|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY SKILLS MAP – RADIO FREQUENCY ENGINEER** | | | | | | |
| **Sector** | Infocomm Technology | | | | | |
| **Track** | Infrastructure | | | | | |
| **Sub-track** | Build and Maintain | | | | | |
| **Occupation** | Infrastructure Engineer | | | | | |
| **Job Role** | **Radio Frequency Engineer** | | | | | |
| **Job Role Description** | The Radio Frequency Engineer is responsible for designing, implementing and maintaining wireless networks and systems. He/She installs equipment required for wireless communication, tests and troubleshoots radio networks to ensure quality and performance. He works in conjunction with core and cloud network teams for integrated functioning of the organisation's networks.  He possesses deep expertise and knowledge in wireless networking technologies and has the ability to translate business requirements into technical specifications for the design and implementation of wireless networks. He is proficient in the use of simulation software, programming languages and database servers.  The Radio Frequency Engineer is an analytical thinker and a problem-solver. He has excellent communication skills and readily establishes collaborative working relationships across teams. | | | | | |
| **Critical Work Functions and Key Tasks** | **Critical Work Functions** | **Key Tasks** | | | | |
| **Design wireless network and infrastructure** | Develop proposals for the expansion of radio networks and systems based on business requirements | | | | |
| Design radio frequency schematic for the construction of wireless networks | | | | |
| Define technical specifications and resource requirements necessary for wireless networks | | | | |
| Conduct technical evaluation and proof-of-concept for new technologies in wireless networking and radio frequency transmission | | | | |
| **Deploy wireless networks and infrastructure** | Evaluate data from site surveys to determine suitability for optimal deployment of wireless networks | | | | |
| Manage the installation and maintenance of wireless network equipment | | | | |
| Analyse functionality of and recommend upgrades to existing wireless network equipment | | | | |
| Perform simulations for radio frequency network design | | | | |
| Implement solutions or techniques to mitigate radio frequency interference | | | | |
| Provide technical advice on the procurement of wireless network equipment | | | | |
| Develop operating processes and protocols for disaster recovery of wireless network infrastructure | | | | |
| **Optimise wireless network performance** | Conduct radio network drive tests to obtain information on network coverage and performance | | | | |
| Review logs and reports from radio network drive tests and monitor network performance | | | | |
| Analyse key performance indicators to identify problem areas in wireless communication systems and network performance | | | | |
| Implement measures and tune network parameters to improve wireless communication systems and network performance | | | | |
| **Manage wireless network security** | Plan and coordinate network security measures for wireless network infrastructure | | | | |
| Assess the security of wireless protocols and radio networks to identify vulnerabilities or interceptions | | | | |
| Prioritise and resolve wireless network security incidents, and escalate where necessary | | | | |
| Conduct audit of wireless networks and design to ensure compliance to regulatory standards | | | | |
| **Troubleshoot wireless communication issues** | Resolve defects in wireless network infrastructure and software | | | | |
| Oversee the resolution of wireless network issues | | | | |
| Establish standards and procedures for troubleshooting and resolution of wireless network issues | | | | |
| Implement automation workflows for the management of repeated network issues | | | | |
| **Skills and Competencies** | **Technical Skills and Competencies** | | | **Generic Skills and Competencies** | | |
| Budgeting | | Level 3 | Problem Solving | | Intermediate |
| Business Environment Analysis | | Level 3 | Communication | | Intermediate |
| Business Innovation | | Level 4 | Computational Thinking | | Intermediate |
| Business Needs Analysis | | Level 3 | Sense Making | | Intermediate |
| Business Requirements Mapping | | Level 3 | Decision Making | | Basic |
| Business Risk Management | | Level 3 |  | | |
| Change Management | | Level 3 |
| Contract Management | | Level 3 |
| Cyber and Data Breach Incident Management | | Level 4 |
| Emerging Technology Synthesis | | Level 4 |
| Network Administration and Maintenance | | Level 3 |
| Network Configuration | | Level 3 |
| Network Security | | Level 4 |
| Performance Management | | Level 4 |
| Problem Management | | Level 3 |
| Process Improvement and Optimisation | | Level 3 |
| Procurement | | Level 3 |
| Radio Frequency Engineering | | Level 4 |
| Security Administration | | Level 3 |
| Service Level Management | | Level 3 |
| Software Configuration | | Level 3 |
| Stakeholder Management | | Level 3 |
| Test Planning | | Level 3 |
| Vendor Management | | Level 4 |
| **Programme Listing** | For a list of Training Programmes available for the ICT sector, please visit: www.skillsfuture.sg/skills-framework/ict | | | | | |
|  |  |  | |  |  | |
| The information contained in this document serves as a guide. | | | | | | |