

IoC – Now and Tomorrow

James Shuttleworth

Richard Lane



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Coventry
what happened
up til
what we
might do from

with some
info. on
IoC-adjacent
activity

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Inception

- Launched in 2018 - response to the UK's digital skills gap
- £20 million in funding from the Office for Students

Our mission is to break down barriers to digital learning and employment. We believe learning should be a lifelong process and that everyone has a right to improve their skills. We want to spread opportunity by offering access to education, providing what you need, when you need it, in a place you can reach.

- Proposed by George Osborne, Nov 2016
- £40M project with £20M Public Funding (Plus £20M+ matched funding) announced by HEFCE, Apr 2017
- Bid submitted, July 2017
- Interview panel, September 2017
- Awarded under Embargo, November 2017
- Mentioned in UK Industrial Strategy, Dec 2017
- Announced by Prime Minister, Jan 2018
- Launch event, June 2018
- HEFCE-funded IoC activity complete, March 2021

Objectives



To equip the UK with the key skills needed to compete in a global digital economy

90% of all jobs will require "digital skills"¹

35% of jobs in the UK are likely to be obsolete due to automation within decades²



To make a lasting and measurable impact on digital skills provision at a national level

12.6 million adults in the UK do not have basic digital skills¹

85% of "hard-to-fill" positions are those requiring digital skills¹



To develop tailored programmes through co-creation with industry

"many graduates leave university without up-to-date technical skills, or the softer skills required to be effective in the workplace"³



To explore innovative teaching methods to meet the needs of the evolving industry landscape

Increased demand for data science, AI, cybersecurity threats or Industry 4.0 in multiple domains

1: Digital Skills for the UK Economy, Department for Business Innovation & Skills, Department for Culture Media & Sport, 2016

2: Agiletown: the relentless march of technology and London's response. Deloitte 2014

3: Sector insights: skills and performance challenges in the digital and creative sector. UK Commission for Employment and Skills, 2015

Themes

Theme 1

“University Learners”

Transform graduate employability through innovative teaching provision

Theme 2

“The Digital Workforce”

Develop specialist skills training in areas of strategic importance

Theme 3

“Digitalising the Professions”

Supporting digital skills in professions undergoing digital transformation

Theme 4

“Widening Participation”

Boost equality and diversity in technology-related education & careers

Theme 5

“Sharing & Sustainability ”

Disseminate outcomes share best practice, and ensure sustainability

IoC - Coventry University

- Lead on Theme 3: Digitalising The Professions.
- Deliverables across all themes
- Part of the IoC Steering Group

Focus on:

- Short courses and CPD for industries other than IT: creative economy, automotive, manufacturing, healthcare, etc.
- Flexible study, through tasters, credit-bearing courses and apprenticeships leading to level 6 and 7 qualifications
- Providing skills and knowledge required for the workforce to evolve with modern requirements
- Helping industry to be aware of current opportunities as well as those that might accompany future developments. Through education, training and awareness.

Programmes

- Computing for the Cultural Services
- MSc Cyber Security
- The IoC guide to kick starting your career with 21C Skills
- EIT Summer school on health
- Basic of Network Security
- An Introduction to Cryptography
- Ethical Hacking: An Introduction
- Cyber Security in the Software Development Life Cycle
- Security Operations
- Introduction to Cyber Security
- Introduction to Data Science
- The internet of Things: The rise of connected devices
- Using AI Technologies for Business Planning and Decision-making
- MBA with Artificial Intelligence
- Artificial Intelligence: Distinguishing Between Fact and Fiction
- Using Artificial Intelligence (AI) Technologies for Business Planning and Decision-making
- MSc in Connected and Autonomous Vehicles
- Introduction to AR/VR/XR
- Frontier Technologies
- Connected Autonomous Vehicles
- *Et cetera*

Activity

- 50+ Business Workshops
- 100+ industry engagements
- ~500 Postgraduate enrolments
- 400000+ Short course/CPD enrolments
- Developing methodologies for analysing skills gaps and requirements for up-skilling



and creative s get to grips with h Institute of Coding

more interesting

SUBSCRIBE

3 June 2019

Share



Awarded Grant To Help Get Under-Represented igital Jobs

30, 2023



rtium that will continue to help women and black and disabled students get the
after receiving funding to offer £10,000 scholarships.

rtium that set up the Institute of Coding in 2017 which is combatting the UK's
ery of employer-led digital skills education.

her security, programming, virtual reality and artificial intelligence (AI) and

ty launches first Masters in

Institute of Coding has launched a new verless cars.

th global engineering firm HORIBA MIRA to deliver the Connected
(AVS) MSc during the 2020/21 academic year.

cs and industry expertise, as the CAVS MSc is a blend of practical
o equip learners with specialist skills.

rsity

it is
le to
ince



</Coventry Institute of Coding recognised for excellence in education>

Published on 21 January 2020 by web editor
News story

Coventry – 13th December, 2019



West Midlands Tech Awards 2019 at the ICC, Birmingham. Pictured Innovation in Education Award winners Coventry University James Shuttleworth and

Lyng Hall students get hands on visit

Students at a Coventry comprehensive school were given
to open their eyes to the possibility of a career in the



A group of 70 st
Coding Coventry
Computing Built
ethical hacking



Deepak Farmah
Senior Education Sector
Business Consultant and
Digital Skills Specialist,

Ask the Expert: Embrace Digital Frontier Technologies to get ahead of the pack

© 12 Apr 2019 Midlands

Is now the time for my business to embrace frontier technologies such as
Blockchain?

*Deepak Farmah of the Institute of Coding Coventry University, believes Blockchain
stands head and shoulders above its rivals for potential impact and is urging companies
to train staff in preparation for its rise to greater prominence.*

In today's fast-paced technological landscape the next major leap forward is always just
around the corner.



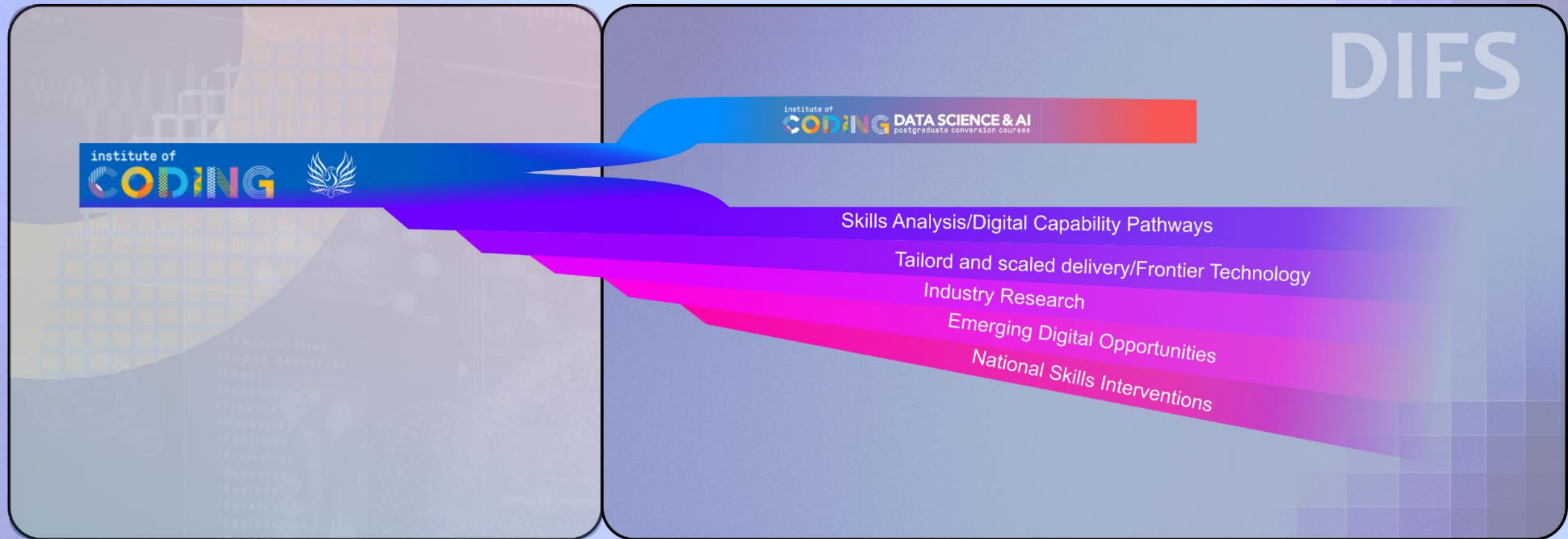
MEMBER
Matt Joyce
06 DEC 2019

Front (from left) - Jovie Pebrihandono, Deepak
David Croft, Ian Cornelius and Nicola Maclean

Member Article

IoC selected ahead of

Now



Current Activity

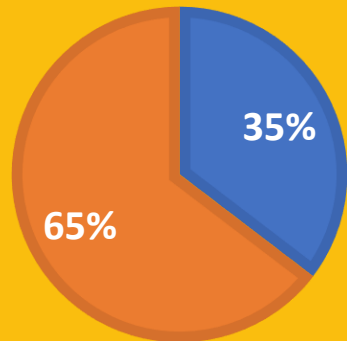
IoC Coventry

- Bootcamps
- Connected Autonomous Vehicles short-course
- 5G for business
- Bootcamps
- 5G for the creative sector
- OfS Data Science and AI Conversion Course Scholarships
 - ~550 scholarships since 2020
 - ~100 to distribute by 2025
 - Partners from across the consortium, across 13+ programmes
 - Thousands of learners
 - Over three rounds of funding so far
 - Focus on increasing diversity and inclusion of underrepresented groups

Gender

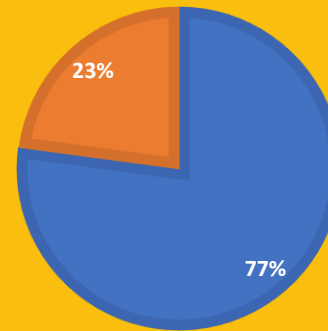
CONSORTIUM

Female Male



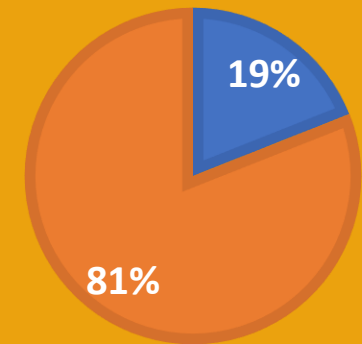
CONSORTIUM - SCHOLARSHIPS

Female Male



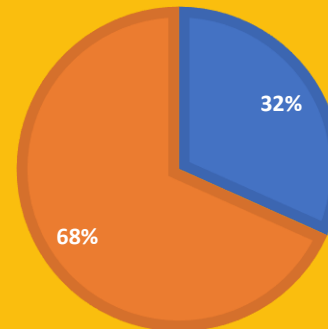
HE COMPUTING

Female Male



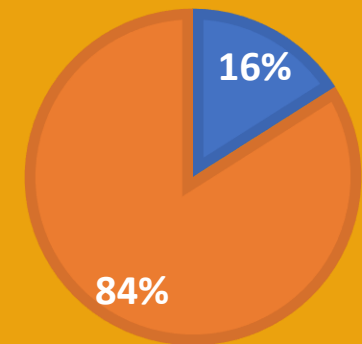
CONSORTIUM - SELF-FUNDED

Female Male



COMPUTING WORKFORCE

Female Male



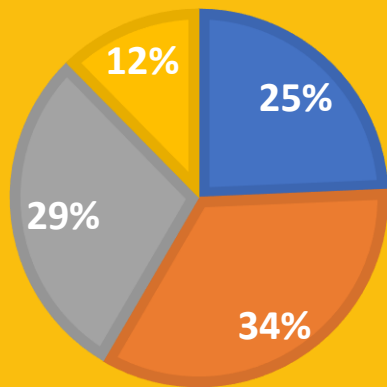
HE Data from HESA

Workforce Data from BCS

Ethnicity

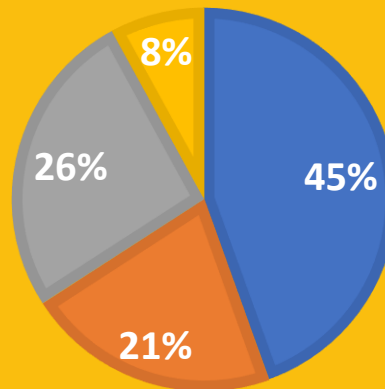
CONSORTIUM

■ Black ■ Asian ■ White ■ Other



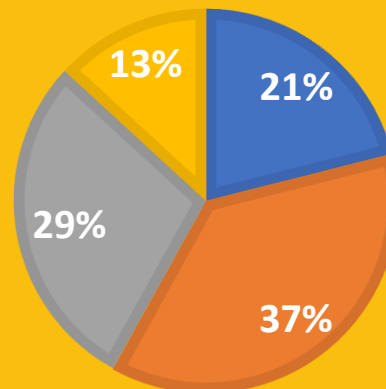
CONSORTIUM SCHOLARSHIPS

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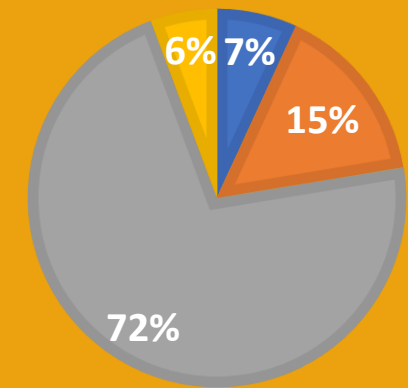
CONSORTIUM SELF-FUNDED

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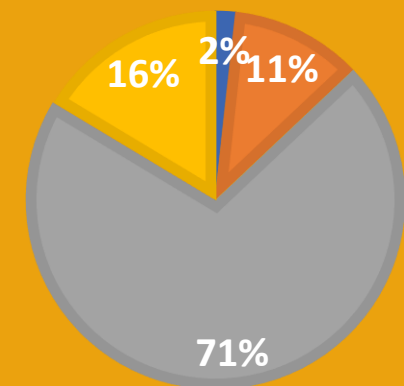
HE COMPUTING

■ Black ■ Asian ■ White ■ Other



COMPUTING WORKFORCE

■ Black ■ Asian ■ White ■ Other



HE Data from HESA

Workforce Data from BCS

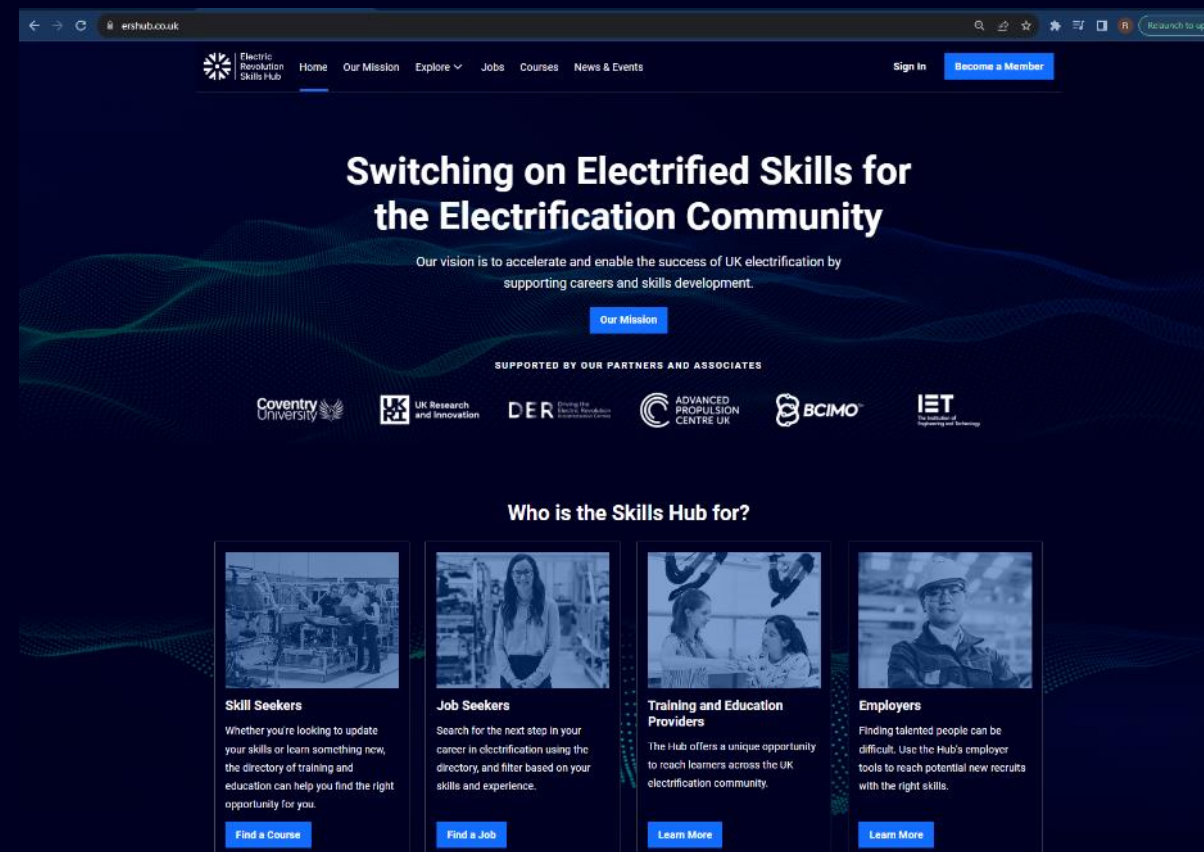
DIFS Activity

- The Electric Revolution Skills Hub
- DCP
- Frontier Tech
- Bootcamps
- Technology and innovation in Health & Care
- Consultancy
- Ideation and innovation services
- Strategically placed within the CU Group



Electric Revolution Skills Hub (ERSHub.co.uk)

- Launched March 26th
- Co-funded by UKRI and Coventry University
- Aims to accelerate and enable the success of UK electrification by supporting careers and skills development
- Integrated digital platform that gives inclusive access to training, development and jobs

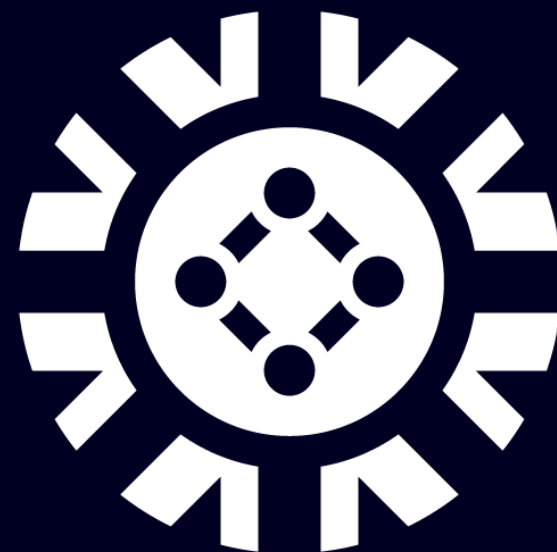




SKILLS



JOBS



COMMUNITY

PEMD Body of Knowledge

- Launched 18th October
- PEMD requires a broad and evolving set of skills and competencies that can be challenging to navigate for individuals and organisations, a problem often exacerbated by differences in language used by employers, skills providers, and learners.
- Created by topic specialists from across the country.
- Growing to incorporate NESFF now ESN.

BODY OF KNOWLEDGE

PEMDBoK: Power Electronics, Machines and Drives Body of Knowledge

The Power Electronics, Machines and Drives Body of Knowledge (PEMDBoK) is a community project led by the Electric Revolution Skills Hub that is driving a common language for the skills and competencies essential for electrification and the industries that use it.

Overview

Navigate the Body of Knowledge

Senior Advisory Team & Contributors

PEMD requires a broad and evolving set of skills and competencies that can be challenging to navigate for individuals and organisations, a problem often exacerbated by differences in language used by employers, skills providers, and learners. The Power Electronics, Machines and Drives Body of Knowledge (PEMDBoK) is a community project led by the Electric Revolution Skills Hub that is driving a common language for the skills and competencies essential for electrification and the industries that use it. The BoK captures the full scope of topic specialist areas required by the PEMD community, organised into cogent areas and associated with levels of capability. The human-readable specification helps people to be clear about skills, competencies, requirements, and training needs, while the machine-readable specification allows services for industry, recruiters, and skills providers to specify underlying data accurately and ensure consistency and interoperability.

Navigate the Body of Knowledge

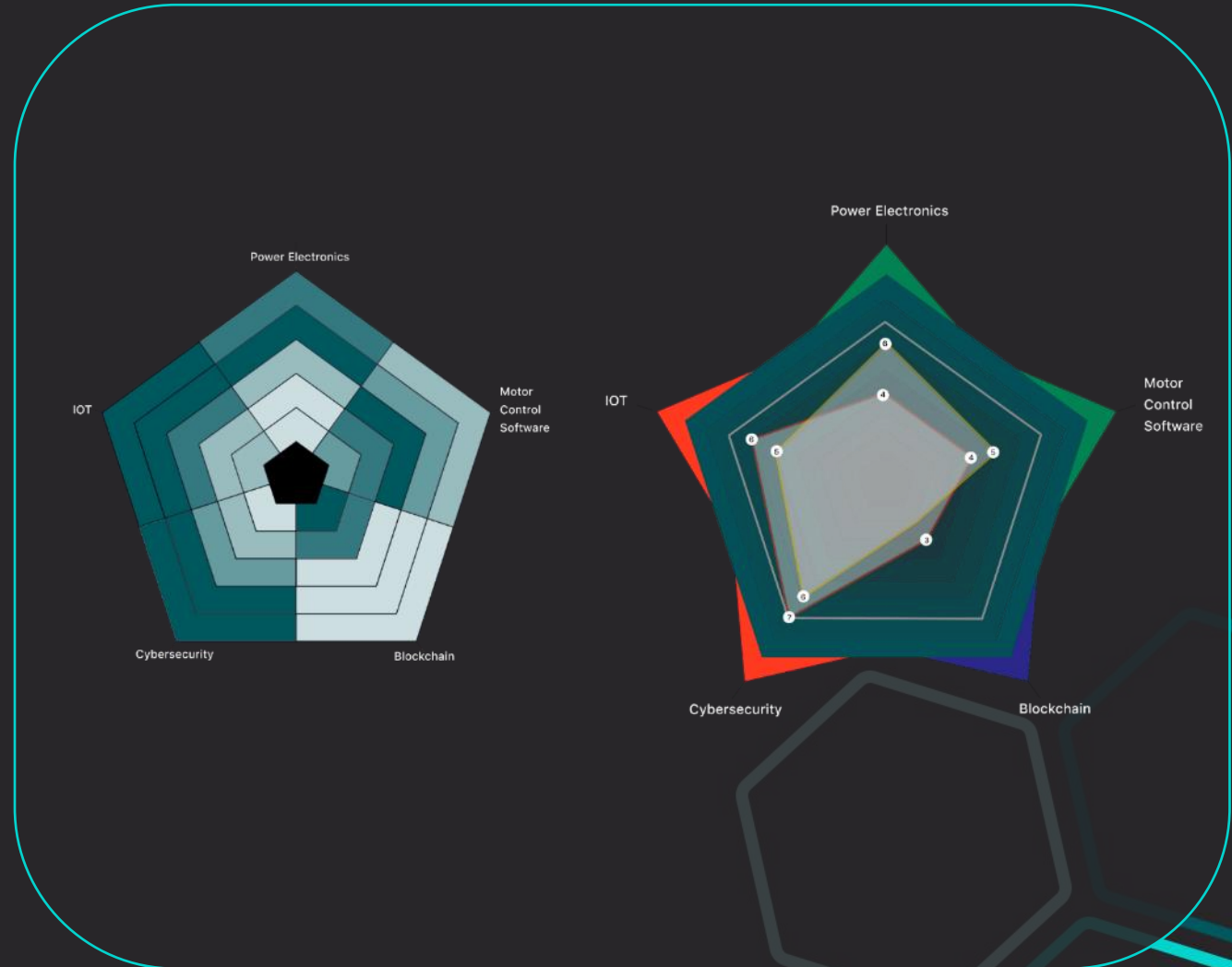
[Devices](#) [Power Electronics](#) [Emachines](#) [Drives](#) [Overarching Knowledge Areas](#)

Devices

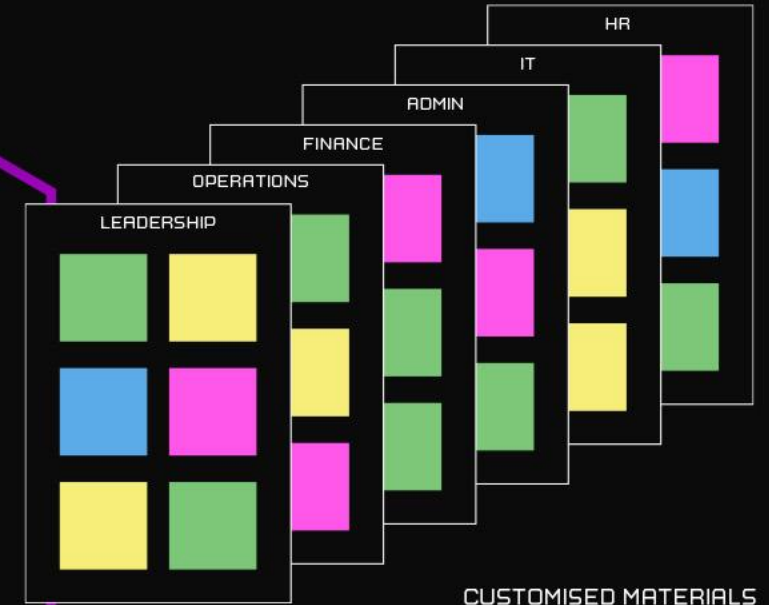
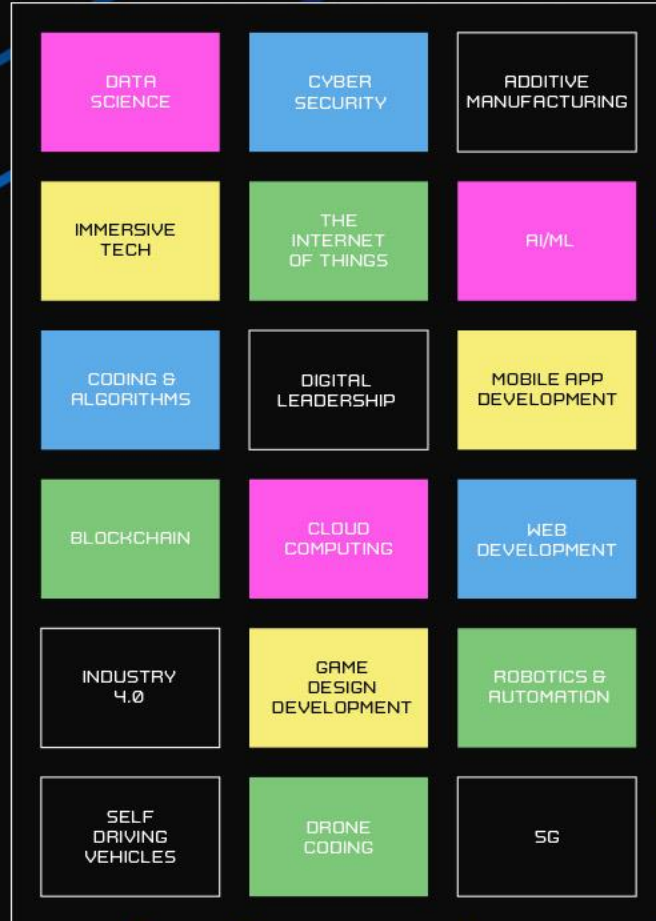
Power semiconductor devices handles and controls high levels of electric currents and voltages in power converter circuits. Passive electronic devices are used in electronic circuits to modify and manipulate electrical signals, store or dissipate energy

Power Semiconductor Active Device Materials	▾
Semiconductor Device Supply Chain	▾
Power Semiconductor Active Device Architectures	▾
Semiconductor Device & Circuits Simulation	▾
Semiconductor Device Characterisation, Test and Reliability	▾
Passive Devices	▾
Other Elements of Power Modules	▾
PCB and Sub System Integration	▾

- Data-Driven Capability Pathways
 - Workforce
 - Selection
 - Signposting
- The DCP assessment tools have been designed to provide data-driven benchmarking of workforce capability
- Provides robust measurements to enable smart analytical change and inform strategic decisions that underpin corporate growth.
- The data and analysis provided by DCP can be used to create bespoke development pathways for organisations and departments and lay foundations for a transformational culture in an organisation.



TOPIC UNITS



CUSTOMISED MATERIALS

Tomorrow

- Transferability of experience, lessons-learned, patterns ...
- IoC as a brand
 - More approachable for industry?
- Consortium is agile
 - Capacity
 - Variety
 - Geography
 - Leadership
- Experience capital
- Corpus of material
- Money solves many problems
- DIFS
 - New opportunities
 - Closer ties between academic and business development activity



The background features a dark blue and purple gradient with vertical grey bars on the left. A semi-transparent purple triangle in the upper center contains a list of business functions. In the bottom right, a black box contains a hierarchical diagram of business departments with colored squares representing sub-units.

/Administration
/Human Resources
/Legal
/Accounting
/Finance
/Marketing
/Publicity
/Promotion
/Research
/Business

Questions

LEADERSHIP

OPERATIONS

FINANCE

ADMIN