



# Heart of the South West Future Aviation Test Zone

The South West of England offers you globally significant Centres of Excellence together with extensive test, demonstration and manufacturing facilities for the commercialisation of smart and sustainable aviation programmes.



# Heart of the South West Ecosystem

The Heart of the South West is developing a Future Aviation Test Zone that will include integrated air mobility with drones, eVTOL systems, fixed wing alternative fuels and propulsion with the ability to interact with commercial air traffic.



## World Class Capability

- Test flight corridors centred around Exeter and Yeovil
- Access to high value manufacturing and design
- Dedicated innovation services including access to funding
- Soft landing package for overseas companies
- Sustainable Aviation Programme Board focussed on supporting decarbonisation of the sector

## World Class Facilities

- Exeter Airport (Energy Hub)
- iAero Innovation Centre – Yeovil (airfield and hangar)
- Met Office
- Science Parks and Enterprise Zones
- Exeter Future Skills Centre
- Plymouth Smart Sound Connect 5G Testbed
- Yeovil College Advanced Aeronautical Engineering
- Exeter University Centre for Future Clean Mobility

**To discuss your Company requirements please contact:**

**Corinne Matthews, Aerospace Lead at [corinne.matthews@heartofswlep.co.uk](mailto:corinne.matthews@heartofswlep.co.uk)**

**Further information is available at:**

**[heartofswlep.co.uk/understanding-our-economy/aerospace](http://heartofswlep.co.uk/understanding-our-economy/aerospace)**

# Vision

The Heart of the South West is poised to take advantage of the global ambition to decarbonise aircraft. Ensuring that we exploit new markets in electrical and hydrogen propulsion and accelerate opportunities to become the centre for sustainable aviation for regional flights, smart aviation technologies and fuels.



# Our offer

The Heart of the South West is developing a Future Aviation Test Zone that will include integrated mobility with drones, eVTOL air systems, and commercial air traffic. This will be centred around Exeter Airport using existing flight test areas and the iAero Centre in Yeovil. Exeter is the ideal location as an energy hub, and iAero for its innovation and collaboration facilities.

The Heart of the South West, connecting with other assets and capabilities within the region, is the ideal location to trial this infrastructure, for both hydrogen and electric aviation as a 'living lab demonstrator'.



Energy distribution hubs



Established talent pipeline



Quiet airspace for CAA regulatory 'sand box' testing



Access to high value manufacture and design Centres of Excellence



# Our Capabilities within a Living Lab



## Our emerging test hub will be a 'living lab demonstrator'.

- A test location for sustainable aviation including hybrid, electric and hydrogen flight
- A test location for integrated airspace
- A location for developing skills and training engineers on future flight technologies
- A regulatory testing ground to help aircraft developers certify their systems
- Innovation and sustainability providing increased opportunities for collaboration between universities, engineering design hubs, MRO, airports and energy
- Development and proving of ground infrastructure that is critical to enabling the future of flight
- Demonstration of air and ground integration
- Facilitating options for later commercialisation, manufacturing and upscaling

## Aerospace & Aviation

- Wing design
- Fuel systems
- Landing gear
- Avionics
- Thermal systems
- Whole aircraft design & test
- Air/gas systems
- Electrical systems
- Flight trials
- Composites
- Gas turbines
- Advanced propulsion
- Digital technologies
- Simulation
- Ground & flight testing

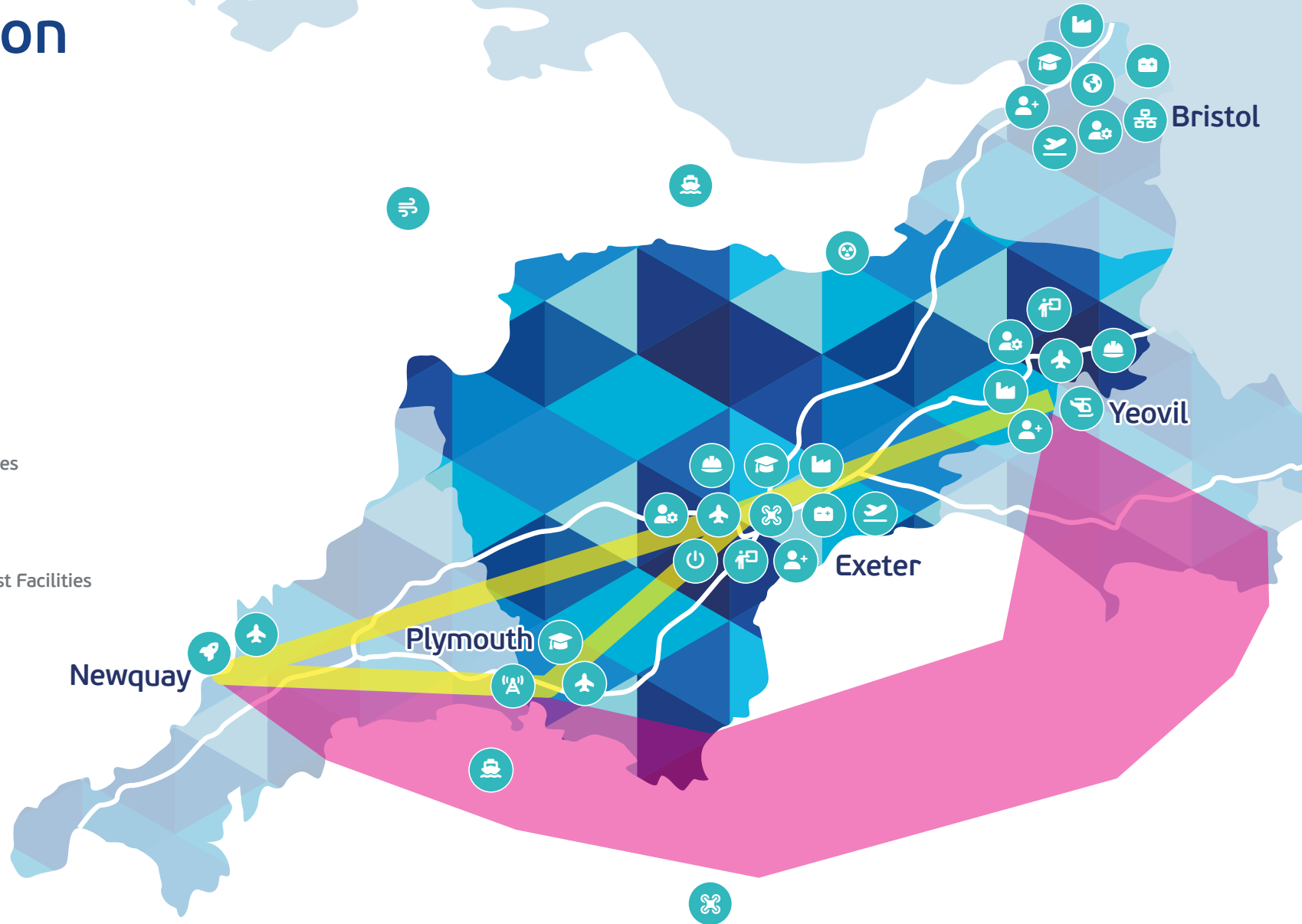
## Electrical Power

- Solid state control
- Actuation
- Battery storage use
- Electrical motors
- Marine propulsion
- Auto and land power systems
- Ground & flight testing

## Emerging Zero Emission Clusters

- Hydrogen
- Production and transmission
- Aircraft fuel cell systems
- Storage
- Ground support
- Transport
- Ground & flight testing

# Heart of the South West Future Aviation Test Zone



- Airport
- Colleges & Further Education
- Energy Infrastructure
- Existing Skills
- Future Skills Need
- Global Connections
- Infrastructure Support and Skills
- Manufacturing & Industrial Facilities
- Networking Hubs
- Nuclear Power Plant
- Potential Battery Production & Test Facilities
- Potential Flight Testing Areas
- Potential UAS Testing Areas
- Rotary Wing Expertise
- Shipping Connections
- Space-port
- University
- Offshore Wind
- 5G Test Bed
- Potential Sea Flight Test Corridor
- Potential Land Flight Test Corridor
- Motorways & Major Transport Routes

# Innovation & Centres of Excellence

**The Centre for Clean Future Mobility** partners with businesses to develop low-emissions, high-efficiency integrated power systems for applications in the marine, off-highway, rail, defence, and energy sectors. With expertise:

- Powertrain design and test for optimal fuel efficiency, range and cost
- Battery pack design and test

**University of Exeter** has world leading engineering researchers with dedicated programmes focussing on areas including drone technology and via the Turing Institute **Project Bluebird** exploring the use of AI within air traffic control.

The **University of Plymouth** hosts the advanced composites manufacturing centre and similar for electron microscopy.

**iAero (Yeovil) Centre** drives research, development and innovation through the supply chain. Dedicated to rotorcraft technologies, it will enhance design and manufacturing capability across the South West, supporting the development and introduction of new innovative processes to the market. The centre strongly encourages and facilitates SME engagement, as well as knowledge and technology transfer.

**The Met Office** based in Exeter provides exceptional science, technology and operations. Earning the reputation for continually pushing the boundaries of scientific, technological and operational expertise.

Their supercomputer is one of the most powerful of its kind in the world, capable of 14,000 trillion arithmetic operations each second. In addition, their investment in data science, machine learning and artificial intelligence will support the grand challenges of the future.



We also have strong connections and relationships with other South West Based Centres of Excellence which include:

- The Global Technology Centre
- National Composites Centre
- Dorset Battle Lab
- Bristol Robotics Laboratory
- Centre for Modelling and Simulation
- Institute for Advanced Propulsion Systems



# Infrastructure

**Exeter Airport** is an ideally placed regional airport that has already hosted the first electric test flight in England. Located next to Exeter Aerospace MRO facility and linked to the Future Skills Centre.

**Exeter Science Park** is a significant centre of activity for businesses in science, technology, engineering and maths. The Park provides inspirational incubation and grow-on space, as well as support for innovative businesses.

While currently focussed on the maritime sector the **Plymouth Smart Sound Connect 5G Test bed** has the potential to support smart and sustainable aviation. The programme is supported by a digital twin and a 5G Maritime test bed to enhance the understanding of the ocean, and leading the transition to a future of integrated autonomous operation, resilient smart ports and short sea shipping.

**Exeter & East Devon Enterprise Zone (Skypark)** covers four major employment sites Skypark is one of the regions most significant business parks combining office, industrial and distribution space with hotel, local facilities and a combined heat and power plant in a landscaped environment of over 100 acres.

**Gravity Enterprise Zone** is a 616 acre site close to Bridgwater, providing an immersive, connected, intelligent and sustainable mixed use campus with scope for significant advanced manufacturing facilities.





# Supporting Business and Training the Workforce of the Future

**Exeter College Future Skills Centre** is located next to Exeter Airport the Centre delivers current aviation skills via Apprenticeships, technical and HE routes and is working with a variety of partners to scope out the future skills demand for smart and sustainable aviation.

**Yeovil College** train's engineers who will work with many of those technologies that are essential for the decarbonisation of aviation. They provide a personalised study programme that is tailored to specialist knowledge, but also the basic capabilities and knowledge that employers are looking for.

**Both Colleges are part of an Institute of Technology that respond to the Industrial sectors requirements.**

**The West of England Aerospace Forum (WEAF)** is the membership trade organisation for the South West that focusses on all aspects of aerospace and defence. As one of the largest aerospace and defence associations in Europe, it provides a strong voice as well as representation and access to prominent regional, national and international decision makers in industry and government.

**South West Manufacturing Advisory Service** are manufacturing and business development experts that support the transformation of south west manufacturers into world class businesses. Their connections, knowledge and expertise are used in partnership with manufacturers to help them improve their productivity, develop their capabilities and enter new markets They design and deliver programmes to support manufacturers in a variety of ways, from targeting key supply chains, developing strategy and improving productivity.



# Stakeholders and Partners

