Standards for a shared European language in IT professional development

Competence is the key

Jutta Breyer, Europe, 20 May 2021
The IT professionalism eco-system

Demand for ICT professionals

Provision in ICT professionals

Society

IT Professionals

Governmental institutions

IT companies

Private Organisations

IT departments

Representative bodies

Training providers

Educational institutes (HE, VET)

Certification institutes

Accreditation bodies

Market Analysts

Policy Makers

Public Authorities
EU IT Professionalism standards: providing the needed common language to foster the IT profession across Europe and all perspectives

The IT professionalism eco-system

- Role Profiles
- Competences
- Foundational BoK
- Performance Indicators & Metrics
- Ethics

Demand for ICT professionals

Provision in ICT professionals

Society

Education profile

Curriculum Guidelines

Training providers

Educational institutes (HE, VET)

Certification institutes

Accreditation bodies

Market Analysts

Policy Makers

Public Authorities
An integrated approach of standard references for IT competences, knowledge, skills, levels and roles for usage by all stakeholders.

**COMPETENCE** (e-CF)

"a demonstrated ability to apply knowledge, skills and attitudes for achieving observable results".
5 e-CF levels

5 e-CF areas

1. Information Systems and Business Strategy Alignment
2. Service Level Management
3. Business Plan Development
4. Product/Service Planning
5. Architecture Design
6. Application Design
7. Technology Trend Monitoring
8. Sustainability Management
9. Innovating
10. User Experience

41 e-Competences identified

1. Application Development
2. Component Integration
3. Testing
4. Solution Deployment
5. Documentation Production
6. ICT Systems Engineering

5 e-Competence proficiency levels

1. User Support
2. Change Support
3. Service Delivery
4. Problem Management
5. Systems Management

7 Transversal Aspects (TA) relevant to any IT Professional competence performance
Competence is the key

e-CF example A.2. description in four dimensions

Dimension 1: IT macro-process

Dimension 2: IT organisation capability

Dimension 3: Individual competence work proficiency level

Dimension 4: Knowledge and skills examples

A. PLAN

A.2. Service Level Management

Defines, validates and makes applicable service level agreements (SLAs) and underpinning contracts tailored to services offered. Negotiates service performance levels taking into account the needs and capacity of stakeholders and business.

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
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</thead>
<tbody>
<tr>
<td>–</td>
<td>–</td>
<td>Ensures the content of the SLA.</td>
<td>Negotiates revision of SLAs, in accordance with the overall objectives. Ensures the achievement of planned results.</td>
<td>–</td>
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</tbody>
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Examples for inspiring knowledge + skills → learning outcomes

+ Transversal Aspects (TA) relevant to performance of this competence:
  T1 Accessibility, T2 Ethics, T3 ICT legal issues, T4 Privacy, T5 Security, T6 Sustainability, T7 Usability
EN16234-1:2019 „e-CF“
Annex A (Normative)

- **e-CF Level parameters e-1 to e-5**

  Workplace oriented. Each level marked by increasing levels of
  - Influence
  - Complexity
  - Autonomy
  - Behaviour

<table>
<thead>
<tr>
<th>Levels</th>
<th>e-CF Level descriptor</th>
<th>Influence</th>
<th>Complexity</th>
<th>Autonomy</th>
<th>Behaviour</th>
</tr>
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<tbody>
<tr>
<td>5</td>
<td>Overall accountability and responsibility; recognised inside and outside the organisation for innovative solutions and for shaping the future using outstanding leading edge thinking and knowledge.</td>
<td>Determines strategy</td>
<td>Unpredictable - unstructured</td>
<td>Demonstrates substantial leadership and independence in contexts which are novel requiring the solving of issues that involve many interacting factors.</td>
<td>Conceiving, transforming, innovating, finding creative solutions by application of a wide range of technical and/or management principles.</td>
</tr>
<tr>
<td>4</td>
<td>Extensive scope of responsibilities deploying specialised integrated capability in complex environments; full responsibility for strategic development of staff working in unfamiliar and unpredictable situations.</td>
<td>Provides executive leadership</td>
<td></td>
<td>Demonstrates leadership and innovation in unfamiliar, complex and unpredictable environments. Addresses issues involving many interacting factors.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Respected for innovative methods and use of initiative in specific technical or business areas; providing leadership and taking responsibility for team performances and development in unpredictable environments.</td>
<td>Consults</td>
<td>Structured - unpredictable</td>
<td>Works independently to resolve interactive problems and addresses complex issues. Has a positive effect on team performance.</td>
<td>Planning, making decisions, supervising, building teams, forming people, reviewing performances, finding creative solutions by application of specific technical or business knowledge / skills.</td>
</tr>
<tr>
<td>2</td>
<td>Operates with capability and independence in specified boundaries and may supervise others in this environment; conceptual and abstract model building using creative thinking; uses theoretical knowledge and practical skills to solve complex problems within a predictable and sometimes unpredictable context.</td>
<td>Applies and adapts</td>
<td>Structured - predictable</td>
<td>Works under general guidance in an environment where unpredictable change occurs. Independently resolves interactive issues which arise from project activities.</td>
<td>Designing, managing, surveying, monitoring, evaluating, improving, finding non standard solutions.</td>
</tr>
<tr>
<td>1</td>
<td>Able to apply knowledge and skills to solve straightforward problems; responsible for own actions; operating in a stable environment.</td>
<td>Implements instructions</td>
<td></td>
<td>Demonstrates limited independence where contexts are generally stable with few variable factors.</td>
<td>Applying, adapting, developing, deploying, maintaining, repairing, finding basic-simple solutions.</td>
</tr>
</tbody>
</table>
Positioning/relating e-CF to other relevant structures

- B.1 Introduction
- B.2. European Qualifications Framework (EQF)
- B.3. ESCO
- B.4. DigComp
- B.5. P21’s Framework for 21st century learning
- B.6. SFIA
- B.7. European ICT Professional Role Profiles
- B.8. Relationships with other EN and ISO Standards

+ added in TR16234-2/-3: the euro-Inf label

A key bridge to the EU qualification context
European Job classification for labour agencies
ICT user competences
behavioural skills
ICT Profiles at work
• 30 European ICT Professional Role Profiles as generic bricks for adaptation into specific contexts
• e-CF competences a key component of Profiles description
• version 2 published by CEN CWA 16458:2018
• solid embedding in EU environment (EQF, ICT Professionalism, ESCO, etc.)

www.ecompetences.eu / ICT Profiles
An integrated, neutral, up-to-date EU standard language on IT Professional competences, roles, skills and knowledge

30 ROLE PROFILES:
each contains 5 e-CF competences

41 COMPETENCES
Dim 1: 5 e-CF areas
Dim 2: 41 competences
Dim 3: 5 e-CF levels
Dim 4: knowledge and skills examples

42 KNOWLEDGE UNITS:
each linked to e-CF competences and ICT roles

 Ethics
Main goals today

➢ Common awareness of importance of IT Professionalism for Europe

➢ Share with you the EU IT Professionalism standards

➢ Give insight in richness of standards application supporting materials/ user guidance

➢ Share best practices – real life implementation

➢ Discuss your questions and further views
Thank you!

Your questions, your comments.

Jutta Breyer
Project team leader of CEN/TC428 related standard developments: e-CF, ICT BoK and ICT Profiles
Curriculum Guidelines expert team member
breyer@breyer-publico.eu