



A. Knowledge and understanding

A Member shall use a combination of general and specialist engineering knowledge and understanding to optimise the application of existing and emerging technologies.

This competence is about the ability to understand the underpinning technical principles relevant to the applicant's area of expertise and practice and apply them to develop appropriate technical solutions. This could involve developing solutions for novel problems or dealing with significant technical complexity by the integration of a range of technologies and consideration of other factors. This competence requires that an applicant is maintaining and developing their knowledge in their field of practice and not just that required for specific tasks.

Objective	Evidence Examples	SDE Evidence Examples
<p>A1. Maintain and extend a sound theoretical approach to enable you to develop your particular role.</p>	<ul style="list-style-type: none"> • Formal training related to your role. • Learning and developing new engineering knowledge in a different industry or role. • Understanding the current and emerging technology and technical best practice in your area of expertise. • Developing a broader and deeper knowledge base through research and experimentation. • Learning and developing new engineering theories and techniques in the workplace. 	<ul style="list-style-type: none"> • Completed training related to digital engineering. This could be software or engineering related to your development • Read understand and use on projects, the relevant codes & standards for your region and your role. • Being part of research or testing projects which you have learnt new knowledge. • Show how you have grown your knowledge in the workplace. This might be in knowledge of software used or new applications, knowledge of standards or engineering practices or even a new way of working or workflow.

		<ul style="list-style-type: none"> • Attending conferences, seminars or CPDs would be one area you have developed your knowledge. How did you use this knowledge? • Journal and other publications relating to your role. These might be a blog or a print that is Engineering, Architectural or software related
<p>A2. Develop technological solutions to unusual or challenging problems, using your knowledge and understanding and/or dealing with complex technical issues or situations with significant levels of risk.</p>	<ul style="list-style-type: none"> • Carrying out technical research and development. • Developing new designs, processes or systems based on new or evolving technology. • Carrying out complex and/or non-standard technical analyses. <ul style="list-style-type: none"> • Developing solutions involving complex or multidisciplinary technology. • Developing and evaluating continuous improvement systems. • Developing solutions in safety-critical industries or applications. 	<ul style="list-style-type: none"> • Development or research projects that you have been part of. Explain your role in this and what the task & outcomes were. • Part of or lead a working group focused on development of solutions for continuous improvements and efficiencies • What coordination processes have you lead or implemented on your projects? Have you introduced/developed any new workflows / solutions around this? • Testing or evaluating new systems or software. This could be just an add-in or a whole new system. What was your process to evaluate this?

B. Design, development and solving engineering problems

A Member shall apply appropriate theoretical and practical methods to the analysis and solution of engineering problems.

This competence is about the ability to apply engineering knowledge effectively and efficiently in a safe and sustainable way to the individual tasks which need to be undertaken in the applicant’s role in association with both new and existing clients and other team members.

Objective	Evidence Examples	SDE Evidence Examples
<p>B1. Take an active role in the identification and definition of project requirements, problems and opportunities.</p>	<ul style="list-style-type: none"> • Identifying projects or technical improvements to products, processes or systems. • Preparing specifications, taking account of functional and other requirements. • Establishing user requirements. • Reviewing specifications and tenders to identify technical issues and potential improvements. • Carrying out technical risk analysis and identifying mitigation measures. • Considering and implementing new and emerging technologies. 	<ul style="list-style-type: none"> • Development of BIM/Digital processes, workflows & Standards • Identifying an issue and developing a system to resolve this. This could be through training, process or standards • Experience in reviewing & giving feedback on tenders and digital requirements on projects • Showing the experience in reviewing projects, highlighting risk or technical issues • Testing and implementing new software and development of workflows for your company.
<p>B2. Can identify the appropriate investigations and research needed to undertake the design, development and analysis required to complete an engineering task and conduct these activities effectively.</p>	<ul style="list-style-type: none"> • Identifying and agreeing appropriate research methodologies. • Investigating a technical issue, identifying potential solutions and determining the factors needed to compare them. • Identifying and carrying out physical tests or trials and analysing and evaluating the results • Carrying out technical simulations or analysis. <ul style="list-style-type: none"> • Preparing, presenting and agreeing design recommendations, with appropriate analysis of risk, and taking account of cost, quality, safety, reliability, accessibility, appearance, fitness for purpose, security 	<ul style="list-style-type: none"> • Trail and testing of new software. Explaining the process taken. • Part of or organising trials with analysis software. This could be the connection to authoring software or implementing a new process or calculations • The use of scripting to resolve design problems. Outlining the process to resolve the issue. • Research of solutions used on projects. Can you demonstrate innovative solutions that

	(including cyber security), intellectual property constraints and opportunities, and environmental impact.	you have developed and executed on your projects?
B3. Implement engineering tasks and evaluate the effectiveness of engineering solutions.	<ul style="list-style-type: none"> • Ensuring that the application of the design results in the appropriate practical outcome. • Implementing design solutions, taking account of critical constraints, including due concern for safety, sustainability and disposal or decommissioning. • Identifying and implementing lessons learned. • Evaluating existing designs or processes and identifying faults or potential improvements including risk, safety and life cycle considerations. • Actively learning from feedback on results to improve future design solutions and build best practice. 	<ul style="list-style-type: none"> • Implementation of a process or workflow to improve design outcomes. • Assessing the outcomes and effectiveness of the outcomes. Discuss the feedback loop. • Have you lead or been part of a lessons learnt process? Explain your part and how you have implemented change. • This could be connected to a software that improves project efficiency. How was this identified and developed? • Have you been involved in Design for manufacturing and assembly (DfMA) processes or development of prototypes? Explain this.

C. Responsibility, management and leadership

A Member shall demonstrate technical and commercial leadership.

This competence is about the ability to plan the applicant's own work and manage or specify the work of others effectively, efficiently, and in a way which provides leadership at an appropriate level, whether technical or commercial. Leadership is not necessarily about having a formal line management role. In matrix management and other types of organisational structure, where the applicant is working within complex and varied working relationships, they will provide leadership to achieve objectives. This competence is also about the ability to consider and identify improvements to quality.

Objective	Evidence Examples	SDE Evidence Examples
<p>C1. Plan the work and resources needed to enable effective implementation of a significant engineering task or project.</p>	<ul style="list-style-type: none"> • Preparing budgets and associated work programmes for projects or tasks. • Systematically reviewing the factors affecting the project implementation including safety, sustainability and disposal or decommissioning considerations. • Carrying out a task or project risk assessment and identifying mitigation measures. • Leading on preparing and agreeing implementation plans and method statements. • Negotiating and agreeing arrangements with customers, colleagues, contractors and other stakeholders, including regulatory bodies. • Ensuring that information flow is appropriate and effective. 	<ul style="list-style-type: none"> • Demonstrate how you have managed a team, the resourcing, budgets and project tasks. • Show how you have led a digital team on a project. Engagement with clients, run coordination meetings internal or external, managed the deliverables. • Explain your part of the development of BIM execution plans with the design team and any other associated documents. • If you have assisted the client to develop the Employers Information Requirements, explain this process. • Show how you have checked the deliverables have met the agreed standards on in your projects.
<p>C2. Manage (organise, direct and control), programme or schedule, budget and resource</p>	<ul style="list-style-type: none"> • Operating or defining appropriate management systems including risk registers and contingency systems. • Managing the balance between quality, cost and time. • Monitoring progress and associated costs and cost forecasts, taking appropriate actions when required. 	<ul style="list-style-type: none"> • How do you manage your team? What meetings you join or lead to do this and what systems do you use?

<p>elements of a significant engineering task or project</p>	<ul style="list-style-type: none"> • Establishing and maintaining appropriate quality standards within legal and statutory requirements. • Interfacing effectively with customers, contractors and other stakeholders. 	<ul style="list-style-type: none"> • Explain how you monitor time, quality, and cost of digital deliverables of your team and others? • Explain how you interface with external clients, contractors, Architects etc. this could be coordination meeting in person, via phone or VC calls.
<p>C3. Lead teams or technical specialisms and assist others to meet changing technical and managerial needs</p>	<ul style="list-style-type: none"> • Agreeing objectives and work plans with teams and individuals. • Reinforcing team commitment to professional standards. • Leading and supporting team and individual development. • Assessing team and individual performance, and providing feedback. • Seeking input from other teams or specialists where needed and managing the relationship. • Providing specialist knowledge, guidance and input in your specialism to engineering teams, engineers, customers, management and relevant stakeholders. • Developing and delivering a teaching module at Masters' level, or leading a University research programme. 	<ul style="list-style-type: none"> • Development & carrying out training • Management of a team – How do you support each of the team and their growth? • Explain any review / appraisal process that you have with your team • What have you done to share your digital experience and knowledge across your firm? • Share what types of training you have done and for who? • Have you presented internal or external on anything technical or digital?
<p>C4. Bring about continuous quality improvement and promote best practice.</p>	<ul style="list-style-type: none"> • Promoting quality throughout the organisation as well as its customer and supplier networks. <ul style="list-style-type: none"> • Developing and maintaining operations to meet quality standards e.g. ISO 9000, EQFM. • Supporting or directing project evaluation and proposing recommendations for improvement. • Implementing and sharing the results of lessons learned. 	<ul style="list-style-type: none"> • Engagement with QA and QC systems and processes. Is this to align with any industry standards? • Review of deliverables and communication of findings through recommendations. • Explain how you have used a CDE on a project. • What have you done to improve best practice across your project or business?

D. Communication and interpersonal skills

A Member shall demonstrate effective communication and interpersonal skills. This is the ability to work with others constructively, to explain ideas and proposals clearly and to discuss issues objectively and productively.

Objective	Evidence Examples	SDE Evidence Examples
<p>D1. Communicate effectively with others, at all levels, in English.</p>	<ul style="list-style-type: none"> • Preparing reports, drawings, specifications and other documentation on complex matters. • Leading, chairing, contributing to and recording meetings and discussions. • Exchanging information and providing advice to technical and non-technical colleagues. • Engaging or interacting with professional networks. 	<ul style="list-style-type: none"> • Internal or External Presentations • Setting up and running meetings. This could be internal or external. • Demonstrate any development you have led for others. This might be training courses or workshops. • Show any industry related networks that you are part of.
<p>D2. Clearly present and discuss proposals, justifications and conclusions</p>	<ul style="list-style-type: none"> • Contributing to scientific papers or articles as an author. • Preparing and delivering presentations on strategic matters. • Preparing bids, proposals or studies. • Identifying, agreeing and leading work towards collective goals. 	<ul style="list-style-type: none"> • Say what your role has been in the proposal & RFP process. Have you answered any digital related questions, a capability statement or been to project interviews? • Have you lead or been a member of the team to develop a business plan? Explain this. • Have you taken part of any company strategy processes, explain this.
<p>D3. Demonstrate personal and social skills and awareness of diversity and inclusion issues.</p>	<ul style="list-style-type: none"> • Knowing and managing own emotions, strengths and weaknesses. • Being confident and flexible in dealing with new and changing interpersonal situations. • Identifying, agreeing and working towards collective goals. • Creating, maintaining and enhancing productive working relationships, and resolving conflicts • Being supportive of the needs and concerns of others, especially where this relates to diversity and inclusion. 	<ul style="list-style-type: none"> • Have you taken any courses to develop your soft skills? This could include emotions, strengths and weaknesses. • Explain where you have had to deal with a challenging situation. This might be a difficult client or a problem with a staff member. Explain how you approached and over came this. • How have you supported the different needs and requirements of your team?

E. Personal and professional commitment

A Member shall demonstrate a personal commitment to professional standards in a safe and environmentally acceptable way, recognising obligations to society and the profession as a whole.

This competence is about ensuring that the applicant is acting in a professional and ethical manner as defined in CIBSE’s Code of Conduct and in their dealings with others. A Member should set a standard and example to others ensuring they undertake and record appropriate continual professional development.

Objective	Evidence Examples	SDE Evidence Examples
<p>E1. Understand and comply with relevant codes of conduct</p>	<ul style="list-style-type: none"> • Demonstrating compliance with CIBSE’s Code of Professional Conduct. • Identifying aspects of the Code which are particularly relevant to your role. • Being aware of the legislative and regulatory frameworks relevant to your role and how they conform to them. • Leading work within relevant legislation and regulatory frameworks, including social and employment legislation. 	<ul style="list-style-type: none"> • Explain that you have read through and agree with the code of professional conduct. • Relate the code of conduct to your role, how do they come into you day to day role? • How do you keep up to date with these standards?
<p>E2. Understand the safety implications of their role and manage, apply and improve safe systems of work</p>	<ul style="list-style-type: none"> • Identifying and taking responsibility for your own obligations and ensuring that others assume similar responsibility for health, safety and welfare issues. • Ensuring that systems satisfy health, safety and welfare requirements. • Developing and implementing appropriate hazard identification and risk management systems and culture • Managing, evaluating and improving these systems. • Applying a sound knowledge of health and safety legislation, for example: HASAW 1974, CDM regulations, ISO 45001 and company safety policies. 	<ul style="list-style-type: none"> • How have you implemented Health, Safety and Welfare onto your projects. This could be a process or development of systems. • Demonstrate how you are up to date on you knowledge of Health, Safety and Welfare and the related standards. This could be online or site training, Certifications. • Are you managing or reviewing these standards? Explain this. • Are you applying Health, safety and welfare to your models, drawings, or documents? Explain what you are doing.

<p>E3. Understand the principles of sustainable development and apply them in their work</p>	<ul style="list-style-type: none"> • Operating and acting responsibly, taking account of the need to progress environmental, social and economic outcomes simultaneously. • Providing products and services which maintain and enhance the quality of the environment and community, and meet financial objectives. • Recognising how sustainability principles, as described in the Engineering Council's Guidance on Sustainability, can be applied in your day-to-day work. • Understanding and securing stakeholder involvement in sustainable development. • Using resources efficiently and effectively in all activities. • Taking action to minimise environmental impact in your area of responsibility. 	<ul style="list-style-type: none"> • Explain how you have applied sustainability principles to your role. • Explain how you operate and act in you day to day life to act responsibly, taking into account environmental, social and economic outcomes • How do you take action to reduce environmental impact? This might be different approached to design, implementing software or reduction of materials
<p>E4. Carry out and record the Continuing Professional Development (CPD) necessary to maintain and enhance competence in their own area of practice</p>	<ul style="list-style-type: none"> • Undertaking reviews of your own development needs. • Planning how to meet personal and organisational objectives. • Carrying out and recording planned and unplanned CPD activities. • Maintaining evidence of competence development. • Evaluating CPD outcomes against any plans made. • Assisting others with their own CPD. 	<ul style="list-style-type: none"> • Explain how you are progressing your development? CPDs or training, attending conferences, research etc • How are you recording evidence of this development • How have you set goals and worked toward these goals. • Explain how you have worked with your team to support them to achieve their goals. • Are you part of any industry groups, explain this and what your role is.
<p>E5. Understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner</p>	<ul style="list-style-type: none"> • Understanding the ethical issues that you may encounter in your role. • Giving an example of where you have applied ethical principles as described in the Engineering Council's Statement of Ethical Principles. • Giving an example of where you have applied or upheld ethical principles as defined by your organisation or company. 	<ul style="list-style-type: none"> • Explain what the ethical issues mean to you and how this is applied in your work. • You can pick a few of the principles and give examples where you have applied this to your life or work. • Example where you have stood by your design decisions, even if pressure to take shortcuts.