



Paul Robert Hillman

MSc CEng CertEd MCIBSE MIET

Building Services Chartered Engineer BEMS, BMS, HVAC Specialist and Industry Trainer

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QUALIFICATIONS

- 📖 CEng - Chartered Engineer.
- 📖 MSc - Master of Science in Building Services Engineering and Sustainable Energy.
- 📖 BCIA/ECA Building Controls Courses (Advanced Technical Certification).
- 📖 Tridium Niagara 4 & AX Framework certification.
- 📖 UK & NL Health and safety certification.
- 📖 CertEd - Advanced Certificate in Education post compulsory certificate in education.
- 📖 A1 & V1 Edexcel - Assessors Award (Teaching Qualification) & Verifiers Award (Quality Assurance).
- 📖 I.E.E. Regulations (C&G 2381) & Inspection & Testing (C&G 2391).
- 📖 ECS Gold Card - Electricians Certificate and JIB Electrical Technician grade.
- 📖 City & Guilds Electrical Installation Parts I, II & III ('C' certificate).

PROFESSIONAL SKILLS

- ✍ 35 Years plus in the Construction Industry (UK and European).
- ✍ Managerial and multi role experience (Senior Engineer/Commissioning Manager/Team Leader, Project Eng.).
- ✍ Limited UK Company (Company Director).
- ✍ Lecturer, Trainer, Assessor and Verifier for Industry and Further Educational Colleges.
- ✍ System Integration (Tridium, LonWorks, BacNet, ModBus, Compass, Apex, CdC).
- ✍ SCADA/BMS/DCS systems design, installation, commissioning & maintenance (Primarily Tridium, Trend and Lon trained, but worked on many others).
- ✍ Electrical Installation specialist, including Lighting & Power, Data, CCTV, Fire & Intruder systems.
- ✍ Comprehensive computer knowledge (networking, construction, upgrades, software & hardware).
- ✍ Knowledge of CAD and Graphics modifications and design.

WORK EXPERIENCE

- 📄 Facilities Management - Harrods
- 📄 HVAC+R Training provider - BCIA, ECA,
- 📄 Tridium/Niagara Training provider - UK
- 📄 Software Engineer - Alder Hey Hospital, UK.
- 📄 Senior Engineer - NedTrain B.V. - Dutch railways refurbishment and overhaul (NL).
- 📄 Commissioning Manager - GLOBAL SWITCH Data Centres - (Amsterdam, Paris & Madrid).
- 📄 BMS Package Manager - ExCeL (London).
- 📄 Emergency Systems Consultant - Millennium Dome, London, UK.
- 📄 Further Education (FE) Electrical Lecturer.
- 📄 BEMS Commissioning Manager - Bluewater Shopping Centre, UK.
- 📄 BEMS Systems Engineer - EuroTunnel, UBS, Deutsche Morgan Grenfell & Flemings, Earls Court II, Broadgate Developments.
- 📄 Maintenance Engineer - Financial Times UK, ICI London HQ, UK, Portland HMYOI Prison UK, Nuclear Power Station, Scotland.
- 📄 Electrical Installation - Thames Barrier, Pentonville Prison, Commercial buildings, Hospitals, Hotels, Schools, Farms, Apartments and Homes, UK.

DETAILED EDUCATION & QUALIFICATIONS

Certification:

TRIDIUM (June 2016)
Niagara 4 Framework Certification

UK Engineering Council (Jan 2013)
CHARTERED ENGINEER (CEng)

Brunel University London (2011)
Master of Science (MSc) in Building Services Engineering with Sustainable Energy

BCIA/ECA (2011-2012)
Building Controls Courses (BC0-BC6) plus Standard & Advanced Technical Certification

TRIDIUM (July 2011)
Niagara AX Framework Certification

UK Engineering Council (July 2010)
INCORPORATED ENGINEER (IEng)

CANTERBURY CHRISTCHURCH UNIVERSITY
Post Compulsory Certificate in Education

CITY & GUILDS (July 2005)
C&G 2391 - Inspection & Testing

EDEXCEL (June 2005)
Verifiers Award (V1)

CITY & GUILDS (September 2004)
C&G 2381 - 16th Edition I.E.E. Regulations (BS7671:June 2001)

EDEXCEL (June 2004)
Assessors Award (A1)

JOINT INDUSTRY BOARD (Dec 2003)
Technician Grade

ECHELON (September 97)
Certificate of Completion of the LonWorks Technology Training

SOUTH BANK UNIVERSITY (September 94)
16th Edition I.E.E. Regulations

JOINT INDUSTRY BOARD (March 1989)
**Accredited Installation Electrician
 Certificate of Competence**

JOINT INDUSTRY BOARD (July 1987)
Approved Electrician Grade

CITY & GUILDS (October 1986)
Electrician's Certificate.

SELTEC - South East London Technical College.
**CITY & GUILDS (June 1985)
 Electrical Installation Course III.
 1 DISTINCTION & 2 CREDITS**

BROMLEY COLLEGE OF TECHNOLOGY,
**CITY & GUILDS (June 1983)
 Electrical Installation Part II.
 3 DISTINCTIONS**

**CITY & GUILDS (June 1982)
 Electrical Installation Part I.
 1 DISTINCTION & 2 CREDITS**

**CHARTERHOUSE SCHOOL,
 6x GCE 'O' Level (English, Maths, Physics, Chemistry, Tech Drawing & History).
 3x CSE Level (Metalwork & Electrical Engineering)**

EMPLOYMENT

2017 - Present

HVAC Technical Manager

Harrods

Full Time Employment.

Working with the old, the new and providing my controls experience to facilities management.

Harrods is not only a fantastic store with world renown, it has a huge amount of mechanical and electrical plant and equipment. Boilers, Steam Generators, Chillers, CO2 Package Units, AHUs. Electrical Generators, various SCADA systems and a full Schneider (Struxureware & SIGMA) BEMS.

My role keeps me and my excellent team busy, dealing with the general day to day running as well as overseeing considerable amounts of new projects.

Harrods is a constantly evolving environment with unique challenges, something I thoroughly enjoy.

2016-2017

BMS Consultant

Dimension Data (Europe)

Full Time Employment.

From the start I have helped Dimension Data resolve issues with their projects, providing expert advice on their flagship BMS project, the new Rolls Royce - Derwent building in Birmingham. This building has a Tridium Niagara / Tyrrell Systems / Forest Rock hybrid system. The large building combined with a myriad of different systems has been very interesting and includes clean rooms (positive pressure), dirty rooms (negative pressure), fuels systems (ATEX rated equipment), laboratories, electronics manufacture, along with chilled beams, large LTHW and DHW systems and underfloor heating.

Dimension Data are continuously gaining ground and new projects of which the Westfield shopping centres are just a part of the works was involved with to help the engineering and support teams.

www.dimensiondata.com/ai-UK

2009-2016

Freelance Training, Engineering and Consultant

BCIA, Tridium EMEA, Freelance work.

Via my company (FullyEngineered.com), I provided training for the BCIA (Building Controls Industry Association) and for Tridium EMEA. With the inclusion of working at North West Kent College, this amounts to thousands of hours of training delivered to thousands of Engineering students. For the BCIA I taught their full range of courses which includes HVAC+R fundamentals, understanding psychrometric chart data, control of heating, cooling and refrigeration.

Tridium Europe approached me in 2012 and I then delivered their 5 day Niagara AX Certification workshop courses. I have also delivered similar courses for OneSight Solutions and Distech Controls.

In May 2012, the BCIA presented me with an award for Contribution to Training. In 2013 & 2014 the BCIA honoured me with the position as judge for their prestigious and highly popular, BCIA Awards.

When requested, I modified course materials and undertook occasional engineering & consultancy work.

The FullyEngineered website I created is no longer in use but I left running as an example of my work.

2008-2009**Senior Engineer (Climate systems - Rolling stock)**

NedTrain B.V. - Haarlem, The Netherlands (NL)

Contract - Day Rate. 9 months

My role as Senior Engineer for climatic systems required me to assist and advise each of the project teams. My primary role being to help get NedTrain's latest 250 million €uro project, the DDARm (a double deck rolling stock refurbishment) started. I provided presentations and advised in technical meetings from client to engineer level, wrote engineering specifications and had overall responsibility for climatic design and engineering. I found this an enjoyable challenge, especially due to the immersion into a full Dutch working environment.

www.nedtrain.nl/

2007-2008**Lecturer (Electrical/Engineering for Industry)**

ECA/BCIA. Various venues across the UK, including on-site training. Contract (Day rate). 2 Years.

My company provided industry approved training for the Electrical Contractors Association (ECA) and the Building Control Industry Association (BCIA). I delivered courses in HVAC fundamentals and technology to consultants, engineers and junior engineers at venues throughout the UK. When the BCIA took direct control of their training in 2013 they invited me to continue working with them.

2003-2006**Lecturer & Teacher (Electrical Engineering & Computing)**

NW Kent College (UK). Full Time Employment. 3 Years.

I taught students of an electrical engineering vocational nature.

EMTA Awards Limited (EAL) - Computer Maintenance, Electrical & Electronics

City & Guilds 2351 & 2330 (Electrical Installation - Theory & Practical).

City & Guilds 1851 (Electronics & Alarms - Theory).

City & Guilds/EAL National Vocational Qualifications (NVQ) Levels 1,2 & 3.

IMI - Key skills (Numeracy, Communication and ICT).

Responsibility of over 400 students, including personal tutor roles during my term here.

www.northkent.ac.uk/

2001-2002**Engineering, Commissioning and Project Manager.**

IBS - (European Global Switch Centres - NL, FR, ES)

Contract (Day rate) 18 months.

My contract was initially to act as design engineer and commissioning manager of various building control systems. My original remit being to integrate each of the Global Switch (Amsterdam) systems (primarily chillers, water pumps, cooling systems and air ventilation) into a complete system with monitoring an open systems network. Then I progressed to overseeing the commissioning of the systems and made sure that they worked as the contract and specification demanded. During this phase I had engineers and a full installation team under my immediate control.

My remit was extended to modify the Global Switch (Paris) systems and then further extended to provide initial designs of the systems control of the Global Switch (Madrid) plant. I attended onsite meetings and altered and adjusted designs as required.

During the last six months of the Amsterdam project I took over control of the project management.

2000-2001**BMS Package Manager.**

Sir Robert McAlpine (ExCeL - London exhibition centre, UK)

Contract (Hourly rate) 1 year.

The project had various managers for each of the areas of construction, my role being package manager for the building management systems. I oversaw designs, implementation, installation, commissioning and functional testing. I attended site meetings, on and offsite testing and demonstrations at all levels and had effective control of the BMS company (Sauter) who were sub-contracted to install the systems. With the inclusion of Sir Robert McAlpines staff, I had, at any one time approximately 50-70 individuals under my immediate command.

1999-2000**Emergency Systems Consultant.**

N.M.E.C. (Millennium Dome Client, UK)

Contract (Hourly rate) 1 year.

My initial remit was to inspect, comment and constructively alter (via my instruction) drawings and designs for the dome exhibitions emergency/life safety systems (Emergency Lighting, Sprinklers, Fire Alarms (including audio and visual implementation)).

This was later extended to the whole dome including the external buildings.

During my employ, I attended design, managerial, building control and fire officer meetings.

Although I had no financial constraints I effectively controlled a final sum of approximately £25-30 million worth of installed life safety equipment. My control extended to over 500 people, including designers and their installation teams, equipment installers and the commissioning teams.

1998-1999**Commissioning Manager/Systems Design.**

E-Squared (Bluewater shopping centre, UK)

Contract (Hourly rate) 1 year.

My role was to advise in design, to supervise and direct the installation and commissioning teams involved in the integration of the whole of the Bluewater shopping centre initial build.

This meant attendance of meetings, network design and configuration, selection of equipment and direct involvement with the site teams (over 30 staff).

1991-1998**Project Management/IT/Design/Maintenance.**

Saturo (originally Advanced Building Controls Ltd.)

Initially Contract (Hourly rate) approx 4 years, then an Employee (Yearly Salary) approx 3 years.

I joined ABC (who then became Saturo) when they were a year old and they only had a small team. Initially I tested and installed small works but gradually grew with the company. My job roles varied over the years from installation, to commissioning, project design, project manager, equipment selection and initial surveying of jobs. I attended educational courses in BMS equipment and learnt not only to program, install and commission the equipment, but also how to integrate such systems into the buildings as a whole. I gained knowledge and understanding of heating/cooling and ventilation systems and how they interact. My previous electrical knowledge, my IT skills and my new gained control systems knowledge very nicely melded into one. Many buildings have the graphical front-ends that I have personally designed, programmed and commissioned.

By the time I left ABC, they had grown to a turnover of around £8 million and I decided that it was time to open my own company.

1990-1990

Various Electrician/IT/Maintenance contracts.

P.J. Ritchings, Montrose Agency, E.J.S. Electrical
Contract (Hourly rate) approx. 1 year.

1980-1988

Apprentice & Electrician

C.W. Goslings - (served a 3 year fully indentured apprenticeship, attained APPROVED grade)
Employee (Yearly Salary) approx. 8 years.

EXTRA DETAILS OF EMPLOYMENT AND EXPERIENCE

My working life started in 1980 with;

C.W. Goslings, who gave me an excellent start into the electrical contracting industry by supplying me with a full indentured apprenticeship and a firm knowledge of all aspects of the electrical industry. With my high exam results in college I became a candidate for the apprentice of the year (run by the electrical contractors association).

Then I took (what seemed to me at the time) a giant leap and became self employed. One contractor, **E.J.S. Electrical**, provided a new avenue of experience. Their work, mostly at the I.C.I. HQ (Westminster), included the upkeep and additional installation of the building data network system. I was taught how to service and add to the system, increasing my knowledge of computers, data transmission and the world of information and communications technology (ICT).

My next employers were **Saturo** (originally **ABC - Advanced Building Controls**) where I enjoyed 7 interesting years under their wing. My time was spent learning the industry of servicing, commissioning and installation of building management systems (BMS/BEMS/HVAC). Maybe more importantly, I gained a wealth of knowledge on intelligent control and its integration. Through service and maintenance experience, I have gained hands on and an in-depth understanding of the way building environments are controlled and maintained. I have dealt with chillers, boilers, most types of air handling units and plenty of associated equipment (pumps, valves, actuators and much more).

I have designed, built and developed hardware and software front-ends (supervisors) for several building control systems (notably, Eurotunnel, Financial Times, HMYOI Portland, and Flemings). This has meant dealing with the networking/communications (hardwired, wireless, modems), creating graphics, writing programs and actually installing/commissioning the equipment. I am able to write and adjust programs for many PLC systems; Trend, Next, Seibe, Johnson controls, AAM (Sage) and Thorn/JEL. From the various programs I have seen, created and altered, I understand many control theories that are used today. I have a good working knowledge of the various software tools including Trend Supervisors (962, 945, 943, and 921).

Computers have been a hobby of mine since the early 80's. This has developed into an excellent working knowledge of Information Technology in general (including **PCs/Servers/Laptops/Front ends**). In most cases I understand how they are constructed, operate, communicate and interact. I have used most of the popular operating systems (**Windows 8, 7, Vista, XP, 2000, NT, 98, 95, 3.11, 3.1 and DOS**) and a multitude of their programs (such as **MS Office, Excel, Word, Access**).

I have worked heavily on several large-scale integration projects (Eurotunnel, ExCel, Bluewater, Millennium Dome). In the course of these works I have met, had training with and used devices from companies like Echelon (**LonWorks** design, LonMaker for windows, Lonpoints), **Honeywell** (FCU and VAV devices), **Philips** (Unilon, Helio, Lighting design, control & installation), **CdC** (CdC engine), **North** (Compass), **Key** (Apex) and **Doorway Systems** (Doorway) and many more. The usage of their products has enabled me to integrate combinations of Fire & Security systems, CCTV, Lifts, Lighting and of course, BMS. My understanding of **integration** has grown formidably to the point where I am often able to design, build and operate many systems with little or no training.

Later job roles allowed my management and resource skills to grow further. At **Bluewater** (a shopping centre in Kent), **Deutsche Bank** building (Winchester House) and **Union Bank of Switzerland** (UBS), I was the commissioning teams' leader. At the same time I was employed to help engineer design and manage systems integration.

At the **Millennium Dome**, I undertook a new role as consultant to the client (the New Millennium Experience Company [**NMEC**]). Initially I advised on the Emergency and Life Safety systems for the Millennium Dome exhibitions. This was later extended to oversee the whole of the Millennium Dome.

With **Sir Robert McAlpine** in construction of **ExCeL**, the new exhibitions centre in London I was again working for the client as the BMS package manager.

IBS (Independent Building Solutions Ltd) provided me with a very interesting role where I lived and worked in Europe. Initially I was employed as engineering and commissioning manager on the newly constructed European **Global Switch** Internet switch site in Amsterdam. This role was extended to include the Paris and Madrid sites. My final role with IBS was to take over as project manager for the entire Amsterdam site in its final stages.

A vacancy became available at my local Technical College (North West Kent College - UK). This really was a kind of "grass roots" role for me and I gladly accepted the position as Lecturer in Electrical Installation and Electrical/Electronic theory (among other subjects). Later, with teacher training at Canterbury University, I gained my teaching qualification (**Cert. Ed.**) and further became an **Assessor** and **Internal Verifier** for the college along with my main duties as **lecturer**.

With this excellent background in mind, I found a need to set up a new company, **Mull Hill limited**, thereby allowing me to provide short courses in HVAC technology to the industry, the **ECA** (Electrical Contractors Association) and the **BCIA** (Building Controls Industry Association) being my main clients.

My venture with **NedTrain B.V.** was a little different. I worked in a completely Dutch environment and I thoroughly enjoyed the atmosphere, the challenge and found it extremely interesting, seeing engineering from a vehicle production facility point of view.

I recently finished my full time studies for the **MSc in Building Services with Sustainable Energy**. I find eco-technology an interesting and exciting area which has expanded my knowledge and furthered my career. As part of my studies I undertook a dissertation in smart building services and building integration. This was completed by undertaking the **Tridium Niagara AX Framework** course which I also passed and obtained the certification. In June 2016 I took and passed the **Tridium Niagara 4 Framework** exam, so updating my knowledge of integration systems.

In May 2012, the **BCIA** presented me with an **industry award** for my Contribution to Training and then in 2013 they asked me to be a judge for the 2013 Awards.

It is a belief of mine that we are always learning. This is something I really enjoy and so I am often looking to expand my knowledge and skillset. With this in mind, I became a full member of the Chartered Institute of Building Services Engineers (**MCIBSE**) and through CIBSE have achieved **Chartered Engineer (CEng)** status.

Although I realise this CV is long, I feel you are unable to get a proper overview of my experience without the details included within.

Therefore, I thank you for taking the time and reading this far.

Please do not hesitate to contact me should you require anything further.

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