

**SKILLS FRAMEWORK FOR ENERGY AND CHEMICALS  
SKILLS MAP - R&D MANAGER**

<b>Sector</b>	<b>Energy and Chemicals</b>			
<b>Track</b>	<b>Research and Development (R&amp;D)</b>			
<b>Occupation</b>	<b>Manager</b>			
<b>Job Role</b>	<b>R&amp;D Manager</b>			
<b>Job Role Description</b>	<p>The R&amp;D Manager directs strategic Research and Development (R&amp;D) programmes for the organisation, and drives the development of innovative new products, to generate and maintain commercially viable product lines and meet agreed business objectives. He/She drives technical learning to ensure the organisation's scientific and technical leadership in the market, and ensures that research undertaken upholds the highest scientific standards.</p> <p>The R&amp;D Manager manages new product development by liaising with relevant departments to bring new and innovated products from bench-top to scale-up and commercialisation phases. He endorses recommendations for product research improvements. In addition, he coaches and mentors R&amp;D department personnel and ensures that R&amp;D projects are appropriately resourced and prioritised to meet business goals.</p> <p>The R&amp;D Manager works closely with the application, technical service and sales and marketing teams. He establishes strong links with the external scientific community, research institutions and potential business partners to explore possible collaborations for the co-creation of products or research. He is able to lead his team effectively and possesses excellent interpersonal, communication, and technical writing and presentation skills.</p>			
<b>Critical Work Functions and Key Tasks</b>	<b>Critical Work Functions</b>		<b>Key Tasks</b>	
	Administer Workplace Safety and Health (WSH) and Environmental Management Systems (EMS)	Endorse risk assessments for Research and Development (R&D)-related activities		
		Ensure compliance with WSH and EMS systems at the department level		
	Perform laboratory operations	Endorse recommendations on product research improvements		
	Manage Research and Development (R&D)	Align R&D direction and strategies with the organisation's business objectives and customers' needs		
		Conduct technical and financial assessments on R&D projects		
		Drive technical learning to ensure the organisation's scientific and technical leadership in the market		
		Endorse research proposals for new product innovations internally, and in collaboration with external partners		
		Establish strong links with the external scientific community, including academia, trade associations and professional bodies		
		Lead innovation, new technology, materials or ingredients-related research projects		
		Lead scientific and technical guidance and supervision to research teams on their projects		
		Provide wide-ranging, independent technical input and direction to R&D projects		
		Validate the design of experiments and tests, according to market and business needs		
Manage new product development	Liaise with relevant departments to bring new and innovated products from bench-top to scale-up and commercialisation phases			
	Manage Intellectual Property (IP) and patents for the commercialisation of new products			
Administer staff and organisational development	Manage department level resources and budgets			
	Coach and mentor staff			
	Contribute to business continuity planning, implementation and execution			
	Drive departmental performance to achieve organisational goals			
	Drive the adoption of technologies to support virtual collaboration in remote locations			
	Review and endorse continuous improvement initiatives and activities			
<b>Skills &amp; Competencies</b>	<b>Technical Skills and Competencies</b>		<b>Generic Skills and Competencies (Top 5)</b>	
	Applied Research and Development Management	Level 6	Leadership	Advanced
	Budget Management	Level 5	Communication	Advanced
	Business Continuity Management	Level 5	Creative Thinking	Advanced
	Business Networking Management	Level 5	Lifelong Learning	Advanced
	Business Planning Management	Level 5	Global Mindset	Advanced
	Change Management	Level 5		
	Continuing Professional Development Management	Level 5		
	Continuous Improvement Management	Level 5		
	Environmental Management System Framework Development and Implementation	Level 4		
	Innovation Management	Level 5		
	Laboratory Data Reporting and Analysis Management	Level 6		

<b>Skills &amp; Competencies</b>	Laboratory Equipment Maintenance and Calibration Management	Level 5	
	Laboratory Operations Management	Level 6	
	Materials Qualification	Level 5	
	Organisational Analysis Management	Level 5	
	Organisational Resource Management	Level 5	
	Process Development Management	Level 4	
	Procurement Management	Level 5	
	Product Design and Development	Level 6	
	Product Testing Management	Level 5	
	Sample Management	Level 6	
	Staff Development Management	Level 5	
	Staff Management	Level 5	
	Strategic Service Excellence Management	Level 5	
	Strategy Development and Implementation Management	Level 5	
	Technical Presentation	Level 6	
	Technical Services Management	Level 6	
	Training, Coaching and Assessment Management	Level 5	
	Workplace Safety and Health Framework Development and Implementation	Level 4	
Workplace Safety and Health Hazard Identification and Risk Control Management	Level 5		
<b>Programme Listing</b>	For a list of Training Programmes available for the Energy and Chemicals sector, please visit: <a href="http://www.skillsfuture.sg/skills-framework/energyandchemicals">www.skillsfuture.sg/skills-framework/energyandchemicals</a>		

The information contained in this document serves as a guide.