TSC Category	Production Management					
TSC	Manufacturing Workflow Management					
TSC Description	Manage manufacturing operations to ensure timely and quality delivery of production outcomes					
TSC Proficiency Description	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
				MAR-OPR-4001-1.1	**MAR-OPR-5001-1.1**	
				Develop manufacturing workflows for all production processes and departments by evaluating timelines, resources and complexity of tasks	Lead the formulation and implementation of manufacturing workflow plans by ensuring coordination among departments and suggest amendments to workflow plans in order to reduce wastage and inefficiencies	
Knowledge				• Technical drawings and specifications and manufacturing requirements • Standard operating procedures (SOPs) of manufacturing equipment and machines • Applications and limitations of manufacturing tools, equipment, machines and processes • Approaches to resource allocation • Types of corrective actions to improve processes • Material properties and characteristics • Critical manufacturing process parameters • Relevant Workplace Safety and Health (WSH) practices, guidelines and regulations	• Organisation's production load and manufacturing requirements • Concepts of product design and development • Resource and infrastructure requirements • Principles of change management and risk management • Methods to evaluate processes for business and technical implications • Methods to assess departments' capabilities • Extraneous factors affecting the manufacturing of ship, rig and conversion components • Economic, environment and safety considerations • Marine and Offshore industry-specific	

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				• Relevant quality assurance and quality control (QA/QC) policies and procedures • Types of ships and rigs, terminologies and features	performance requirements	
Abilities				• Develop process parameters and tooling requirements for machining, forming, joining and other relevant processes on component requirements • Estimate time, material and other relevant resource requirements • Deploy resources as needed according to production workflow requirements • Evaluate product manufacturing chains • Detect loopholes which can be exploited to hasten processes • Analyse risks for tentative plans	• Design workflows and processes specific to the production of ship, rig and conversion components • Devise infrastructure requirements • Establish available resources and account for additional requirements • Conduct feasibility studies to ensure profitability and sustainability of production operations • Establish key performance indicators (KPIs) for manufacturing • Review workflows to streamline and eliminate processes • Ensure processes meet functional requirements of the marine sector • Review functional requirements to shortlist range processes, procedures, techniques and technologies that can be applied to the marine sector in future	