



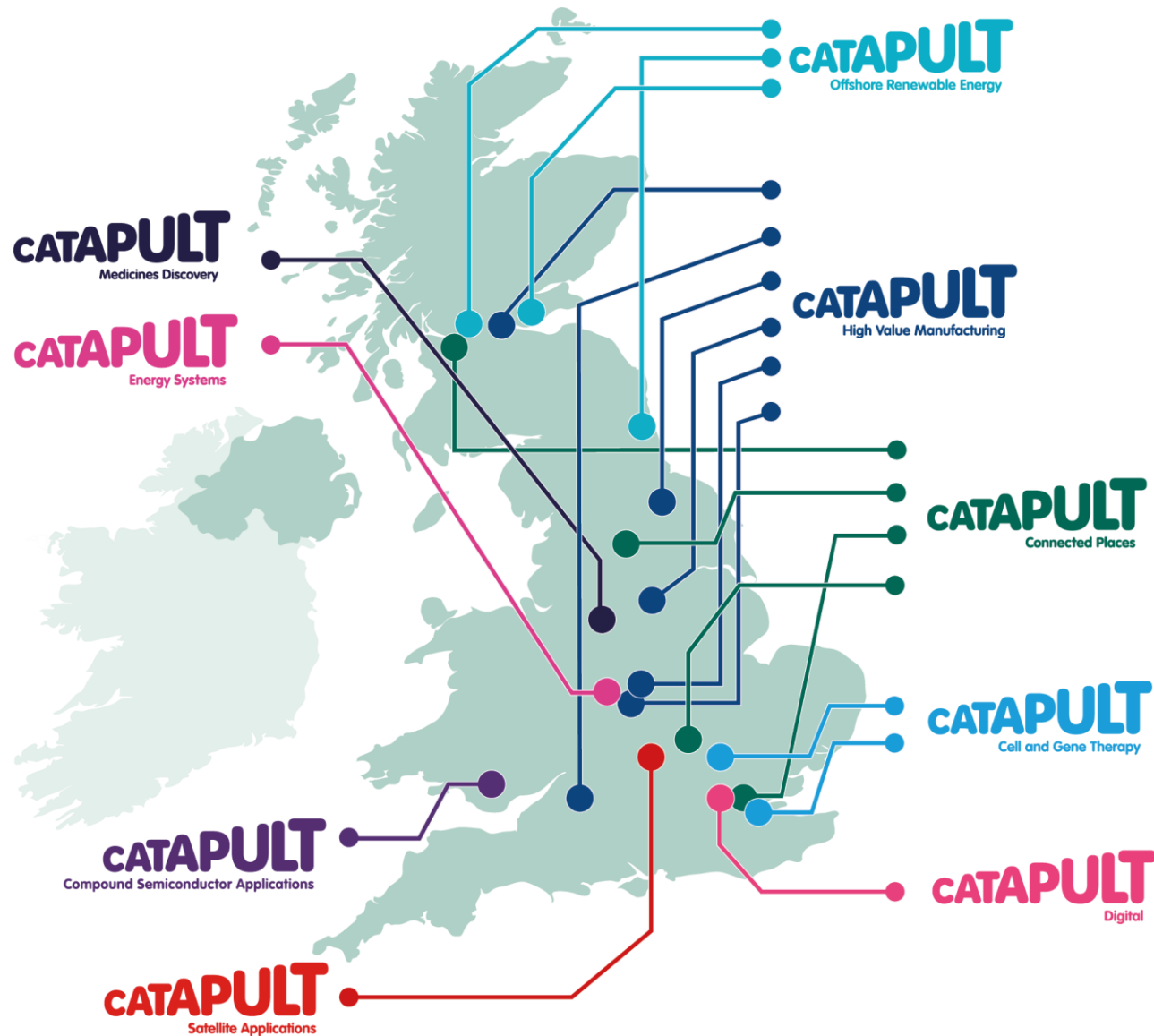
Thursday, September 16, 2021

# Airports at Connected Places Catapult

Presentation to Heathrow Strategic Planning  
Group

Andrew Chadwick  
14<sup>th</sup> September 2021

# Catapults – a force for innovation and growth



## 9

### Innovation Centres across the UK

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



Connect. Spark. Accelerate.

# Connected Places Catapult is the UK's innovation accelerator for cities, transport and place.

## **A neutral, trusted, expert convenor**

We operate at the intersection between public and private sectors, between local and central government, addressing challenges of today and tomorrow.

Our focus is on connecting businesses in order to generate new opportunities and accelerate the creation of innovative products and services which will deliver solutions.



**CATAPULT**  
Connected Places



# Innovation in aviation

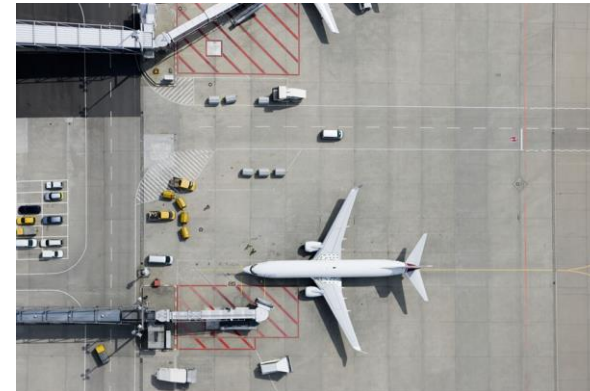
- Aviation Sustainability
- Airports
- Digitisation & Data
- Unmanned Aircraft (Drones)
- Unmanned Traffic Management
- Urban Air Mobility
- Multi-modal transport connectivity



*Courtesy: Airbus*

# Airports – recent example projects

- DfT Zero Emission Flight Infrastructure
- EU H2020 “Aviation Noise Impact Management through novel Approaches” (ANIMA) Project
  - Developed new methodologies, approaches and tools to manage and mitigate the impact of aviation noise, enhancing the capability to respond to growing aircraft traffic demand, also considering 24/7 operations
- CAA Departure Planning Information
  - Development and roll-out of a low-cost DPI solution across the UK
- DfT Aviation Information and Open Data Standards
- Member of the Industry Resilience Group and ODLG Recovery Group
- “Exploring data sharing in the aviation industry” workshop for Industry Resilience Group (part of our Digital Transformation initiative with IRG and NATS)
- Air Transport Infrastructure Sustainability Action Plan



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# Transitioning to Hydrogen and Electric Fuelled Aircraft





# Project Goals

Explore the impact and requirements for introducing hydrogen and battery powered aircraft into airports

Identify the need for the development of aviation policy and standards for the handling of hydrogen fuels and electric power at airports

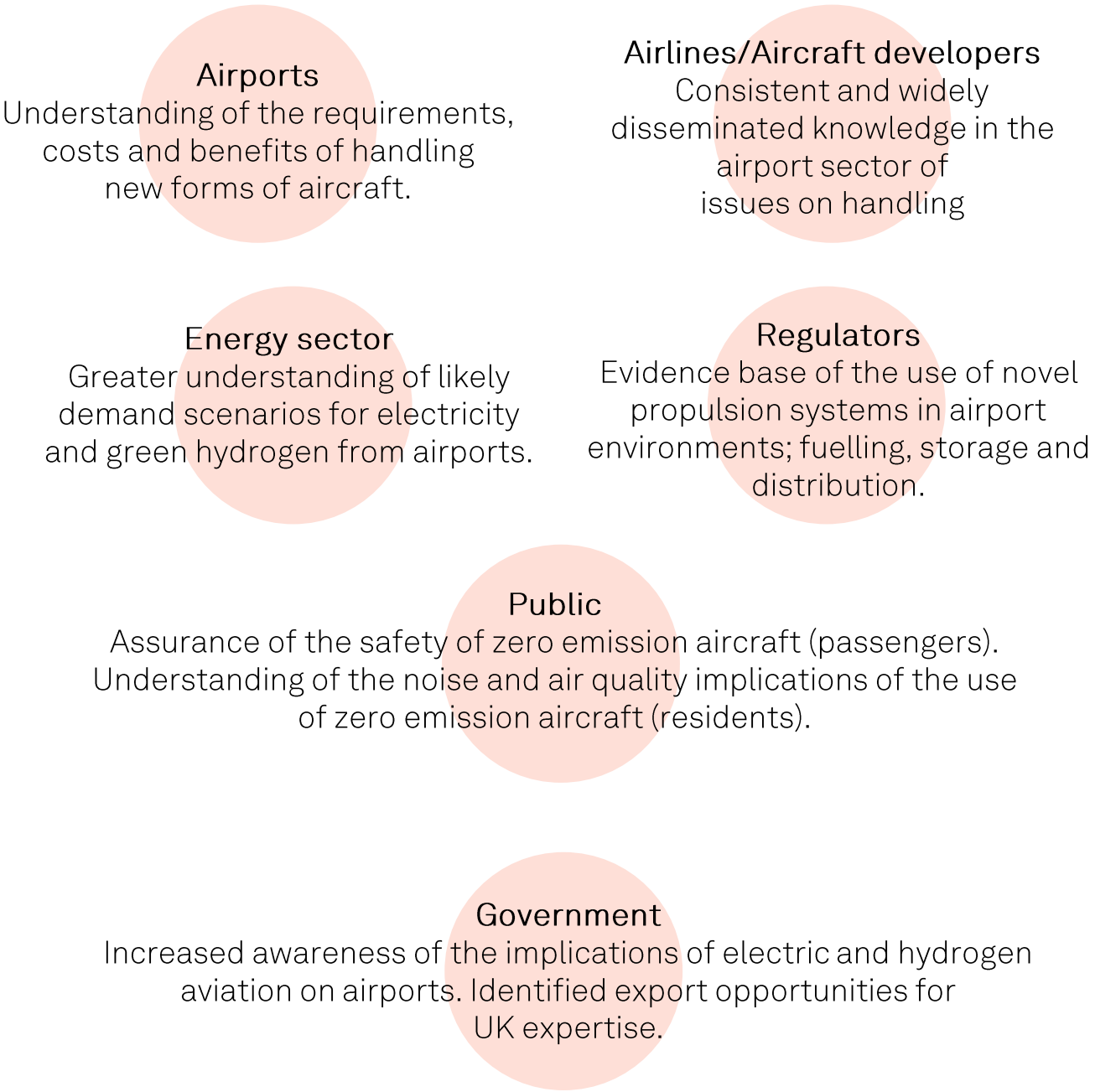
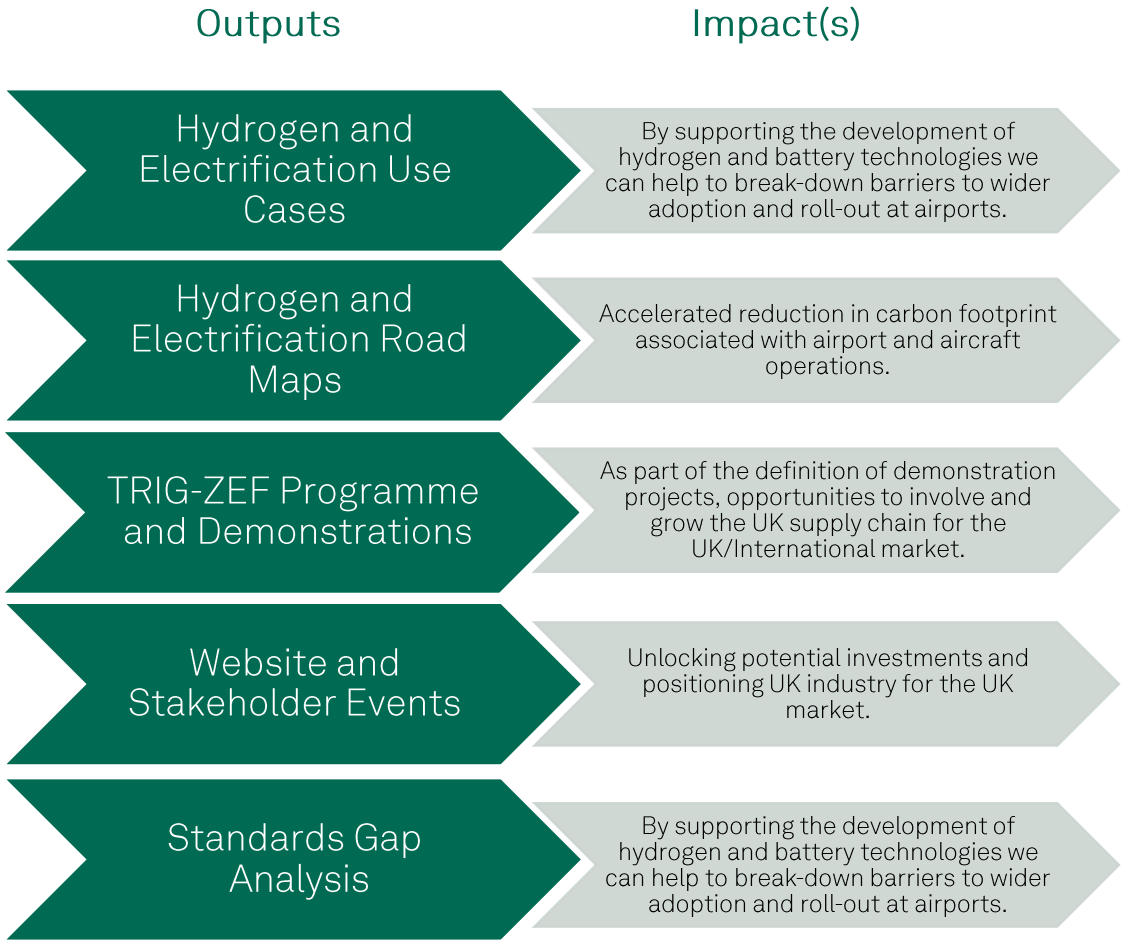
Identify actions and investments airports may need to incorporate hydrogen and electric into their daily operations

Develop a roadmap for the integration and implementation of hydrogen fuel and electric power within airports

Detailed study, dedicated demonstrations and a Transport Research Innovation Grant (TRIG) programme which will identify the challenges to be overcome, identify solutions, and showcase new and existing UK innovations to problem owners and decision makers in order to stimulate investment and adoption within this space



# Impact





# Sustainable Airports

*Our current focus is to:*

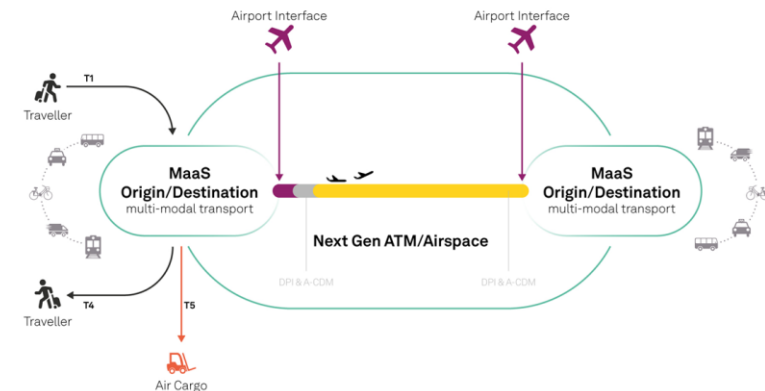
- Demonstrate the integration of new solutions with operations, green and smart logistics and infrastructures, and low-emission energy use for aircraft, airports, airside operational equipment, and autonomous vehicles in the airport transportation eco-system, including the concept of airports as energy hubs
- Integrated transport models, where airports are part of a physically and digitally connected transport hub, focussed on airport journeys and transportation around the airport environment, including the utilisation of new air mobility systems, e.g. Urban Air Mobility
- Green mobility corridors between cities and airports, including opportunities for decarbonised transport systems and modal shift, improve journey times, and passenger experience
- Collaborative aviation data sharing
- Explore the Human Factor challenges



# Case Study: Air Transport Infrastructure Sustainability Action Plan

*Internally funded project*

- Develop an Action Plan aimed to help the aviation industry identify and deliver near and medium-term opportunities to address sustainability of the air transport system, separate to the development of new fuels, aircraft and engine technology.
- Focusing on the overall aviation ecosystem, including physical, digital, and energy infrastructure, but not the aircraft.
- The initiative is designed to complement wider Government initiatives, and provide an action plan with a proposal to address some of the nearer (5 year) activities identified
- Aviation stakeholder workshop 21<sup>st</sup> July
  - End to end travel
  - The airport terminal
  - Airside operations
  - Airspace
- Action Plan to be published September 2021



# Thank You

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