

**SKILLS FRAMEWORK FOR AEROSPACE  
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

<b>TSC Category</b>	Productivity and Innovation					
<b>TSC</b>	Lean Manufacturing					
<b>TSC Description</b>	Apply concepts, tools and techniques of 'lean' to improve efficiency in the workplace					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
		<b>AER-OPR-2064-1.1-1</b>	<b>AER-OPR-3064-1.1</b>	<b>AER-OPR-4064-1.1</b>	<b>AER-OPR-5064-1.1</b>	<b>AER-OPR-6064-1.1</b>
		Apply 'lean' thinking in the workplace	Apply 'lean' techniques to identify and assess actual and potential failures in product and process designs	Manage productivity and implementation of 'lean' practices	Establish 'lean' practices in the organisation, with a focus on identifying and eliminating wastes and sources of variability	Strategise the application of 'lean enterprise' in different functional areas, processes and levels within the organisation
<b>Knowledge</b>		<ul style="list-style-type: none"> <li>'History of 'Lean' applications</li> <li>Definition and principles of 'lean'</li> <li>Correlation between 'lean' thinking and productivity</li> <li>Culture of continuous improvement in the organisation</li> </ul>	<ul style="list-style-type: none"> <li>Cycle-times in workplace operations</li> <li>Types and characteristics of layout designs in the workplace</li> <li>Concept of 'poka-yoke'</li> <li>Steps to create value stream mapping in the workplace</li> <li>Benefits of process mapping in the workplace</li> <li>'Lean' metric for performance measurement</li> </ul>	<ul style="list-style-type: none"> <li>Productivity concept</li> <li>Eight types of production wastes</li> <li>Benefits and results of 'lean'</li> <li>Performance measures of productivity</li> <li>Steps to achieve 'lean' performance results</li> <li>Objectives of production and inventory control</li> <li>Types of inventory by function and condition</li> <li>'Lean' tools for improved inventory flow and material flow</li> <li>Steps required for successful 'lean' implementation</li> </ul>	<ul style="list-style-type: none"> <li>Concepts and principles of 'lean'</li> <li>Eight types of wastes and major key performance indicators</li> <li>'Lean' tools and techniques</li> <li>Concept of Plan-Do-Study-Act' (PDSA) cycle</li> <li>Characteristics of 'lean' organisational structures</li> <li>Roles and responsibilities of personnel in a 'lean' structure</li> <li>'A3' problem solving concept</li> </ul>	<ul style="list-style-type: none"> <li>Evolution of 'lean' as a business and management practice</li> <li>Frameworks for 'lean' thinking</li> <li>Principles and guidelines for creating 'lean' enterprises</li> <li>Principles and applications of 'lean'</li> <li>'Lean' audits</li> <li>'Lean' implementation and sustainability</li> </ul>
<b>Abilities</b>		<ul style="list-style-type: none"> <li>Interpret 'lean' thinking to eliminate wastes and increase value-added activities according to simulation guide</li> <li>Carry out standardised work in the workplace according to simulation guide</li> <li>Carry out waste elimination activities in the workplace</li> <li>Carry out improvement activities based on the five principles of 'lean'</li> <li>Contribute ideas for work improvement activities</li> </ul>	<ul style="list-style-type: none"> <li>Apply cycle time measurement techniques, according to simulation guide</li> <li>Simulate types of layout design for activities improvement</li> <li>Apply 'poka-yoke' techniques in the workplace according to simulation guide</li> <li>Apply value stream mapping in the workplace according to simulation guide</li> <li>Apply process mapping for understanding activities flow</li> </ul>	<ul style="list-style-type: none"> <li>Identify improvement opportunities for productivity improvements</li> <li>Identify types of waste for optimising processes</li> <li>Perform inventory classification using 'selective inventory control' (ABC analysis)</li> <li>Calculate economic batch quantity and number of 'kanbans' required</li> <li>Calculate production capacity and TAKT time</li> <li>Determine the need for preventive maintenance within the organisation</li> </ul>	<ul style="list-style-type: none"> <li>Examine productivity improvement opportunities</li> <li>Identify critical wastes in specific functional areas, processes and levels within the organisation</li> <li>Collect data on operations and wastes</li> <li>Measure levels of waste generated</li> <li>Analyse root causes of waste</li> <li>Formulate 'lean' implementation plans for the organisation</li> <li>Identify and apply appropriate tools and</li> </ul>	<ul style="list-style-type: none"> <li>Formulate 'lean' enterprise models</li> <li>Identify suitable frameworks for 'lean thinking' and associated benefits 'lean' approaches can afford the organisation</li> <li>Critically evaluate how 'lean thinking' may apply in different functional areas, processes and levels within the organisation</li> <li>Recommend appropriate approaches to implement sustainable 'lean'</li> </ul>

**SKILLS FRAMEWORK FOR AEROSPACE  
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

			<ul style="list-style-type: none"> <li>Apply the five principles of 'lean' as a framework for improvement activities</li> </ul>	<ul style="list-style-type: none"> <li>Implement 'lean' practices at various levels in the organisation and within various areas for improvement</li> <li>Review performance improvement after implementation</li> </ul>	<p>techniques to support 'lean' structure within the organisation</p> <ul style="list-style-type: none"> <li>Establish 'lean' organisational structures</li> <li>Sustain the organisation's performance of improved processes</li> <li>Apply 'A3' thinking for problem solving</li> </ul>	<p>enterprise' within the organisation</p>
--	--	--	---	--	---	--