Subsea Engineering Competency Profile

NEW TECHNOLOGY DEVELOPMENT AND QUALIFICATION ELECTIVE	DE-002

This competency demonstrates a subsea engineer has knowledge and experience in the core components of technology development and qualification.

ELEMENT OF COMPETENCE	WHAT THIS COMPETENCE MEANS IN PRACTICE	INDICATORS OF ATTAINMENT Refer to only as many Indicators of Attainment as you need to demonstrate the Element of Competence
Technology Opportunity Identification Expert knowledge of methodologies to identify and evaluate new technology opportunities	Capable of: ● Identifying opportunities for new technology ● Communicating to stakeholders the opportunities for new technology	Demonstrable experience in at least three of the following components of technology development: ● Has identified a new technology opportunity which progressed through the technology assessment phase ● Has completed an assessment of various technologies to achieve business/industry objectives ● Has qualified, developed or delivered a technology supported solution to achieve business/industry objectives ● Has applied industry codes and standards during the development of a technology supported solution ● Has applied risk management during the delivery of a technology supported solution ● Has captured and applied lessons learned back into the technology lifecycle ● Successful delivery of a technology supported solution against defined KPIs (budget, schedule, functional requirements and HSEQ)
Technology Assessment Expert knowledge of: ● Industry accepted codes and practices in technology qualification ● Technology subject matter in the particular field of application Working knowledge of: ● Business and industry processes for evaluation of value drivers for new technology	Capable of: ● Assessing technology for a given opportunity ● Creating a technical/business case for new technology ● Communicating to stakeholders the outcome and recommendation of the technology assessment phase	
Technology Development Expert knowledge of: ● Codes and standards being applied in the field of the technology application ● Technology development process and stages	Capable of: ● Articulating the qualification basis for the technology, covering system and component basis of design/functional requirements	

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Working knowledge of: ● Work programme and budgeting ● Manufacturing and quality assurance ● Systematic testing and evidence gathering	● Qualifying or developing technology for a given opportunity ● Creating a technical/business case for implementation of a technology supported solution on conclusion of the development phase ● Communicating to stakeholders the outcome and recommendations following the technology development phase ● Managing unexpected outcomes and change, especially with respect to budget and progress	
Technology Delivery and Risk Management Expert knowledge of: ● New technology risk management and assessment ● Project execution skills Working knowledge of: ● Intellectual property protection requirements, methods and confidentiality obligations ● System integration and interfacing ● Technology training and handover	Capable of: ● Facilitating formal failure mode and risk assessment workshops and peer reviews ● Communicating to stakeholders the outcome of technology development, including handover to the end users ● Engagement with patent attorneys	

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Operation and Management Expert knowledge of technology performance monitoring and technology business value. Working knowledge of: ● Technology support and trouble shooting ● Communication and performance reporting ● Data management	Capable of: ● Operating and managing technology in practice ● Capturing and applying lessons learnt back into the technology lifecycle	