

SKILLS FRAMEWORK FOR MARINE AND OFFSHORE SKILLS MAP - CHIEF ENGINEER/CHIEF TECHNOLOGY OFFICER						
Sector	Marine and Offshore					
Track	Design and Engineering/Production Engineering					
Occupation	Marine Engineer					
Job Role	Chief Engineer/Chief Technology Officer					
Job Role Description	<p>The Chief Engineer/Chief Technology Officer serves as the link between the design department, the production department and organisational management to enable inter-departmental collaboration and strategic alignment.</p> <p>He/She should possess a strong interest in new technology, to fulfil the responsibilities for delivering innovative and competitive engineering solutions and oversee all research and development (R&D) projects.</p>					
Critical Work Functions and Key Tasks	Critical Work Functions	Deploy new technologies	Key Tasks		Performance Expectations (For legislated / regulated occupations)	
			Lead innovation in new technologies for design and manufacturing processes	In accordance with: • Classification Society regulations; • Workplace Safety and Health (WSH) Act		
			Evaluate benefits, trade-offs and impact of new technologies in production			
			Build business cases for implementing new technologies in the organisation's design and production functions			
	Refine parameters of new technologies application to improve properties of manufactured components					
	Employ advanced analytics and big data	Drive organisation's commitment to efficient and effective analyses of large data sets				
		Lead innovation in advanced analytics through adoption of new methodologies and identification of new datasets				
		Evaluate benefits and trade-offs of implementing advanced analytics within strategic decision-making				
		Develop organisational advanced analytics application strategies				
		Prepare business cases for implementing advanced analytical methods in new areas				
	Drive innovation and research	Formulate innovation initiatives aligned to the organisation's vision, mission and values				
		Drive innovation to reduce negative environmental impacts of products and processes				
		Oversee environmental modelling procedures				
	Manage people and organisational function	Lead multiple teams across design and production departments				
		Establish the function's employee development system in alignment with organisation's vision mission and values				
		Identify organisation wide performance indicators to be cascaded across functional areas				
Participate in management level talent identification and recruitment processes						
Skills & Competencies	Technical Skills and Competencies		Generic Skills and Competencies (Top 5)			
	Additive Manufacturing	Level 6	Decision Making	Advanced		
	Big Data Analytics	Level 6	Leadership	Advanced		
	Business Negotiation	Level 5	Communication	Advanced		
	Business Presentation Delivery	Level 5	Data Analytics	Advanced		
	Change Management	Level 5	Resource Management	Advanced		
	Conflict Resolution	Level 5				
	Corporate Governance	Level 5				
	Crisis Management	Level 5				
	Emergency Response Management	Level 2				
	Financial Planning	Level 5				
	Green Ship Design	Level 6				
	Innovation Management	Level 5				
	Intellectual Property Management	Level 5				
	Interface Management	Level 6				
	Laser and Optics Application	Level 6				
	Manpower Forecasting	Level 5				
Marine Engineering Calculations	Level 3					

	Market Research	Level 5	
	Naval Architecture Calculations	Level 5	
	Operational Risk Management	Level 5	
	Organisational Performance Management	Level 5	
	Programme Management	Level 5	
	Robotics and Automation Application	Level 6	
	Service Excellence	Level 4	
	Staff Performance Management	Level 4	
	Stakeholder Management	Level 5	
	Strategy Development	Level 5	
	System Configuration Management	Level 6	
	System Architecture Design	Level 5	
	Systems Engineering	Level 6	
	Systems Integration	Level 5	
	WSH Culture Development	Level 2	
	WSH Performance Management	Level 2	
Programme Listing	For a list of Training Programmes available for the Marine and Offshore sector, please visit: www.skillsfuture.sg/skills-framework/marineandoffshore		

The information contained in this document serves as a guide.