

Dimension 1		Dimension 2				
Dimension 1		Dimension 3				
		e-1	e-2	e-3	e-4	e-5
Build	B.1 : Application Development					
	B.2 : Component Integration					
	B.3 : Testing					
	B.5 : Documentation Production					
Run	C.4 : Problem Management					

This e-CF Explorer is an initiative of IT Professionalism Europe (ITPE) with the aim to increase visibility and accessibility of the e-Competence Framework. It is part of ITPE's pledge to the Digital Skills and Jobs Coalition to promote this European standard to different users across the EU.

Sources: CEN/TC 428, the 'e-Competence Framework' - EN 16234-1:2019, 2019 and CEN Workshop agreement, 'European ICT Professional Role Profiles', CWA 16458-1, 2018, 'IT Professionalism Europe – [www.itprofessionalism.org](http://www.itprofessionalism.org)'

## B.1 Application Development

Interprets the application design to develop a suitable application in accordance with customer needs. Adapts existing solutions by e.g. porting an application to another operating system. Codes, debugs, tests and documents and communicates product development stages. Selects appropriate technical options for development such as reusing, improving or reconfiguration of existing components. Optimises efficiency, cost and quality. Validates results with user representatives, integrates and commissions the overall solution.

Level 1	Acts under guidance to develop, test and document applications.
Level 2	Systematically develops and validates applications.
Level 2	Acts creatively to develop applications and to select appropriate technical options. Accounts for others development activities. Optimizes application development, maintenance and performance by employing design patterns and by reusing proved solutions.
Level 3	-
Level 4	-

## B.2 Component Integration

Integrates hardware, software or sub system components into an existing or a new system. Complies with established processes and procedures such as, configuration management and package maintenance. Takes into account the compatibility of existing and new modules to ensure system integrity, system interoperability and information security. Verifies and tests system capacity and performance and documentation of successful integration.

Level 1	-
Level 2	Acts systematically to identify compatibility of software and hardware specifications. Documents all activities during installation and records deviations and remedial activities.
Level 2	Accounts for own and others actions in the integration process. Complies with appropriate standards and change control procedures to maintain integrity of the overall system functionality and reliability.
Level 3	Exploits wide ranging specialist knowledge to create a process for the entire integration cycle, including the establishment of internal standards of practice. Provides leadership to marshal and assign resources for programs of integration.
Level 4	-

## B.3 Testing

Constructs and executes systematic test procedures for ICT systems or customer usability requirements to establish compliance with design specifications. Ensures that new or revised components or systems perform to expectation. Ensures meeting of internal, external, national and international standards; including health and safety, usability, performance, reliability or compatibility. Produces documents and reports to evidence certification requirements.

Level 1	Performs simple tests in strict compliance with detailed instructions.
Level 2	Organises test programs and builds scripts to stress test potential vulnerabilities. Records and reports outcomes providing analysis of results.
Level 2	Exploits specialist knowledge to supervise complex testing programmes. Ensures tests and results are documented to provide input to subsequent process owners such as designers, users or maintainers. Accountable for compliance with testing procedures including a documented audit trail.
Level 3	Exploits wide ranging specialist knowledge to create a process for the entire testing activity, including the establishment of internal standard of practices. Provides expert guidance and advice to the testing team.
Level 4	-

## B.5 Documentation Production

Produces documents by integrating information and maintaining compliance with relevant requirements. Selects the appropriate style and format by determining the media type and presentation mode of the documentation. Creates templates for document-management systems. Ensures that documentation complies with customers', technical and ICT application development process needs and that existing documents are valid and up to date. Provides support for the development of interactive documents.

Level 1	Uses and applies standards to define document structure.
Level 2	Ensures that documentation is complete, correct and provided in a suitable place and format.
Level 2	Adapts the level of detail to meet the needs of the targeted population.
Level 3	-
Level 4	-

## C.4 Problem Management

Manages the life cycle of incidents and problems. Identifies and resolves the root cause of incidents. Takes a proactive approach to avoidance or identification of root cause of ICT problems. Deploys a knowledge system based on recurrence of common errors. Resolves or escalates incidents. Optimises system or component performance.

Level 1	-
Level 2	Identifies and classifies incident types and service interruptions. Records incidents cataloguing them by symptom and resolution.
Level 2	Exploits specialist knowledge and in-depth understanding of the ICT infrastructure and problem management process to identify failures and resolve with minimum outage. Makes sound decisions in emotionally charged environments on appropriate action required to minimise business impact. Rapidly identifies failing component, selects alternatives such as repair, replace or reconfigure.
Level 3	Provides leadership and is accountable for the entire problem management process. Schedules and ensures well trained human resources, tools, and diagnostic equipment are available to meet emergency incidents. Has depth of expertise to anticipate critical component failure and make provision for recovery with minimum downtime. Constructs escalation processes to ensure that appropriate resources can be applied to each incident.
Level 4	-