

<b>TSC Category</b>	Precision Engineering					
<b>TSC</b>	Image Processing and Industrial Vision Inspection					
<b>TSC Description</b>	Perform digital image processing and industrial vision inspections using imaging hardware and optics and advanced processes in accordance with design specifications and organisational requirements					
<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-DES-3042-1.1</b>	<b>AER-DES-4042-1.1</b>		
			Perform digital image processing and evaluate inspection and measurement results	Develop project plans specifying appropriate digital image processing techniques and technologies and define parameters for optimising results		
<b>Knowledge</b>			<ul style="list-style-type: none"> <li>• Principles of digital imaging and imaging hardware</li> <li>• Digital image processing and illumination techniques</li> <li>• Types of digital image processing tools and software</li> <li>• Types of imaging hardware and optics</li> <li>• Basic 2D image processing and frequency domain image processing applications</li> <li>• Basic colour image processing applications</li> <li>• Principles of measurement in digital images</li> </ul>	<ul style="list-style-type: none"> <li>• Principles of digital image processing and applications</li> <li>• Advanced image processing techniques and applications</li> <li>• Camera calibration and 3D image processing applications</li> <li>• X-ray image processing applications</li> </ul>		

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

<p><b>Abilities</b></p>			<ul style="list-style-type: none"> <li>• Select appropriate digital image processing tools for different applications based on requirements and working environment</li> <li>• Select illumination techniques appropriate for the surface conditions of the application targets</li> <li>• Conduct visual inspections to evaluate the quality of objects to be inspected</li> <li>• Select cameras and lenses and integrate them with the illumination system to form an imaging system</li> <li>• Evaluate inspection and measurement results</li> <li>• Establish output image analysis results</li> </ul>	<ul style="list-style-type: none"> <li>• Explore ideas and techniques for digital image processing and industrial vision inspections in consultation with key stakeholders</li> <li>• Evaluate and fine-tune image processing parameters to get the best result</li> <li>• Develop project plans to incorporate image pre-processing, feature extraction, defect inspection, dimension measurement and post-processing technologies into an image analysis system</li> </ul>		
-------------------------	--	--	--	--	--	--