

# Services Catalogue



# Find a service

## Innovation services

- [Manufacturing Site Visit](#)
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## Technical services

- [Design and analysis](#)
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- [Equipment](#)

## Skills services

- [Defining future skills](#)
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## Bespoke services for UK SMEs

All the services in this catalogue can be scaled to benefit business across the supply chain.

UK SMEs can take advantage of additional support and advice through our **Engage > Discover > Transform** process.

[Learn more](#)

# We are NCC: Engineering impact for UK manufacturers

We help develop, test and apply new technologies – from advanced materials to manufacturing – so UK industry can deliver better products, faster.



100+ academic  
partners



Tailored SME support,  
helping strengthen UK  
supply chains

300  
companies  
supported  
each year – from  
SMEs to OEMs



400+ engineers  
and specialists



Independent, not-for-profit  
innovation centre

£300m+  
invested in state-of-  
the-art capabilities  
across 10 core  
technology areas

Proud to be part of

**CATAPULT**  
High Value Manufacturing



Sector specialist support –  
including aerospace, defence,  
energy - with expert problem  
solving, hands-on facilities and  
the ability to move at pace.

# Our Services

Our services portfolio helps businesses access the innovation, technical and skills support they need to scale and grow.



## Innovation services

We guide businesses to explore, test and adopt new technologies - supporting faster development, better decision-making and reduced risk.



## Technical services

We provide industrial-scale kit and engineering expertise - helping teams design, make and test with greater speed, precision and confidence.



## Skills services

We support workforce development - from hands-on training to strategic planning - helping teams build the skills they need for new technologies and future ways of working.



# Support across the full product lifecycle

From concept and design, to manufacture, test and improvement – including help to navigate new technologies like AI and digital systems with confidence.

## Innovation services

## Technical services

Define	Design	Manufacture	Verify	Optimise
We guide product development and strategic decision making by assessing existing processes, future technologies, and market demand.	We use our technology expertise to help businesses design better processes, systems and products.	We develop product prototypes and help scale production without the risk.	<p>We test and validate new products and processes, iterating and improving designs using the latest digital technologies.</p> <p>Where required, we support customers to achieve specific certifications.</p>	We help businesses harness operational information to drive efficiencies, cut costs, and reduce environmental impact.

## Skills services

We develop the skills needed to create, apply and scale new technologies across all stages of innovation

# Innovation in action

## Define

### Made Smarter

We deliver digital innovation roadmaps to businesses across the South West as a delivery partner for the national Made Smarter programme.



## Design

### Furrer+Frey

We supported this SME to develop and assess feasible concepts for greener and cheaper composite-insulated cantilevers, advancing the sustainable designs with structural analysis leading to a viable prototype.



## Manufacture

### Carbon ThreeSixty

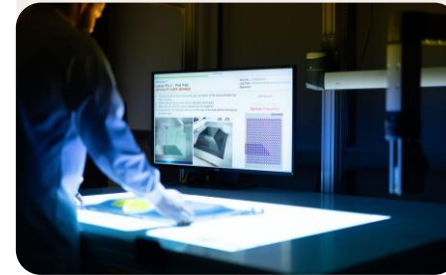
We delivered a scalable, cost-effective manufacturing solution for aircraft rotor blades, capable of producing up to 100,000 blades annually with a 50% reduction in cost.



## Verify

### Immersive Workbench

Working with Leonardo Helicopters UK, we designed a custom Immersive Workbench to improve manufactured part quality with real-time verification - reducing defects and waste.



## Optimise

### Energy Monitoring

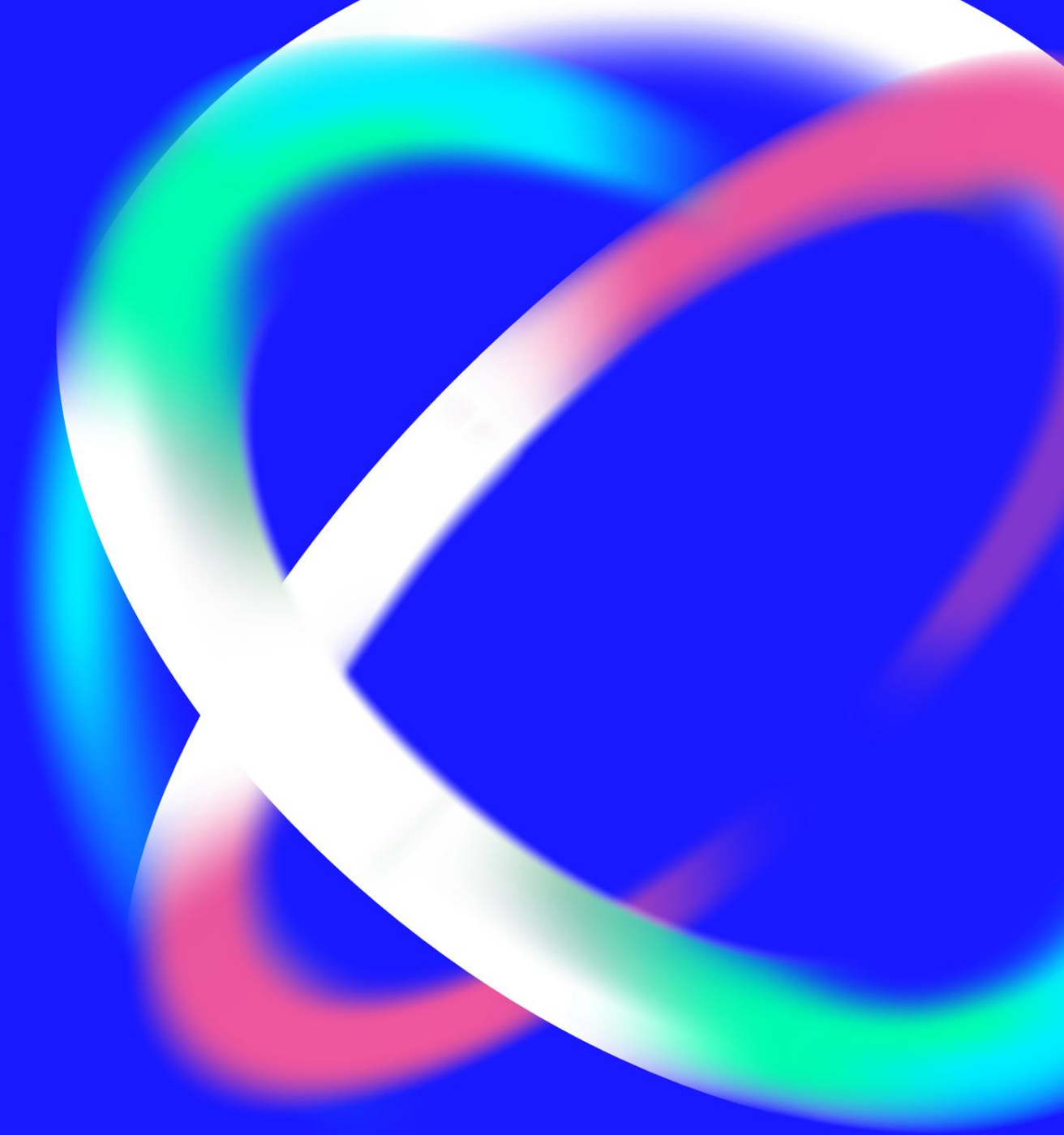
As part of the HMVC Manufacturing Energy Toolkit project, we installed energy monitoring solutions to help businesses surface cost-saving and sustainability insights.

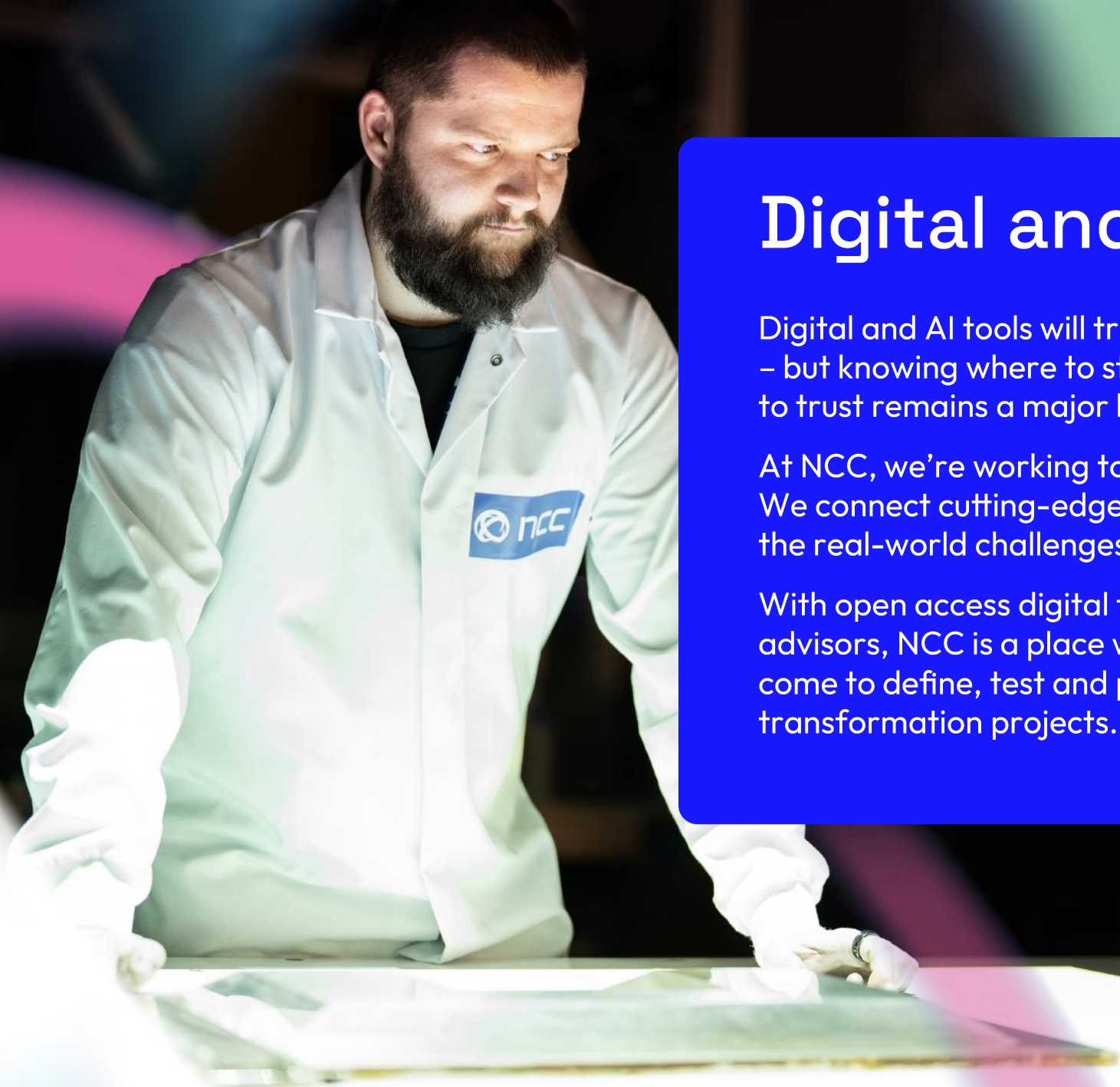


## Skills

We analysed **Airbus'** training needs to deliver a blend of standardised and bespoke learning to upskill teams from design through to frontline technicians.

Embedded in  
every service





## Digital and AI

Digital and AI tools will transform UK engineering – but knowing where to start, what works, and who to trust remains a major barrier.

At NCC, we're working to close that gap. We connect cutting-edge digital capability with the real-world challenges on the workshop floor.

With open access digital testbeds and impartial advisors, NCC is a place where businesses can come to define, test and progress their digital transformation projects.

# Sustainability and circularity

Businesses face increasing expectations to track and reduce their environmental impact - driven by customers, supply chains, governments and legislators alike.

Our services are inherently geared towards sustainable engineering and manufacturing - from using new technology and process to do more with less, to helping customers take advantage of lighter, more sustainable, and circular advanced materials.

Informed by in-house expertise and connections to government and industry, we're well placed to help your business prepare for future legislation.



Our services:

Innovation services

# Manufacturing site visit

A structured, on-site review of your manufacturing operations will uncover opportunities for efficiency, optimisation and growth. By observing and assessing your processes first-hand, we'll identify practical improvements to reduce time-to-market and prepare your business for future market demands.

## Case study

High-end lighting supplier Hector Finch used this service to improve the sustainability of their operations. We supplied an actionable report detailing environmental impact hotspots and ways these could be assessed and prioritised.



[Find out more](#)

### Who is it for?

Operations managers

Manufacturing engineers

Production supervisors

SMEs

### Deliverables

On-site line walk

Business challenge assessment

Optimisation opportunities report

Implementation plan

### Challenge

Manufacturers face constant pressure to improve productivity, reduce waste, and adapt quickly to shifting customer needs. However, inefficiencies are often hidden in day-to-day operations, making it difficult to see where time, resources and costs can be saved.

### Innovate with NCC

Our independent experts will visit your site to review your manufacturing lines, processes, and workflows in detail.

We'll highlight areas for improvement, assess suitability for introducing new technologies, and provide targeted recommendations that align with your operational objectives.

Leveraging our manufacturing expertise, we'll help you harness best-in-class processes and technology to maximise efficiency.

### Outcomes

- Gain a clear understanding of where operational improvements can deliver the most impact
- Reduce inefficiencies and improve productivity across your manufacturing operations
- Increase agility to respond to future market changes
- Build a roadmap for sustainable growth by applying best practices and technologies

# Innovation discovery workshop

Clearly defining and scoping your organisation's most pressing challenges sets a strong foundation for growth and achieving your commercial objectives. Our structured discovery workshops will identify, analyse and prioritise key challenges – and outline practical solutions.

## Case study

Limosaero Ltd sought to unlock the potential of an Uncrewed Aerial Vehicle (UAV) concept. We worked with the micro start-up to progress their design concept through a low-cost, rapid development route to the manufacture of a product demonstrator.



[Find out more](#)

### Who is it for?

Chief Technology Officers

Technology and Innovation Managers

SME CEOs

### Deliverables

In-person or virtual workshop

Challenge definition report

Solution pathway aligned to objectives

Connection to experts across HVMC

### Challenge

Many organisations know they face barriers to growth or performance but lack clarity on root causes or the best way to address them.

Without a well-defined challenge, innovation efforts can become unfocused, investments misdirected, and opportunities missed.

### Innovate with NCC

Our discovery workshops bring together your key stakeholders with NCC's independent experts and –where beneficial – the wider High Value Manufacturing Catapult (HVMC) network.

We'll work collaboratively to uncover underlying issues, map them to your business goals, and propose solution pathways – all informed by industry best practice and cutting-edge research.

### Outcomes

- Gain clarity on your most critical challenges and their root causes
- Receive actionable solution proposals aligned to your business goals
- Leverage expertise from across the High Value Manufacturing Catapult
- Create a strong foundation for future innovation roadmaps and project delivery

# Innovation roadmapping

Explore and define clear, actionable paths to innovation across technology, process and skills development. Innovation roadmapping helps your business make the right technology choices to protect and expand market share – in a fast-changing landscape.

## Case study

As part of the Made Smarter programme, we worked with material innovation company Kelpi to deliver 1:1 sessions identifying growth opportunities. The resulting report highlighted a number of high-impact projects and quick wins.



[Find out more](#)

### Who is it for?

Chief Technology Officers

Technology and Innovation Managers

Strategy Managers

SME CEOs

### Deliverables

In-person or virtual workshop

Capability and market opportunity report

Innovation roadmap report

Roadmap presentation

### Challenge

Every business understands the value of new technologies, processes and skills in unlocking growth. However, with a vast array of new technologies coming to market, increased operational complexity, and a growing list of jargon – it can be difficult to determine which technologies will deliver genuine impact.

### Innovate with NCC

Our independent, expert analysis will align technology and capability development with commercial goals, identifying key challenges and the most impactful opportunities for your business.

With deep connections to academia, industry and innovation networks, NCC draws on a wealth of in-house and external expertise to deliver innovation roadmapping at every level of the supply chain.

### Outcomes

- Understand the most impactful market opportunities for your business
- Inform decision-making and investments related to technology, process or skills
- Benefit from expertise from across the High Value Manufacturing Catapult
- Get connected to regional and national vendors

Our services:

Technical services

Transform your ideas into fully engineered, manufacturable products. With a team of over 70 specialist engineers, we guide your project from initial concept all the way through to detailed, ready-to-manufacture designs. Every phase emphasises sustainability, performance, cost-efficiency, and accelerated development cycles.

## Case study

Using digital tools and embedded sensor technology, we designed and manufactured a paracanoe seat for Paralympic champion Emma Wiggs MBE. The seat was lighter and five times stiffer, resulting in greater power transfer.



[Find out more](#)

Who is it for?

Chief Technology Officers

Product Development teams

Design engineers

R&D managers

SMEs

Deliverables

Workshop to capture requirement

Concept design outputs

Design validation through virtual models

Manufacture-ready designs, drawings and BOMs

## Challenge

Bringing new products to market involves balancing competing demands within tight timeframes: performance, sustainability, cost and manufacturability.

Without a structured approach and expert support across the design lifecycle, development can be slow, designs may lack optimisation, and important sustainability gains could be missed.

## Innovate with NCC

We partner with you to define your requirements and implement them through three interconnected pillars:

**Concept design** - collaborative ideation and requirements capture for innovative design options

**Modelling and simulation** - using virtual testing and validation to accelerate development and reduce risk

**Design implementation** - incorporating manufacturing and assembly considerations to minimise production costs

## Outcomes

- Accelerate product development through digital design and analysis
- Optimise designs for performance, cost, sustainability, and manufacturability
- Reduce physical prototyping and testing through validated simulation
- Deliver a clear path to manufacture with ready-to-manufacture designs

Turn digital designs into real, manufacturable products. From prototype through to production, our hands-on team combines engineering excellence with state-of-the-art facilities to deliver high quality, cost effective and sustainable outcomes.

## Case study

We collaborated with Carbon ThreeSixty on braided rotor blades to deliver a scalable manufacturing solution with the potential to supply up to 100,000 rotor blades per annum – with proposed production savings of 50% per blade.



[Find out more](#)

### Who is it for?

Chief Technology Officers

Product development teams

Design engineers

R&D managers

SMEs

### Deliverables

Turnkey manufacturing solutions

Production of physical demonstrators

Down-select and de-risk manufacturing options

Current and future state factory analysis

## Challenge

Transferring new manufacturing technologies into industrial production can be complex, costly and risky.

The leap from innovative idea to a scalable, repeatable manufacturing process is where too many projects stall.

Without the right expertise and environment, time is lost, costs rise, and sustainability opportunities are missed.

## Innovate with NCC

Our areas of expertise include:

- Braiding and winding
- Fibre placement
- Pressing and overmoulding
- Ultra-high-rate deposition
- Verification and assurance
- Automation and assembly
- Resin impregnation
- Ceramic matrix composites
- [View all NCC manufacturing capabilities here.](#)

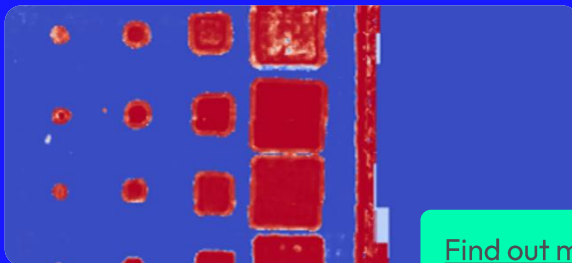
## Outcomes

- Faster, lower-risk adoption of new manufacturing technologies
- Predictable, scalable solutions with cost and energy modelling
- High-quality demonstrator parts and in-service components
- Improved efficiency through automation and digital tools
- Roadmaps for future factory capacity and sustainable production

Ensure your products and processes meet the highest standards of quality, performance and reliability. Our expert engineers and advanced testing facilities support you through every stage of product and process development – covering inspection and quality assurance, materials science, and environmental testing.

## Case study

We have developed a machine learning tool to automate non-destructive testing. Our engineers trained models on over 84,000 real-world scans for automated defect detection with up to 97% accuracy.



[Find out more](#)

Who is it for?

Quality managers

Manufacturing engineers

R&D teams

R&D managers

Operations managers

Deliverables

Non-destructive testing

Material characterisation and testing

Environmental testing and validation

Tailored inspection process

## Challenge

When introducing a new product, optimising a process, or ensuring compliance with industry standards – manufacturers face growing pressure to prove performance and reliability.

Without robust verification, undetected defects or performance gaps can lead to costly rework, delays, or in-service failures.

## Innovate with NCC

We cover three key areas:

- **Inspection and Quality Assurance** - ensure manufacturing processes and products meet rigorous quality standards
- **Materials Science** - ensure materials are optimised for their intended application
- **Environmental Testing** - assess durability and performance throughout a product's lifecycle

## Outcomes

- Reduce the risk of defects and in-service failures
- Ensure compliance with industry and customer quality standards
- Optimise material and product performance through advanced testing
- Accelerate product certification and time-to-market with proven verification methods

Access world-class facilities for R&D, equipment proving and batch production. Whether you need short-term support or long-term access, we provide the expertise, training and infrastructure to help you accelerate innovation without costly upfront investment.

## Case study

Waste Projekt worked with NCC's Hare Press to create biodegradable plant pots as part of their effort to reduce plastic waste. We helped evolve their hand-made samples into durable, moulded pots and seedling trays produced through a defined process with tested tooling.



[Find out more](#)

Who is it for?

Chief Technology Officers

Product development teams

Design engineers

R&D managers

SMEs

Deliverables

Manufacturing process optimisation

Parts production to customer specs

Assist batch production in peak periods

## Challenge

Specialist manufacturing processes often require significant capital investment in advanced equipment. For many organisations, this creates a high barrier to entry - slowing progress and limiting innovation.

## Innovate with NCC

Our equipment services are designed to meet your needs at different levels of engagement:

- **Level 1** - we run activities to your specifications, operating equipment on your behalf to deliver results quickly and reliably
- **Level 2** - we train your team to run equipment onsite - ideal for longer-term access and capability building

## Outcomes

- Rapid access to advanced manufacturing equipment without capital expenditure
- Hands-on experience with novel processes and technologies
- Increased flexibility by offloading peak production capacity to the NCC
- Confidence to scale up and invest in future capability with reduced risk

Our services:

Skills services

Prepare your teams for the technologies, processes and industry changes of tomorrow. Our skills team combine insights into future technology trends and industry transformation with workforce forecasting techniques. This enables businesses to identify, plan and develop the skills they will need to remain competitive.

## Case study

Together with Cogent Skills, we founded the national Hydrogen Skills Alliance. Its Strategic Skills Plan for the UK Hydrogen Economy sets out the scale of the industry's skills challenge.



[Find out more](#)

Who is it for?

HR directors

Workforce planners

Training managers

Business leaders

Deliverables

Skills audit and capability assessment

Future skills forecast and analysis

Skills gap analysis

Skills development roadmap

## Challenge

As industries adopt new technologies and shift towards more sustainable, digitalised operations, the skills needed to design, manufacture and maintain products are evolving.

Without clear understanding and planning, businesses risk skills shortages, increased training costs, and slower adoption of new capabilities.

## Innovate with NCC

We'll create a clear picture of your future skills needs.

Working closely with your leadership and HR teams, we map the impact of emerging technologies, market changes, and sustainability drivers on your workforce.

The result is a practical, evidence-based plan to build or acquire the skills your organisation will need to thrive in the years ahead.

## Outcomes

- Anticipate and prepare for future workforce needs
- Reduce risk of skills shortages as new technologies are adopted
- Align training and recruitment strategies with long-term business goals
- Build a resilient, future-ready workforce capable of driving innovation

Our specialist training courses help you develop a resilient workforce equipped with the skills needed to adopt emerging technologies. By offering expert-led programmes in composites, hydrogen technologies, and sustainability, we support businesses in navigating an evolving industrial landscape.

## Training

We offer a comprehensive range of courses designed for businesses of all sizes. From fully bespoke training to meet specialist needs, to large-scale programmes supporting broader organisational requirements.



[Our courses](#)

Who is it for?

HR directors

Learning and development directors

SMEs

Manufacturing and engineering teams

Product development teams

Deliverables

Tailored content

Short courses and full programmes

In-person courses

Virtual courses

E-learning courses

## Challenge

As emerging technologies continue to reshape industries, businesses face increasing difficulties in maintaining a skilled workforce.

By investing in proactive skills development, organisations can manage their talent, reduce operational inefficiencies, and build resilience in the team.

## Innovate with NCC

We offer expertise across a variety of emerging technologies.

In addition to pre-designed programs—available in face-to-face, online, or in e-learning formats — NCC provides tailored courses that align with your business needs.

Training can be delivered on-site at your premises, ensuring it integrates seamlessly with your existing processes.

## Outcomes

- Strengthen workforce resilience against industry shifts
- Improve productivity and operational efficiency
- Future-proof skills development and investment strategies
- Maintain a competitive edge in advanced manufacturing

We partner with you to build high-performance cultures through strategic workforce development. As well as enhancing your current team's capabilities, we help build future talent pipelines that transition early-career professionals directly into industry roles.

## Case study

We worked closely with GE Aerospace to develop a three-day, hands-on training course from the ground up – shaped directly by GE's operational needs and team feedback.



[Find out more](#)

Who is it for?

Team Leaders

HR and Recruitment Managers

Early careers professionals

Deliverables

Industry placements in your business

Knowledge transfer partnerships

Graduate Partnerships

Graduate and Apprentice Projects

## Challenge

Aligning individual aspirations, team capabilities and business strategy requires ongoing evaluation and responsive learning offerings.

Without this alignment, workforce development may be misaligned with emerging needs – limiting agility, retention and personal growth.

## Innovate with NCC

Our early-career pathways include:

- Apprenticeships
- NCC graduate scheme
- Year in industry placements
- Work placements and internships
- Engineering Doctorates (EngD)

## Outcomes

- Build internal capability that aligns with strategic priorities and future-ready roles
- Offer robust, diverse entry routes to nurture and retain emerging talent
- Foster leadership and management skills that reflect NCC values and culture
- Empower early-career professionals through structured, supportive development pathways

Our services:

UK SME support



# Innovation for SMEs

All our services can be scaled to meet the needs of business across the supply chain.

UK SMEs can take advantage of additional support and advice through our Engage > Discover > Transform process.

Some of our SME services are free – and we can also help fund your ambitions through grants, match funding, and other mechanisms.



Our dedicated [SME support team](#) help facilitate rapid access to all NCC services



# Innovation for SMEs

## Engage

**Signposting** – We can connect your business to the wider Catapult network, national support schemes, and local partners.

**Supply chain connection** – We can help identify and link your business to others with the right capability or need.

**SME Affiliate Scheme** – Our own members network includes access to training, events, and a £1,000 voucher to kick-start your project with NCC.

## Discover

**Site visit** – We'll walk the factory floor with you to identify opportunities for improvement.

**Discovery workshops** – An in-person or online session to shape your early ideas with our specialist engineers.

**Technical support** – Access quick and informal support calls with our engineers to help resolve a technical challenge.

## Transform

**Innovation projects** – Co-develop products, processes or materials – reducing risk and getting to market faster.

**Adoption projects** – Support to embed lean, digital and sustainable practices – driving productivity and emissions reductions.

**Training** – Upskilling your teams through off-the-shelf or tailored training – at NCC or on-site.



Engage and discover services are free of charge for UK SMEs

## Funding

**Grant funding** – We support grant bids to a range of networks and programmes.

**Made Smarter** – Free support for digital adoption for businesses in the South West.

**Knowledge Transfer Partnership (KTP)** – We mentor a graduate to deliver a strategic project in your business, fully funded.

**SME match funding** – Get up to £25,000 under Minimum Financial Assistance rules to fund work with us.

## Our impact

# 500+

individual SMEs engaged  
with each year

# Membership

NCC membership offers a practical way to collaborate. You'll access industrial-scale facilities, expert engineering support, and a national network of organisations - backed by the UK government - working on real-world manufacturing challenges.

Whether you're developing new processes, reducing risk, or building long-term skills - membership gives you the tools and partnerships to make progress.

## What membership offers

- Shape the R&D agenda
- Use our facilities and engineering capability
- Work with engineers who understand delivery
- Connect with others facing the same challenges
- Upskill your team through NCC training programmes
- A long-term working relationship to accelerate development



## Membership options

Our membership structure is designed to support companies of all sizes - from global OEMs to agile SMEs. Visit our website to find the right membership type for your organisation.

[Explore membership options](#)

# Talk to the team

Email [connect@nccuk.com](mailto:connect@nccuk.com)

We'll share more about how we can help and advise which service is right for your business.

[nccuk.com](http://nccuk.com)

