

# ICT Competency Profiles framework

## Job Stream Descriptions

### ***Cluster: Software Products***

**Analysis Design:** In the field of analysis, you apply investigative skills to business, technical or organizational problems to determine if and how ICT could be used to provide and define solutions for systems. In design, you prepare and ensure, as far as possible, that the detailed specifications for all information system components are valid and meet a defined set of requirements.

**Analysis Programming:** This occupation requires you to utilize analytical, design, problem-solving and interpersonal skills to interpret requirements, utilize design concepts, and write programs that meet specifications and customer needs.

**Application Software: Implementation:** In this occupation, you provide technical expertise and functional support for software package implementation to meet business requirements. You install, configure, customize, integrate, support and maintain the software package.

**Business Analysis and Service Level Management:** In this occupation, you perform investigatory, feasibility and analytical studies to produce practical outline specifications for the construction of systems that meet users' needs. You must also match the quality level and scope of services to the facilities and capabilities of existing systems

**Programming:** As a programmer, you construct properly engineered software assemblies from specifications, combine these assemblies into systems, and verify that the resulting assemblies or systems are correctly tested to meet specifications.

**Software Design and Delivery (Engineering):** In this occupation you plan, evaluate, advise, report, co-ordinate or supervise software intensive products or processes, including commissioning, system integration and retirement of real time, embedded and other complex software systems, that requires the application of engineering principles, but does not necessarily constitute the practice of professional engineering.

**Technical ICT Architecture:** You design, develop, evaluate and integrate a wide range of systems and components. These include business applications, technical environments, information warehouses, operating systems, databases, telecommunications networking, etc. In this occupation, you also define models, plan projects, develop standards and lead and guide systems staff.

**Web Design:** In this occupation, you produce practical designs and outline specifications for the construction of websites that meet client requirements, with an equal emphasis on the technical and creative aspects. In doing so, you must consider the concepts of quality, accessibility and usability, as well as underlying technology and delivery mechanisms.

**Web Development:** In this occupation, you apply analytical and programming skills to produce and implement properly engineered and tested web-based applications that meet identified requirements and specifications, using programming and development tools, within an internet technology framework.

## ***Cluster: Infrastructure***

**Data Administration:** You will manage and organize electronic data to ensure that it meets ICT' needs including shareability, coherence, availability, quality and integrity. Additionally, you will deal regularly and effectively with corporate data administration policies, standards and technology.

**Database Administration:** In this occupation, you provide specialized expertise and practical assistance in the use of database management systems, and in the manipulation of data for systems. This includes work at any stage of the system life cycle, such as feasibility, design, development and service delivery.

**Capacity and Performance:** You match hardware, operating system software and applications systems capacity to present or predict the ICT needs of users to meet the service level requirements for throughput, response time, turnaround time and availability. This also includes throughput performance measurement and acceptance testing for new applications against targets set through experience.

**Help Desk:** In this occupation you provide a rapid response inquiry service regarding ICT for users or customers (usually by telephone) to solve problems they have in using the relevant features/functions of the company's products/services.

**Network Planning and Support:** You plan, install and provide routine control over and manage exception situation in relation to quality communications network services in an information system. Normally, this involves evaluating communications hardware, software and transmission service alternatives against changing business requirements; maintaining links with network suppliers; monitoring network performance; providing support for attached systems; localizing and rectifying faults in networks and handling non-routine user/customer problems; and providing expertise and practical assistance in delivering service that complies with statutory and other standards, as well as strategic and tactical plans.

**Operations:** You carry out the daily routine physical and logical operation of hardware and software to support quality service delivery. These operations include the initial handling of incidents, routine system start up and shut down, and maintaining planned schedules.

**Problem Management:** In this occupation, you are responsible for diagnosing, assessing, circumventing and finding remedies for service incidents (deviations from planned or expected information system behaviour). If needed, you would also ask for specialized expertise and take the initiative in giving advice to prevent service incidents.

**Security:** In this occupation, you provide specialized expertise and practical assistance for the physical, electronic and technical security of ICT at each stage of the life cycle. In

addition, you plan, design and test procedures and mechanisms to protect systems and services from catastrophic failures.

**Systems Programming:** In this occupation, you provide specialist technical expertise for developing, installing, testing, tuning, upgrading and maintaining externally and internally supplied systems software. You also provide advice on operating and technical standards, and ensure that systems are designed and assembled within operational and technical constraints.

**User Technical Support:** In this occupation, you provide direct technical help to users and customers of an ICT service to guide them in using the tools and resources effectively and efficiently.

### ***Cluster: Management***

**ICT Management:** In this occupation you manage all resources needed to plan for and deliver properly architected IS/ICT services to users at all stages of the system's life cycle. This includes managing the development of services in the definition, design, construction, testing and delivery phases. You are also usually responsible for strategy, systems, hardware, software, manpower infrastructure operation and service delivery. Other responsibilities include scheduling and controlling a quality informatics service, and acting to correct any non-scheduled or non-routine incident affecting service delivery.

**Intellectual Property Management:** In this occupation, you provide professional services guided by technical, legal, and business knowledge to develop, protect, and commercialize the organization's Intellectual Property.

**Production Management:** In this occupation you are responsible for all aspects of production in accordance with orders received, including planning, operations, P&L, budgeting, facilities/maintenance, safety, quality assurance, supervision of personnel and supplier/client/customer relationships.

**Project Management:** In this occupation you plan and control projects to meet quality, budget and time objectives, to lead and motivate resources, to coordinate with organizations, clients and stakeholders. You deliver a high quality output in compliance with agreed time and budget constraints and to the satisfaction of the clients and stakeholders.

**Supply Chain Management:** In this occupation you are responsible for the supply chain in order to properly and efficiently manage the material and information resources needed to fill the orders of internal and external clients, from order taking to delivery of the product/service.

**ICT Consultancy:** This occupation spans a variety of specialized applications and fields. As a consultant, you provide strategic advice and high-level assistance for strategy and policy; architecture; technology; procurement; management; development methods; definition, design, construction and installation; and use and service delivery. The ICT

Consultancy Stream includes both the technical specialists and the business strategy consultants.

### ***Cluster: Hardware Products***

**Design Engineering:** In this occupation you are involved in the specification, planning, design and verification of products. You assist in the development of engineered deliverables from feasibility and functional specification through design and physical implementation to production.

**Hardware Scientist:** In this occupation you develop and implement applied and/or fundamental research programs with a view to resolving various types of issues. This could lead you to produce a prototype, fine-tune a new product, or even improve a production process in response to market requirements or in collaboration with other companies.

**Manufacturing Engineering:** In this occupation you are critically involved in providing manufacturability feedback during the design process and the transfer and improvements of products from development to manufacturing. You are to maintain and improve the process to balance between efficiency, quality and cost and understand the implications of liability, safety, health, and environment issues on the manufacturing process

**Product Line Management:** In this occupation you are responsible for a timely and cost effective product management program, from concept development to production. You are a key player in cross-functional teams focused on delivery of new products for the company.

**Technical Marketing:** In this occupation you are critically involved in providing manufacturability feedback during the design process and the transfer and improvements of products from development to manufacturing. You are to maintain and improve the process to balance between efficiency, quality and cost and understand the implications of liability, safety, health, and environment issues on the manufacturing process.

### ***Cluster: Testing/Quality Control***

**Audit:** You provide an independent third party review or assessment of systems and software production quality management against acknowledged internal and external criteria (e.g., ISO 9000 and EN29000).

**Validation:** You test deliverables to ensure that they meet the approved specifications. This work includes activities throughout the complete product and project life cycles.

**Quality Assurance:** You provide expertise for applying quality assurance techniques to all stages of the hardware/software life cycles; and ensure that these techniques are used wherever appropriate.

**Quality Professional:** In this occupation you have a broad cross-functional scope including product definition, design and development, supplier procurement, manufacturing and customer satisfaction. You are driven by a focus on continuous improvement, reduction in variation, systematic problem solving and factual decision making.

***Cluster: Documentation and Training***

**Education/Training Management:** You manage the teaching, training and instruction at all levels to include any aspect of expertise within the scope of ICT (systems development, support and operations, technical skills).

**Technical Writing:** You design and create all material that will guide and help users to use the product or service provided by ICT.