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| **TSC Category** | Technology Management | | | | | |
| **TSC Title** | Automation Management in Product Development | | | | | |
| **TSC Description** | Oversee automation systems to ensure operation requirements for product development are met as well as propose strategies for automation systems performance improvement | | | | | |
| **TSC Proficiency Description** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Level 5** | **Level 6** |
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|  | Apply procedural knowledge of automation technologies and emerging technologies to execute development tasks in the product development process | Interpret workflow plan and recommendations from the product developer for the use of automation technologies in products | Review performance of automation technologies in products to assess areas of improvements and possible iterations to be made in products pre- and post-launch after A/B testing | Formulate new processes in product development that adopt automation technologies to enhance efficiency in the product development process, as well as product improvements to better meet the needs of consumers | Spearhead the use of wide applications of automation technologies in the product development teams to transform the product development track and processes |
| **Knowledge** |  | * Types of automation technologies * Methods of operating automation systems and emerging technologies for software development and product design tasks * Procedures of using automation systems and emerging technologies for software development and product design tasks | * Organisational workflows * Principles of automation technologies * Procedures for setting up and inspecting automation technologies in products * Approaches to oversee tasks that use automation technologies * Principles of automation algorithms * Methodology to assess efficacy of automation in products pre-launch and post-launch * Use A/B Testing through automation technologies to identify areas of improvements in products | * Range of applications of automation technologies * Methods of evaluating resources and skills to carry out tasks using automation technologies * Concepts pertaining to performance specifications and analysis * Best practices in automation * Principles of applying automation technologies in products * Types of programming skills of automation technologies | * Organisation's products, services, and processes * Methods of developing detailed operating procedures for automation technologies * Methods to influence adoption of new technologies * Impact of automation * Principles of change management | * Applications of emerging automation technologies * Industry best practices and applications of new technologies adoption in the industry * Impact of automation * Benefits and trade-offs of advanced robotic and automation * Financial cost of introducing advanced automation to processes and products * Automation cost benefits analysis methods * Methodology of return-on-investment (ROI) analysis * Methods of conducting research and development in automations * Automation legislative requirements * Principles of change management |
| **Abilities** |  | * Operate automation technologies by following product teams' instructions and procedures * Follow operational protocols when incorporating automation technologies in products * Identify and report any issues with automation technologies | * Oversee use of automation technologies * Diagnose faults in the use of automation technologies for processes and suggest solutions * Interpret and extract relevant process parameters from given specifications * Apply corrective actions for automation in products after analysing results from A/B Testing and post-product launch * Review feedback on operations of automation technologies and incorporate these into updated operating procedures | * Evaluate various automation technologies to compare strengths and limitations of the automation technologies * Apply optimisation techniques to improve automated processes’ efficiency and product quality * Evaluate the benefits and trade-offs of implementing automaton into products and businesses | * Determine range of application, resources, skill requirements and feasibility for automation technologies * Develop technical operating procedures for automation * Drive automation technology * Refine parameters of automation processes to enhance efficiency in the product development processes, and make improvements within each product to better meet the needs of consumers * Determine post-processing procedures using automation technologies | * Synthesise innovation developments * Anticipate macro trends and their impact on speed, process, or automation requirements• * Evaluate the benefits and trade-offs of implementing advanced automation to the products and business * Assess the cost and return on investment of automating processes * Develop automation application strategies * Analyse alternative approaches to automation to enhance productivity * Identify potential opportunities to improve automation approaches in the organisation * Prepare a business case for implementing advanced automation to satisfy business and legislative requirements |
| **Range of Application** | N/A | | | | | |