What does it mean to be competent?

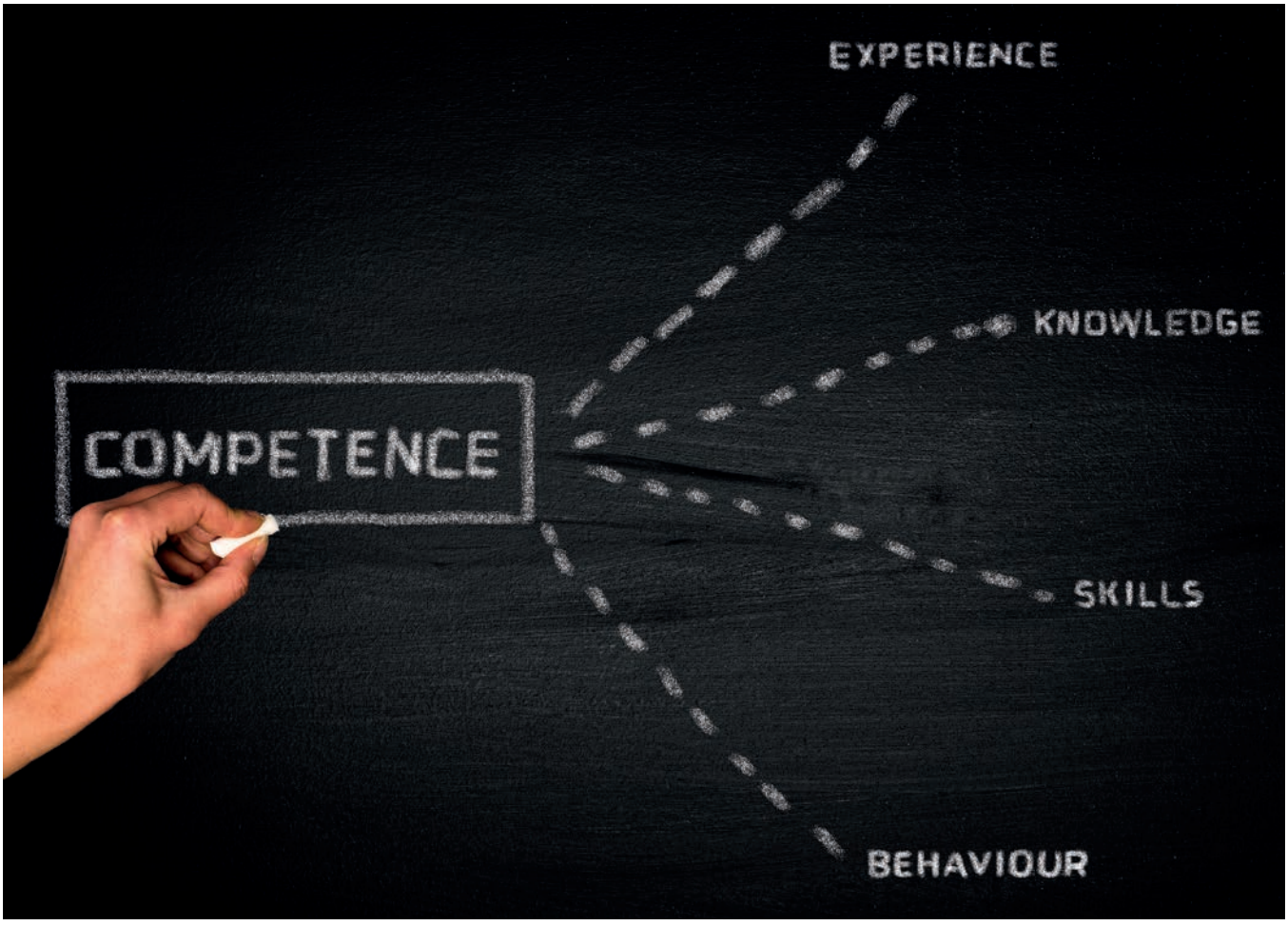
Both individuals and organisations carrying out design or building work in the UK now have a statutory duty to be competent, explains IStructE Technical Director Patrick Hayes, meaning that they must possess the skills, knowledge, experience and behaviours required to successfully perform their role.

Competence is undoubtedly the single most used word to describe the changes required following the Grenfell Tower tragedy. Lack of competence is a constant theme of CROSS reports into safety issues. The biggest concern for IStructE members is design work carried out by non-qualified personnel. A common thread across all these reports is the need for the industry to act.

The need for competency across the entire industry is a central theme of Dame Judith Hackitt's *Building a Safer Future* final report[1], which has formed the manifesto for building safety reformation in the UK since its publication, kickstarting both industry-wide initiatives to embed competence in operations and legislation in the Building Safety Act (BSA)[2].

'The interim report established that a lack of skills, knowledge and experience and a lack of any formal process for assuring the skills of those engaged at every stage of the life-cycle of higher-risk residential buildings is a major flaw in the current regulatory system.'[1]

The developing approach to assuring competence places responsibilities on three key players: the individual, the bodies that oversee their professional status, and the organisations that they work for. The objectives are:



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- for all those involved in the industry to be competent in their role, as assessed by an independent body working to common standards
- for there to be no gaps between professions
- for individuals to be deployed by organisations in roles for which they are competent.

Following the Hackitt report, BS 8670[3] was published setting out a standard for competency frameworks to be developed for roles within the construction industry. Work is ongoing through the Industry Competence Steering Group (ICSG) to develop sector-specific competence frameworks from BS 8670. The BSA made it a statutory requirement for dutyholders, both individuals and organisations, to be competent. Work has begun on an organisational competency standard for construction companies. Competence is therefore not just a professional necessity but a statutory requirement, so what does it mean to be competent?

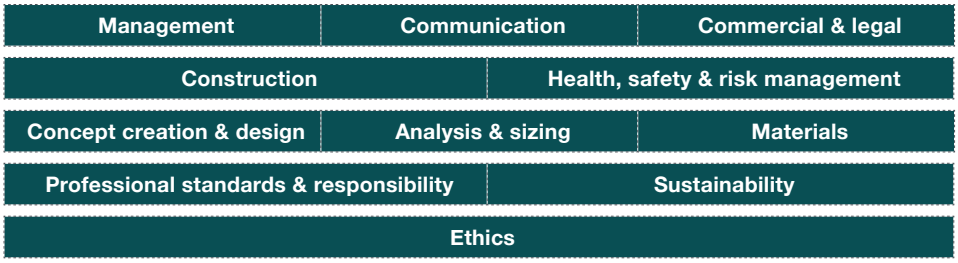

FIGURE 1: IStructE Core Objective areas

Individual competence

The general understanding of competence is summarised in *Building a Safer Future:* skills, knowledge and experience. To this is added the fourth dimension of behaviour, to give the skills, knowledge, experience and behaviours (SKEB) competence framework that forms the basis of BS 8670.

'For an individual to be considered competent means that they need to have the appropriate skills, knowledge and experience, combined with appropriate behaviours, to be able to fulfil their defined role, function or activity and carry out appropriate tasks. This is sometimes referred to in shorthand as SKEB.'[3]

Importantly, competence is defined as role-specific, rather than just function-related. Individuals should not just work within their function, i.e. structural engineering, but within the limits of their role. The Engineering Council sets out membership grades[4] that relate to activity and function **(Table 1)**.

Table 1: UK-SPEC competence comparison table (Engineering Council)[4]

Engineering Technician (EngTech)	Incorporated Engineer (IEng)	Chartered Engineer (CEng)
Engineering Technicians apply proven techniques and procedures to the solution of practical engineering problems.	Incorporated Engineers maintain and manage applications of current and developing technology, and may undertake engineering design, development, manufacture, construction and operation.	Chartered Engineers develop solutions to complex engineering problems using new or existing technologies, and through innovation, creativity and technical analysis.
Engineering Technicians shall demonstrate: - Engineering knowledge and understanding to apply technical and practical skills - Evidence of their contribution to either the design, development, manufacture, commissioning, decommissioning, operation or maintenance of products, equipment, processes or services - Supervisory or technical responsibility - Effective interpersonal skills in communicating technical matters - The ability to operate in accordance with safe systems of work and to demonstrate appropriate understanding of the principles of sustainability - Commitment to professional engineering values	Incorporated Engineers shall demonstrate: - The theoretical knowledge to solve problems in developed technologies using well proven analytical techniques - Successful application of their knowledge to deliver engineering projects or services using established technologies and methods - Contribution to the financial and planning aspects of projects or tasks and to leading and developing other professional staff - Effective interpersonal skills in communicating technical matters - The ability to specify and operate to safe systems of work and to demonstrate appropriate consideration of the principles of sustainability - Commitment to professional engineering values	Chartered Engineers shall demonstrate: - The theoretical knowledge to solve problems in new and established technologies and to develop new analytical techniques - Successful application of the knowledge to deliver innovative products and services and/or taking technical responsibility for complex engineering systems - Responsibility for the financial and planning aspects of projects, sub-projects or tasks - Leadership and development of other professional staff through management, mentoring or coaching - Effective interpersonal skills in communicating technical matters - Understanding of the safety and sustainability implications of their work, seeking to improve aspects where feasible - Commitment to professional engineering values

These roles are contextualised to function by individual institutions. The IStructE sets competence standards using the SKEB framework to be met across 10 core objectives, with an 11th, ethics, underpinning all other objectives **(Figure 1)**[5].

Since the Grenfell tragedy, there has been a growing emphasis not just on competence, but on working within one's competence: 'Those bodies that are responsible for accrediting their members should ensure that their codes of conduct have the necessary powers to oblige their members to operate within the limits of their own competence… The ability to recognise the limits of one's own professional competence, and when it is necessary to bring in others with the right skills, experience and qualifications, will form a key element of the dutyholder role in the proposed new regulatory framework.'[1]

Competence in structural engineering is one the IStructE's main themes, enshrined in our declaration of values: 'We strive towards a structural engineering profession that is built on competence, accessibility, and community… Championing competence is at the core of everything we do.'[6]

'That individuals should work within the limits of their competence is articulated within the IStructE's professional Code of Conduct: 'Members shall undertake only those tasks and accept only those appointments for which they are competent.'[7]

This does not mean that members or organisations cannot develop or progress. Indeed, attaining chartership is a means to develop the competences to tackle complex engineering problems and new or existing technologies. This requires theoretical knowledge and the ability to successfully apply knowledge, as well as taking technical responsibility for doing so[4]. This process is clearly illustrated by IStructE Past-President and Fellow Matt Byatt, who progressed from student to chartered status via the Technical Report route and cofounded his own company, Subteno.

The expectation is that members will build competence through continuing professional development (CPD) and, where there are organisational competence needs, bring in other professionals to cover these.

Competence is also dynamic and should keep pace with changes in technology and practice.

Emerging recommendations on competence are that CPD should be mandatory for all professionals, that its standard should improve and that competence should be regularly reassessed[8]. These provisions are reflected in the development of professional registers related to specific functions. The higher-risk building (HRB) registration scheme operated by the IStructE and the Institution of Civil Engineers has specific competences for those working on HRBs and requires periodic reassessment.

The requirement to undertake CPD for professionally qualified members is also enshrined within the Code of Conduct. CPD has been mandatory within the Institution since 1996. The recording (and submission) of CPD became mandatory in 2015.

Competence: a legal duty

The law of tort has long set a standard for actions that may cause harm based on the test of negligence: when someone (or an organisation) does not provide the standard of care that a reasonable person would expect in similar circumstances. Contract law often extends this to cover 'all the skill, care and diligence to be expected of a professional experienced in undertaking projects of similar scale and complexity'.

When things go wrong, experts typically look at whether a designer met the required standard of care – typically the skill and care (sometimes also diligence) of a reasonably competent engineer. However, they don't assess the competence of an individual, but whether the work was competent/done competently.

"The danger is not 'what you don't know', as an engineer, it is 'not knowing what you don't know'! We learn and gain skills throughout our careers and stretching this learning in a controlled manner is extremely rewarding.
Matt Byatt,
IStructE Past-President, Subteno

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A competent design will reflect appropriate underlying assumptions – from applied loads to stability systems, connection types to fire strategy, as examples – for the specific arrangements being considered. Evidence of research/consultation with available codes and guidance, application of that guidance and research to the specifics of the design, and evidence of design validation are typical expectations.

Competency is not solely about executing error-free calculations but about understanding the interaction of design and construction constraints with material behaviour. A further key aspect is being able to communicate intent clearly and accurately in design documentation. Competent analysis work can be undone by a single line in a specification!

This approach needs to be executed in the framework of many considerations: structural behaviour, health and safety, environment, fire safety, and commercial and logistical restrictions.

Understanding the full scope of one's responsibilities, as stated in the Grenfell Tower Inquiry Phase 2 Report[9], is also important: completeness of design is often a consideration when looking at competency from a legal perspective.

The legal tests above are relative and judge an individual's or organisation's design work against what would be expected from their peers. However, legal duties have now been expanded and enshrined in law under the BSA. The duties are absolute and specific. It is now a statutory duty in England and Wales under the BSA for individuals and organisations carrying out building regulations works to be competent[10]:

'11F—(1) Any person carrying out any building work or any design work must have—
(a) where the person is an individual, the skills, knowledge, experience and behaviours necessary,
(b) where the person is not an individual, the organisational capability,
to carry out—
(i) the building work in accordance with all relevant requirements;
(ii) the design work so that the building work to which the design relates, if built, would be in accordance with all relevant requirements.

> **Too often, competency is confused with experience. Experience is just how long you have worked, and only the quality of your experience contributes to competence.**
>
> **CPD is so important to competency, to keep up to speed with technical developments, but also to pick up soft skills and wider learning about legal, health-and-safety matters, etc. (i.e. the attributes).**
>
> **Getting chartered is just a snapshot competency assessment, and meaningless without the above.**
>
> **Most importantly for me, competency is about knowing what you know. Understand your own weak and strong points, and don't be afraid to ask others! Unfortunately, for too many in the industry, that is also wrongly seen as weakness.**
>
> **Jon Bird, Technical Director, HKA**

… to fulfil the duties of a contractor or designer…'

and

'11J—(2) Any person carrying out any design work must take all reasonable steps to ensure the design work carried out by them… is planned, managed and monitored so that the design is such that if the building work to which the design relates were built in accordance with that design the building work would be in compliance with all relevant requirements.'

This places a specific duty on designers in England and Wales to be competent in building regulations work and to coordinate with others.

There are also other important legal changes in relation to compliance and competence. To improve quality and safety, there are not just requirements to be competent, but for those working on HRBs to demonstrate competence via a competence statement. These legal changes mark an important cultural shift in how competence is treated. Competence is now seen as a prerequisite of achieving acceptable outcomes.

This is so much so that the UK government is considering restricting safety-critical functions in building design, in line with the Grenfell Tower Inquiry Phase 2 Report's recommendations[9]. These moves mirror the arrangements in many countries in which members operate, where statutory competence requirements already exist through regulation of title or function.

Conclusion

Improving competence is seen as a fundamental step in addressing the industry issues exposed by the Grenfell tragedy. At an individual level, this means possessing the skills, knowledge, experience and behaviours required to successfully perform a role. These skills need to be updated to meet changing demands. Individuals must recognise the limits of their own competence and act within it, working with others to address shortcomings where required. The changing legal landscape in England and Wales requires designers to demonstrate competence prior to taking on duties. Industry is adopting the use of specialist registers, such as the HRB register, to make this demonstration.

FURTHER READING: CROSS REPORTS

- **Anon. (2023)** *CROSS Safety Report 1183: Incompetent design of simple steel beams* [Online] Available at: www.cross-safety.org/uk/safety-information/cross-safety-report/incompetent-design-simple-steel-beams-1183 (Accessed: July 2025)
- **Anon. (2024)** *CROSS Safety Report 1322: Structural designs carried out by non engineer* [Online] Available at: www.cross-safety.org/uk/safety-information/cross-safety-report/structural-designs-carried-out-non-engineer-1322 (Accessed: July 2025)
- **Anon. (2025)** *CROSS Safety Report 1363: Gross errors in domestic design and checking and approval* [Online] Available at: www.cross-safety.org/uk/safety-information/cross-safety-report/gross-errors-domestic-design-and-checking-and-1363 (Accessed: July 2025)
- **CROSS-UK (2025)** *Improving competence and culture: Insights from the CROSS Expert Panel* [Online] Available at: www.cross-safety.org/uk/safety-information/cross-feature-article/improving-competence-and-culture-insights-cross-expert (Accessed: July 2025)

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1) Hackitt J. (2018) *Building a Safer Future – Independent Review of Building Regulations and Fire Safety: Final Report* [Online] Available at: https://assets.publishing.service.gov.uk/media/5afc50c840f0b622e4844ab4/Building_a_Safer_Future_-_web.pdf (Accessed: July 2025)

2) *Building Safety Act 2022*, c.30 [Online] Available at: www.legislation.gov.uk/ukpga/2022/30/contents (Accessed: July 2025)

3) British Standards Institution (2024) *BS 8670-1:2024 Competence frameworks for building safety – Core criteria. Code of practice*, London: BSI

4) Engineering Council (2020) *UK Standard for Professional Engineering Competence and Commitment (UK-SPEC)*, 4th edn. [Online] Available at: www.engc.org.uk/media/a1yfae02/uk-spec-fourth-edition.pdf (Accessed: July 2025)

5) Institution of Structural Engineers (2023) *IPD guidance: Chartered Member – 2023 onwards* (v.1.0) [Online] Available at: www.istructe.org/training-and-development/ipd/ipd-regulations/ (Accessed: July 2025)

6) Institution of Structural Engineers (s.d.) *Our values* [Online] Available at: www.istructe.org/about-us/our-values/ (Accessed: July 2025)

7) Institution of Structural Engineers (2022) *Code of Conduct* [Online] Available at: www.istructe.org/about-us/istructe-code-of-conduct/ (Accessed: July 2025)

8) Industry Competence Committee (2025) *ICC Setting Expectations – Guidance on principles – Consultation document*, V1.0 [Online] Available at: http://bit.ly/44DdhVt (Accessed: July 2025)

9) Grenfell Tower Inquiry (2024) *Grenfell Tower Inquiry Phase 2 Report* [Online] Available at: https://webarchive.nationalarchives.gov.uk/ukgwa/20250320032754/https://www.grenfelltowerinquiry.org.uk/phase-2-report (Accessed: July 2025)

10) *The Building Regulations etc. (Amendment) (England) Regulations 2023*, SI 2023/911 [Online] Available at: www.legislation.gov.uk/uksi/2023/911/contents/made (Accessed: July 2025)