

# The CEng eBook



How becoming registered as a Chartered Engineer (CEng) could advance your career

- The benefits of CEng
- Find out how to become professionally registered and the requirements for becoming a CEng
- Student? Discover what you can do now to help your future career
- Chartered Engineers share their experiences and explain how professional registration has helped their careers
- FAQs and useful links

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## Becoming a Chartered Engineer (CEng) could advance your career

Professional registration as a CEng not only recognises your proven commitment, skills and experience as an engineer, but also identifies to employers that you have the competence, expertise and work ethic that they value. You will:

- Gain a professional title that carries considerable prestige
- Enhance your employability
- Stand out from the crowd as a significant player in the world of engineering and technology
- Enjoy greater influence within the profession
- Earn recognition from your peers
- Hold an internationally recognised qualification

*"It is critical that my technical ability is supported with the correct qualifications, and in my opinion having the designation CEng is the ultimate mark of a professional engineer"*

**David W Millar** MPhil CEng SenMWeldI

*"CEng was an important achievement for me especially as having a medical science background I wanted to prove my capabilities in materials and engineering and therefore gain respect from my peers"*

**Melissa A Riley** BMedSc PhD  
CEng MIMMM

# Serious about your career in engineering?

## Realise your potential

Are you a motivated individual with real potential?

Do you possess a natural talent for problem solving through creativity and innovation?

If the answer to both questions is yes then you may well have what it takes to become one of the elite of the engineering profession – a **Chartered Engineer (CEng)**.

Chartered Engineers are characterised by their ability to develop appropriate solutions to engineering problems, using new or existing technologies, through innovation, creativity and change.

They might develop and apply new technologies, promote advanced designs and design methods, introduce new and more efficient production techniques, marketing and construction concepts, or pioneer new engineering services and management methods.

Chartered Engineers are variously engaged in technical and commercial leadership and possess effective interpersonal skills.



*“CEng registration has strengthened my ability to develop solutions to engineering problems. It has improved my career prospects and knowledge, as well as enriching my personal network.”*

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**Jeffrey Yung**  
CEng FSOE

## UK-SPEC

Individuals aspiring to registration need independent assessment of their competence.

The UK Standard for Professional Engineering Competence (UK-SPEC) provides the means to achieve this.

[UK-SPEC](#) describes the value of becoming professionally registered as an Engineering Technician (EngTech), Incorporated Engineer (IEng) or Chartered Engineer (CEng). It describes the requirements that have to be met for registration, and gives examples of ways of doing this.

For more information see [page 7](#)

### Why wait?

Apply for CEng today  
by completing our enquiry form

## Eligibility

CEng status is attainable through demonstration of the required professional competence and commitment. These are set out in the professional standard, [UK-SPEC](#), and are typically developed through education and work experience.

There are different ways in which you can meet the requirements, on which your institution will be able to advise, or please see our [website](#) for further details.

### Not yet ready for CEng?

If you are still developing the required competences for CEng you may wish to consider [Incorporated Engineer \(IEng\)](#) registration first. This will allow you to enjoy the benefits of professional registration earlier in your career.

*"CEng status has generally provided a means of demonstrating my professionalism to potential employers and been a useful source of information about my career."*

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**Gordon Paterson** CEng CITP MBCS

# How to become professionally registered

- 1** Join a Professional Engineering Institution licensed by the Engineering Council to assess candidates for CEng registration. The institution you choose is most likely to be one that relates to your engineering discipline or area of work.
- 2** Record your professional development. The evidence might come through academic qualifications, an employer's training and development scheme, and/or from a personal record showing how you gained your professional competences - guidelines will be available from your Institution.
- 3** As soon as you feel that you are able to demonstrate the required technical and personal competences, apply for assessment by your Institution.

## Professional engineering registration – what's in it for me?

The Engineering Council [video on YouTube](#) explains what becoming professionally registered as an engineer means, the benefits to the individual, organisations and wider society and briefly explains how to apply for registration.



## Professional Engineering Institutions

There are 36 Professional Engineering Institutions (PEIs), each covering specific engineering disciplines, so it shouldn't be difficult finding the right one for you.

Click [here](#) for a full list of Institutions or go to [page 14](#) for direct links to their websites.

There are also 19 [Professional Affiliates](#) that have agreements with PEIs to process registration applications for their members.

## Start early

Many engineers join an Institution while a student, or soon after graduation, and follow the junior grades through to full membership and registration.

However, it is just as beneficial to apply for Institution membership and registration at any time in your career. Professionally registered engineers also tend to retain their title throughout their working lives, and often well into retirement.

## UK-SPEC competence and commitment requirements for CEng registration

An outline of the necessary competence and commitment appears below. Further details and examples of activities which could demonstrate that you have achieved this, can be found in the UK Standard for Professional Engineering Competence [UK-SPEC](#)

### UK-SPEC Competence and Commitment Standard for Chartered Engineers.

Chartered Engineers must be competent throughout their working life, by virtue of their education, training and experience, to:

- A** Use a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technology.
  - A1 Maintain and extend a sound theoretical approach in enabling the introduction and exploitation of new and advancing technology and other relevant developments
  - A2 Engage in the creative and innovative development of engineering technology and continuous improvement systems
- B** Apply appropriate theoretical and practical methods to the analysis and solution of engineering problems.
  - B1 Identify potential projects and opportunities
  - B2 Conduct appropriate research, and undertake design and development of engineering solutions
  - B3 Implement design solutions, and evaluate their effectiveness
- C** Provide technical and commercial leadership.
  - C1 for effective project implementation
  - C2 Plan, budget, organise, direct and control tasks, people and resources
  - C3 Lead teams and develop staff to meet changing technical and managerial needs
  - C4 Bring about continuous improvement through quality management
- D** Demonstrate effective interpersonal skills.
  - D1 Communicate in English<sup>1</sup> with others at all levels
  - D2 Present and discuss proposals
  - D3 Demonstrate personal and social skills
- E** Demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.
  - E1 Comply with relevant codes of conduct
  - E2 Manage and apply safe systems of work
  - E3 Undertake engineering activities in a way that contributes to sustainable development
  - E4 Carry out continuing professional development necessary to maintain and enhance competence in own area of practice

<sup>1</sup> Any interviews will be conducted in English, subject only to the provisions of the Welsh Language Act 1993 and any Regulations which may be made in implementation of European Union directives on free movement of labour.

## Student?



Although your immediate focus will no doubt be working hard to finish your engineering degree, it's never too early to think about 'what next?' If you are serious about a career in engineering the next important step in your career development should be attaining professional registration as an Incorporated or Chartered Engineer.

Your degree will provide an important part of what's needed to achieve registered status, but you will also need to develop further skills and competences in the workplace.

*"CEng has allowed me to progress beyond contract management and into strategic leadership of technical management. I am currently on the Executive Board of my company and I don't feel I would have achieved this without CEng registration"*

**Greg Markham**  
CEng FIHEEM MIET MBIFM

might even meet your future employer at one of these events!

There are 36 PEIs, each covering specific engineering disciplines, so it shouldn't be difficult finding the right one for you. You might even want to join more than one!

In addition, many of the 19 Engineering Council Professional Affiliates have agreements with PEIs, through which their members can become professionally registered.

*"Although I have attained a number of high level academic qualifications I feel that CEng provides a benchmark of my competence, providing me with a stronger CV when applying for future vacancies"*

**Dr Caroline Lowe BSc MSc PhD**  
CEng MIExpE

There is something you can do **right now** to help your **future career**.

Professional registration is awarded through membership of a Professional Engineering Institution (PEI). Many of the Institutions offer student membership at little or no cost, and joining whilst you are a student means you will have a head start and be able to keep up with what's happening in your field, through the resources or employer networking events offered by many Institutions. You



# Case Studies

## Nikki Barker CEng MIMechE MIGEM

(REGISTERED 1998)

**Education and qualifications:** BEng Engineering Science and Industrial Management, Liverpool University

**Which Institutions are you a member of?** Institution of Mechanical Engineers (IMechE), Institution of Gas Engineers and Manager (IGEM)

**Job title:** Director and Engineering Consultant

**Company:** Redacre Consulting Ltd and Associate of Perspectiv LLP

**Length in current job:** 3 years

**Where are you based?** Outside Warrington

**Please describe your current role:** I currently run my own engineering consultancy providing technical advice and training in the gas industry.

**What attracted you to become registered as a CEng?** From the day I gained my engineering degree, my aim was to become professionally registered as a Chartered Engineer. The status and responsibility that came with professional registration was a key driver for me.

**How did you become registered as a CEng?** I followed the IMechE's 'Monitored Professional Development Scheme' (MPDS) which meant that I had a structured pathway that would lead to an application for registration at the end of it. My manager at the time actively encouraged me to get involved in work and projects that would prove my engineering capability and my mentor supported me throughout the whole process.

**How has professional registration as a CEng benefitted your career?** Certain roles I have held over the years have required me to be a CEng. Now I am consulting, being professionally registered as a CEng, means I can work at a higher pay scale and on projects where clients require the consulting capability of people that are at the top of their profession. Networking with people in both IGEM and IMechE has led to various projects over the last three years.

**What advice would you give someone considering professional registration as a CEng?** I believe that all engineers and technicians should be professionally registered as EngTech, IEng or CEng as it can only enhance the overall status of our profession. I would encourage any potential registrants to find out the requirements as soon as they can; start keeping a record of work they have done, projects they have been involved in and responsibilities they have had. This can be used as evidence when you put in your application. The support of a good mentor is hugely beneficial.

**What is your employer's attitude towards professional registration?** As I run my own consultancy, I would say it has a very positive attitude as it is my attitude! Having said that, when I applied for CEng registration, I was employed by a company that also viewed professional registration positively.

[Click here](#) to see the full case study.



# Case Studies

## Kelvin Honleung Wong BEng (Hons) MEng MPhil CEng MIFireE MSFPE

(REGISTERED 2008)



**Education and qualifications:** BEng in Mechanical Engineering and Master of Philosophy in Mechanical Engineering from Hong Kong University of Science and Technology, Master of Engineering in Fire Protection Engineering from University of Maryland

**Which Institutions are you a member of?** Institution of Fire Engineers (IFE), Society of Fire Protection Engineers (SFPE)

**Current job title:** Senior Fire Engineer

**Company:** Arup

**Length in current job:** 10 years

**Approximately how many staff are employed by your company?**  
>1000

**Where are you based?** Beijing, China

**Please describe your current role:** I manage the fire engineering business in Beijing and northern part of China, and am responsible for a team of six fire engineers in the Beijing office.

**What attracted you to become registered as a CEng?** I have always recognised that professional registration as a CEng provides status and recognition from the engineering community. This is something I have always strived for and in gaining CEng, I have achieved it.

### How did you become registered as a CEng?

Firstly, I was fortunate to work for a company that provides and supports relevant training programmes. This together with a combination of work experience, benefitting from mentoring from senior engineers, CPD courses and attending part time courses enabled me to become registered.

### How has professional registration as a CEng benefitted your career?

For me, gaining professional registration as a CEng is recognition of my engineering achievement and demonstrates this to the wider engineering society. I have also benefited from having increased responsibility within the organisation as well as enjoying a higher salary!.

### What advice would you give someone considering professional registration as a CEng?

I would highly recommend professional registration as a CEng to any engineer working at the right level, it brings with it respect, recognition and status.

### What is your employer's attitude towards professional registration?

Professional registration is highly recommended to all engineers within the company.

[Click here](#) to see the full case study.

# Case Studies

## Dr. Ben W Watson PhD MDes (Hons) CEng CEnv MIED

(REGISTERED 2007)



**Education and qualifications:** HNC Mechanical Engineering, MDes Engineering Product Design, PhD Design Technology

**Which Institutions are you a member of?** Institution of Engineering Designers (IED), Design and Emotion Society (DES)

**Current job title:** Engineering Manager

**Company:** PIPS Technology

**Length in current job:** 15 years

**Approximately how many staff are employed by your company?** 2,800

**Where are you based?** Southampton, UK

**Please describe your current role:** I am the head of engineering for PIPS Technology (a federal signal company) and I'm very proud to be leading a world class team of engineering designers. I am tasked with the challenge to provide vision and strategic direction for our product portfolio, to innovate new, existing and emerging product applications and technologies.

My practitioner based expertise resides within the domain of product/mechanical design for rugged video-imaging technology and intelligent transportation systems. I specialise in programme management for both iterative and product innovation.

**What attracted you to become registered as a CEng?** I am keenly aware of the value professional registration brings to an individual's portfolio and the high regard in which it is held by employers. I joined the Institution of Engineering Designers (IED) as a student member and transitioned from Incorporated Engineer (IEng) to Chartered Engineer (CEng) with the IED and the Engineering Council (EngC).

**How did you become registered as a CEng?** I applied to become registered as a CEng, via the individual route, using the technical report option to demonstrate the exemplifying qualifications as detailed within EngC's UK-SPEC. The IED assigned me a mentor who provided excellent support and guidance throughout the whole process.

**How has professional registration as a CEng benefitted your career?** Professional registration has demonstrated my dedication and commitment to the engineering profession.

**What advice would you give someone considering professional registration as a CEng?** I strongly believe that professional registration is more than just about technical competence. Being a CEng is about being a true professional, taking into account the interdependencies and implications of your actions, operating with professional pride towards quality and excellence in everything you do. Professional registration is a way to reliably demonstrate these qualities to colleagues and future employers.

**What is your employer's attitude towards professional registration?** When I was going through the process my employer did not understand, and therefore recognise the value of professional registration. I am pleased to say that this has now changed and they are supporting me in encouraging my team to pursue it.

[Click here](#) to see the full case study.

# Case Studies

## Dr M Crina A Oltean-Dumbrava MSC MA PhD CEng FICE MRICS MCIOB

(REGISTERED 2007)



**Education and qualifications:** MSc in Civil, Industrial and Agricultural Construction Engineering; MA in Economics of Industry, Construction and Transport (part-time); PhD by Research Thesis (part-time)

**Which Institutions are you a member of?** Institution of Civil Engineers, Royal Institution of Chartered Surveyors, Chartered Institute of Building

**Job title:** Senior Lecturer in Asset and Construction Management

**Employer:** University of Bradford **Length in current role:** 9 years

**Please describe your current role:** As well as lecturing, I am also a member of Senate and Chair of the Standing Committee of Assembly. Being multi-lingual I am able to manage international research projects in the field of sustainable construction / sustainable built environment research and have developed international Masters courses, and supervised doctorates in the UK and in mainland Europe. I am a prolific writer of academic papers and have been invited to present my research findings to audiences across the globe.

**What attracted you to become registered as a CEng?** Becoming a CEng and Fellow of ICE is a position that commands respect and distinction, due to: the external independent assessment required in order to qualify; the high standard of professional competence set by the Engineering Council; and the national and international prestige and recognition of the title Chartered Engineer.

**How did you become registered as a CEng?** Whilst I had industrial experience, I used a recent research project to demonstrate my competence, and applied through the Technical Report option. My route to chartered status started some 30 years ago in Romania where I qualified as an engineer and proceeded to manage the construction of several projects, among which was a complex chemical engineering plant. However, I was drawn to teaching and was appointed Lecturer

at the Technical University of Cluj-Napoca, Romania where I was able to pursue my interest in teaching and research.

**How has professional registration as a CEng benefitted your career?** It has strengthened my links with the industry and opened up many opportunities. These include: working on several research and Knowledge Transfer projects; contributing to the activity of the Built Environment Skills Alliance Higher Education Strategy Delivery Group, and of the 'ConstructionSkills' Skills Provision Steering Committee; appointment as the first woman chair of the Association of Civil Engineering Departments; membership of various international organisations including the Association of Women in Science and Engineering; consultancy to several major engineering companies; and election to the Joint Board of Moderators visiting panel.

**What advice would you give other academics considering professional registration?** The perception among many academics is that if they do not have industrial experience and have not worked on major projects in the industry, they cannot provide the necessary evidence to demonstrate their competence. This is not true. Any active academic researcher who is involved in research or Knowledge Transfer projects can demonstrate their competence, even if they have no industrial experience. However, what they need to have are proficient industrial mentors to guide them through the process.

**What advice would you give your students on professional registration?** I try to motivate them to aspire to CEng status and join an engineering institution. Sandwich course students can often use their placement year in the industry towards professional registration with the Engineering Council, which provides the crucial foundation to a stimulating career as a Chartered Engineer.

[Click here](#) to see the full case study.

# FAQs

## How much is registration and how do I pay?

There will be the initial joining fee, and the annual registration fee. Amounts vary depending on your level of registration, and may be revised annually. Current Engineering Council registration fees can be found [here](#) and are paid via the Institution you are registered through. Please note that you will also have to pay fees to join and retain membership of your chosen Institution. A few Institutions also surcharge Engineering Council fees.

## I can't afford the time away from work to study. How can I become registered?

New flexible work-based Bachelors and Masters degrees in Professional Engineering have been developed, which lead to IEng or CEng status. These provide the opportunity to learn while earning, making IEng and CEng status achievable for all eligible practising engineers. Tailored programmes, designed around UK-SPEC, integrate learning in the workplace with supervised work-based professional development. More details can be found at: <http://www.engc.org.uk/education--skills/engineering-gateways>

## What is an accredited degree?

Accredited degrees partially or fully satisfy the educational requirement for IEng and CEng registration.

## How do I find out if my degree is accredited?

The Engineering Council has a searchable database of engineering degrees that have been accredited by one or more of the Professional Engineering Institutions. The database can be found at: <http://www.engc.org.uk/courses>

## Does membership of an engineering institution automatically qualify me for registration?

No. Institutions offer a variety of membership grades. Some grades enable members to apply for registration, others do not, so please make sure your chosen Institution knows you wish to apply for professional registration. In addition, you will always need to go through the assessment process before being registered with the Engineering Council.

## Do I need to be a member of an Institution or can I register directly through the Engineering Council?

The Engineering Council does not offer direct registration. Candidates for professional registration are required to be in membership of a licensed Institution or a [Professional Affiliate](#) with the relative agreement.

## Can I use my international qualifications to register?

Yes. The Engineering Council is the UK signatory to a number of international accords - agreements which provide a mechanism for mutual recognition between signatory bodies of engineering education accreditation processes. Further details can be found [here](#) or through the [International Engineering Alliance](#).

## I have gained a qualification outside the UK. Is there a UK equivalent?

Please contact [UK NARIC](#), the national agency responsible for providing information and advice about how qualifications and skills from overseas compare to the UK's national qualification frameworks.

## Useful weblinks

### Engineering Council

[Engineering Council Website](#)

[EngTech](#)

[IEng](#)

[CEng](#)

[Engineering Council Newsletter](#)

[International recognition of UK qualifications](#)

[UK-SPEC](#)

[Accredited course search](#)

[Benefits of registration](#)

[Information for employers](#)

[Information for students](#)

[Work-based degrees](#)

[Registration enquiry form](#)

[International Engineering Alliance](#)

[Professional Affiliates](#)



246 High Holborn, London WC1V 7EX

T +44 (0)20 3206 0500

F +44 (0)20 3206 0501

### Professional Engineering Institutions

[BCS, The Chartered Institute for IT \(BCS\)](#)

[British Institute of Non-Destructive Testing \(BINDT\)](#)

[Chartered Institute of Plumbing and Heating Engineering \(CIPHE\)](#)

[Chartered Institution of Building Services Engineers \(CIBSE\)](#)

[Chartered Institution of Highways & Transportation \(CIHT\)](#)

[Chartered Institution of Water and Environmental Management \(CIWEM\)](#)

[Energy Institute \(EI\)](#)

[Institute of Acoustics \(IOA\)](#)

[Institute of Cast Metals Engineers \(ICME\)](#)

[Institute of Healthcare Engineering & Estate Management \(IHEEM\)](#)

[Institute of Highway Engineers \(IHE\)](#)

[Institute of Marine Engineering, Science and Technology \(IMarEST\)](#)

[Institute of Materials, Minerals and Mining \(IOM3\)](#)

[Institute of Measurement and Control \(InstMC\)](#)

[Institute of Physics \(IOP\)](#)

[Institute of Physics & Engineering in Medicine \(IPEM\)](#)

[Institute of Water \(IWater\)](#)

[Institution of Agricultural Engineers \(IAgrE\)](#)

[Institution of Chemical Engineers \(IChemE\)](#)

[Institution of Civil Engineers \(ICE\)](#)

[Institution of Engineering and Technology \(IET\)](#)

[Institution of Engineering Designers \(IED\)](#)

[Institution of Fire Engineers \(IFE\)](#)

[Institution of Gas Engineers and Managers \(IGEM\)](#)

[Institution of Lighting Professionals \(ILP\)](#)

[Institution of Mechanical Engineers \(IMechE\)](#)

[Institution of Railway Signal Engineers \(IRSE\)](#)

[Institution of Royal Engineers \(InstRE\)](#)

[Institution of Structural Engineers \(IStructE\)](#)

[Nuclear Institute \(NI\)](#)

[Royal Aeronautical Society \(RAeS\)](#)

[Royal Institution of Naval Architects \(RINA\)](#)

[Society of Environmental Engineers \(SEE\)](#)

[Society of Operations Engineers \(SOE\)](#)

[The Institution of Diesel and Gas Turbine Engineers \(IDGTE\)](#)

[The Welding Institute \(TWI\)](#)