





Subsea Engineering Webinar

- This webinar will start a few minutes after the advertised starting time (5.30pm AEST)
 - to allow everyone to join
- Please make sure you stay on mute
- If you have questions, please ask through the Q&A Function
- A copy of the slides will be sent to all attendees
- If your question relates to your individual circumstances, please email Clientpartner@engineersaustralia.org.au





Subsea Engineering as a Chartered Area of Practice

Presenters

Steve Algie

• Overview of EA Chartered credential

Ian Wilson

• The Subsea Engineering Area of Practice



Chartered status with Engineers Australia

Recognition that you *practice independently*:

 responsibly, ethically, and competently in serving the community



Awarded through:

Internationally audited, evidence-based, peer assessment



Chartered Status

Benefits:

- **Recognition** a path to state registration
- **Mobility** internationally recognised
- **Respect** assessed by your engineering peers

Chartered is your personal credential:

- Your engineering education Stage 1 Competence
- Your personal engineering experience Stage 2 Competence





Chartered competency framework



ENGINEERS

Areas of Practice

You are Chartered in your: *Areas of Practice*

Your AoP is the focus of your work and experience:

"What you are employed to do"

You may have 1 to 3 AoPs

Areas of Practice

- 1. Aerospace engineering
- 2. Amusement Rides and Devices
- 3. Asset management
- 4. Biomedical engineering
- 5. Building services engineering
- 6. Chemical engineering
- 7. Civil engineering
- 8. Cost engineering
- 9. Electrical engineering
- 10. Environmental engineering
- 11. Fire safety engineering
- 12. Heritage and conservation engineering
- 13. Information, Telecommunications and Electronics Engineering

- 14. Leadership and Management
- 15. Mechanical engineering
- 16. Naval Architecture
- 17. Petroleum engineering
- 18. Oil and Gas pipeline engineering
- 19. Pressure equipment design verification
- 20. Project management
- 21. Risk engineering
- 22. Structural engineering
- 23. Geotechnical engineering
- 24. Systems engineering
- 25. Subsea engineering
- 26. Mechatronics engineering





Evidence of competence

Your CV – chronological, showing roles, responsibilities and achievements

• *How are you using the 16 Elements of Competence?*

Self-assessment – against the 16 Elements of Competence

• Are you ready?

Documentary evidence – examples of your work

Can you substantiate your self-assessment?

Continuing Professional Development (CPD) – EA has specified requirements

• Are you maintaining your competence?



The assessment process

Documentary evidence assessment - your evidence is assessed against the criteria specified in:

• Engineers Australia Competency Standard – Stage 2

EA has three parallel Stage 2 Standards:

- Professional Engineer, Engineering Technologist, and Engineering Associate
- They differ in the complexity in the engineering problems and activities they refer to

And finally,

Personal interview – *Does it all stack up?*

Continuing Professional Development

Designed to **extend or update** your knowledge, skill or judgement in your area(s) of practice

- Retain and enhance your effectiveness in the workplace
- Essential to achieve and maintain Chartered status
- Periodically audited

CPD helps you to:

What is CPD?

- \checkmark Anything that helps you expand your knowledge
- ✓ Maintain up-to-date technical skills
- ✓ Progress your engineering career

Minimum requirement:

CPD records must document a minimum of 150 hours of structured CPD over a three year period.

Specific requirements:

For all practitioners, of the 150 hours:

- ✓ At least 50 hours must relate to your area(s) of practice. If you have more than one area of practice you must record at least 50 hours for each area.
- ✓ At least 10 hours must cover risk management
- \checkmark At least 15 hours must address business and management skills
- ✓ The remainder must cover a range of activities relevant to your career and interests.
- Help others, influence and lead by example
- Successfully deal with changes in your career
- Better serve the community





Chartered Pathways with Engineers Australia

Standard Pathway 5-14 years of experience



Chartered Via Interview Pathway 15+ years of experience

Online presentations giving more details on the pathways are available





What is SUT?

The SUT is a multi-disciplinary learned Society bringing together individuals and organisations with a common interest in underwater technology, ocean science and offshore engineering. It was founded in 1966 and has members from more than 30 countries, including engineers, scientists other professionals and students.



What is Subsea Engineering?

Subsea Engineering deals with the design, construction, installation, operation, maintenance and decommissioning of equipment in the marine environment.



What is Subsea Engineering?





What is Subsea Engineering?

- Design and Analysis
- Systems Engineering
- Digital Twins



Who is a Subsea Engineer?

- An engineering or science background
- Challenged by oceans & underwater
- Work in teams
- Office based or on site



Career

Consulting

Contracting

Operating

Research & Development

Academia

Government



Career

Mechanical Engineering background:

- Design of mechanical handling systems for dynamic applications
- Manufacturing and testing of mechanical systems
- Systems engineering
- Project management





- Range of subsea engineering activity
- Your areas of interest
- Breadth and depth of knowledge & experience



Career Roadmap

- Early career, first 5 to 7 years
 - Plan what to do & how you will achieve this
 - Inhouse, external study, alternate job roles
- Later, 15 + years
 - Compare what you have done



The Case for Recognition

- Employer in-house competency standards
- Industry supported benchmarks that align training and work experience
- Accreditation belongs to you
- Employers and Countries



Subsea Engineering Competency Framework

Occupational Categories

- Professional Engineer 4 year Washington
- Engineering Technologist 3 year Sydney
- Engineering Associate 2 year Dublin



Subsea Engineering Competency Framework

- Career roadmap
- Framework to assess competency
- Industry collaboration defined relevant areas
- Competency = Knowledge and Experience



- General Knowledge
- Field Development
- Corrosion and Materials
- Flexibles, Umbilicals & Cables
- Geotechnics
- Structural Engineering
- Mechanical Engineering
- Control Systems
- Dynamic Risers & Moorings
- Construction & Installation
- Commissioning
- Asset Management

- Renewable Energy
- Environmental Engineering
- Met-ocean Engineering & Oceanography
- Safety & Risk Engineering
- Well Intervention
- Project Management
- Decommissioning
- New Technology Development
 & Qualification





Mandatory Competency Element Fundamental Competency Element Elective Competency Element



The Competency Assessment Process

- Subsea Engineering competency framework
- Application, Assessment and Recognition
- Assessment of technical submission
- Professional Interview







Further information:

https://www.sut.org/branch/australia-perth/subsea-engineering/







Subsea Engineering Webinar

Q and A session

