

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

|                                    |   |   |  |   |  |                |
|------------------------------------|---|---|--|---|--|----------------|
| <b>TSC Category</b>                | Technology Management   |   |  |   |  |                |
| <b>TSC</b>                         | Internet of Things Application  |   |  |   |  |                |
| <b>TSC Description</b>             | Implement Internet of Things (IoT) technologies to drive efficiency and effectiveness of operations |   |  |   |  |                |
| <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>PTP-TEM-2002-1.1</b>   | <b>PTP-TEM-3002-1.1</b>  | <b>PTP-TEM-4002-1.1</b>   | <b>PTP-TEM-5002-1.1</b>  |                |
|                                    |   | Adopt Internet of Things (IoT) technologies and provide troubleshooting support   | Execute Internet of Things (IoT) technology projects to enhance work processes and operations  | Manage the implementation of Internet of Things (IoT) technologies for the organisation   | Formulate strategies for the application of Internet of Things (IoT) technologies to drive operational efficiency and effectiveness  |                |
| <b>Knowledge</b>                   |   | <ul style="list-style-type: none"> <li>• Concept of Internet of Things (IoT)</li> <li>• Types and functionalities of IoT devices</li> <li>• Types of wireless communication technologies</li> <li>• Concept of cybersecurity</li> </ul>     | <ul style="list-style-type: none"> <li>• Concept of Internet of Things (IoT)</li> <li>• Types and functionalities of IoT devices</li> <li>• Types of circuits and sensors within devices</li> <li>• Types of wireless communication technologies</li> <li>• Data analytics techniques</li> <li>• Concept of cybersecurity</li> </ul> | <ul style="list-style-type: none"> <li>• Concept of Internet of Things (IoT)</li> <li>• Types and functionalities of IoT devices</li> <li>• Concept of ubiquitous computing and connectivity</li> <li>• Types of wireless communication technologies</li> <li>• Data collection, modelling and analysis techniques</li> <li>• Concept of cybersecurity</li> <li>• Data visualisation and business intelligence tools</li> </ul> | <ul style="list-style-type: none"> <li>• Concept of Internet of Things (IoT)</li> <li>• Types and functionalities of IoT devices</li> <li>• Concept of ubiquitous computing and connectivity</li> <li>• Automation technologies and applications</li> <li>• Data collection, modelling and analysis techniques</li> <li>• Concept of cybersecurity</li> <li>• Data visualisation and business intelligence tools</li> <li>• Principles of successful IoT strategies</li> </ul> |                |
| <b>Abilities</b>                   |   | <ul style="list-style-type: none"> <li>• Conduct work activities using IoT technologies</li> <li>• Perform testing to verify the optimal functioning of IoT technologies</li> <li>• Provide troubleshooting support to end-users</li> </ul> | <ul style="list-style-type: none"> <li>• Conduct briefings on the uses and functions of IoT technologies adopted by the organisation</li> <li>• Review IoT testing results and identify areas for improvement</li> <li>• Integrate information from multiple data sources</li> </ul>   | <ul style="list-style-type: none"> <li>• Develop novel ideas to enhance business operations by leveraging on IoT technologies</li> <li>• Collaborate with stakeholders for the development of IoT applications</li> <li>• Develop implementation approaches and schedules for IoT projects</li> </ul>   | <ul style="list-style-type: none"> <li>• Initiate research on the application of IoT in business operations</li> <li>• Develop strategies for application of IoT to transform business operations</li> <li>• Conceptualise the technology infrastructure required for IoT implementation</li> <li>• Create IoT solutions and develop business cases</li> </ul>   |                |

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|--|--|--|---|---|--|--|
|  |  |  | <ul style="list-style-type: none"> <li>Review data to produce insights of business value</li> </ul> | <ul style="list-style-type: none"> <li>Develop risk management approaches in relation to cybersecurity risks</li> <li>Review and monitor success of IoT implementation using key performance metrics</li> </ul> | <p>for investing in these technologies</p> <ul style="list-style-type: none"> <li>Oversee integration projects which combine data from disparate devices, processes and applications</li> <li>Advise others on cybersecurity risks related to IoT strategies and mitigation measures</li> <li>Develop insights from strategic analysis of IoT data to enhance efficiency and service delivery</li> </ul> |  |
|--|--|--|---|---|--|--|