Careers in the Digital Economy

What have Data Centres Ever Done for Me?

Case study:
Tony Day, Director Global Data Centre Solutions, Schneider Electric

Did you intend to work in the data centre sector? No, I was not even aware there were datacentres (or computer rooms) until the 60’s with the USA and Russian space programs, and then until I entered the workplace.

How did you end up here? Why are you still here? By accident, due to a number of what appeared to be pieces of bad luck at the time but subsequently as often turns out, to be for the best. In my primary school days influences were all around us in the form of paintings by artists like Turner and Constable - also the names of two of our school houses along with explorers like Shackleton and musicians like Purcell, and the great Victorian engineers, particularly Brunel who worked across civil engineering, architecture, naval architecture and much more.

I did not have a clear idea of what I wanted to do but it had been a family tradition for the boys of the family to go into either of the family businesses – furniture makers or printing. University was not an option, the expectation and necessity was that you would start work at the end of your secondary education. Even my elder brother who was the smart one of the two of us, and went to a grammar school, was pulled out and apprenticed at fifteen under my father.

Some of my earliest memories involve watching and ‘helping’ my father while he worked on a piece of furniture. I would sometimes accompany him to a very large and grand tool store in the City of London which catered for everyone from engineers to cabinet makers. There was a very grand staircase in the centre of the floor going up to an upper floor level and everywhere tools of every kind and the smell of linseed and machine oil. Many years later following the departure of the furniture manufacturing trade from the City this store had closed. I eventually returned to find it as it had been less the tools, when a client purchased it and we converted it into a small datacentre.

Before the days of ‘health and safety’, although I am sure it was still against the company rules, I once went with a friend of mine to his father’s place of work – the train depot at Hornsey in North London. His father drove steam locomotives about in the sidings, coupling them up to strings of coaches and waggons etc. We walked behind him along and across the tracks and climbed up onto the footplates of various engines. We even got to have a go under close supervision at ‘driving’ one a short distance very slowly. This was real big boys toys and while it did not make me want to become a train drive it no doubt did contribute to my fascination with things mechanical and love of steam locomotives – the sight of all that highly polished steel, brass and copper and the distinctive smell of coal dust and hot engine oil.

Another passion of mine like that of many youngsters was drawing which I would undertake at every opportunity. Even when all the lights were turned off for the family to watch the newly arrived television. My mother was always scolding me that I would ruin my eyes and end up having to wear glasses as a consequence (something I have managed to avoid until very late in life). At fourteen I won a scholarship to art school but ultimately my parents did not see this as a serious career choice.
Years later I arrived at a large industrial site in Paris which we were converting into a datacentre, for a meeting with a senior engineer from electricity utility EDF who were just being deregulated. It quickly became clear that my rudimentary schoolboy French combined with his extremely limited English were going to be a challenge. However with some drawings, pens and paper we managed a two and a half hour ‘discussion’ that got the basic requirements of our power distribution established. Subsequent meetings were handled with the benefit of a translator much to the relief of both of us! I still draw a lot, it’s a great way and process of working out ideas and problem solving, it may be on paper or more often an electronic pad these days.

At eleven I had been put down as an apprentice to work with my Uncle John in the ‘print’. Our whole family shared a love of books and I can remember how my uncle would always take off his glasses and carefully examine any new book or colour magazine he came across. If you enquired as to what exactly he was looking at he would point out the quality or not of the work. My uncle was a great story teller and practical joker and so I felt reasonably happy about joining him in the print.

Traditionally the printing industry offered some of the best paid and secured jobs. It was a virtual closed shop, you had to have close relatives already within it to be offered an apprenticeship. Medieval terms were still in common use and apprenticeships seven years. At the last minute the company where I was due to start work cancelled all of the apprenticeships which had not been signed. They also announced plans to sell their Covent Garden site and move out of London.

My uncle quickly arranged for me to attend an interview at another firm and I was duly offered another apprenticeship. However this sudden change had caused me to really stop and think about my future – did I really want to be a printer? I decided the answer was no but again I did not know what I really wanted to do. My other great interest was flying and like many youngsters at that time in a period of conscription for national service had joined the ATC (if you were a cadet in the service you preferred you had more chance of being posted into it once conscripted).

So I decided to return to school and take ‘O’ Levels which would potentially open the door to a Short Service Commission in the RAF. Fortunately the school were happy to take me back. Within a few years the print industry changed beyond recognition under the influence of digital transformation. All those centuries of old skills and the structure of that closed world collapsed almost overnight.

A lucky escape, but my plans to go flying also went on hold with the news of my mother being diagnosed as terminally ill. I really needed a short term job but thought I would try and get something associated with aviation. An engineering apprenticeship at Heathrow in those days required apprentices to live in digs near the airfield due to the early starts. While applying for various positions I came across a newspaper article about a new profile cutting machine that had been designed by a fairly local company. The Chief R&D Engineer had written a detailed account of the development from initial concept through to final design.

This sounded really interesting so I wrote directly to the author saying I was very interested in design and would very much like to work in an office like his and was their anyway I could do that straightaway without having to go through the normal apprenticeship or graduate route. To my great surprise he wrote back and asked me to go for an interview.

The interview itself was not what I had expected. This gentleman looked through all of my technical drawings holding them up to the light, turning them around upside down – what was he looking for or at? He led me on a walk around the factory pointing to various machines and asking what would I use that for, how would you make this. He kept producing different instruments from his pockets and handing them to me and asking me to give him a reading of different engineering parts he
picked up as we walked around (this was the time of mechanical micrometer’s etc so I was aware that the correct use was by ‘touch’ and not using the ratchet) and in between asking all the questions you would expect to get at a normal interview.

After an hour or so of this we got back to his office, he peered at me over his glasses and let out a slow sigh ‘you have got a great deal to learn’ (I thought I had blown the interview) however he went on ‘but I think I can do something with you’. He went on to explain that no there was no existing way of bypassing the normal apprenticeship/graduate route into his office. That the job I was seeking did not exist. ‘Let me think about it and I will write to you in a few days’.

When his letter arrived it explained he was offering me a role as his trainee/understudy. I was to be paid more than an apprentice and less than a graduate, I would be required to continue my education on day release and evening classes, expected to construct my own development prototypes etc etc.

So this is how I came to join the engineering world in R&D for a company involved in Industrial Gases. Everything we worked on was a special or new development. My boss had come from a family of designers of textile machines, he himself started as an apprentice for the company that made the first metal wing aircraft. He worked his way up to become the Chief Development Engineer. I learnt a great deal from this man, and will always be grateful for the opportunity he gave me and which led to me following a different career from that which I had intended.

When my boss took early retirement due to illness I decided to broaden my experience from the every specialised area I had been in. Joined a company in voltage and current control equipment.

Then moved to production engineering – this convinced me of the power of electronic data when we used IBM mainframes to run our production schedules – week before, current week, and week in advance. With multiple production runs with supplies on JIT basis this made significant improvements to the previous manual scheduling systems and allow more accurate ‘what if scenarios’.

I did eventually work for an aviation company (BAE – Hawker Siddley Dynamics) although most of my work was on control systems for naval destroyers and frigates 21 Class) Not much room on a warship below decks so the IT racks for the controls were built in soon after the keel was laid and the boat built around them.

I then worked for a German company producing bureau landschaft solutions for commercial offices and banks, running their London design office. This led me into construction of computer rooms, trading floor designs etc. I then worked on new digital telephone exchanges- System X, STC/Nortel before moving into private consultancy – new commercial offices for a retail audit company involved relocating their year old mainframe. When they were sold this solution they were told that when they moved, time would be available on another system to cover them during the move period. This turned out not to be correct their system was unique enough that the IT company had not similar back -up available. My client ran its business on its computer – no computer no business. The computer supplier had no answers - to any suggestions as to how we might get around this there was just a lot of head shaking and sucking of air through clenched teeth – not exactly helpful.

The mainframe had been assembled in their current building after taking in individual parts - we took out in much larger parts by lowering the lift in the tower block and using the shaft to lower the large parts from a temporary hoist. Put onto lorries with padded beds and took to new site. At new site parts would only fit sideways through window spaces once windows had been removed. We
rigged platforms again with padding, to lower parts onto off of mobile crane, and slide in. The computer supplier predicted this would all end in disaster. The move out started Friday evening after close of business and we had the system back on and running by 15:30 Sunday afternoon without any downtime over the subsequent days. This project led to a lot more computer room work.

During these years I also trained part time at University as a Chartered Architect. This led to me working on accommodation modules for oil platforms following serious fire on North Sea Exploration Rig, on designs for research and industrial laboratories and eventually the formation of a fully integrated consultancy business.

I was also hired by Peter Hannaford to provide consultancy services for West Tower City Reach Project, Docklands which then led to us coming together to deliver D&B services across Europe for the deregulated power and IT market. I showed the design of first industry fully prefabricated data centre (3 storey ) at ECTA event in Vienna 2000. However the Dot Com collapse stopped all that. In 2002 I wrote the patent for first industry close coupled InRow Cooling System which was acquired by APC in 2003 along with some key personnel including Peter Hannaford and myself. Schneider Electric purchased APC in 2007. I currently work I the CTO Office of IT BU at Schneider Electric.

**What do you like about working in the sector?** The industry is constantly evolving and in fact today the level of innovation is higher than it’s ever been. New challenges are always arising, so you can’t rest on your laurels and it can be very demanding. But you get to work with amazing technology and great teams of people across multiple geographies.

**What opportunities do you think data centres offer?** Datacentres are involved in every aspect of our daily lives be it in our leisure time, or work, and are an expanding industry with good job security and excellent career options. The skills you will acquire are in high demand and well paid, not just within data centres, but in many other fields of endeavour thereby keeping your future career choices/options open.

**What advice would you give to young people trying to decide on a career?** Many of us did not begin with a clear idea of what we wanted to do, so acquiring some basic skills that will maximise your career choices is a good place to start. STEM skills are at the basis of the skills you will need in many career choices including datacentres. If you have an ability with languages as well that’s a great plus as the datacentre industry is truly global.