

TSC Category	Research and Development Management					
TSC	Product Design and Development					
TSC Description	Manage new product design and development from Research and Development (R&D), including initial product design concepts, small batch piloting, market testing and evaluation					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
				ECM-RND-4003-1.1	ECM-RND-5003-1.1	ECM-RND-6003-1.1
				Interpret new product development requirements and plans to conduct new product design and development	Establish new product development strategies and plans to manage new product design and development	Formulate strategies for new product design and development to maintain the organisation's competitiveness
Knowledge				<ul style="list-style-type: none"> • Principles and techniques of new product design and process development • Integrated product development methods • Principles of designing experiments • Laboratory techniques • Analytical and investigative techniques • Problem-solving techniques • Technical report writing 	<ul style="list-style-type: none"> • Product specifications and production analysis • Objective setting principles and practice • Data analysis and analytical techniques • Research methods • Product and process development methodologies • Integrated product development using technology developments • Product trial policies and procedures • Technical report presentation 	<ul style="list-style-type: none"> • Strategic business planning methods • Production processes, systems and technologies • Market sector products, trends and new technologies • Principles of formulating corporate Research and Development (R&D) projects • Intellectual Property (IP) management • Regulatory frameworks and laws related to new product development • New technology developments in integrated product development strategies

<p>Abilities</p>				<ul style="list-style-type: none"> • Interpret new product development requirements and plans • Conduct new product design, development and testing activities • Design and construct experiments • Utilise established mathematical and scientific techniques to compile and analyse data • Perform analysis on requirements of a product and determine suitable test protocol • Perform analysis to determine design and manufacturing constraints • Monitor and track the implementation of development plans • Collaborate in integrated product development teams using new technology systems and tools • Write technical reports detailing procedures, outcomes, and observations 	<ul style="list-style-type: none"> • Establish new product development strategies and plans • Establish Research and Development (R&D) objectives • Review development trial product quality results and compare with trial objectives to identify variations • Specify re-trial objectives and priorities to procedures • Monitor re-trial variations to achieve trial objectives • Formulate and propose solutions in dealing with complex products • Verify whether products meet functional requirements and up-scaling feasibility • Monitor and track R&D activities of new products • Collaborate with sales and marketing teams for market testing and evaluation • Manage integrated product development teams through technology applications and systems • Write technical reports and updates on trials 	<ul style="list-style-type: none"> • Plan and direct all aspects of the organisation's R&D policies, objectives, and initiatives • Maintain the organisation's competitive position and profitability by formulating R&D programmes • Research new technologies that align the development function with the goals of the organisation • Lead product piloting trials, market testing and evaluation • Assess the viability of product-to-market options • Demonstrate expertise in a variety of the sector's concepts, practices, and procedures • Solve complex problems • Lead and direct the work of teams • Drive technology developments in integrated product development methods and systems
-------------------------	--	--	--	---	--	---