct impact on individual companies.

They include:

- Building, coordinating and increasing access to large scale test beds
- Driving engagement between small companies and large companies
- UK, EU or International Collaborative Research & Development projects
- Accelerating the growth of markets by supporting ecosystems and helping exports
- Development of standards
- Building prototypes, testing feasibility of technologies
- Helping large companies become more efficient through the introduction of digital innovation
- Providing access to facilities, skills and space

Digital Catapult works with SMEs and large corporates and collaborates with leading universities and researchers

SMEs
For SMEs our priority is to help accelerate sustainable growth and development in digital innovations to make the UK economy stronger.

Larger corporates
Working with larger corporates, Digital Catapult strengthens the culture of innovation and drives collaboration with the UK's brightest digital innovators, industry experts and applied research.
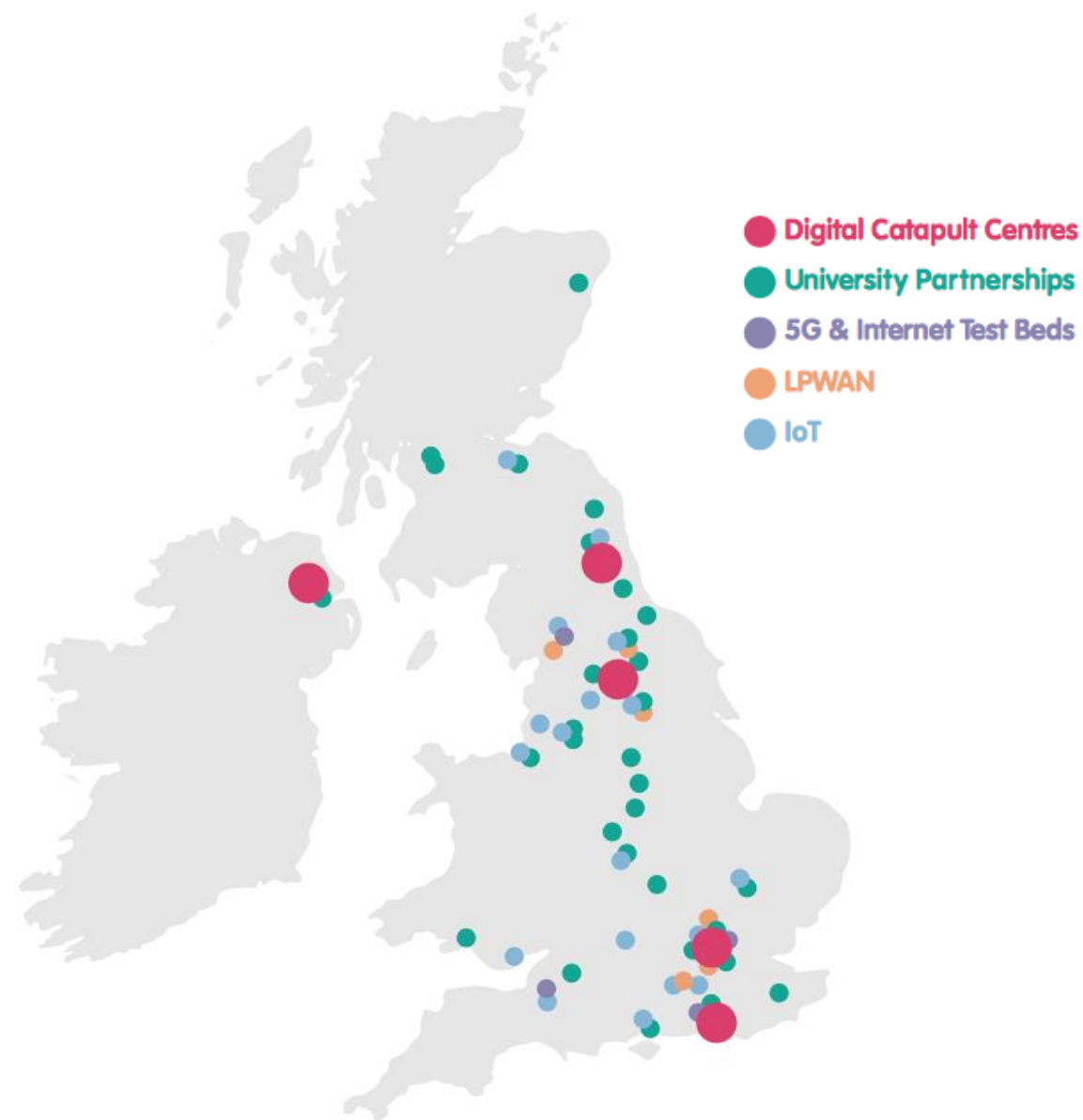
Universities and researchers
Digital Catapult also collaborates on R&D projects to accelerate the commercialisation of research and amplifying the impact to the economy.

"Doing the Pit Stop means our ideas have gone from conceptual to practical – we've been able to take steps towards developing solutions with partners."

Julian Kirby
Director, PwC

Digital Catapult's broad network helps UK firms deliver better products and services to market at home and abroad

Digital Catapult has centres in Brighton, North East & Tees Valley, Northern Ireland and Yorkshire in addition to its London headquarters. Each of the Catapult centres has a unique focus and is aligned with local digital innovation initiatives.

Legend:
- Digital Catapult Centres
- University Partnerships
- 5G & Internet Test Beds
- LPWAN
- IoT

Thank You