# SKILLS FRAMEWORK FOR ENVIRONMENTAL SERVICES

## TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT

<table>
<thead>
<tr>
<th>TSC Category</th>
<th>Technology Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSC</td>
<td>Internet of Things Management</td>
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<tr>
<td>TSC Description</td>
<td>Integrate physical devices, equipment and buildings in a connected environment via network to communicate, collect and exchange data</td>
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<table>
<thead>
<tr>
<th>TSC Proficiency Description</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
<th>Level 6</th>
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<tbody>
<tr>
<td></td>
<td>EVS-TEM-2002-1.1</td>
<td>EVS-TEM-3002-1.1</td>
<td>EVS-TEM-4002-1.1</td>
<td>EVS-TEM-5002-1.1</td>
<td>EVS-TEM-6002-1.1</td>
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<tr>
<td>Apply interfacing techniques in computer system for networking and usage of dashboard information</td>
<td>Analyse the information provided by the network and/or dashboard in order to apply and sustain the operational needs</td>
<td>Manage operation execution using Internet of Things (IoT) solutions for process improvement</td>
<td>Formulate Internet of Things (IoT) platforms for storing and managing information provided by the network and/or dashboard to drive operational efficiency and effectiveness</td>
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### Knowledge

- Knowledge of basic virtual and/or digital database works
- Internet of Things (IoT) system interface
- Data analytics for operating the robotics through system connection
- Big data dashboard for task optimisation
- Relevant industry standards in using IoT

- Knowledge of how basic virtual and/or digital database works
- Internet of Things (IoT) system interface
- Data analytics for operating the robotics through system connection
- Big data dashboard for task optimisation
- Knowledge of documentation through IoT
- Knowledge of scheduling tools integration with network

- IoT concept and technical knowledge of IoT implementation
- Connectivity in devices using sensors, smart devices and other technologies for data collection and communication
- Equipment automation
- Building and/or Environment automation
- Advanced process control
- Security and privacy applications for IoT
- IoT guidelines and communication standards

- Security and privacy applications for IoT
- Knowledge of how basic virtual and/or digital database works
- Internet of Things (IoT) system interface
- Data analytics for operating the robotics through system connection
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- Knowledge of documentation through IoT
- Knowledge of scheduling tools integration with network

### Abilities

- Operate the automated tools and information
- Utilise the system information integration
- Interpret the control room and dashboard information
- Interpret robotics and network information to dispatch the task
- Perform task to interact with the IoT on the device, equipment or building

- Perform the troubleshooting and analyse the automated tools and information
- Perform system information integration to analysis the big data
- Understand the control models, process control algorithms, strategies behind the automated system
- Interpret robotics & network information to performance and/or schedule maintenance work with IoT

- Analyse relevant data to recommend control actions
- Identify areas for implementing IoT solutions for process improvement
- Use relevant tool to analyse and record performance
- Monitor the effectiveness of IoT solutions

- Design and develop an IoT application in a team-based environment
- Conceptualise and articulate a solution making use of IoT
- Manage data in IoT applications
- Design application and automation using smart devices
- Synthesise data visualization and exploration business intelligence tools

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| • Perform task to interact with the IoT in an automated equipment |  |  |