



Welcome

Launching a Digital Skills Network for West Midlands SMEs

STFC Hartree Centre & Coventry University
6th November 2024



Hartree Centre



Programme

10:30: Welcome

- Prof. Paul Noon- Coventry University

10:45: Launching the Digital & AI Skills Network

- Prof. Paul Noon, Coventry University
- Prof. Kate Royse, STFC Hartree Centre

11:10: Keynote Speaker

- Dr Marco Ghisoni, Equivital

11:30: Comfort Break

- Refreshments

11:45: Digital & AI Skills Panel | Ask the experts

- Adam Simmonds -Strategic Lead for Digital Technology, Coventry City Council
- Louise Butcher - Principal Data Scientist, STFC Hartree Centre
- Georgina Stanley-Dare - Head of Curriculum at Netcom Training
- Sophie Hartless - Business Manager, AMRICC Academy

12:45: Next steps for the Digital & AI Skills Network

- Elena Gaura, Coventry University
- Clair Donaldson, STFC Hartree Centre

13:00: Closing remarks

- Prof. Paul Noon, Coventry University

13:05: Networking Lunch

Welcome

Professor Paul Noon
Coventry University



Hartree Centre



Introduction to Coventry University

Professor Paul Noon
Coventry University



Coventry University

- Founded 1843
- 6 Campus Locations Outside Coventry:
 - London×4, Scarborough, Wrocław
- 6 Overseas Hubs
 - Europe, Dubai, Rwanda, Singapore, China, India
- 40,000 UK Based Students
17,000 from Overseas
- 22,000 Students Overseas (20/21)
- 4,239 Full Time Equivalent Staff



Coventry University

- 100+ staff in 15+ Research Centers whose research involves AI
- 60+ PhD students working with AI
- 18 live AI projects funded by:
British Academy, EC, EPSRC, Innovate, Royal Society, Diabetes UK, Road Safety Trust, British Council
- 52 projects at other stages



Introduction to the Hartree Centre

Professor Kate Royse
Hartree Centre Director

The Hartree Centre exists to bridge the gap between academic research and adoption of new digital technologies by industry

We work together with businesses to demonstrate how digital technologies can solve their challenges and help transfer the skills needed to adopt those solutions



A world-leading digital research & innovation centre

- Specialising in supercomputing, data science, AI, cloud and quantum computing
- 180+ scientists, technologists and business professionals working on challenge-led programmes and delivering know-how and training to industry
- We have extensive international and national research collaborations and partnerships to ensure emerging technologies being developed can be applied to industry
- Focused on derisking technology investments and enhancing the digital capabilities of UK organisations to use and adopt emerging technologies responsibly



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The Hartree Centre

Current Hartree Centre Skills Programmes

The Hartree Centre has a range of upskilling resources available covering key digital skills including AI, Quantum, Supercomputing and Hybrid Computing

- Courses are free at point of access
- No limit to number of courses one person can take or on number of people that attend from one organisation

Training Portal with self-paced materials and live-on-line sessions aimed at four different learning levels:

- Introductory – suitable for those with no prior experience
- Learner – suitable for those wanting to learn more about a topic
- Independent User – suitable for those with existing knowledge
- Practitioner – suitable for those who are already proficient but wish to expand their skills



Launching a Digital & AI Skills Network for West Midlands SMEs

Professor Kate Royse
Hartree Centre Director

Professor Paul Noon
Coventry University



Hartree Centre



Our ambition

Our National AI & Digital Skills network, beginning in the West Midlands, will:

- create a community of practice to support public and private sector organisations to develop their digital and AI skills
- enable regional organisations involved in the provision of digital skills to collaborate and share best practice nationally
- maximise regional benefits from the adoption of AI and digital technologies
- enhance productivity and competitive advantage of UK businesses

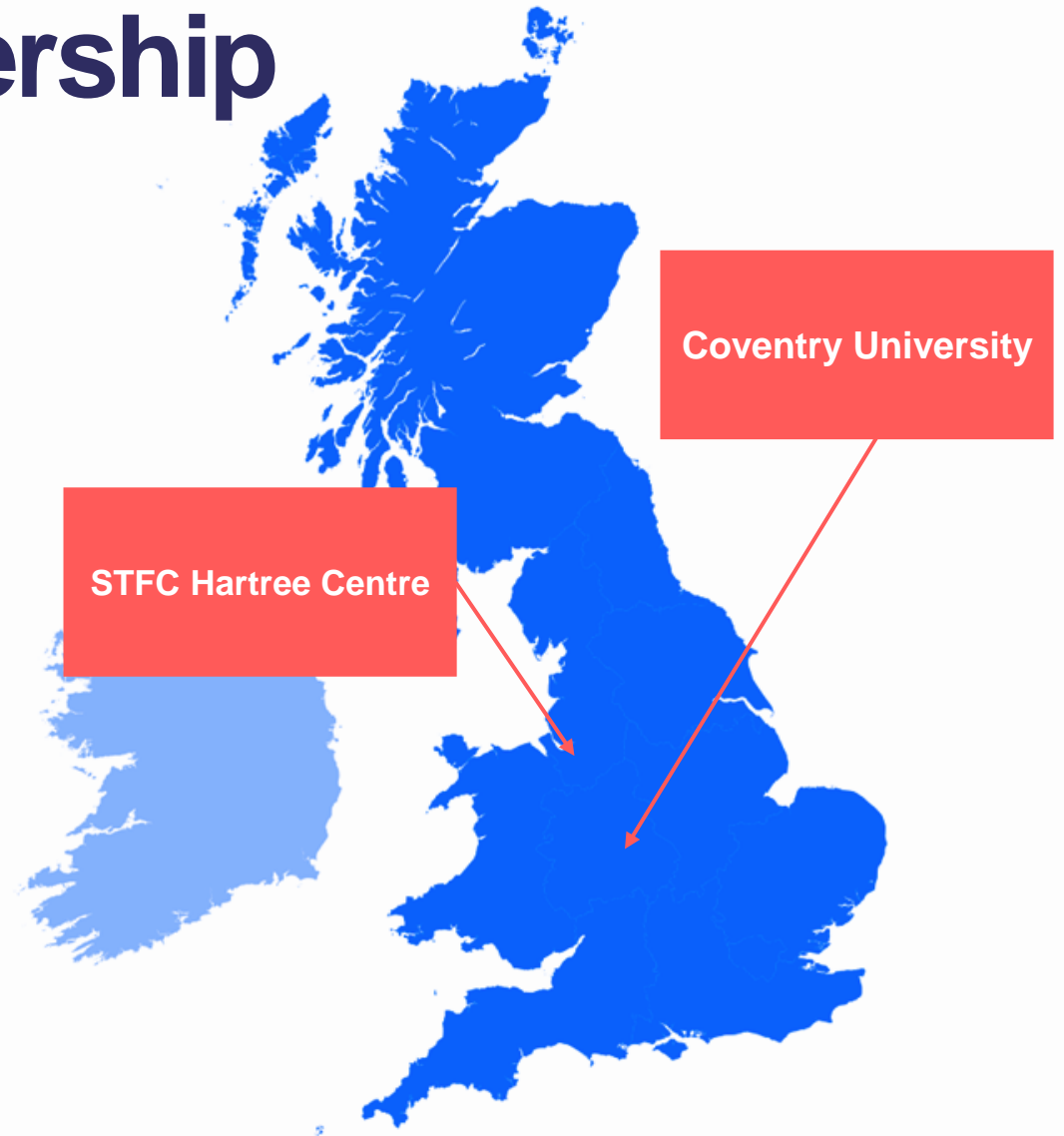


Hartree Centre



Strength of regional partnership

- STFC Hartree Centre brings digital and AI expertise and experience running training and upskilling programmes for UK small businesses
- Coventry University brings digital research excellence and regional knowledge of business sectors, challenges and opportunities in the West Midlands



Regional Focus, National Benefits

We will bring together the power of our expertise from Coventry University and the Hartree Centre to:

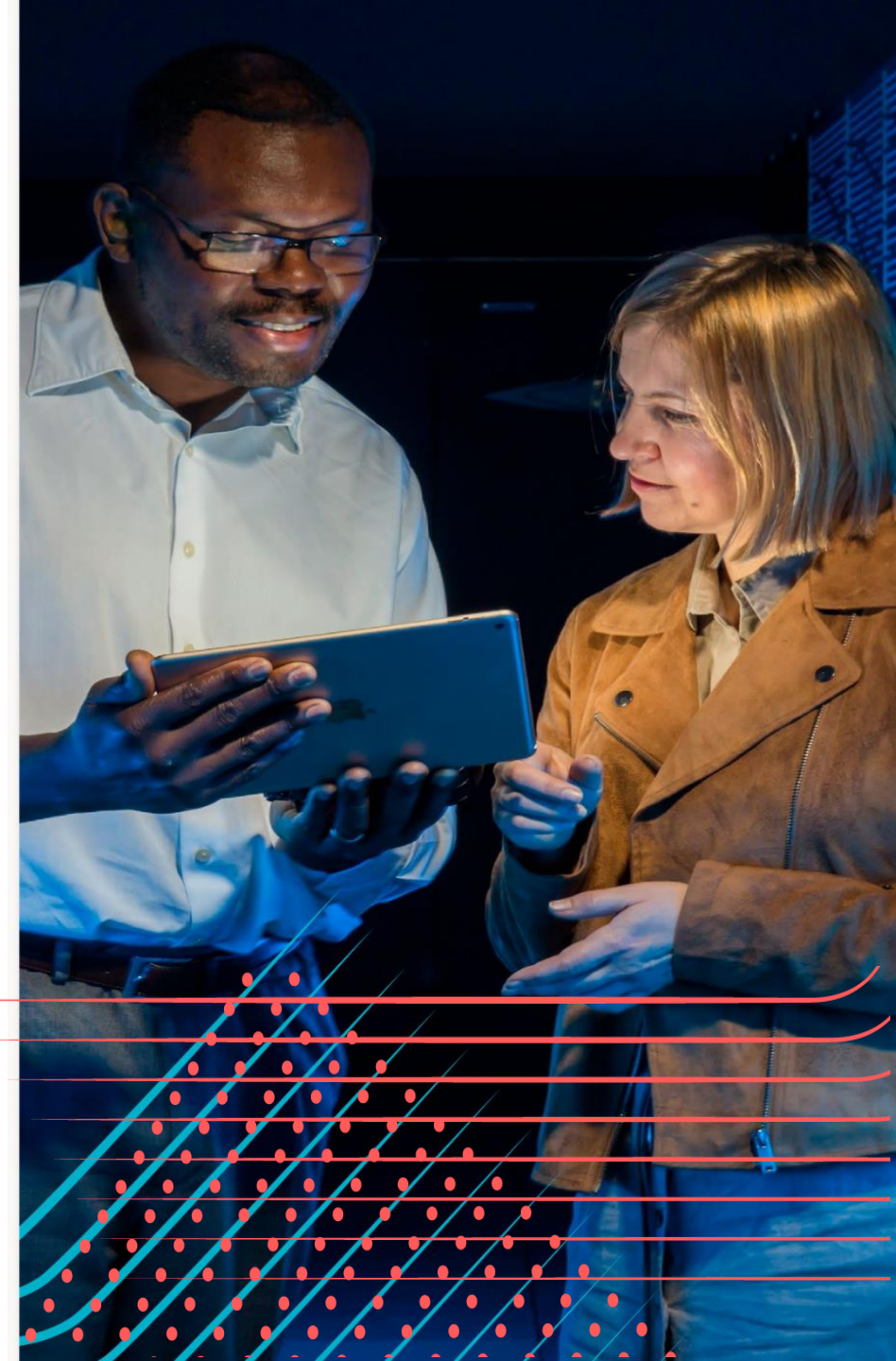
- seek ways to address the digital skills gap for businesses across the West Midlands
- collaborate and share best practice relating to upskilling the West Midlands based organisations so they can exploit the benefits of advanced technologies
- develop a community of practice relating to digital skills training across the West Midlands

And, build upon the initial West Midlands partnership to:

- create a national network of organisations who can collaborate and share the best practice in digital skills training that can benefit all regions of the UK



Hartree Centre



Key Note

Dr. Marco Ghisoni
Hidalgo



Accessing Digital Skills – an SME Case Study

Dr. Marco Ghisoni
6th November 2024

www.equivital.com

Introduction



We are a Cambridge-based, Enterprise Wearable Technology company developing and deploying human physiological monitoring solutions for real world applications.

We develop complete end-to-end solution, hardware through software, and use UK-based manufacturing

Established

Supplying solutions for **15 years**

SME

20 Full-time and Part-time employees

Customers

Over 550 global customers

Approvals

Regulatory approvals (FDA 510K, Intrinsic Safety, US Military approval)

Research

Over 450 peer reviewed published papers

Volume

Over 15,000 devices sold

equivital.com

equivital.com

Protecting Workers

equivital

Firefighters, Soldiers, Construction teams and Oil & Gas workforces all suffer from one serious problem. It is a silent killer!

HEAT

Equivital provides solution to keep workers safe and reduce injuries & fatalities caused by heat stress & over exertion

This is based on the individual's physiological response

489,000

Deaths annually, caused by heat, according to WHO statistics

\$280bn

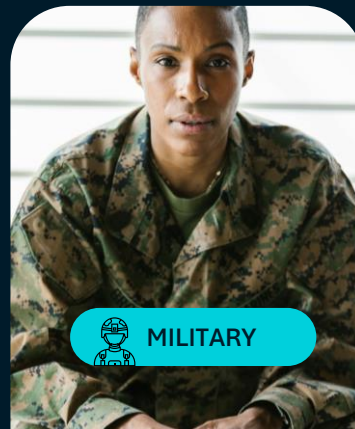
Annual global productivity losses associated with reductions in work rate due to heat exposure

c3,000

US military cases annually of heat exhaustion limiting deployment time

25%

Of Firefighter injuries due to overexertion



Our Challenge

Our solution consists of:

1. Hardware and built-in software: in-house engineering development team
2. Cloud Based user software: in-house engineering development team
3. Heat Risk reduction algorithms: developed by the US Army – in the public domain

Our team are experts in #1 and #2, improving current solution and developing new ones, eqLifeBand – but not in #3

Aim: to have new proprietary algorithms that are more accurate and account for differences in individual workers and working conditions – potential differentiator.

equi**vital**

eq LifeMonitor



eq LifeBand



The Problem

How do we gain the expertise required to meet our **Aim** ?

We are a self-funded SME, NOT a Start-Up – so....

- Can we justify new employees simply focused on new heat algorithms?
- How can we guarantee that a new employee has the expertise we need?
- Can we keep them 100% occupied, short- and medium-term?
- Finally, is our **Aim** even achievable, will it be the differentiator we hope?

Our Approach

What we have done at Equivital is to access the real experts at Coventry University in different departments and fields, using Innovate UK funding support

Knowledge Transfer Partnership (KTP):

- *Physiological-based algorithms to enable the prevention of heat stress related illnesses/injuries*
- 35-month project
- Research Associate employed at Coventry to work solely on our project
- Project access to senior Coventry academics and facilities
- SME funds 33% of project cost

Accelerated Knowledge Transfer (AKT)

- *Tool for optimization existing heat algorithms using AI/ML*
- 3-month project – short focused with clear business focused deliverable
- SME funds 10% of project cost

Note: the company owns any IP and there is NO requirement for academic publications, though in our case we regard publication as a positive.

Value Added

Direct

- KTP: currently halfway through the project, have built a global networks of partners, and acquired over 150,000 minutes of data both direct and indirect; used to baseline current algorithms and develop new algorithms
- AKT: provided a usable tool to optimize the existing US Army algorithms for different working conditions, using data acquired as part of the KTP. Allows us to provide customer specific variants

Indirect

In addition to tangible direct output of the projects then we have already seen benefits in other areas:

- Upskill of staff – access to the knowledge and expertise of senior academics, discussion and presentations, has improved our understanding in terms of physiological heat stress
- Research Presence –connection to academic research helps to establish us as innovators
- Global partnership – connection to new partners has directly led to business opportunities
- Transformative Technology – helping the business understand how AI/ML can help us and what is achievable

Conclusion

SME have unique challenges when looking to move out of their comfort zone and explore new areas which they believe could have a positive impact on them

Having a mechanism to access expertise, get tangible benefits as well as a gain an understanding of its impact without have to go “all in” is of vital importance

Digital Skills initiative provides such a mechanism to facilitate access to academic expertise, and how support can be provided in different forms



Thank You

Follow-up questions: marco.ghisoni@equivital.com

Comfort Break

11:30 - 11:45

Digital & AI Skills Panel

Ask the Experts

Adam Simmonds

Strategic Lead for Digital Technology,
Coventry City Council

Georgina Stanley-Dare

Head of Curriculum, Netcom Training

Sophie Hartless

Business Manager, AMRICC Academy

Louise Butcher

Principal Data Scientist, STFC Hartree Centre

AI and Digital Skills Gaps

AI is often said to be revolutionising or about to revolutionise various industries.

Where do you see the most significant gaps in AI and digital skills, both at the individual and organizational levels?

Inequality in Access to Skills and Careers

Access to education and training in AI is often uneven across regions and demographics. What are the most critical steps we can take to ensure more equitable access to AI-related skills and career opportunities?

What role should policymakers play in addressing inequalities in access to AI education and jobs, especially for marginalized communities?

Evolving Skills Requirements

As AI technologies rapidly evolve, how do you see the demand for specific skills shifting?

Broader Skills Impact

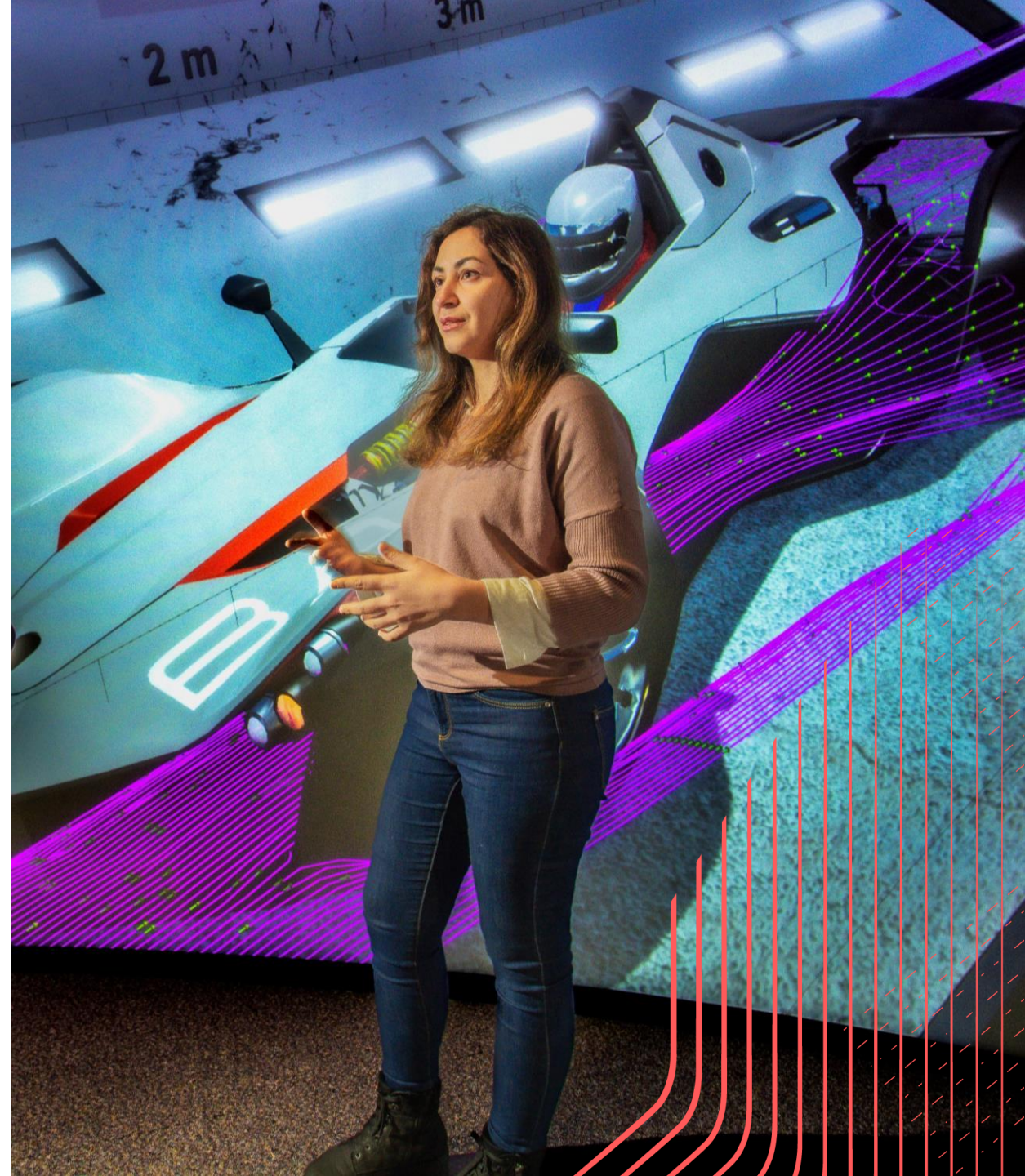
How can organisations and educational institutions promote a culture of lifelong learning to help workers reskill and adapt to the changing AI landscape, especially those in roles vulnerable to automation?

Getting Involved in the West Midlands

Elena Gaura
Coventry University

Next steps in the region

- Understand current levels of capability and adoption of advanced digital technologies in the West Midlands
- Identify regional requirements for support that would facilitate conscientious adoption of advanced digital technologies, in-line with current legislation and best practices
- Explore methods of leveraging best practices, facilities and assets from the Hartree Centre and the AI & Digital Skills Network in the West Midlands



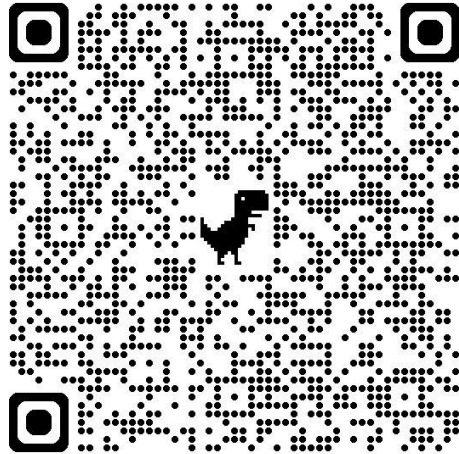
Getting involved in the network

Clair Donaldson
Hartree Centre

Creating a national network with regional focus

We are seeking Expressions of Interest from:

- Regional organisations with an interest in advancing the regions AI and digital skills of the West Midlands
- National organisations who want to collaborate and share best practice in digital skills training for industry across their won regions and the UK

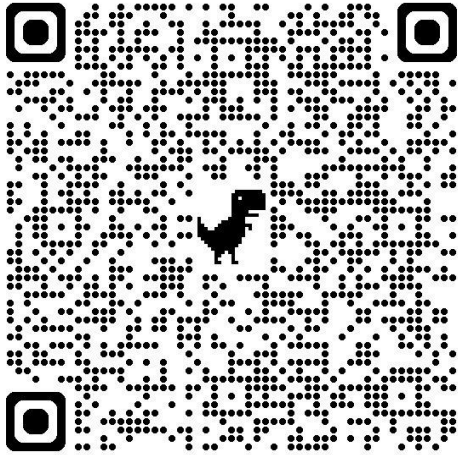


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Get Involved

- Expressions of Interest: <https://tinyurl.com/ybvzzhz9>
- E-mail: AlandDigitalSkills@coventry.ac.uk
- Website: <https://www.hartree.stfc.ac.uk/skillsnetwork/>



Closing Remarks

Paul Noon
Coventry University



Science and
Technology
Facilities Council



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Thank You

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