



Tackling Long-term Shortages in the Data Centre Skills Pipeline

Agenda

- Introduction and welcome : Emma Fryer, Associate Director Data Centres, techUK
- Introducing the opportunity : Andrew Stevens, Edge Foundation Trustee | President and CEO, CNet Training
- About UTCs : Mike Halliday, Senior Advisor, Baker Dearing Educational Trust
- Discussion : All
- Next steps : Mike Halliday



Emma Fryer



Andrew Stevens



Mike Halliday

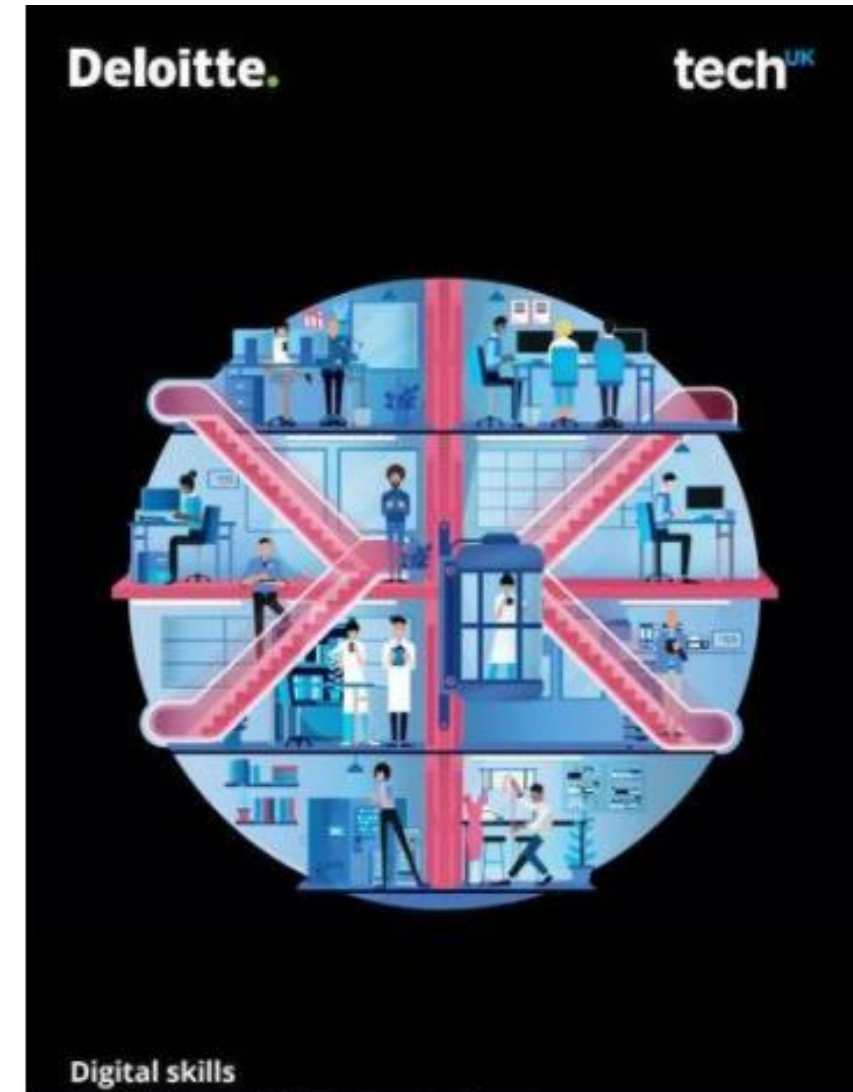
techUK has a tech sector wide skills, talent and diversity programme.

We advocate for the digital technology sector on issues like skills migration, shortage occupation list, accessible technology and diversity.

Led by Nimmi Patel:

nimmi.patel@techuk.org

You can find the [programme website here](#)



techUK has recently acquired Tech Partnership Degrees, the not-for-profit organisation which unites employers and universities to improve the flow of talent into the digital workforce at graduate level.

Led by Tom Lovell@techuk.org

You can find the TPD webpages here:
<https://www.tpdegrees.com/>



The data centre programme represents UK operators in matters of policy, compliance and reputation.

This is led by Emma

emma.fryer@techuk.org

We work with operators to address skills issues specific to the sector in the following ways...



We position the sector as a career destination of choice



We facilitate career progression

Streamlining and facilitating Professional Registration

Long running project with the IET to ensure that existing skills and professionalism within the sector is recognised, and providing a clearer pathway to professional registration for technical staff.

- Engineering Technician (EngTech)
- Incorporated Engineer (IEng)
- Chartered Engineer (CEng)
- Information and Communication Technology Technician (ICTTech)



- Cross mapped data centre skills, SPEC and SFIA framework
- Raised awareness
- Facilitated applications



We demonstrate that you don't need a computer science degree to work in a data centre



We demonstrate that the sector is a broad church




Data Centres Professionalism

Why work in a data centre?

Personal perspectives from our Sector Superheroes

September 2018

There is an erroneous perception that the only people working in data centres are geeks and computer science graduates. In fact, the data centre sector employs people from surprisingly varied educational backgrounds and presents an astonishing range of career opportunities for those working within the industry. Here are a few personal perspectives from individuals working in the sector. They take turns to explain how they got here, why they've stayed, and why they would recommend the sector as a career destination of choice.

Gary Hutchings	'Ve've vroom! From motorbike enthusiast to Engineering Design Authority (click here to read Gary's story)		May 2017
Jack Redell-Pearce	An impulsive purchasing decision that has kept him busy ever since (click here to read Jack's story)		June 2018
Mark Aston	A crazy paving path from geologist on an oil rig to Head of Technical Consulting (click here to read Mark's story)		July 2018
David Watkins	A beautiful straight line route all the way from computer scientist (click here to read David's story)		May 2018
Ben Johnson	A tangential move from offshore oil and gas to another critical environment (click here to read Ben's story)	Awaiting picture	April 2018

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arrow escape from a life in the
ing industry, into data centres via
nning design and architecture.
([click here to read Tony's story](#))



June 2018

Research revealed that data
drive the future...so she
on board.
([click here to read Hayley's](#)



July 2018

school via a ST apprenticeship
the way to Managing Director.
([click here to read Ashley's](#)



January 2018

Environmental consultant to
Chemical Engineer
([click here to read Sabrina's](#)



January 2018

communications sector - with
commercial ISP, to
actor
([click here to read Simon's](#)



June 2018

found an industry
growing sector
([click here to read Mitul's story](#))



May 2018

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Careers in the Digital Economy What have Data Centres Ever Done for Me? Career case study: Mark Acton, Critical Services Director, CBRE Data Centre Solutions

What do I do?

I am a Data Centre Subject Matter Expert (SME) acting as a managing consultant for a business which specialises in providing 3rd party facilities and IT engineering expertise, resources, operational management and support to data centre owners and operators across the globe.

CBRE is a global commercial property company which has created a business vertical called Data Centre Solutions (DCS) in order to focus exclusively on the global data centre market. DCS is a global Facilities Engineering and Operational Management vertical run from London offering the delivery of Data Centre specific Facilities Management, Engineering and IT operations capabilities services to customers. Additionally DCS offers genuine world leading thought leadership and specialist consulting services such as technical evaluations, due diligence reports, risk reviews and third party accreditation and certification services to both customers and other areas within CBRE.

Where did I start?

My degree was in Geology, from where I worked in the oil industry in the North Sea and Libya for around 3 years in total. In the North Sea this involved the installation, cabling, use and evaluation of new computer based remote sensing technology which, given the hostile nature of a drilling rig, frequently broke! From that I realised I had something of an aptitude for installing, maintaining and improving IT systems so when the price of oil collapsed in the mid eighties and the rigs in the North Sea were towed to the Firth of Forth and welded shut I took the obvious step of taking a job working as an IT Support Engineer in a pickle factory in Derby....

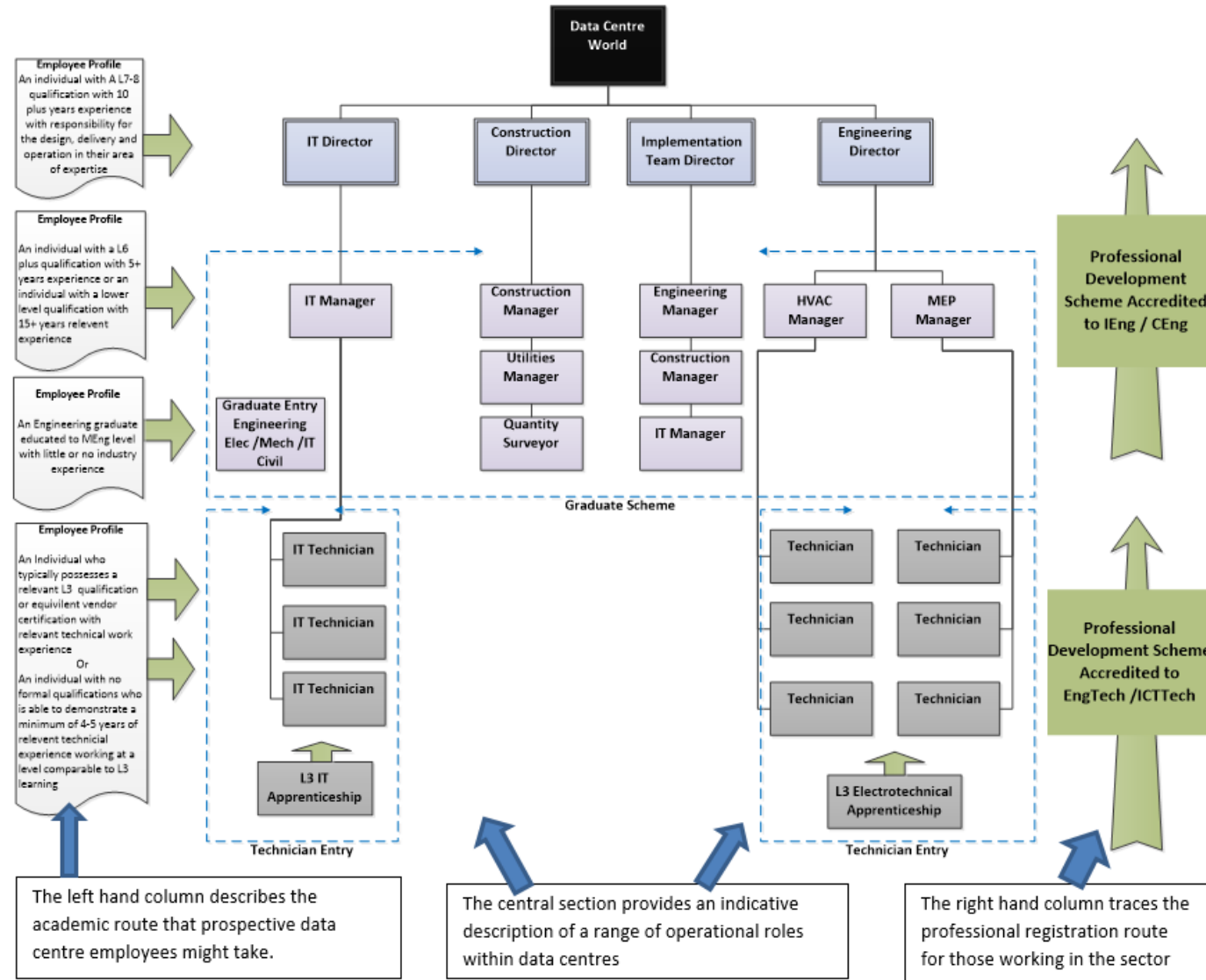
From there I became The company's Network and Communications Manager looking after remote sites around the UK and then made the move to London to become an IT Manager for a company of Chartered Surveyors dealing in commercial property.

Early days of data centres

From there I was employed by Lexis-Nexis to set up the first remote processing facility outside the US. This was in effect a small data centre. From there I moved to Compuserve to manage their European modem and network sites (Used prior to the wide adoption of the Internet and wide



We explain access to the sector and career pathways



We promote diversity and support apprenticeships

techUK Data Centres Professionalism group

So You Want to Employ More Women?

techUK

January 2018



The data centre sector struggles to attract and retain female staff, especially in technical roles. In truth, UK data centre operators find it hard to recruit enough technical staff of either gender. Missing out on half the workforce reduces the number of potential employees by 50%, which is not a good place to start. So what are data centres doing wrong? What can we do about it? Emma Fryer has worked within the sector since 2011, albeit not in a technical role, and makes the following observations.

Let's be honest, if I had been asked in my late teens what I would be doing as a career, the phrase "data centre" would not have featured on any conceivable list, yet this sector has been a very happy place for me for the last six years. Like many others, I arrived by accident rather than design. It's true that there are not many women working in the sector and the evidence that I have seen from professional bodies like the NT and sector surveys by analysts like 451 Group suggest that there are severe problems not just in recruiting women but in retaining them in technical roles. At the end of this note I've included links to some particularly good initiatives to encourage women into the sector and into technology and engineering roles but in the meantime I share below some thoughts on what we could do to help ourselves.

1. **Firstly, Motherhood and Apple Pie: make sure you do the things that will attract everyone, because they will attract women.**
2. **Secondly, make sure you position the sector appropriately as a career destination of choice. Data Centres ARE amazing, wonderful things.**
3. **Thirdly, identify where special attention is needed – even if it is just inside your own head – and get going.**

1. **Motherhood and Apple Pie: Do the things that will attract everyone because they will appeal to women**

- **Provide flexible working:** both in terms of time and location (remote working) where you can. Be honest when you can't: don't pay lip service to flexible hours or remote working if you aren't prepared to provide, enable and support them.
- **Leadership:** Ensure your business leaders demonstrate the personal and professional values that you want your staff to adopt. Identify role models and value them. Make sure your managers are doing the three things managers should do: inspiring, protecting and supporting.

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techUK Professionalism Group Briefing Note

Trailblazer Scheme: Apprenticeship Standards for Data Centres

What is the Trailblazer Apprenticeship Scheme?

The trailblazer apprenticeship scheme was established to reduce duplication and complexity in apprenticeships, improve the quality of training and help match provision to industry requirements. Previously, a multiplicity of apprenticeships of varying quality, provided by a profusion of different bodies, confused candidates and employers without providing guarantees in terms of skills or learning outcomes. A new scheme emerged from the Richards Report, which recommended one standard for one role – Trailblazer Apprenticeships. Under this scheme apprenticeships must now conform to relevant apprenticeship standards that in turn must be approved by the Secretary of State at BEIS. The scheme has effectively replaced all existing apprenticeships. The premise is "earn while you learn". The Trailblazer scheme is funded by an Apprenticeship Levy. The scheme is not restricted to 16-19 year old school leavers: it is open to all ages and multiple levels.

What is the Apprenticeship Levy and who has to pay it?

The Apprenticeship Levy applies to organisations with an annual salary bill of more than £3M. They are obliged to pay 0.05% of anything over £3M (i.e. the first £3m is exempt). The objective of this funding model is to share the training burden and address perverse incentives that discourage companies from investing in training (e.g. the perception that training costs impact competitiveness because companies lose trained staff to others who offer higher salaries because they aren't spending money on training all the time).

How is an apprenticeship standard developed?

An apprenticeship standard must be employer led, and a group of at least ten employer organisations is required to develop it. This group consults organisations with relevant expertise, such as training providers, professional bodies or industry associations. Ideally the employer businesses should be of different size, structure, location, represent different parts of the industry and have different business models. This ensures that no individual company can dominate the content and that the standard they develop is robust. The standard is written on no more than two sides of A4 and provides the blueprint or template for each apprenticeship. An apprenticeship standard will only gain government approval if its content can clearly be differentiated from other standards. Once approved, each standard becomes Crown Copyright and is free to download.

How are the standards used?

If a company wants to take on apprentices, they must find candidates for whom the apprenticeship will provide a genuine learning opportunity. An individual who already possesses the skills is ineligible; this is to prevent the scheme being used to solve commercial training needs or being wasted on "tick box" exercises. Then they need to find a lead provider who will act as coordinator for them and check that the proposed apprentices are eligible. Lead providers must have been vetted by the Skills Funding Agency and could be colleges, other HE institutions or commercial training providers. Lead providers do not need to provide training as their primary role is coordination.

The lead provider acts rather like a bespoke holiday company and puts together the apprenticeship based around the specific requirements of the employer. Apprentices spend 80% of their time working for the

Our challenge - outreach

- Currently working with:
- BALPA's redundant pilots group to explore tech transition for aviation staff
- IET on professional registration and cyber
- IMechE oil/gas engineering community to explore scope for transition

....But these only help address short term needs. Now we have Tech Partnership Degrees on board we can address longer term needs by ensuring that graduates have the skills they need to work in the tech sector, but we do not have outreach to learners within schools, or are at pre-apprentice stage.

So that's where we think UTCs might come in...