

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

TSC Category	Technology Management					
TSC	Robotics and Automation Application					
TSC Description	Apply and integrate evaluated technologies into organisation operations or processes to achieve desired outcomes and reduce reliance on manual tasks					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		PTP-TEM-2010-1.1	PTP-TEM-3010-1.1	PTP-TEM-4010-1.1	PTP-TEM-5010-1.1	
		Apply procedural knowledge of robotic systems and automated technologies to execute tasks	Supervise the use of robotics and automated technology to execute tasks	Review performance of automated workflows for process improvements	Formulate new functional workflows to adopt robotics and automated technology to streamline processes	
Knowledge		<ul style="list-style-type: none"> Types of robotic systems, automated technologies and process control systems Methods of operating robotic systems Procedures of safe machinery operation Types of sensors and actuators Procedures for installing actuators and sensors 	<ul style="list-style-type: none"> Workflow, procedures and work instructions of tasks to be executed with the use of robotics and automated technology Principles of automated technologies and robotic systems Procedures for setting up and inspecting robotic systems and automated technologies Approaches to oversee organisational tasks through the use of robotic systems and automated technologies Types and applications of control loop components and controllers 	<ul style="list-style-type: none"> Range of applications of automated technologies and robotic systems Methods of evaluating resources and skills to carry out tasks using automated technologies and robotic systems Types of logic control programs Concepts pertaining to performance specifications and analysis Best practices in robotics and automation Components of a robot Principles of path and trajectory planning Types programming skills of a robot 	<ul style="list-style-type: none"> Technical expertise and processes of functional tracks Methods of developing detailed operating procedures for automated technologies and robotic systems Methods to influence adoption of new technologies Impact of robotics and automation on operations of functional track Principles of change management 	
Abilities		<ul style="list-style-type: none"> Operate automated technologies and robotic systems according to manufacturer's instructions and operating procedures Follow safety procedures when operating automated 	<ul style="list-style-type: none"> Oversee the use of automated technologies and robotic systems Diagnose faults in the use of automated technologies and robotic systems processes and suggest solutions Interpret and extract relevant process 	<ul style="list-style-type: none"> Evaluate various automated technologies and robotics systems to compare strengths and limitations of automated technologies Evaluate the feasibility of automation and robotic systems usage 	<ul style="list-style-type: none"> Determine range of application, resources and skill requirements for implementation of automated technologies and robotic systems Develop technical operating procedures for robotics and automation 	

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		<p>technologies and robotic systems</p> <ul style="list-style-type: none"> • Identify and report any issues with the automated technologies and robotic systems • Install sensors and actuators for process control in specified locations 	<p>parameters from given specifications</p> <ul style="list-style-type: none"> • Apply corrective actions for automatic and manual shut-down during critical and emergency situations • Review feedback on operation of automated technologies and robotic systems and incorporate into updated operating procedures 	<p>to optimise organisational workflow</p> <ul style="list-style-type: none"> • Apply optimisation techniques to improve automated processes' efficiency and product quality • Assess improvements on the overall organisation performance 	<ul style="list-style-type: none"> • Evaluate the benefits and trade-offs of implementing advanced robotics and automation to the business • Formulate processes and procedures for overall operations of functional track using robotics and automation 	
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