

Preparation Date: 2020-01-22
Doc. Code: 1120-R-01/00

Process Identification



1- Process Introduction

Process Name	Main Process name (Level 0)	Process Type		Process Code	Process Owner	Participating Organizational Units
		Main	Management and Support			
Product Development Planning and Management (Product Portfolio Development)	Technology development and management		*	R-TM-01/00	Research & Technology Management	Integrated Planning Management
Process Objective	Process Scope	Process Supervisor			Process Customers	
Identify technology and product development requirements to support the development of new products and markets	Covers all process technologies	Managing Director			Integrated Planning Management, Research and Technology Management, and Subsidiary Companies	
Process Alignment with Organizational Objectives and Strategies						
Product Portfolio Management, Targeted Development of Production, Transmission, and Distribution Capacity						
Resources, References, and Process Implementation Requirements						
Legal Implementation and Standards						
Process Flow						
Automated ☐ Semi-Automated ☒ Manual ☐ <i>Related software System:</i>						
Process Execution Model						
Continuous (Ongoing) ☐ Periodic ☒ <i>Frequency: Annually</i>						

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Research and Technology Manager

Reviewed by:
Structural Engineering Manager

Approved by:
Managing Director

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2- Process Execution Characteristics

Process Input (Process Supplier)	Input Title	Process Activities		Output title	Process Output (Process Customer)
		Titles of the Main Process Steps (Process Activities)	Related Operational Documents		
Market and Customer Needs Identification Process	Market Studies (Assessment of the need for quantitative and qualitative product development, including the timing of development.)	Plan and Manage Product Development Programs: 1. Define the Current and Future Product Portfolio 2. Identify Existing Technologies (<i>Identify existing technologies based on available documentation and establish a technology database, including technological knowledge, hardware, lifecycle status, and related information.</i>) 3. Identify Emerging Technologies (<i>Identify emerging technologies based on the requirements for product portfolio development.</i>) 4. Evaluate Existing and Emerging Technologies (<i>Evaluate existing and emerging technologies using the Technology Attractiveness–Capability Matrix.</i>) 5. Formulate Technology Strategies Based on Technology Portfolio Assessment (<i>Four-Quadrant Matrix</i>) 6. Develop Technology Roadmaps Based on Product & Technology Portfolios 7. Prepare Technology Development Plans 8. Monitor Product/Technology Roadmap Implementation		Technology Development Roadmap	Technological Capability Development in the Refining Industry and Affiliated Refining Companies
Strategy and Business Model Development Process	Product Portfolio Development Strategies			Assessment of Technology Roadmap Progress	Industrial Technological Capability Development Process
Refinery Companies	Technological Capabilities and Competencies			Submission of Product Innovation Proposals	Sustainable Development Management Process Group
Production and Consumption Planning Process	Product Titles and Development Timeline				

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3. RACI Matrix

Main footsteps	Participating Organizational Units →	Research and Technology	Integrated planning	Directing Manager	Subsidiary Companies
	Determination of Current and New Product Portfolio	CI	R	A	
	Identification of Existing Technologies	RA	CI		
	Identification of New Technologies	RA	CI		I
	Assessment of Existing and New Technologies	RA	CI		
	Formulation of Technology Strategies Based on Technology Portfolio Assessment	R	CI	A	
	Development of Technology/Product Development Roadmaps	R	CI	A	I
	Preparation of Technology/Product Development Plans			A	I
	Monitoring the Implementation of Product/Technology Development Roadmaps	CI	RA		I

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4. Process Monitoring and Measurement Characteristics

Process Indicator Title	Indicator Calculation Method	Indicator Type		Indicator Type		Indicator Measurement Data sources	Measurement Responsible Person	Monitoring Frequency
		process	Strategic	Effectiveness	Efficiency			
Number of Upgraded Technologies	$\frac{\text{number of upgraded technologies}}{\text{total number of technologies}}$		*	*		Technology development history-technology/ product roadmap	Research and Technology Management	Annual
Ratio of defined technology projects to total projects	$\frac{\text{number of defined Tech projects}}{\text{total number of projects}}$		*	*		Technology development history-technology/ product roadmap	Research and Technology Management	Semi-Annual
Ratio of Upgraded Technology Projects to Defined Technology Projects	$\frac{\text{number of upgraded technologies}}{\text{number of defined Tech projects}}$		*	*		Technology development history-technology/ product roadmap	Research and Technology Management	Semi-Annual
Percentage of Product/Technology Roadmap Progress	$\frac{\text{number of implemented roadmap projects}}{\text{total number of Tech roadmap projects}}$	*		*		Technology development history-technology/ product roadmap	Research and Technology Management	Semi-Annual
Percentage of Roadmap Objectives Achieved	$\frac{\text{number of achieved objectives}}{\text{total number of defined objectives}}$		*	*		Technology development history-technology/ product roadmap	Research and Technology Management	Annual

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5. The process execution steps are illustrated in the attached BPMN process model.

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