SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT

TSC Category	Development and Implementation					
TSC Title	Agile Software Development					
TSC Description	Plan and implement Agile methodology and the use of adaptive and iterative methods and techniques in the software development lifecycle to account for continuous evolution, development, and deployment to enable seamless delivery of the application to the end user					
TSC Proficiency Description	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
			ICT-DIT-3019-1.1	**ICT-DIT-4019-1.1**	**ICT-DIT-5019-1.1**	**ICT-DIT-6019-1.1**
			Adopt Agile software development methodologies to develop, improve and deploy software applications	Plan Agile software development processes for software applications development	Lead Agile software development processes and ensure end-to-end management of processes for seamless development, deployment and delivery of software applications	Establish the organisation's policies, standards and guidelines for Agile software development to drive adoption of the Agile methodologies and its practices
Knowledge			• Types of software development tools and methodologies in Agile setting • Standards and protocols in software development • Agile practices and processes for software development • Values and principles of Agile methodologies • Syntax and structures of commonly-used programming languages and their respective Application Programming Interfaces (API) • Type of tools and techniques required for programming • Software tests and processes for executing unit testing • Debugging tools and techniques	• Types of Agile methodologies, practices and processes for software development • Change management practices and processes • Software development life cycle models for applications • Types programming languages and effectiveness in different contexts • Types of software or application testing techniques, and pros and cons of various tests • Continuous integration and continuous deployment (CI/CD) processes	• Resistance management strategies • Long-term and immediate objectives of software in the organisation • Process of developing effective Agile software development approaches and policies • Continuous integration and continuous deployment (CI/CD) strategies and protocols • Intervention strategies and protocols for process change • Collaboration management processes and strategies between development team and end users	• Objectives of Agile software development in the organisation's and customer's context • Industry best practices in Agile software development • Models of team development • Types of team management strategies

Abilities			• Schedule Agile meetings with relevant stakeholders for software development and deployment • Organise daily briefings for the Agile software development team to provide clarity of immediate tasks and goals • Re-use developed components to streamline the software development process • Suggest new software components or features to improve the software as per change requirements • Merge code change or branch to code repository • Suggest specific development areas and actionable feedback for the Agile software development team • Facilitate feedback sessions to improve Agile team performance in software development • Identify repetitive and routine tasks in the software development process that can be automated	• Develop Agile software development plans to guide the development of software • Determine software testing techniques and tools for implementation • Evaluate test results against desired performance and usability outcomes • Manage iterations and changes to software in the development process to enhance software functionality and usability • Analyse software issues, errors or problems encountered, and determine suitable debugging tools and techniques • Develop plans for reconfiguration, integration, removal or addition of software components • Address impediments and issues regarding the development of software in an Agile team setting • Manage the integration of code changes or branches to master code repository • Assess the conduct of Agile practices against established Agile processes and standards • Rectify repetitive and routine tasks to	• Establish implementation plans to transition teams to Agile software development practices • Develop processes, standards and requirements for Agile software development • Establish roles and responsibilities for team members in an Agile software development setting • Evaluate Agile tools and software for adoption in developing software • Evaluate implications of new and emerging trends on software development in an Agile setting • Lead the end-to-end development of software in an Agile setting • Evaluate feasibility of software development at each stage of the software lifecycle • Plan integration and deployment strategies • Evaluate performance of automated activities in the software development process for improvement	• Establish the organisation's Agile software development frameworks, processes and standards • Establish organisational assessment tools to determine readiness and maturity of software development teams to transition into an Agile setting • Establish the purpose, mindset and functions of individuals in an Agile software development team • Ensure training in Agile methodologies and practices is planned for and conducted to implement Agile software development • Endorse recommendations to improve the overall functionality and usability of the software, against cost, efficiency and viability considerations

				streamline the software development process		
Range of Application	Agile methodologies and frameworks may include but not limited to: • Agile Scrum Methodology • Lean or Agile Software Development • Kanban • Extreme Programming (XP) • Crystal • Dynamic Systems Development Method (DSDM) • Native / Mobile application development • Web application development • Desktop application development • Augmented reality application development • Virtual reality / context-aware application development • Game development					