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## Overview

The System Development sub-discipline covers the competencies required to develop/enhance, acquire, reuse and/or commission a range of systems elements, such as software, hardware and networking elements and interface them to produce a holistic, 'end to end' working IT or Telecom enabled or system that meets a specific business need.

Software elements may be developed/enhanced, acquired, reused or commissioned, according to the approach that best meets the business needs.

Hardware and networking elements that need to be included in the system configuration may range from large-scale storage, processing and connectivity devices housed in data centres, to hand-held devices, using wireless connectivity to present information contained in the system to the end user or consumer. Some of these devices may need to be designed produced or assembled specifically to work as part of individual IT enabled or Telecom systems.

System elements may be developed/enhanced or commissioned to meet a specific need for an organisation (bespoke) or may be acquired package products that provide generic capabilities designed to address the needs of many organisations or may be existing operational assets that can be reused.

Systems development necessitates a 'end to end' perspective from those individuals involved in it, ensuring that all of the system elements, assets and services required to meet the business need are available and interfaced in a way which produces an outcome which best supports the business needs.

Systems development contexts can include, but are not limited to:

- Desktop, mainframe, process control, web and mobile applications
- Cloud computing software and data resources that are delivered as a service over the Internet. This includes: software as a service (SaaS), storage as a service (STaaS) and desktop as a service (DaaS)).
- Implementation and exploitation of digital and social Media in systems development
- Real world web/Internet
- Big data, difficult data and data warehousing (data searching and data mining)
- Green IT including both the impact on the environment of the increased use of IT & Telecoms systems and also the benefits that IT & Telecoms can have in reducing the environmental impact of other sectors

Working in the Associate professional role will involve:

- Carrying out systems development under direction

**Performance  
criteria**

*You must be able to:*

- P1 follow specified organisational standards for the systems development lifecycle
- P2 correctly use systems development procedures, tools and techniques, as directed by superiors
- P3 comply with any relevant legislation, regulation and external standards relating to systems development activities
- P4 identify correctly required inputs and outputs to individual system elements in order to ensure the integrity of the " end to end" IT enabled system
- P5 gather specified information required to support decision making relating to 'buy or build' options' including 'off the shelf' packaged systems and services
- P6 document accurately decisions made regarding 'buy or build' options and other decisions made relating to systems development activities.

**Knowledge and understanding**

*You need to know and understand:*

- K1 what is meant by an IT enabled system and the range of elements, including software, hardware and networking that can constitute it
- K2 the value and role of systems development in addressing business problems and opportunities
- K3 the systems development lifecycle and related organisational standards
- K4 the relationship between systems development activities and testing activities
- K5 the activities and tasks involved in systems development
- K6 the fact that system elements, such as hardware, software and network communication system elements may need to be developed or acquired/commissioned or existing ones enhanced, in order to meet business needs for an 'end to end' IT enabled system
- K7 the fact that external providers of systems development services exist
- K8 the fact that a range of individuals may work together to develop systems elements that comprise an 'end to end' IT enabled system
- K9 the importance of accurately translating design deliverables in systems development work
- K10 the importance of documenting the deliverables from systems development work in a clear and understandable manner that will allow further development, amendments and updates to be made to solutions
- K11 the procedures, tools and techniques that can be used to conduct and document systems development activities
- K12 use and apply the systems development lifecycle
- K13 use systems development procedures, tools and techniques
- K14 operate with reference to:

- K14.1 organisational standards for systems development activities
- K14.2 professional and ethical standards in systems development activities
- K14.3 integrity and confidentiality during systems development activities
- K15 comply with relevant legislation and regulations for systems development activities
- K16 identify what inputs and outputs are required between individual system elements in order to ensure the integrity of the 'end to end' IT enabled system
- K17 gather information required to support decision making
- K18 document:
  - K18.1 decisions made relating to 'buy or build' options
  - K18.2 decisions made relating to the use of external providers of systems development activities

## ESKITP5013v2

### Carry out IT and Telecoms systems development under direction

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