

Welcome to the 'Skills Showcase - Developing skills for the battery innovation workforce'

12th June 2025



Agenda

10.00 Welcome

Nikoleta Piperidou, IUK BC and Matt Silver, IUK

10.05 Birmingham Battery Manufacturing Skills Pathway (B-MSP)

Pritti Shoker, University College, Birmingham

10.15 National Battery Training & Skills Academy (NBTSA)

Lois Warne, Newcastle University / Sharon Bennett, New College Durham

10.25 Bridgwater & Taunton College Workforce Skills Initiative (BTSI)

Chris Ridgwell, Bridgwater & Taunton College

10.35 Q&A

Agenda

10.45 Courses at the UK Battery Industrialisation Centre

Simon Hill, UKBIC

10.55 Faraday Institution's Skills Development Programme

Dom Grantley-Smith, FI

11.05 The Electrification Skills Network (ESN)

Paul Whiteside, Sectortech

11.15 Q&A

11. 25 Wrap-up / Closing remarks

Nikoleta Piperidou, IUK BC & Matt Silver, IUK

11.30 Close

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Housekeeping

- The webinar is being recorded, and the recording will be made available shortly
- Please use the chat box for networking – feel free to introduce yourselves and make new connections
- Please use the Q&A box for questions – these will be addressed during the Q&A box
- Don't forget to join the Cross-Sector Battery Systems Innovation Network to be up to speed with the latest news, reports, funding opportunities, events and more!

Current Opportunities

- Battery Investment Readiness Programme

- Registration Closes 31/07/25
- Up to 15 SMEs will join the programme to accelerate their investment journey. Selected companies will benefit from a 12-week hybrid programme, combining expert-led online and in-person workshops.

- Women in Batteries Mentoring Programme

- Registration Closes 23/06/25
- We are seeking to recruit both mentors and mentees from across the battery value chain, within UK industry. We welcome mentors of any gender working in batteries and mentees who are women/non-binary working in batteries.
- A webinar with more information and Q&A will be held on Monday 16 June at 12.30pm: [click here to sign up for the webinar](#).

Birmingham Battery Manufacturing Skills Pathway (B-MSP)



BATTERY MANUFACTURING SKILLS PATHWAY

Priti Shoker
Programme Manager

E: batteryproject@ucb.ac.uk



ucb.ac.uk/battery

FIND OUT MORE

Faraday Battery Challenge



POWERING UP

**Introducing the UK's first accredited
battery training programme, where
hands-on skills development meets
cutting-edge immersive learning.**

City & Guilds Accredited





UNIVERSITY
COLLEGE
BIRMINGHAM

5 core pillars

Expertise & Accreditation

Diversity & Inclusion

Innovation & Learning Approach

Impact & Career Readiness
/ Industry Alignment

Scalability & Flexibility



Advanced & Immersive Learning Approach

A blended learning model combining hands-on training, simulations, and industry-grade tools to develop real-world skills.



Birmingham B-MSP delivers hands-on, industry-aligned training that goes beyond theory. Through real-world simulations, cutting-edge digital learning, and access to industry-grade tools, trainees develop the practical skills they'll use from day one in the workplace. A blended learning model - combining classroom instruction, virtual experiences (VR/AR), and physical practice - ensures deep understanding and long-term competency.

Workforce-Ready

Bringing business and education together to create job-ready graduates with practical, in-demand skills.



Birmingham B-MSP brings business and education together in a way that delivers immediate value to both. Designed in direct partnership with industry, the programme ensures that trainees don't just learn about battery manufacturing - they train on the actual processes they'll use in the workplace. This collaborative approach means employers benefit from a workforce equipped with the right skills, while trainees develop the hands-on experience, confidence, and qualification needed to contribute from day one.

Certified & Powered by Industry

An accredited qualification, built with industry leaders, ensuring recognised, transferable skills.



Accredited by City & Guilds, Birmingham B-MSP provides a recognised and transferable qualification developed in collaboration with industry leaders. Partners such as University College Birmingham, Warwick Manufacturing Group, Cranfield University, Jaguar Land Rover, Microsoft, Atlas Copco, and Rockwell Automation have shaped the programme to meet real-world demands. Employers trust Birmingham B-MSP to deliver high-quality, validated skills training that supports workforce development and industry progression.

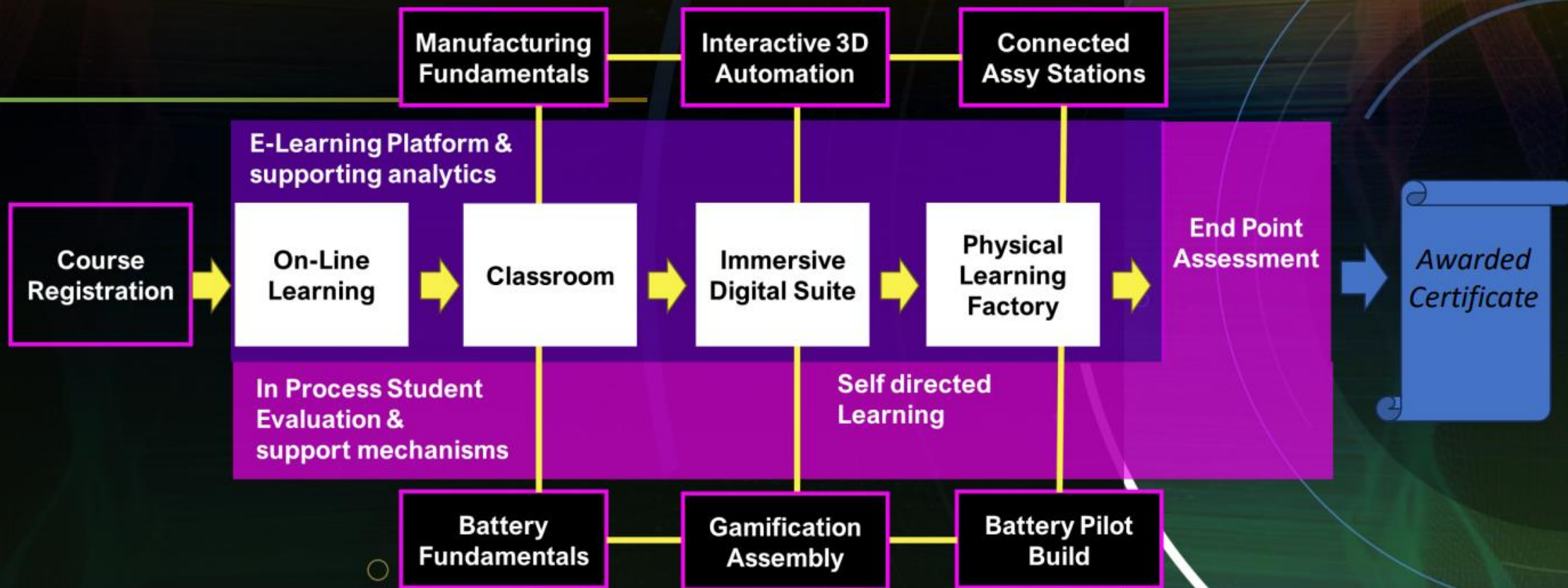
Flexible & Scalable

Customisable, adaptable training that meets the needs of both small teams and large-scale employers.



Birmingham B-MSP adapts to employer needs, offering customisable content, company-specific modules, and seamless integration with in-house training. Built for scalability, it supports both small teams and large-scale workforce rollouts. A structured core maintains a rigorous, accredited foundation while allowing industry partners to shape training to their processes and priorities, ensuring relevance at any scale.

L2 & L3+ *The Learning Factory Environment*



Scope of Training – Levels & Learning Pathway

- **All students** – Fundamental Safety in the workplace & Battery fundamentals.
- **Production Operators** – Level 2 introducing employees to battery operational processes needed to manufacture quality products
- **Production Technicians** – Level 3 Building on L2 knowledge introducing leadership roles along with manufacturing continuous improvements techniques

Courses will be accredited and certificates awarded to participants. Those opting for train the trainer will be supported through ongoing Professional Development course refreshers, industry insights and updates.

Course Structure & Timetable Overview

Blended 5-Day Programme (~50 Hours Total)

Combines **online learning**, **classroom sessions**, **hands-on training**, and **virtual reality simulations** to support all learning styles and maximise knowledge retention.

Pre-Course E-Learning Module

Completed online before attending in-person sessions – introduces environmental, industrial, and global context of green energy and battery technologies.

On-Site Training at UCB

5 days of immersive, practical learning at the **Battery Manufacturing Skills Pathway Learning Factory** in Birmingham, including:

- ~40 hours of directed learning
- ~10 hours of self-directed study

Virtual Reality Learning

Offers access to complex, real-world battery operations in a **safe, simulated environment**.

Knowledge, Skills and Behavioural Approach

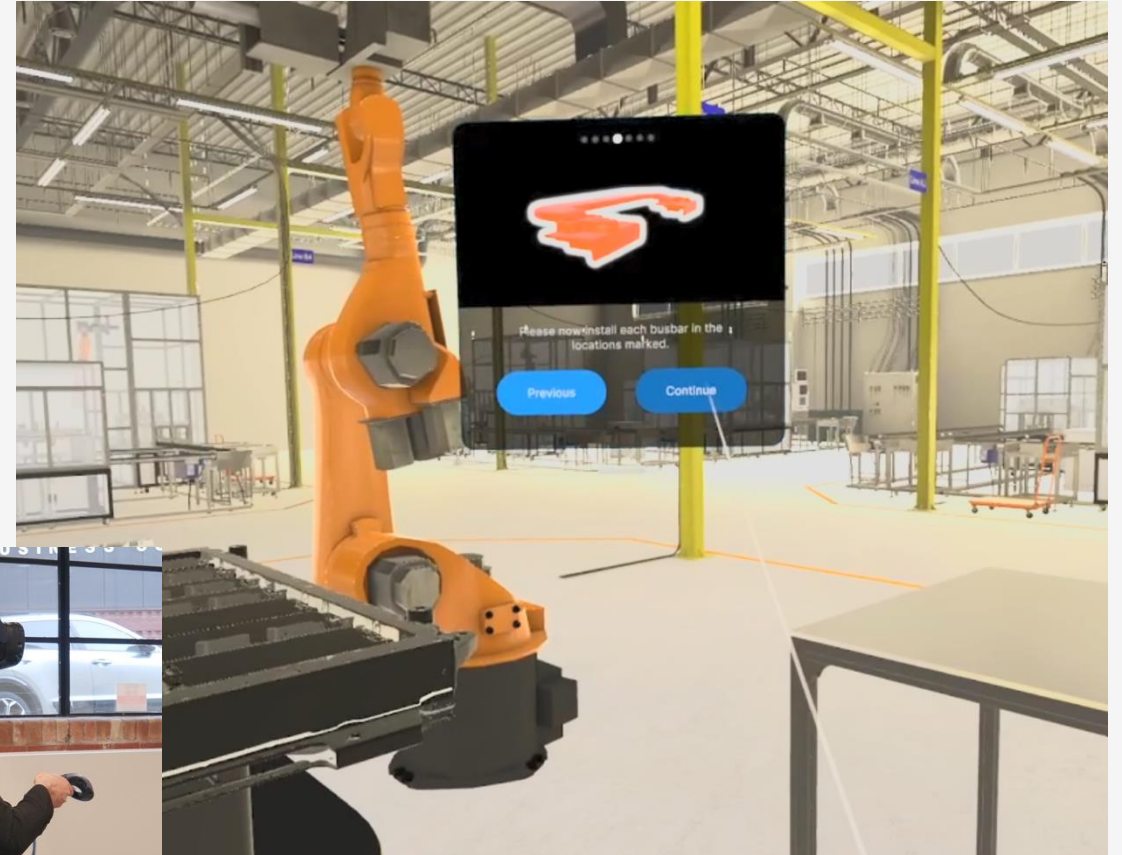
Simulated Immersive Environment Cell to Pack – Co-development Gaming Engines

Brand New Learning Facility

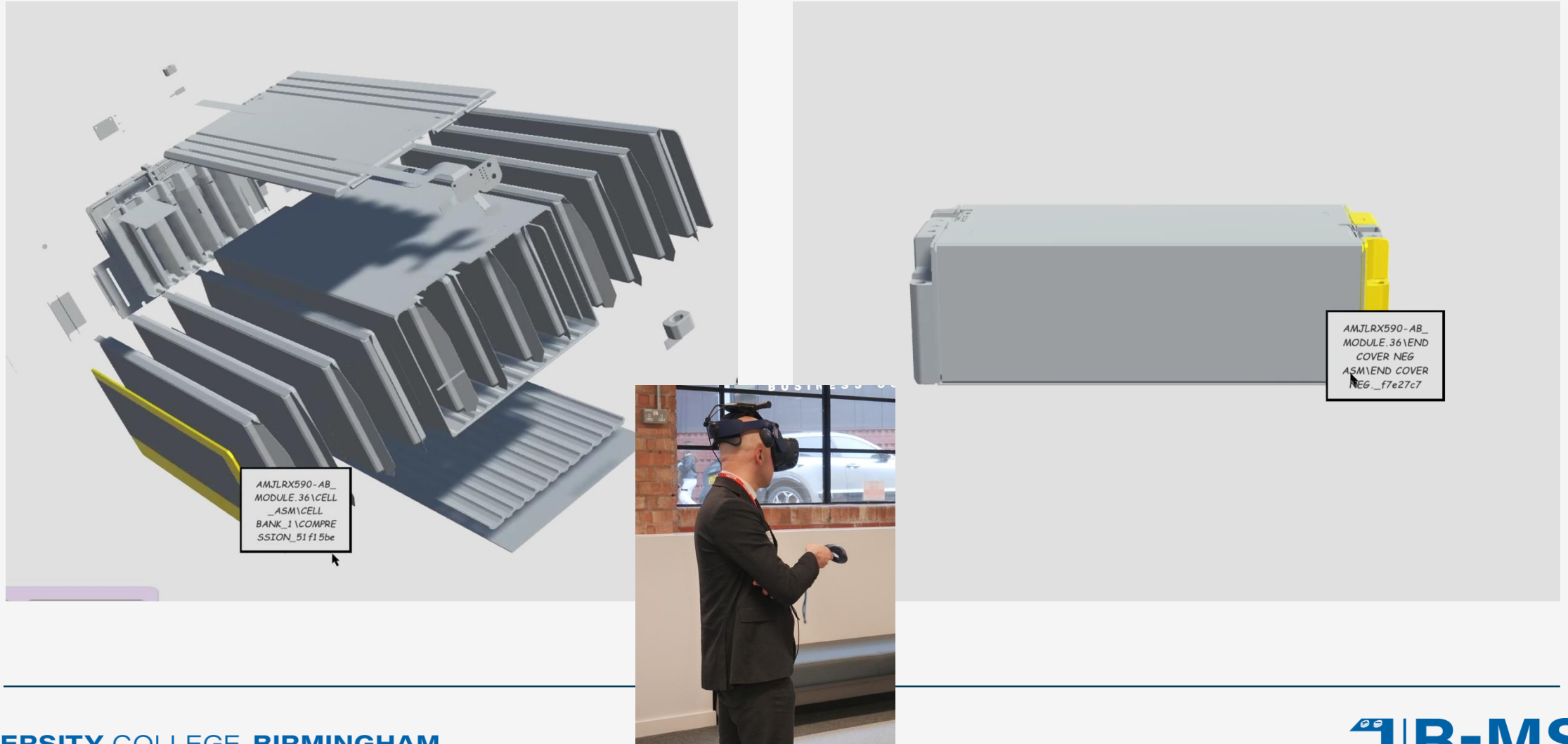


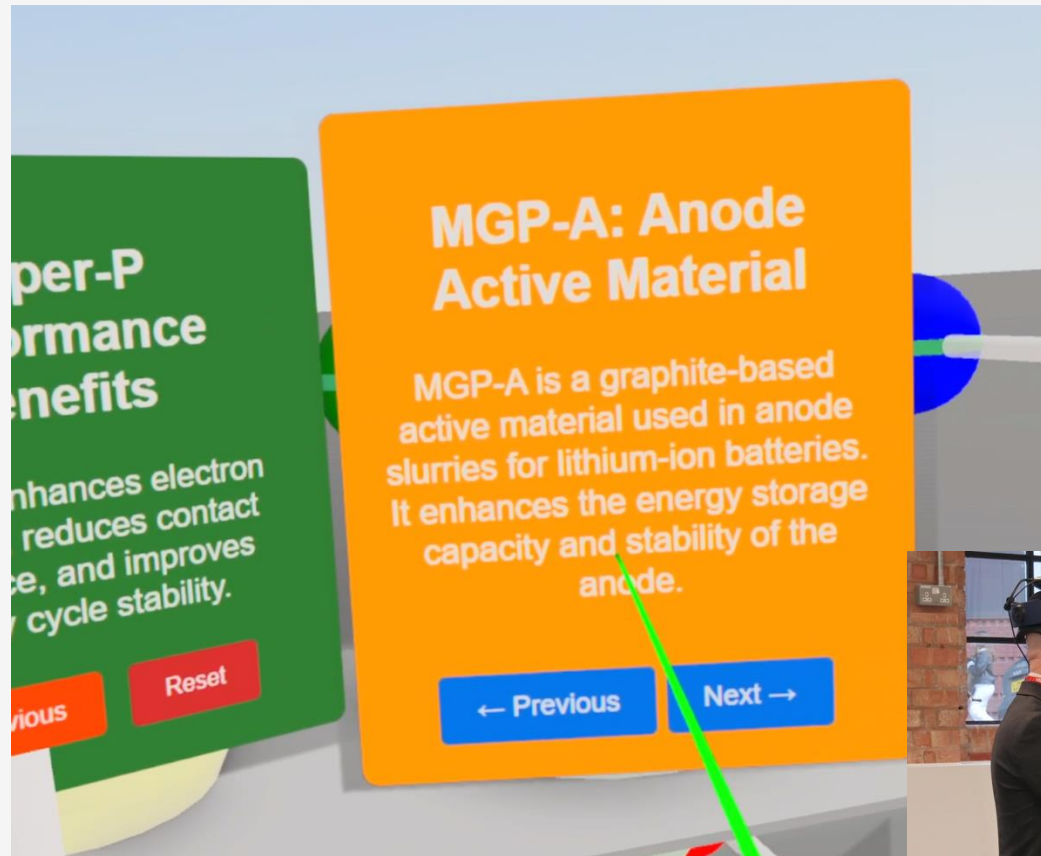


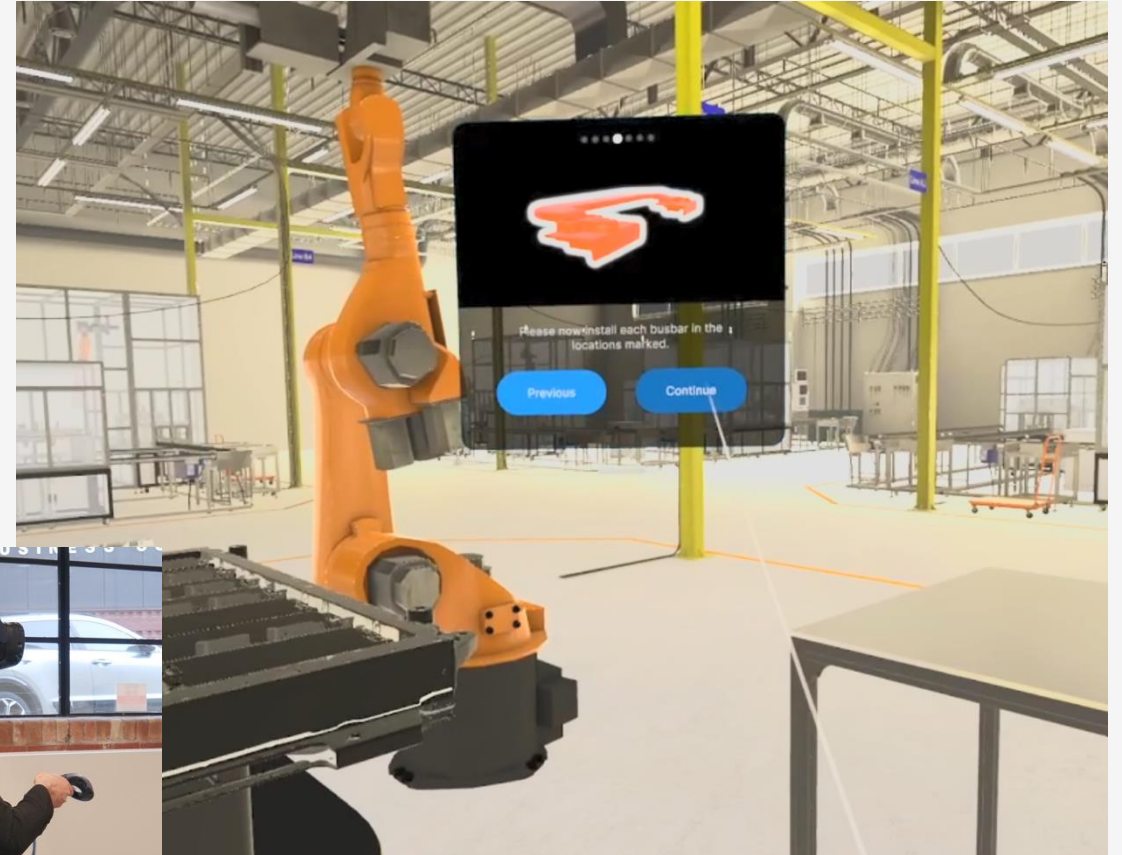




TRAINING RESOURCES – IMMERSIVE HUB









Next Enrolment Date

- **Enrolment Period: July – August**
- **Open Days: Taking place throughout July & August**
- **Course Start Date:**
September (for all student applicants)

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THANK YOU



E: batteryproject@ucb.ac.uk

Faraday Battery Challenge



Innovate
UK

National Battery Training & Skills Academy (NBTSA)



Innovate, Educate, Energise

National Battery Training & Skills Academy

North East England (New College Durham / Newcastle University)

Sharon Bennett

Assistant Principal – Partnerships and Skills

Contact Details:

Sharon.bennett@newdur.ac.uk

Lois.warne@newcastle.ac.uk



Innovate
UK



National Battery Training & Skills Academy

About NBTSA



Hands on Battery training



Level 2 and Level 3 skills for battery workforce



Pathway for career progression - Degree apprenticeships, CPD and skills bootcamps



Designed to ensure the skills needed now and in the future



Innovative training methods

National Battery Training & Skills Academy

NBTSA Achievements to date



**432 qualifications to
211 staff - additional
791 by Dec 2025**

Induction programme for
employers

Immersive technology
training for exploring
electrical settings in a virtual
environment

Workshops The Faraday
Institution, Nottingham
University, University College
London, Anaphite, AESC and
New College Durham

CPD development

Industry Engagement –
Weardale Lithium, AESC,
battery ecosystem

Engaged with National
Projects (Electrification Skills
Network, B-MSP – DEBUT)

Courses

- NBTSA Training focus has been primarily on Level 2 (L2) and Level 3 (L3)
 - Level 2 (L2): Basics in Battery Industry. Entry level for students with lower GCSE grades. A L2 certificate equivalent to a GCSE O level.
 - Level 3 (L3): Battery Fundamentals. Entry level for students with higher GCSE grades. A L3 certificate equivalent to an A level pass.
 - Level 4 (L4) Entry level for students with A levels - pathways to continue learning and upskill to degree apprenticeships beyond this.
- Qualifications in the Engineering Sector include City and Guild, EAL and DfE-Certified bootcamps.
- These certifications are industry-recognised and fully accredited.

National Battery Training & Skills Academy

Facilities

- The Academy based at New College Durham
- Developed working with AESC
- Includes Clean Room simulation
- Classrooms
- Hands on training area



National Battery Training & Skills Academy

Immersive Tech



Igloo immersive technology

Highly effective specialist training in process safety and COMAH (Control of Major Accident Hazards).

360° shared immersive environment allows teams to step inside realistic, fully interactive simulations of high-risk industrial settings, enabling deep engagement with complex safety scenarios.

Provides a safe space to experience and respond to potential major accident events, practice critical procedures, and improve hazard awareness — all without the risks associated with live on-site training.

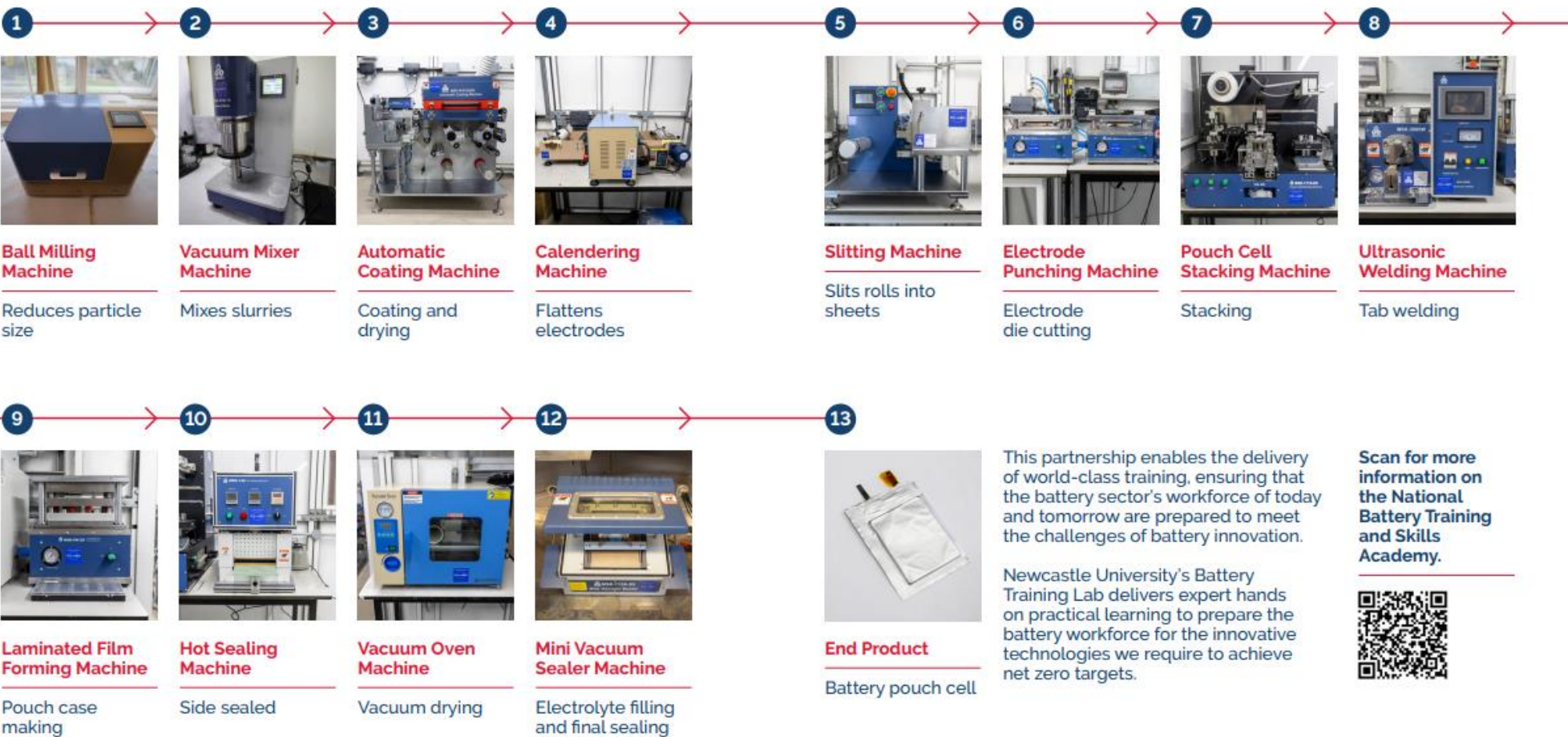
Delivers highly engaging, collaborative training that strengthens understanding, enhances retention, and builds the confidence and preparedness, essential for managing COMAH responsibilities, ensuring regulatory compliance.



National Battery Training & Skills Academy

NBTSA Battery Training Lab

Newcastle University hosts the NBTSA Battery Training Lab which provides hands on practical learning on a lithium ion pouch cell making line.



- Pouch cell making line
- Practical hands on learning on a cell making line
- Overview of the process for making a cell with real materials
- Support CPD, upskilling
- Experience of the battery manufacturing process

This partnership enables the delivery of world-class training, ensuring that the battery sector's workforce of today and tomorrow are prepared to meet the challenges of battery innovation.

Newcastle University's Battery Training Lab delivers expert hands on practical learning to prepare the battery workforce for the innovative technologies we require to achieve net zero targets.

Scan for more information on the National Battery Training and Skills Academy.



National Battery Training & Skills Academy



Project Team



Lois Warne, Project Manager
Newcastle University

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Sharon Bennett, Assistant
Principal, Partnerships & Skills
New College Durham

Sharon.bennett@newdur.ac.uk



Jill Moffatt, Project Co-
ordinator, Newcastle
University

Jill.moffatt@newcastle.ac.uk

Bridgwater & Taunton College Workforce Skills Initiative (BTSI)



Innovate
UK

**POWERING THE FUTURE:
DEVELOPING PATHWAYS TO BUILD
A BATTERY WORKFORCE**



**BRIDGWATER
& TAUNTON
COLLEGE**



**Innovate
UK**

BRINGING OUT YOUR BEST

Bridgwater & Taunton College *and* The University Centre Somerset

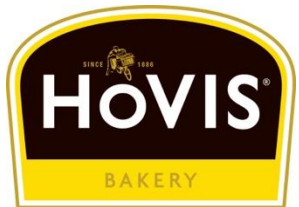
NUMBERS:

- 23,000 total student population
- 1,000 staff
- 3,500 full time 16-18 year old students
- 3,000 apprentices
- 5,000 distance learning students
- 1,000 university level students
- £65m turnover
- Secured over £58m in new facilities since 2011





jobcentreplus



BRINGING OUT YOUR BEST



Powering the future: Developing pathways to build a battery workforce

- Bridgwater & Taunton College (BTC) and Agratas
- Project located in Bridgwater, Somerset with reach across the whole South West
- Chris Ridgwell, Executive Project Lead, Simon Brewer, Head of Infrastructure Projects
- Contact details: ridgwellc@btc.ac.uk



The Project: Context

- One of the largest battery manufacturing facilities in the UK, expected to supply nearly half of the nation's automotive batteries by early 2030s
- A skilled workforce of up to 4000 people needed, with thousands more in the supply chain
- Large volumes of staff required in Winter 2026, with training interventions starting Summer 2025
- Pilot training courses now under development
- Low local unemployment rates (<2.5%) and continued huge demand for workers at Hinkley Point C (>14,000 on site)
- Local Development Order / Skills Charter names BTC as the strategic skills lead for the project, engaging other providers and stakeholders to provide a timely, high quality, skills response

The Project: Building a Workforce

Supported by Innovate UK, we are:

- Working alongside Agratas to understand and respond to their training needs – for a new workforce and later, an established one
- Understand the pre-employment competency assessments
- Mapping Agratas' role core competencies to existing curriculum to understand the gaps
- Developing new and adapting existing curriculum at Levels 2 and 3: Skills Bootcamps, T Levels, Apprenticeships and bespoke adult short courses - for use by the entire sector
- Using this work to inform the creation of career pathways which map training interventions to role competencies – dependent on entry point



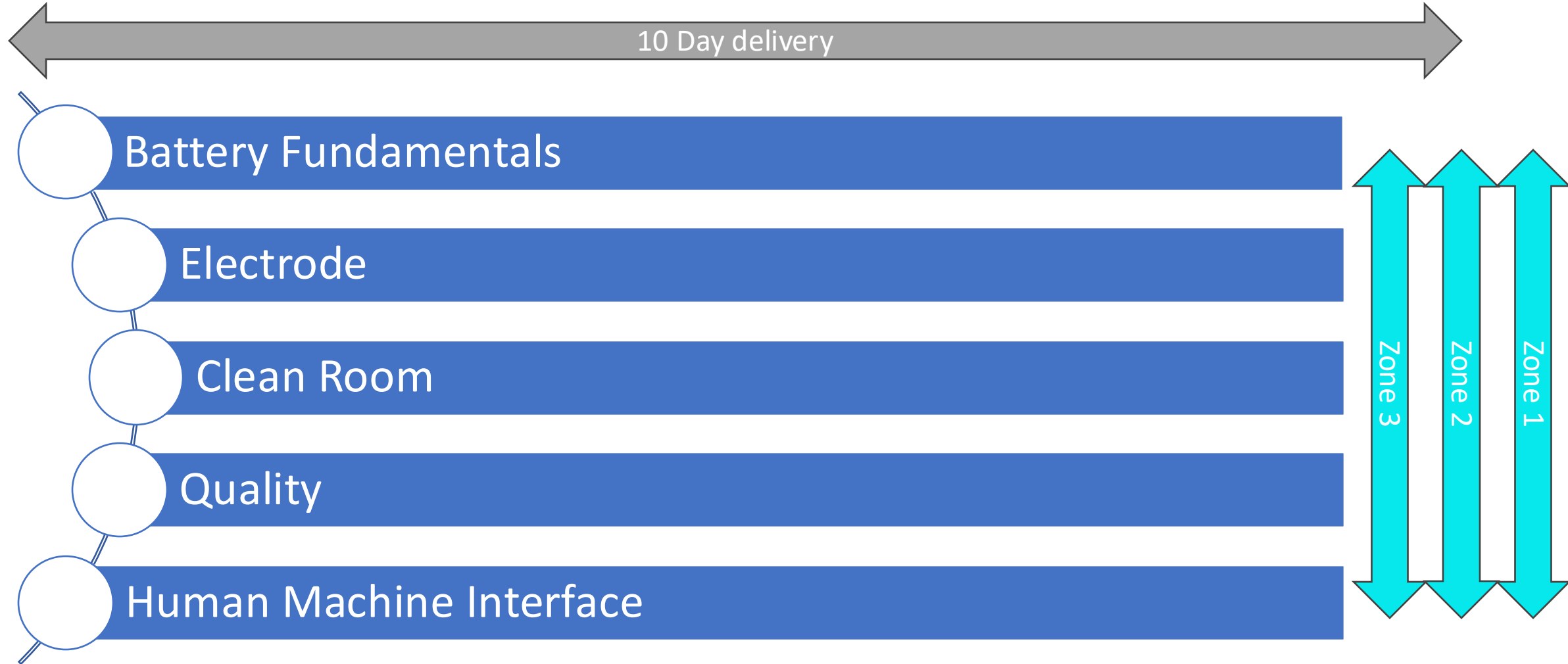
The Project: Building a Workforce

To achieve this, we will:

- Formally engage with the client, sector and supply chain, key stakeholders and skills bodies
- Review Agratas' role competencies alongside key organisations within the sector
- Develop a Skills Bootcamp offer to be piloted by existing Agratas employees
- Develop and adapt Level 2 and 3 curriculum, aligned to Agratas' role competencies
- Create a series of role pathways to clearly signpost the various training interventions into employment at the gigafactory
- Feed all this work back into the national network



The Project: Skills Bootcamp



The Project: Skills Bootcamp

- Designed and written with industry
- Delivered to all Agratas facility staff as part of induction process
- Practical and AR/VR delivery, alongside classroom learning
- Pilot Skills Bootcamp planned in Autumn 2025
- Modules developed using existing curriculum and expertise from industry and education



Powering the future: Developing curriculum that will build a workforce

- For more information: www.btc.ac.uk
- Chris Ridgwell, Executive Project Lead
- Simon Brewer, Head of Infrastructure Projects
- Contact details: ridgwellc@btc.ac.uk,



Q&A



The UK's innovation agency

Courses at the UK Battery Industrialisation Centre



Training showcase 2025

Simon Hill – Learning Designer and Developer

Faraday Skills showcase – June 2025

What is UKBIC?



The UK's battery manufacturing development facility

Providing scale-up, laboratory expertise, and helping develop skills to support the sector.

We link research and development to mass-manufacture.



Our training role



Building skills and developing expertise

Building an internal team of experts with experience of large-scale manufacture

Developing processes and capturing that knowledge to allow training to support a developing industry.

Training for industry



Sharing our latest expertise and experience

Short, focussed units which allow partners and the wider industry to ask questions and dive in depth into the processes and challenges

Introduction to battery manufacturing



Quentin Wilson
Founder, FairCharge

UKBIC's Introduction to Battery Manufacturing Course is amazing.

I thought I knew a thing or two about EV batteries - but was staggered by the detail and micron-level precision necessary. Making batteries is infinitely more complicated than making combustion engines - and will therefore bring with it increased employment opportunities.

UKBIC is one of the world's foremost research and industrialisation facilities, integral for future-proofing the UK economy.

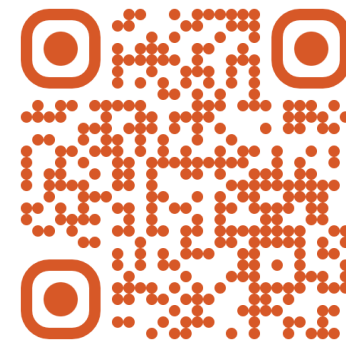
Politicians take note - UKBIC is one of the glittering jewels in this country's innovation crown.

Introduction to Battery manufacturing

- 2 Day: Manufacture at scale, Context, Electrochemistry, and applications
- 1 day: Focus on manufacture at scale

History of Lithium-ion cells	Electrochemistry	Clean and dry rooms
Electrode manufacture	Cell assembly	Formation and testing
Module and Pack	Market trends & technologies	
Manufacturing tour		

Available to book on our website



Deep Dive training

- 1 day: Focus on a particular process
- Includes time in the rooms with the equipment



Electrode manufacture

Cell assembly

Module and Pack

Formation and testing

Logistics and materials

Laboratory processes



Available to book on our website

Scalable units

- Scalable units to enable focussed, targeted training

Laboratory processes

Clean and Dry environments

Hazardous voltages Level 1

Battery management systems

Safe cell disassembly

Battery management systems

Sustainable Cell Manufacture



We also offer bespoke courses and lineside training to give you a close-up view of the battery manufacturing process.

Qualification development



**EAL Level 2 Award
Introduction to Battery
Manufacturing and
Working with Batteries**

Further information



Simon Hill
Learning Designer and Trainer

Happy to work with you to develop a solution to your training needs.



Faraday Institution's Skills Development Programme



Skills Showcase - Developing skills for the battery innovation workforce

Dominic Grantley-Smith
Head of Training and Talent Development
June 2025

 THE FARADAY
INSTITUTION

Our Offer: Pipeline of talent



Outreach



Supporting
Level 1-3

Faraday Undergraduate Summer Experience



Early Career Researchers/PDRAs



Level 0

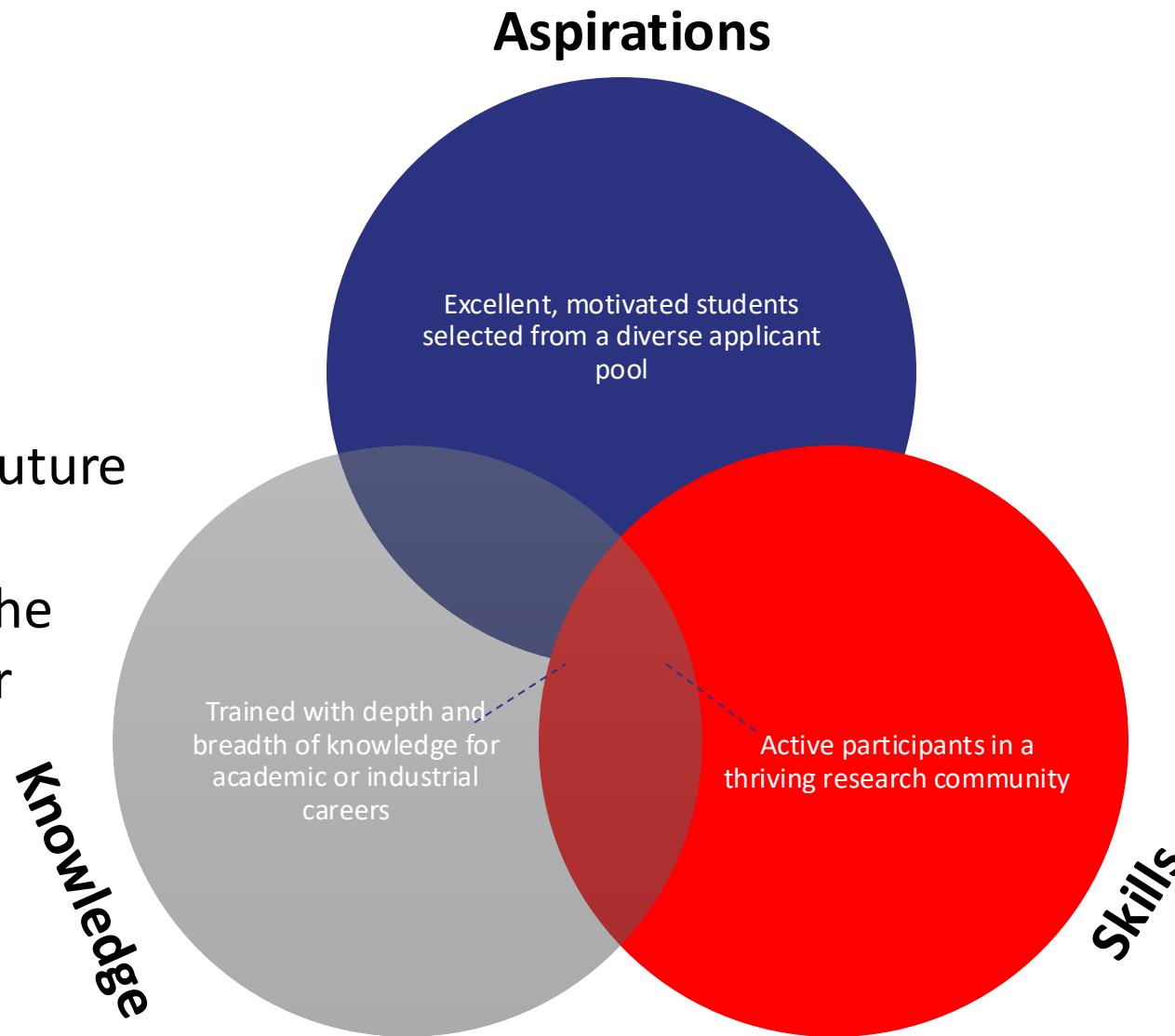
PhD researcher training programme



Level 8



Mission: Provide future energy storage researchers with the tools necessary for career success



Vision: Operate the best energy storage research training programme in the world

BUILDING CAPABILITIES: THE FARADAY INSTITUTION PHD CLUSTER

Goal- where we can help?



Our Aims

Focused on R&D and talent development

- Higher level 4 (undergraduate and upwards).
- We aim to support individuals to succeed in academia, industry, start-ups, and policy.
- The UK needs not only to manufacture batteries but also to conduct research to improve them through R&D. We are growing that talent pool and helping to foster collaboration across sectors.

How

Trained with both depth and breadth of knowledge for academic or industrial careers.

- Providing 4-year training programme including soft skills, business entrepreneurship, and workplace skills.
- Equipping researchers with sector-specific knowledge through engagement with companies, internships, and a collaborative network.
- The goal is to generate high quality talent who can drive forward the UK battery sector.



Faraday Institution PhD programme



A Four-Year Programme Designed to Equip PhD Researchers for Successful Careers

- Year 1: Broad overview of the battery sector
- Year 2: Development of business skills
- Year 3: Preparation for internships
- Year 4: Preparation for entering the world of work

Programme Highlights:

- 280 hours of structured training delivered over four years
- Engagement with over 45 companies across the duration of the programme
- A strong pipeline of talented individuals graduating into the battery sector and beyond



Success from the cohorts so far



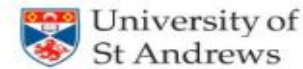
Success Stories

- 21 UK organisations employing graduates of the Faraday Institution PhD Training Programme
- 3 start-ups founded: About:Energy, RecoVolt and Polaron
- 20 PhD internships
- 144 papers published (first Author PhD)

How to get involved

- PhD Training Programme exposure of PhD researchers to industry organisations
 - as internship providers
 - providing talks or visits
 - through membership of the [training and diversity panel](#)

To academia



To start-ups



To academia



To industry



To industry



To policy / analysis



To policy / analysis



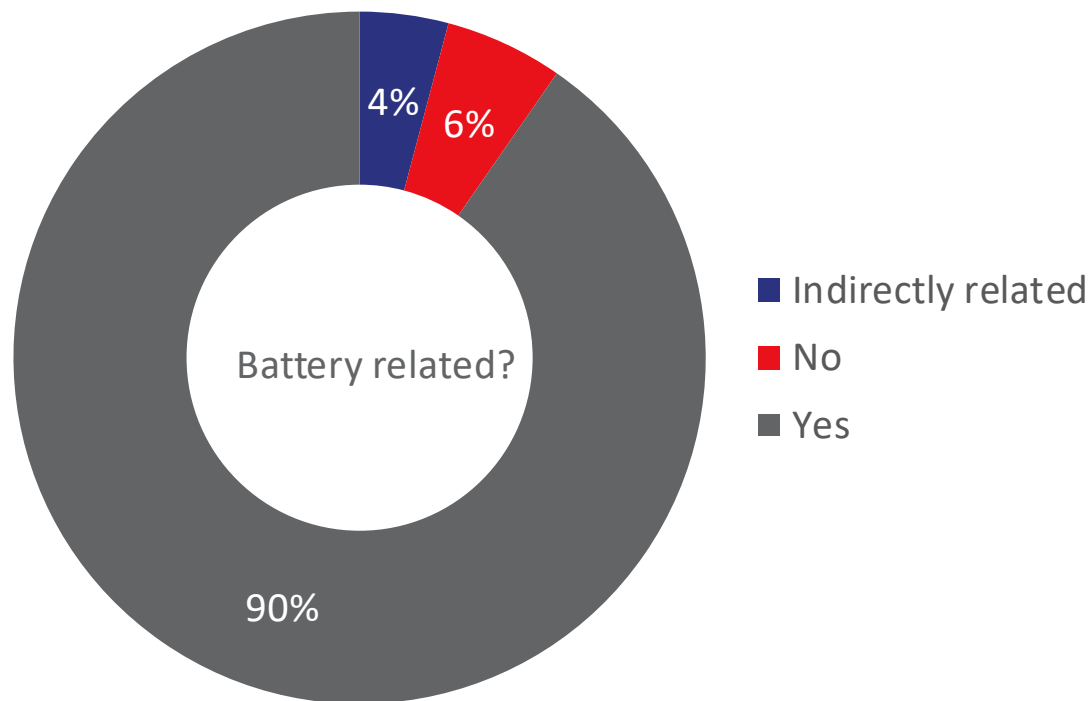
To start-ups



Destination wider community



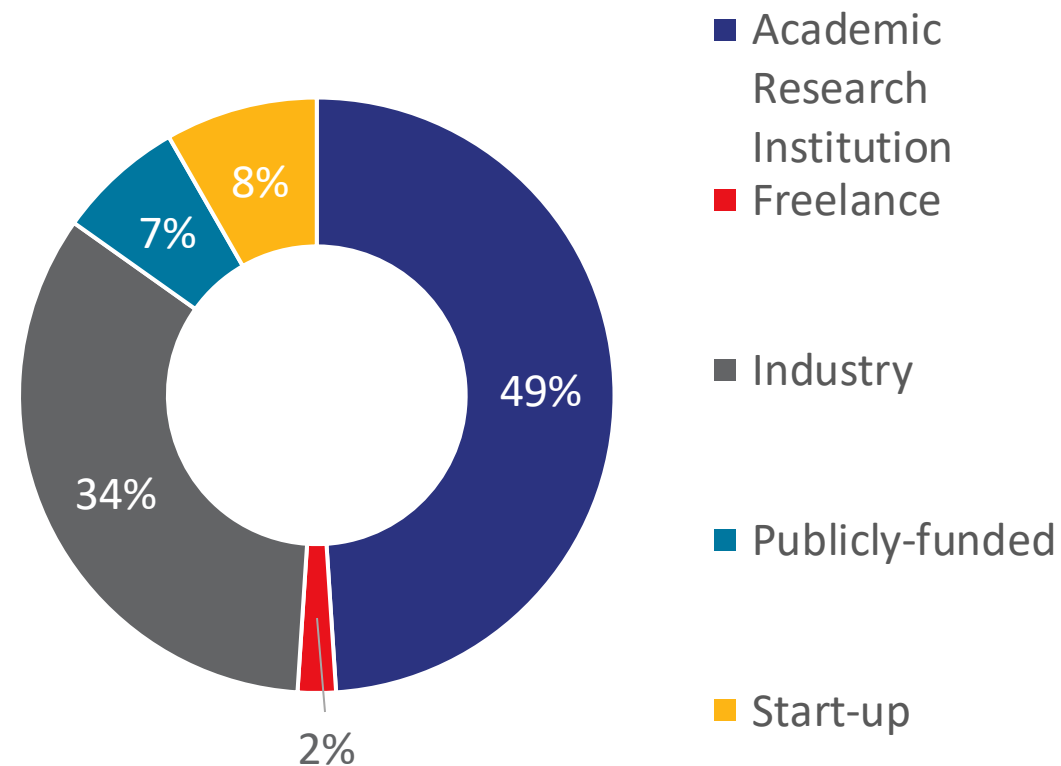
Retention of FI PhD and PDRA alumni within the battery sector



Upon leaving the Faraday Institution for their first role, of the 143 where destinations are known, **90% remained in battery related positions (131).**

*EPSRC average is 71%

Organisation destinations of Faraday Institution PhD and PDRA alumni



PhD Success stories



Dana Thompson - to Jaguar Land Rover



Faraday Institution PhD Researcher,
University of Leicester

Project: ReLiB
Specialism: Recycling
Supervisor: Professor Andy Abbott
Project title: Selective dissolution and recovery of metals from mixed metal oxide systems

[PhD video](#)

[Internship at Jaguar Land Rover](#)



Battery Cell Developer at Jaguar Land Rover

“

Being part of the Faraday Institution has been pivotal in securing my position as a Battery Cell Developer at Jaguar Land Rover.”

Jacob Dean - to WAE



Faraday Institution PhD Researcher,
University of Bath

Project: Multi-scale Modelling
Specialism: Computational modelling
Supervisor: Dr Benjamin Morgan
Project title: Computational modelling of inhomogeneities in lithium-ion solid electrolytes



[Internship at WAE](#)



Data Scientist at Elysia Battery Intelligence, Fortescue / WAE

“

I thoroughly enjoyed the internship with Fortescue. It was the highlight of my PhD, and it would never have happened without the careers event that the Faraday Institution organised or all the work the team has done for the cohort over the years.”

Daisy Thornton - to Rimac Energy



Faraday Institution PhD Researcher,
Imperial College London

Project: Degradation
Specialism: Lithium-ion battery degradation mechanisms
Supervisor: Prof Ian Stephens
Project title: Probing degradation in lithium-ion batteries with ultra-sensitive electrochemistry mass spectrometry

rho
motion

Analyst internship at Rho Motion



RIMAC

Cell Degradation Engineer at Rimac Energy

“

I feel extremely lucky that I could be involved with the Faraday Institution. It allowed me to get to know people from all over the UK working on different areas of battery research. When you are doing a PhD, it is easy to have tunnel-vision and only focus on your project, but Faraday allowed me to put my research into the wider context and gain perspective.”

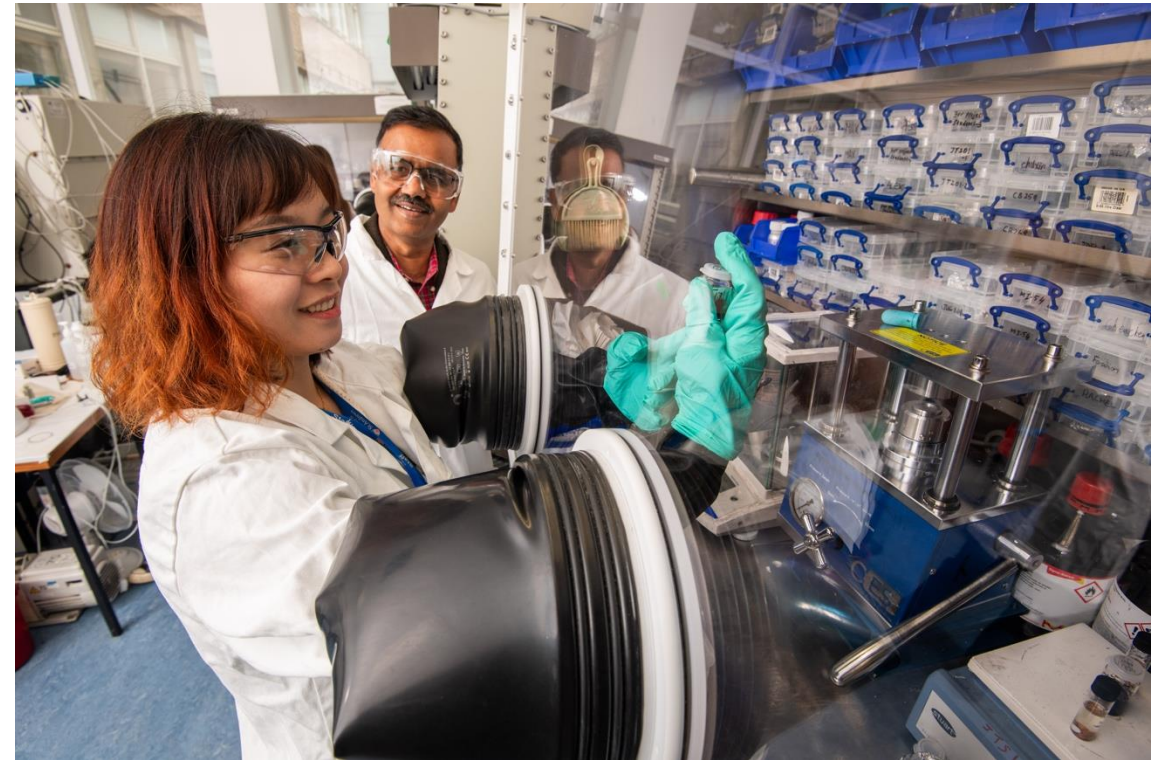
Faraday Undergraduate Summer Experience (FUSE)



FUSE 2025

48- 8 week paid internship placements, with a goal to:

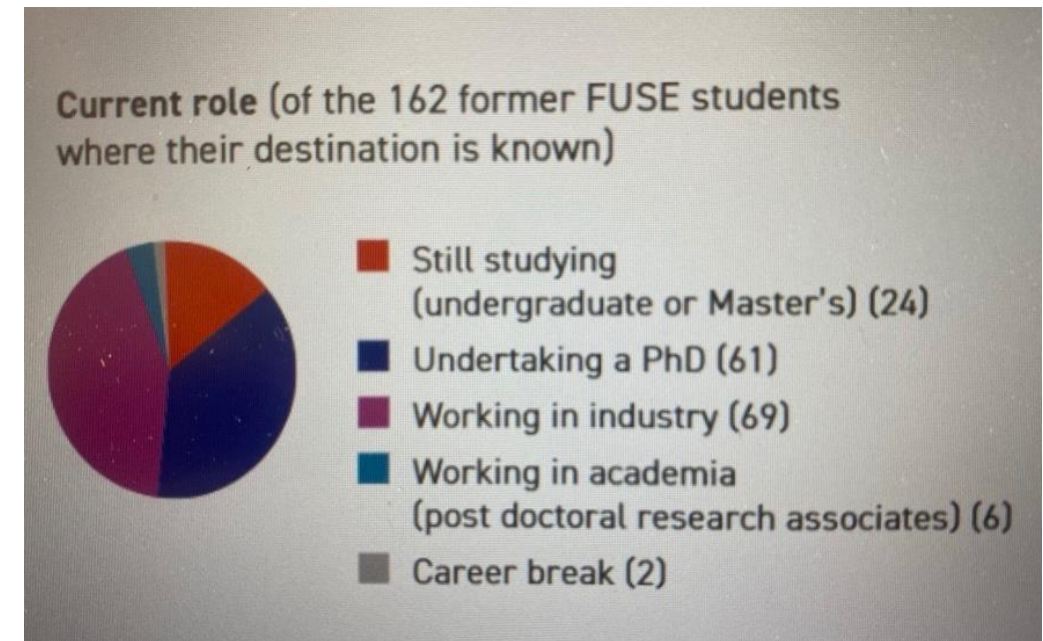
- Provide an opportunity to gain research experience
 - To inspire young people to pursue careers in the fields of battery technology and energy storage
 - To diversify the pool of talent
 - To increase participants' knowledge, skills and aspirations in the battery sector
 - Give contact with positive role models
 - 8 placements are in Faraday Institution start ups.
-
- 1251 people applied for FUSE 2025
 - How to we encourage these researchers to continue an interest in the battery sector?



FUSE destinations



- 69 out of 162 former FUSE interns with known destinations now work in industry (45%)
- Only 6 work in the battery sector, likely due to limited graduate-level roles
- 9 work in renewable energy, and 3 in other energy-related roles
- 64% of those in industry work in STEM roles (compared to nationally 24% of STEM graduates known to be working in STEM 6 months after graduation)



Who engages with us on our talent programs



About:Energy

AESC

Agratas

Anaphite

Alexander Batteries

Benchmark Mineral Intelligence

Breathe Batteries

Brill Power

Energy Systems Catapult

Cognition Energy

Connected Energy Ltd.

CPI

CRU

Department for Transport

Diamond Light Source

Echion Technology

European Space Agency

Evera Recruitment

Evolve Metals

Finden

Fortescue/ Elysia

Gaussian

Green Lithium

Hitachi

Hyperbat

Illumion

Imperial Policy Forum

Inition Energy

Ion Works

ISIS Neutron & Muon Source

Jaguar Land Rover

Kinewall Energy

Lion-Vison

Maritime Decarbonisation Consultant

Neo Cycle

Nissan Manufacturing UK

Nyobolt

Polaron

POST

Prosemino

RecoVolt

Redoxion

Rimac

rEVamp Training

Rho Motion

Solveteq

Taisan

Telsa

Turntide

UKBIC

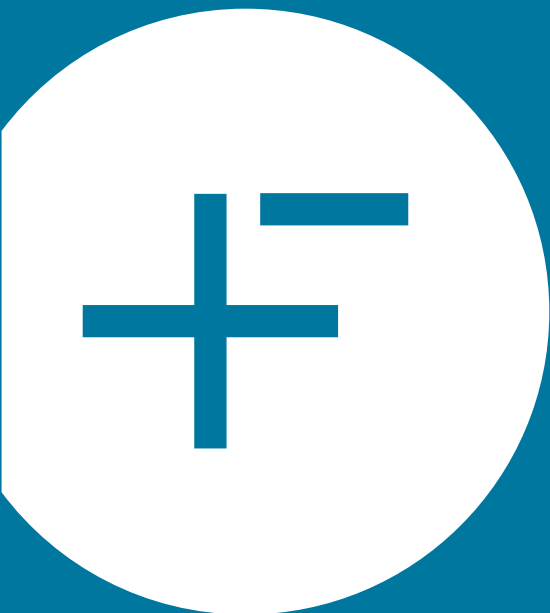
Vianode

Weardale Lithium

How can The Faraday Institution help?



- Engage with our programme to highlight your organisation within the UK battery sector.
- Collaborate with us to help shape research within the broader research landscape.
- Share your R&D and graduate-level opportunities with us — we can help signpost them to our researchers and beyond.



Thank you

Dom.Grantley-smith@faraday.ac.uk

LinkedIn:



The Electrification Skills Network (ESN)



ELECTRIFICATION SKILLS NETWORK

ESN Forum

Paul Whiteside – ESN Head of Programme

Who are the Electrification Skills Network?

‘We are a neutral initiative supporting workforce readiness for electrification, via a Framework for Electrification and informed advice, support and guidance.’



How we do this

Connecting

We connect employers, awarding organisations and skills providers via an Electrification Skills Framework

Offering a neutral and informed voice

We offer a neutral and informed voice for the Electrification Skills community including policymakers on the local and national level



Showcasing

We showcase initiatives and support the development of electrification courses and qualifications

Sharing and supporting via our communities

We share national and international best practices and subject expertise to support skills provision in the UK

Providing insight

We use Workforce Foresighting data and market intelligence to identify electrification skills gaps



How can I engage with ESN?

- Join one of our communities for regular updates and support
- Attend our national forum
- Search our framework to find and access skills solutions
- Add your courses and qualifications to the framework to increase global exposure
- Contact us, and through our network, communities and insight, we'll work with you to find a solution



QR code for the website



Q&A



The UK's innovation agency

Thank you!

<https://linktr.ee/faradaybatterychallenge>

<https://www.ukbatteriesnetwork.org/>



The UK's innovation agency

