TSC Category	Technology Application Management					
TSC	Internet of Things Management					
TSC Description	Integrate data from computing devices, equipment and machines in a networked environment to provide specific solutions					
TSC Proficiency Description	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
		ECM-TEM-2001-1.1	ECM-TEM-3001-1.1	ECM-TEM-4001-1.1	ECM-TEM-5001-1.1	
		Apply interfacing techniques in computer systems for networking and use of dashboard information	Analyse information provided by networks and dashboards to apply and sustain operational needs	Manage manufacturing operation execution using Internet of Things (IoT) solutions for manufacturing improvement	Formulate Internet of Things (IoT) direction and platforms to drive operational efficiency and effectiveness	
Knowledge		• Knowledge of virtual and digital database workings • Internet of Things (IoT) system interfaces • Data analytics for operating automation and/or robotics systems through system connections • Big data dashboard for task optimisation • Industry 5S approach to integration using IoT	• Working principles of virtual and digital databases • Internet of Things (IoT) system interfaces • Data analytics for operating automation and/or robotics systems through system connections • Big data dashboards for task optimisation • Industry 5S approach to integration using IoT • Knowledge of documentation through IoT • Knowledge of scheduling tools integration with networks	• Conceptual and technical knowledge of IoT implementation in manufacturing • Connectivity in manufacturing, using sensors, smart devices and other technologies for data collection and operational control • Equipment automation • Plant automation • Advanced process controls • Manufacturing execution systems (MES) • Security and privacy applications for IoT • IoT guidelines and communication standards	• IoT and the architecture reference model (ARM) • Smart automation applications and technologies • Large-scale monitoring and analytics applications and technologies • Data modelling, collection and management • Data visualisation and exploration business intelligence tools	
Abilities		• Operate automated tools and systems • Interpret control room and dashboard information • Interpret automation and robotics systems information in a	• Analyse automated tools and systems to perform troubleshooting • Perform system information integration to analyse big data • Understand control models, process control algorithms and	• Design and develop IoT applications in a team-based environment • Establish network security protocols, communication protocols, wireless infrastructure, on-premises solutions,	• Formulate strategies for industrial IoT implementation • Conceptualise and articulate solutions making use of IoT • Determine platforms for storing and managing IoT-related information	

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		networked environment to dispatch tasks • Perform tasks to interact with IoT technology in automated plants	strategies behind automated systems • Interpret robotics and network information to schedule production and/or maintenance works in networked environments • Coordinate tasks to interact with IoT technology in automated plants	switches and integration of IoT ecosystems in collaboration with technology solution providers • Manage IoT applications and automation using smart devices • Manage data in IoT applications	provided in networked environments	