



# Catapult Network

## Support Programmes for SMEs and Start-ups

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*In 2018/19 alone, over 4,300 SMEs were supported across the whole network*

Since their establishment, Catapults have tailored their offerings to be best suited to the SME and start-up communities they serve. In addition to helping SMEs through direct provision of cutting-edge infrastructure, technical expertise and through participation in collaborative R&D programmes across multiple sectors to develop their innovation capability, a variety of support approaches are being applied across the network. Some examples below:

- Toolkits and transferable methodologies to investigate, evaluate, develop and demonstrate technology, improve products, processes and technologies, working with end users and supply chain for readiness
  - Rapid commercialisation, growth accelerator and incubator programmes that support early stage, start-ups and scale-ups to utilise the Catapult assets, capabilities and expertise
  - Expert advice, independent diligence of programmes, analysis and insights, market analysis, cost modelling, business-case support, creation of industry-relevant R&D project plans, achievable IP estates
  - Signposting, support in partnering, access to knowledge sharing networks, including routes to other Catapults and supply chain organisations
  - Support in developing routes to funding (identifying opportunities, consortia building, application process), routes to finance by developing ideas further and strengthening proposals to investors. From wide experience, where Catapults have been engaged in supporting companies, we have seen it helped breed investor confidence.
  - Regulatory and compliance guidance
  - Advice on workforce development
  - Where relevant, routes to international expertise
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## SME Support Programmes

### Industrialisation

- Process development
- Analytical development
- Manufacturing systems
- Supply chain

### Regulatory and clinical development

- Regulatory
- Non clinical safety
- Clinical delivery
- Programme management

### Engagement

- Collaboration formation
- Intellectual property and patent
- Health economics
- Reimbursement

### Commercial Readiness Advice Clinics

Supported by an ERDF programme, SMEs in England can access up to 12 hours of free of charge support (can be in a form of advice, meetings or access to advisory panel). ERDF support is only accessible to companies registered in England but other schemes are available for companies registered elsewhere.

### Support to potential university spin-outs

Through our Academic Liaison Person who liaises with Technology Transfer Officers (TTOs) at universities to identify potential technologies and support spin-outs.

## Capabilities & Assets

### Development laboratories (London)

- 1,200 m<sup>2</sup> purpose built centre
- Analytical characterisation
- Process development
- Viral vector manufacturing

### Manufacturing centre (Stevenage)

- 7,700 m<sup>2</sup> manufacturing centre designed specifically for cell and gene therapies
- 12 segregated large cleanroom modules
- Unique collaborative operating model
- central to development of the third largest cell and gene therapy cluster globally

### Advanced Therapy Treatment Centres

- Demonstrating proof of market, building systems and frameworks for routine clinical adoption and reimbursement of cell and gene therapies
- Northern Alliance Advanced Therapies Treatment Centre
- iMATCH – Manchester Advanced Therapy Centre Hub
- MW-ATTC – Midlands & Wales Advanced Therapy Treatment Centre
- CGT Catapult manufacturing centre

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## SME Support Programmes

### Collaborative R&D

Working with universities and companies on CR&D projects to support the entire compound semiconductor supply chain in key technical areas of Power Electronics, Photonics, and RF. Alongside the core technology areas we can support CR&D bids through bid writing, market intelligence, and project management across multiple companies.

### Design & Development

This service includes technical design services, contracted R&D, EVM and IP development, and led by our technical team.

Market intelligence: Market analysis, for example, analysis of technical feasibility for new product ideas. Benchmarking of existing and planned products against competitors to guide product development decisions and roadmaps.

### Training & Skills

Regular workshops in a range of very specific topics which offer a significant potential impact for companies developing new products. They all relate to 'how to design with' and 'how to optimise system performance' using compound semiconductors.

### Facilities & Testing

The Catapult has significant in high-end equipment. Much of this is not available in the UK. Including, Equipment/lab hire (to use by oneself or with the assistance of a Catapult technician. Testing & Failure analysis, including in-house capability to explore higher temperature, humidity, and frequency ranges for their product designs, and Modelling, simulation, characterisation, validation & integration

## Capabilities & Assets

### Power electronics laboratory

- 300kV test & verification capability
- chip/device/module characterisation & modelling
- simulation
- Access to 0.5MW of power
- Power device/module lifetime tests (HTS, LTS, HTRB, HTGB, H3TRB)
- Vibration, thermal & mechanical shock
- Device/Module power cycling and thermal lifetime

### Photonics & sensors laboratory

- Linewidth narrowing reference designs
- Spectroscopic techniques
- Die preparation & hybrid integration
- Environmental testing
- Reliability and HALT/HAST
- Failure analysis

### Advanced Packaging laboratory

- Prototyping
- Class 10K clean room
- Precision engineering
- Thermal management
- Sintering
- Die/Wire Bond & test

### RF/microwave laboratory

- Device characterisation
- 5G

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## SME Support Programmes

### Universal

- Join the Catapult's network of businesses (small, medium & large) and government organisations
- Signposting to other support organisations & networks
- Access to our newsletter, information guides, case studies and educational materials
- Notifications and invitations to general industry events, competitions and opportunities

### Targeted

- Comprehensive Business Needs Assessment (1:1)
- Invitation to speak at our Connections Café
- Access to the Catapult's Innovation Leaders Forum
- Exclusive and tailored notice of opportunities, tenders and competitions
- Introductions to potential customers, collaborators, investors
- Support for Entrepreneurs Network (SfEN) Clinics
- Invitation to tradeshows

### Specialist

- Mentoring & technical advice and market insight from CPC industry experts
- Collaborative Project Exploration Workshops
- Business Modelling Clinics
- Masterclasses (IP, Skills/Team Development, Business Development, Pitch Perfect)
- Promotional showcase of business and technology on our Featured hub
- Pitch days with commercial partners & investors

### Partnership

- CR&D projects with CPC
- Commercial projects with CPC
- Access to CPC's Accelerator Programmes (and 3rd Party Programmes)
- Access to our facilities and premises
- Knowledge Transfer Partnerships (KTP) projects via CPC

## Capabilities & Assets



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## Start-Up Support Programmes

### Collaborative research and development

Work with academics and companies on CR&D projects in manufacturing and creative sectors, or their core technologies, future networks, artificial intelligence and immersive.

### Market driven innovation services

Methodologies, workshops and events for:

- innovation strategy visioning and definition
- technology future scoping
- technology scouting
- ecosystem building
- rapid prototyping and testing

### Innovation sprints

Matching large corporates with the innovators - it takes ideas through to either 'proof of concept' or 'minimum viable product' stages over a period of weeks - rapidly building, testing and adapting solutions towards the desired model.

### Global challenges

Solving challenges in other countries (e.g. Germany, Canada)

### CreativeXR

For concept and prototype development of immersive content (virtual, augmented and mixed reality). Provides access to early stage finance, facilities, industry leaders and commissioning bodies, and the opportunity to pitch for further development funding. In parentsip with Arts Council England and IUK.

## Capabilities & Assets

### 5G Facilities

5G Brighton Testbed - helping to take the technology out of an academic setting into industry. Future Networks Lab in London provides access to state-of-the-art computation and connectivity 5G facilities.

### The Immersive Labs

Located across the UK, equipped with a range of the latest augmented and virtual reality hardware and is available for hire by businesses for demonstrations, specialist development, and showcases.

### Machine Intelligence Garage

Computation power and expertise needed to develop and build responsible and sustainable machine learning and artificial intelligence solutions.

### Things Connected

An open LPWAN network for UK businesses to experiment and prototype new IoT solutions (in partnership with TTN).

### Future Networks Lab

A technology agnostic hub created to support the development and use of IoT, 5G and LPWAN.

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## SME Support Programmes

### Innovator Support Platform (3-tiered support)

#### 1. Universal

Standardised support available to all SMEs addressing these areas:

- Intro to Energy Sector
- Insights
- Partnering
- Funding
- Catapult Network
- International

#### 2. Incubation

Tailored support for selected early stage start-ups utilising our assets and capabilities, and delivery partner offerings.

#### 3. Acceleration

Scale up support for selected high impact potential SMEs and links to investors.

Access to Incubation and Acceleration is through Innovator Challenges (2 challenges per year).

#### Global challenges & pitchbooks

Solving challenges in other countries (e.g. India, South Africa) through competitions and representing companies to international stakeholders through pitchbooks.

#### Supply Chain Database

A database of SMEs that wish to be notified of international opportunities and stay up to date with ESC's and its partners service offers.

#### Innovator Portal

A digital portal linking innovators to investors, international opportunities and Universal support.

#### Collaborative research and development

Work with academics and companies on CR&D projects.

## Capabilities & Assets

**Living Lab:** 100 digitally connected real homes and consumers spread across the UK to support innovators to rapidly design, market-test and launch smart energy products and services.

**Consumer Insight:** Research, Design, Trials.

**Home Truths:** an online panel of 8,000 UK households that can provide rapid and cost effective consumer feedback on a product or service.

**Digital:** Data Science, Data Systems.

**Energy Knowledge eXchange:** a free online tool for innovators, offering key research, energy network and project data.

**Systems Integration:** Systems Engineering & Integration, Business Model Innovation, Dynamic Energy System Architecting & Simulation, Energy System Integration Guides.

**Infrastructure and Engineering:** Bioenergy, CCS, Industry & Hydrogen, Networks & Energy Storage, Nuclear, Renewables, Transport.

**Markets, Policy and Regulation:** Policy & Regulation Knowledge, Economic Appraisal.

**Modelling:** National, Local and Building Energy System Modelling.

#### Contact

Innovator Support Team  
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## SME Support Programmes

Central point of contact available to all companies – routing to most appropriate Centre

All Centres have a dedicated SME approach, including commercial and CR&D projects

Centres offer some pro bono, de minimis support and can assist in finding and applying for funding for further projects

We help you design, develop and deliver innovation

Delivering the solutions you need, where you need them:

- Manufacturing Expertise
- Technology Development
- Workforce Development
- Problem Solving
- Policy Insights & Intelligence
- Research and Testing

## Capabilities & Assets

- People with industrial experience who enjoy solving problems and learning
- “Try before you buy” access to variety of equipment – AM, VR, Robotics & automation, digital, etc.
- Extensive national footprint – Bristol to Glasgow, Teesside to Wales
- Broad manufacturing technology footprint – casting to composites, biotechnology to machining
- Cross-sector presence, allowing technology transfer between otherwise isolated sectors
- Deep insight into the manufacturing and associated sectors, policy guidance
- Extensive network of academic, RTO and industrial partners
- Open access at all Centres allowing engagements of all sizes
- Centres backed by universities gives deep academic research support and access to other university faculties

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## SME Support Programmes

## Capabilities & Assets

<b>AFRC</b>	Specialises in metal forming, especially forging Offering Scottish SMEs general manufacturing technology support	Partner with SMAS “Ready for Innovation” and “Ready for Automation” self-assessment tools National Manufacturing Institute Scotland in construction
<b>AMRC</b>	Specialises in advanced, precision machining technologies Research projects which can be funded or part-funded Member of a consortium in a collaborative project Technology solution provider Through trade associations and other third parties Independent advice on technology and investment decisions	Supply chain activity Technology focused events and conferences
<b>CPI</b>	Specialises in process industries – biotech, formulation, photonics, printable electronics Help companies to develop, prove, scale-up and commercialise new products and processes De minimis support on offer, along with commercial and CR&D opportunities	Capabilities in biotechnology, biotherapeutics, formulation and materials, pharmaceutical processing, photonics, printed electronics, flexible hybrid electronics and digital
<b>MTC</b>	Manufacturing Support Services – targets established SMEs Business Launch Centre – incubator MTC Apprenticeships and SME-friendly technical training	Line walks and discovery process to support SMEs initially Remote expert (using AR) and secure interactive digital collaboration space Support with funding – finding and applying
<b>Nuclear AMRC</b>	Specialises in technologies for the nuclear industry, especially joining technology Supply chain development	Fit4Nuclear supply chain development and certification scheme
<b>NCC</b>	Specialises in composite material technology Training and workforce skills development SME membership model	Walk the line Start-up and spin-off technical mentoring and networking Rapid response engineering support
<b>WMG</b>	Specialises in electrical vehicle technology Digital Innovation for Manufacturing programme	SME diagnostics, workshops and masterclasses Networking and demonstrations Ready for Electrification supply chain scheme

## SME Support Programmes

### Connecting and catalysing

- **Discovery Syndicates:** A new collaborative R&D model for patient-focussed, drug discovery, anchored to patient needs and assets via translational medical research charities.
- **National Discovery Services network of drug discovery experts and capability:** Access to industry-grade skills, advice and services.
- **Collaborative grants:** Engage with companies and academics on grant applications where our capabilities are key to success.
- **Expert-led workshops and webinars on today's topics**
- **Regional events:** 1:1 sessions with drug discovery and informatics experts.

### Services

- **Expert advice:** Independent diligence of programmes, creation of industry-relevant R&D project plans and achievable IP estates.
- **Virtual project management:** Efficient management of multiple R&D delivery partners across portfolios of projects at scale.
- **Industrialisation of assets:** Validation of pre-commercial technology to industry standards.
- **Data packages:** Using our suite of translational science technologies we can build data packages to support fundraising or development.
- Access to a national network of curated patient samples and data.

## Capabilities & Assets

**Expertise and technology to validate and progress drug discovery projects to commercialisation.**

### Laboratory based skills and technologies for:

- Drug Delivery and Biodistribution
- Biomarker discovery and validation
- Target & Pathway Engagement
- Cell Model Analysis & Validation

### Underpinned by innovative technology platforms:

- **Pre-clinical imaging suite:** PET, CT, IVIS, HFUS
- **Multi-modal imaging:** IHC, ISH, Immuno-F, MS Imaging, Spatial transcriptomics
- **Advanced microscopy:** Super resolution, multiphoton confocal
- **Advanced biomarker technologies:** Nanostring, Geomx, Simoa, ddPCR
- **Cutting edge mass spectrometry:** High-throughput workflows, DESI, MALDI

### Informatics skills and data assets in:

- **Intelligent capture:** Developing methods to capture valuable structured and unstructured public data sets that are not linked and readily findable.
- **Application of new software systems** to modern drug discovery problems
- **Analysis and interpretation:** Applying expert interpretation to find, index, classify chemical and biological data.
- **Data/Information search:** Curating and providing a wide range of related public and unlinked data sets.

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## SME Support Programmes

### Collaborative Research and Development

Partnering to deliver sector-specific engineering and test-capabilities to reduce technology development risk for innovators

### Innovation Competitions and Opportunities

Providing SMEs with industry-led-market opportunities. Winners get letter of support, investor introductions, opportunities to partner with end user or OREC to develop and demonstrate the technology

### Analysis and Insights

Market analysis, cost modelling and business-case support.

### Offshore Wind Growth Partnership

Funded by Offshore Wind Industry Council, this £100m programme delivered by ORE Catapult supports UK companies to be competitive in a global supply chain.

### eGrid Innovation Support Services

12 hours free-of-charge support, including Technical advice and assessment, Business support, Funding and investment support, Regulatory and compliance guidance

### TORC

Joint venture with TUS supporting Chinese market-entry for UK SMEs and joint UK-China research.

### Launch Academy Accelerator

National and regional programmes providing business and technology expertise for SMEs with cutting edge technology

### Fit for Offshore Renewables

Business excellence support for supply chain readiness

## Capabilities & Assets

### Test & Validation

Next generation Turbines & Balance of Plant, Design validation and component testing.

### Operational Performance

Better intervention techniques, Developer/owner solutions, SMEs developing solutions, Test & validate solutions, O&M.

### Research & Disruptive Innovation

Evaluation and support for future technologies, Floating wind, Wave & Tidal, Underpinning research, Gateway to UK academia.

### Centres of Excellence

e.g. Floating Wind/O&M – driving technology specific projects with end-user input

### Facilities

- **Blades:** 100m and 50m Blade Test Halls, Blade Erosion Test Rig
- **Powertrains:** 1MW, 3MW, 15MW Powertrain Facilities, Wind Turbine Bearing Test Facility.
- **Electrical Infrastructure:** HV and Materials Labs, Pre-qualification bays, Dynamic cable rig.
- **O&M Technology Test & Validation:** Subsea docks, Training tower, Blade sections.
- **Offshore Test Facilities:** 7MW R&D turbine, met mast, ROV zone and access to operational wind farms

### Contact

SME Team

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## SME Support Programmes

**Universal** - standardised support available to all SMEs

- Introduction to Space Sector
- Market intelligence reports
- Short-burst business/technical advice
- Networking Opportunities
- Partnering
- Funding information and guidance
- Catapult Network
- International opportunities

### Capability Catalogue

Bitesize view of organisations working in the UK space sector that is shared with international companies and primes to increase uptake of products/services and unlock partnerships opportunities.

### Sprint Programme

Tailored business design sprints aimed at various segments of the ecosystem. Sprints are a 1-2 day workshops that guide companies who are at an inflection point. Sprint sessions typically involve a business strategist, technical specialist and user centred designer working with the company to deliver an agreed set of deliverables (e.g. investor deck, commercialisation roadmap, user requirements/stories, service blueprints etc.) The types of Sprint we currently offer: Early Stage Start-up Sprints, Mature Start-up Sprints, Academic Sprints, Inward Investment Sprints.

### Westcott Incubator

Focus on drones, 5G and propulsion start-ups. Office space, business support, technical support, networking, partnering, access to finance form part of the offer.

### Rapid Commercialisation Programme

Combination of business design and technical Sprints aimed at non-space companies who could benefit from space-based data services.

### Scaleup Programme

Scaleup support services to companies who are scaling/have scaled

### In-Orbit Demonstration Programme

Supports companies with novel space-based service concepts by dramatically reducing the cost to develop and launch a satellite. Companies contribute typically ~20% of the cost of doing a similar demonstration commercially.

## Capabilities & Assets

**Hot desking** – flexible desk space for companies wishing to locate in Harwell, at the heart of the space cluster.

**Data Access & Storage** – Services include cloud processing, local large image stores, access to free satellite images including new SAR data sets.

**DISC** – Innovation for Space.

Use of design and test tools that are needed for Space Travel (and for other harsh environments). Collaborative environment and facilities for design, manufacture and testing of products for deployment into complex environments. Including: Cleanrooms, Vibration Table, Thermal Cycle testing, Prototype and low volume production facility.

**Living Lab** – focus on Health applications and digitisation of the UK's healthcare system.

**Westcott 5G Testbed** – Step-out Centre to test communications technologies. Full spectrum of licences: 700-420Mhz, integration of satellite and terrestrial communications, lab facilities, cloud computing.

**Antenna Testing Facilities** – testing facilities for satellite communications devices.

**National Operations and On Orbit Services Centre** – A fully equipped mission control centre that can be used to control satellites on orbit.

**Goonhilly Ground Segment** - An operational S and X band tracking dish antenna that receives data gathered via satellites. The facility provides a 'bring-your-own solution', where equipment can be installed.

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