

Workshop IT Star 2016

IT Security Professional Positioning and Monitoring: e-CF*plus* support

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AICA-Milan
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e-CF*plus*

agenda

1. **e-CF standard and the enriched e-Cf*plus* System**
2. IT Security Profiles, enriched version
3. Professional Positioning and Qualification



Norms and Institutions for certification's governance



Recent changes in the Italian Norms system

❑ Lex

- DL.4/13, recognize new Associations, for instance those of ICT Specialists
- Lex 13/13 established the National Certification System

❑ Standardization

- Italy: UNI published the Norm 11506 in September 2013 based on e-CF
- Europe: CEN published the Norm EN 16234, as valid for all European Countries

Italian Institutions involved in certifications

- ❑ ACCREDIA, recognize Certification Bodies
- ❑ MISE: Ministry of Economic Development, Association Register
- ❑ Professional Associations
- ❑ Enterprise Associations, launched the Digital Competencies Observatory



Framework underpinning methodology

- **Based on a shared understanding of competence**

Competence: a demonstrated ability to apply knowledge, skills and attitudes for achieving observable results

- **5 e-Competence levels related to the European Qualifications Framework (EQF)**

e-CF Level	related to EQF Level
e-5	8
e-4	7
e-3	6
e-2	4 and 5
e-1	3

- **Framework structured in 4 dimensions:**

Dimension 1: 5 e-CF areas

Dimension 2: 40 competencies

Dimension 3: 5 e-CF levels

Dimension 4: knowledge & skills examples



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e-CF 3.0 characteristics

- e-CF is a public framework
- Is supported by EC (CEN)
- Quality assured
- Neutrality assured

Dimension 1	Dimension 2	Dimension 3				
5 e-Comp. areas (A – E)	36 e-Competences identified	e-Competence proficiency levels e-1 to e-5, related to EQF levels 3-8				
		e-CF levels identified per competence				
		e-1	e-2	e-3	e-4	e-5
A. PLAN	A.1. IS and Business Strategy Alignment					
	A.2. Service Level Management					
	A.3. Business Plan Development					
	A.4. Product or Project Planning					
	A.5. Design Architecture					
	A.6. Application Design					
	A.7. Technology Watching					
	A.8. Sustainable Development					
B. BUILD	B.1. Design and Development					
	B.2. Systems Integration					
	B.3. Testing					
	B.4. Solution Deployment					
	B.5. Documentation Production					
C. RUN	C.1. User Support					
	C.2. Change Support					
	C.3. Service Delivery					
	C.4. Problem Management					
D. ENABLE	D.1. Information Security Strategy Development					
	D.2. ICT Quality Strategy Development					
	D.3. Education and Training Provision					
	D.4. Purchasing					
	D.5. Sales Proposal Development					
	D.6. Channel Management					
	D.7. Sales Management					
	D.8. Contract Management					
	D.9. Personnel Development					
	D.10. Information and Knowledge Management					
E. MANAGE	E.1. Forecast Development					
	E.2. Project and Portfolio Management					
	E.3. Risk Management					
	E.4. Relationship Management					
	E.5. Process Improvement					
	E.6. ICT Quality Management					
	E.7. Business Change Management					
	E.8. Information Security Management					
	E.9. IT Governance					



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e-CFplus

Dimension 1
e-Competence area

E. MANAGE

Dimension 2

E.8. Information Security Management

e-Competence: Title
+ generic description

Implements information security policy. Monitors and takes action against intrusion, fraud and security breaches or leaks. Ensures that security risks are analysed and managed with respect to enterprise data and information. Reviews security incidents and makes recommendations for continuous security enhancement.

Dimension 3

e-Competence proficiency levels (on e-CF levels e-1 to e-5, related to EQF levels 3 to 8)

Level 1

—

Level 2

Systematically scans the environment to identify and define vulnerabilities and threats. Records and escalates non-compliance.

Level 3

Evaluates security management measures and indicators and decides if compliant to information security policy. Investigates and instigates remedial measures to address any security breaches.

Level 4

Provides leadership for the integrity, confidentiality and availability of data stored on information systems and complies with all legal requirements.

Level 5

—

Dimension 4

Knowledge examples

Knows/ Aware of/ Familiar with:

K1 the organisations security management policy and its implications for engagement with customers, suppliers and subcontractors

K2 the best practices and standards in information security management

K3 the critical risks for information security management

K4 the IS internal audit approach

Skills examples

Able to:

S1 document the information security management policy, linking it to business strategy

S2 analyse the company critical assets and identify weaknesses and vulnerability to intrusion or attack

S3 establish a risk management plan to feed and produce preventative action plans

S4 perform security audits

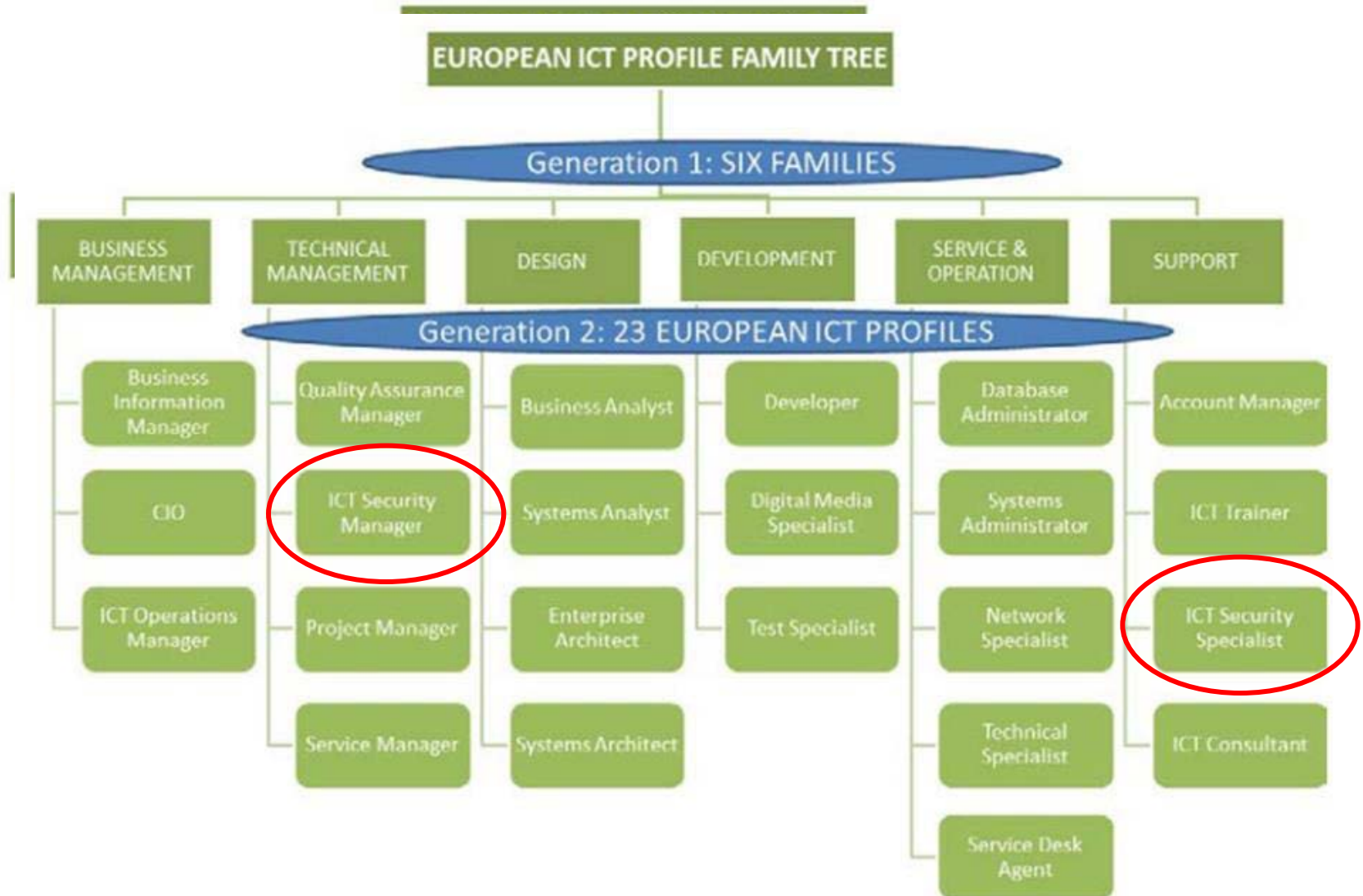


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e-CFplus



A shared European language to close the e-Skills gap

- ICT demand
- ICT supply
- multinationals
- SME's
- educational institutions
- higher education
- private certification providers
- professional associations
- social partners
- individuals

Higher Education Curricula

National frameworks

Job posting & Recruitment

Skills gap analysis

ICT Professional CV Self promotion

..

Dimension 1	Dimension 2	Dimension 3				
5 e-competence areas (A - E)	40 e-competences identified	e-competence proficiency levels e-1 to e-5 (related to EQF levels 3-8)				
		e-CF levels Identified for each competence				
		e-1	e-2	e-3	e-4	e-5
A. PLAN	A.1. IS and Business Strategy Alignment					
	A.2. Service Level Management					
	A.3. Business Plan Development					
	A.4. Product/ Service Planning					
	A.5. Architecture Design					
	A.6. Application Design					
	A.7. Technology Trend Monitoring					
	A.8. Sustainable Development					
	A.9. Innovating					
B. BUILD	B.1. Application Development					
	B.2. Component Integration					
	B.3. Testing					
	B.4. Solution Deployment					
C. RUN	C.1. User Support					
	C.2. Change Support					
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	C.4. Problem Management					
D. ENABLE	D.1. Information Security Strategy Development					
	D.2. ICT Quality Strategy Development					
	D.3. Education and Training Provision					
	D.4. Purchasing					
	D.5. Sales Proposal Development					
	D.6. Channel Management					
	D.7. Sales Management					
	D.8. Contract Management					
	D.9. Personnel Development					
	D.10. Information and Knowledge Management					
	D.11. Needs Identification					
	D.12. Digital Marketing					
E. MANAGE	E.1. Forecast Development					
	E.7. Business Change Management					
	E.8. Information Security Management					
	E.9. IS Governance					

Market scenarios

Certification programs

HR planning

Make or buy policies

Competence assessment

Individual training plans

e-CF use by the ICT sector

Use e-CF content

Create e-CF links

➤ Multi-stakeholder user community from all kind of market perspectives



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agenda

1. e-CF standard and the enriched e-Cfplus System
2. **IT Security Profiles, enriched version**
3. Professional Positioning and Qualification



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On the basis of what is offered by the public skills framework e-CF and based on the EUCIP experience, AICA has built

- ❑ An enriched professional system, with an higher granularity**
- ❑ Operational tools for managing skills and profiles of ICT specialists**
- ❑ The qualification and certification paths**



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Sviluppo
Professionale e
Formazione ICT

e-CFplus

Sviluppare le competenze per creare vantaggio competitivo

e-CFplus, basato sullo standard European e-Competence Framework, è la soluzione per sviluppare le competenze digitali.

Aziende e professionisti trovano in e-CFplus un linguaggio comune per definire competenze ed esperienze professionali, una struttura condivisa su cui far crescere capacità individuali e vantaggio competitivo dell'organizzazione.

Utilizzando e-CFplus aziende aperte al mondo globalizzato possono sviluppare la professionalità dei loro team informativi e garantire la coerenza tra competenze digitali ed obiettivi aziendali.

e-CFplus System

Objectives

Specify an ICT enriched competence and profiles portfolio to satisfy following requirements

- Compliancy with Italian Technical UNI Norm 11506 and EN 16234 on e-CF and associated European Professional Profiles
- Sustain the convergens of schools and universities towards a competence and profile system accomplishing ICT discipline and labour market requirements (eCF compliant with EQF)
- Allow to implement and deploy services to manage those competencies and profiles including their certification



e-CF*plus* characteristics

e-CF*plus* adds the value of detailed and structured knowledge and operational skills, provides well known methods and web tools to manage the assets of business skills in a simple and effective way. e-CF*plus* can also adapt and customize the entire system to the specific characteristics of the organization.

e-CF*plus* enriches the 40 e-CF skills with more than 2,200 building blocks grouped into 157 homogeneous sets of knowledge items and skills; these elementary components enrich the 23 CEN profiles, that can be defined by each organization, with the possible methodological support of AICA

e-CF*plus* can be used in any organization

e-CF*plus* helps professionals understand their position in an organization, see where they can grow, and what they need to advance in their careers.

For organizations, e-CF*plus* helps ICT managers and Human Resources to identify and clearly define the professional development of their employees, and to plan effective training and development activities.



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Profile title	ICT SECURITY SPECIALIST (12)		
Summary Statement	Ensures the implementation of the organizations security policy.		
Mission	Proposes and implements necessary security updates. Advises, supports, informs and provides training and security awareness. Takes direct action on all or part of a network or system. Is recognized as the ICT technical security expert by peers.		
Deliverables	Accountable	Responsible	Contributor
	<ul style="list-style-type: none"> Knowledge or Information base (Security) 	<ul style="list-style-type: none"> New technology integration proposal (Security) 	<ul style="list-style-type: none"> Risk Management policy Risk Management Plan Information security policy
Main task/s	<ul style="list-style-type: none"> Ensure security and appropriate use of ICT resources Evaluate risks, threats and consequences Provide security training and education Provide technical validation of security tools Contribute to definition of security standards Audit security vulnerability Monitor security developments to ensure data and physical security of the ICT resources 		
e-competences (e-CF)	C.2 Change Support		Level 3
	C.3 Service Delivery		Level 3
	D.9 Personnel Development		Level 3
	D.10. Information and Knowledge Management		Level 3
	E.8 Information Security Management		Level 3-4
Sets of skills/knowledge (e-CFplus)	C.2.: ICT Change Management C.3.: Service Delivery Management D.9.: Professional Development D.10.: Information and Knowledge Analysis E.8.: Information Security System Management, Data Protection Management, Access-Control Policies, Models and Mechanisms, Database Security, Operating Systems Security, Network Security and Attack Prevention, Wireless Security, Web Application Security, ICT Security Assurance		
KPI area	Security measures in place		

e-CFplus-European
ICT Professional Profiles
ICT Security Specialist



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e-CFplus-European ICT
Professional Profiles

ICT Security Manager

Profile title	ICT SECURITY MANAGER (11)		
Summary Statement	Manages the Information System security policy.		
Mission	Defines the Information System security policy. Manages security deployment across all Information Systems. Ensures the provision of information availability. Recognized as the ICT security policy expert by internal and external stakeholders.		
Deliverables	Accountable	Responsible	Contributor
	<ul style="list-style-type: none"> Information security policy 	<ul style="list-style-type: none"> Knowledge or Information base Information security strategy 	<ul style="list-style-type: none"> Risk Management policy New technology integration proposal ICT Strategy & implementation
Main task/s	<ul style="list-style-type: none"> Define and implement procedures linked to IS security Contribute to the development of the organization's security policy Establish the prevention plan Inform and raise awareness among general management Ensure the promotion of the IT security charter among users Inspect and ensure that principles and rules for IS security are applied 		
e-competences (e-CF)	A.7. Technology Trend Monitoring		Level 4
	D.1. Information Security Strategy Development		Level 5
	E.3. Risk Management		Level 3
	E.8. Information Security Management		Level 4
	E.9. IS Governance		Level 4
Sets of skills/knowledge (e-CFplus)	A.7.: Technology Watching D.1.: Information Security Policy, Business Risk and ICT Security, Business Continuity Planning E.3.: ICT Risk Policy E.8.: Information Security System Management, Data Protection Management E.9.: IS Governance		
KPI area	Security Policy effectiveness		



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e-Cfplus: the tools®

e-CFplus

e-CFplus provides well known methods and web tools to manage the **assessment** of assets, in terms of possessed individual and business skills; to be managed in a simple and effective way, allowing you to adapt and customize the entire system to each specific organization

The main web tools provided to professionals and companies are the **e-Competence Benchmark** and **e-Competence Management**.

e-Competence Management is a system designed for enterprise use that provides a vision that is analytical and concise, accurate and customizable of the individual and organization skills; in particular it provides:

- standard individual reports;
- customized reports for individuals, departments, organizations, professional families,...;
- integration with leading systems of human resources management (SAP, Oracle, etc.);
- analysis of individual and organizational gaps related to the 23 CEN profiles, the 21 EUCIP profiles, and the profiles and functions defined by the organization;
- personalization of the standard skills model (elimination of irrelevant skills , for the company; adding specific business/sector expertise, ...)
- methodological and operational support.



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e-CFplus

6 e-CFplus profiles families to be managed in the ICT professional system proposed by AICA

e-CFplus profiles are e-CF compliant (generation 3) based on same competencies, but enriched with 157 set of 2.200 knowledge and skills upon AICA experience

□ MANAGE-business management

- Business information manager +
- Chief Information Officer +
- ICT operation manager +

□ PLAN-design

- Business analyst +
- System analyst +
- Enterprise architect +
- System architect +

□ RUN-service&operations

- Data Base administrator +
- Service desk agent +
- System administrator +
- Network specialist +
- Technical specialist +

□ MANAGE-technical management

- Quality assurance manager +
- ICT Security manager +
- ICT Project manager +
- Service manager +

□ BUILD-development

- Developer +
- Digital media specialist +
- Test specialist +

□ ENABLE-support

- ICT Consultant +
- Account Manager +
- ICT Trainer +
- ICT Security specialist +



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**e-CFplus
System**

agenda

1. e-CF standard and the enriched e-Cfplus System
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3. **Professional Positioning and Qualification**



Professional path: positioning and monitoring

Target: professionals, managers and ICT entrepreneurs, individually

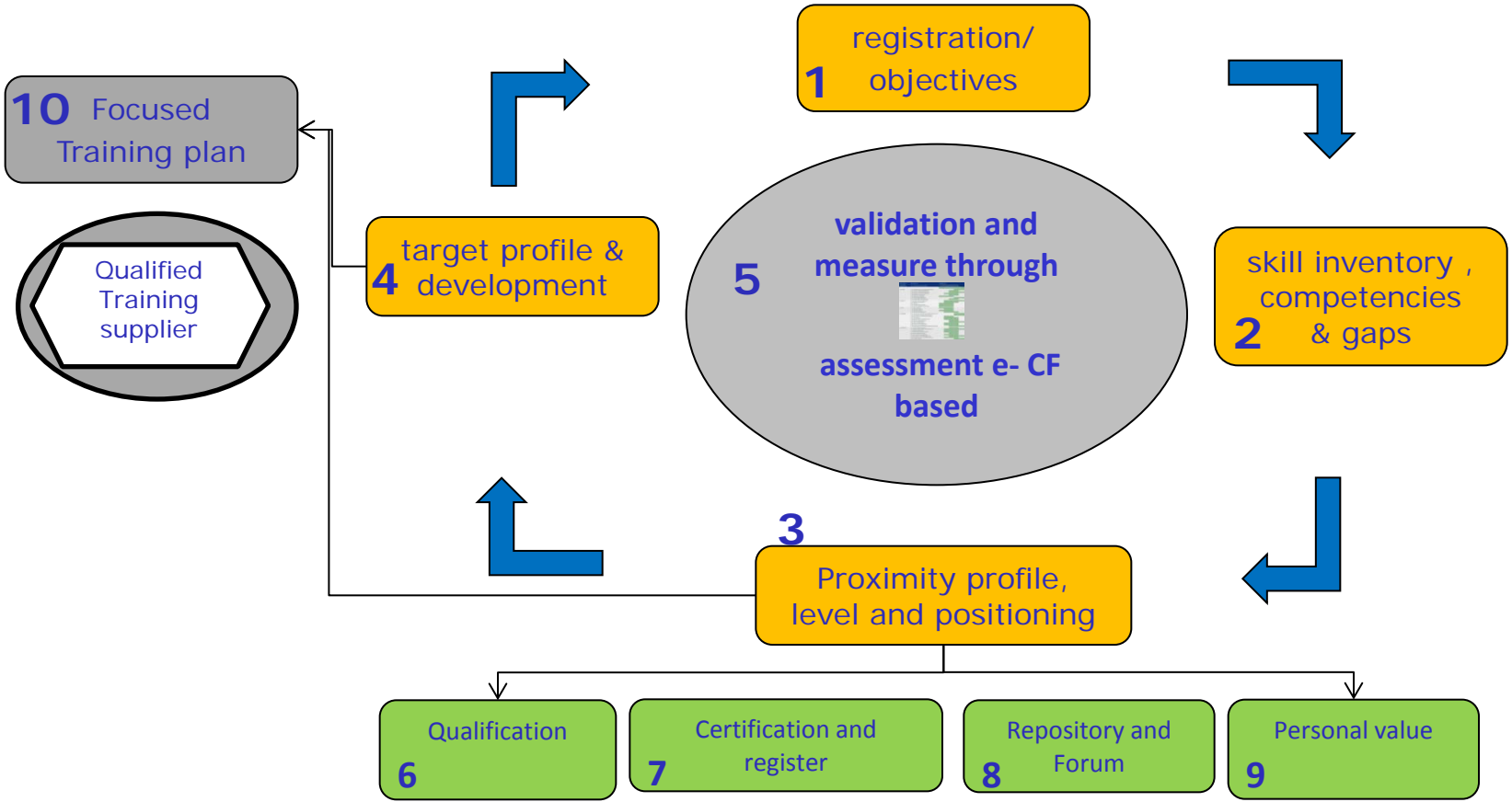
Objectives and results to specialists in the target: set up and find answers to questions

- **What is the content of my work recognized today by the Italian labor market**
- **What would be my career guidance including consideration of employability in the Italian and European market**
- **How to get help to monitor the progress of the professional career and to gather information for the technical updating and systematic re-positioning in the labor market**

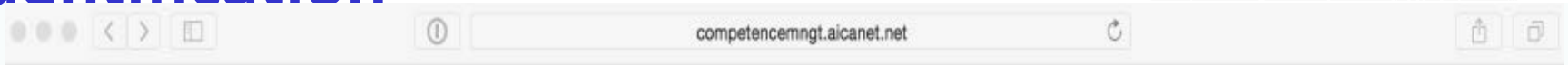
The Professional monitoring & positioning path

ICT Specialists would be positioned in respect of 6 professional families

- Business manager
- Technical manager
- Plan-design
- Build-development
- Run-service & operations
- Enable - support



Assessment Tool – Personal identification



e-Competence
Management



LOGIN

Insert your username and password

[Forgot your password?](#)

[▶ Download user manual](#)

Assessment Tool – Questionnaire on Competencies

Welcome riccardo squizzato [LOGOUT](#)

[Change your password](#)

The questionnaire

To complete the questionnaire, please indicate if you currently have or not the competence, regardless of how you acquired the competence and without taking into account what is required by your current role or any job profile to which you aspire.

Evaluation Criteria:

- Yes = application of the competence through direct experience that is still relevant (i.e. time necessary to resume experience is less than 1 month)
- No = no application of the competence or its application is not relevant any more

Once you have answered all questions, click the "Save" button followed by "View personal results" button.

[Download user manual](#)

[Modify personal information](#)

[Export answers to PDF](#)

[View personal results](#)

[Save](#)

A-Plan

A.1. IS and Business Strategy Alignment

Anticipates long term business requirements, influences improvement of organisational process efficiency and effectiveness. Determines the IS model and the enterprise architecture in line with the organisation's policy and ensures a secure environment. Makes strategic IS policy decisions for the enterprise, including sourcing strategies.

YES *

NO

Business Analysis and Modelling, ICT Strategic Planning, ICT Strategic Choices

A.2. Service Level Management

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

YES *

NO

A.3. Business Plan Development

Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business and technology strategies. Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.

YES

NO *

Business Case Analysis, Business Plan Economics, Business Plan Communication

A.4. Product / Service Planning

Analyses and defines current and target status. Estimates cost effectiveness, points of risk, opportunities, strengths and weaknesses, with a critical approach. Creates structured plans; establishes time scales and milestones, ensuring optimisation of activities and resources. Manages change requests. Defines delivery quantity and provides an overview of additional documentation requirements. Specifies correct handling of products, including legal issues, in accordance with current regulations.

YES *

NO

A.5. Architecture Design

Specifies, refines, updates and makes available a formal approach to implement solutions, necessary to develop and operate the IS architecture. Identifies change requirements and the components involved: hardware, software, applications, processes, information and technology platform. Takes into account interoperability, scalability, usability and security. Maintains alignment between business evolution and technology developments.

YES

NO *

Systems Architecture Definition, Enterprise Applications Architecture, Industrial Automation Architecture, Distributed Computing Architecture

Assessment Tool – Questionnaire on Proficiency levels

A.1. IS and Business Strategy Alignment

Anticipates long term business requirements, influences improvement of organisational process efficiency and effectiveness.
 Determines the IS model and the enterprise architecture in line with the organisation's policy and ensures a secure environment.
 Makes strategic IS policy decisions for the enterprise, including sourcing strategies.

YES

NO

 Business Analysis and Modelling, ICT Strategic Planning, ICT Strategic Choices

Please select ALL still relevant proficiency levels (select one or more as required)

Level 4

Provides leadership for the construction and implementation of long term innovative IS solutions.



Level 5

Provides IS strategic leadership to reach consensus and commitment from the management team of the enterprise.



OK

A.2. Service Level Management

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

YES

NO

A.3. Business Plan Development

Addresses the design and structure of a business or product plan including the identification of alternative approaches as well as return on investment propositions. Considers the possible and applicable sourcing models. Presents cost benefit analysis and reasoned arguments in support of the selected strategy. Ensures compliance with business and technology strategies.
 Communicates and sells business plan to relevant stakeholders and addresses political, financial, and organisational interests.

YES

NO

 Business Case Analysis, Business Plan Economics, Business Plan Communication

[Back to questionnaire](#)

Personal results

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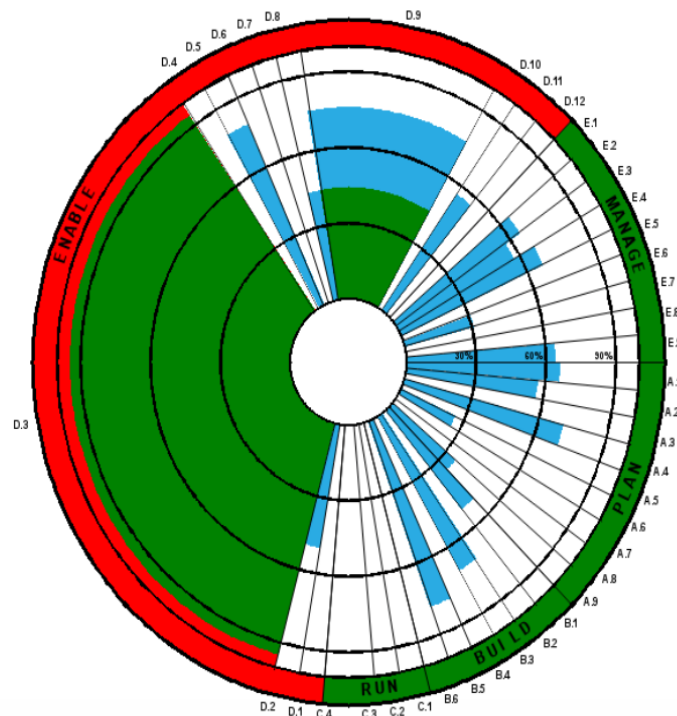
The "radar" below shows you the profile closest to your declared competences (i.e. your "proximity profile").

A list of related competences is presented below the radar, showing competences to be improved and competences you have in excess of the required level for this profile.

Report for the profile "ICT TRAINER" for riccardo squizzato

Each professional profile has different weights assigned to the technical competences needed by an ICT professional. The proximity index is calculated by considering the coverage of the declared competences with respect to the profile requirements; it does not consider competences that are held in excess of the required levels.

All the profile competences are clustered in line with the 5 main e-CF categories: PLAN, BUILD, RUN, ENABLE, MANAGE.



The list below shows how close your results are to a complete range of professional profiles.

To view a detailed version of any of these results, click on the small radar icon beside the profile title.

View report	Your proximity to this profile	View profile
ICT TRAINER	91.26 %	
PROJECT MANAGER	75.88 %	
CHIEF INFORMATION OFFICER (CIO)	53.85 %	
ICT OPERATIONS MANAGER	50.85 %	
ICT CONSULTANT	46.38 %	
QUALITY ASSURANCE MANAGER	40.17 %	
BUSINESS ANALYST	38.85 %	
DEVELOPER	37.49 %	
TEST SPECIALIST	33.72 %	
BUSINESS INFORMATION MANAGER	31.74 %	
DIGITAL MEDIA SPECIALIST	27.69 %	
ACCOUNT MANAGER	24.81 %	
ENTERPRISE ARCHITECT	23.83 %	
SERVICE		



[Back to questionnaire](#)

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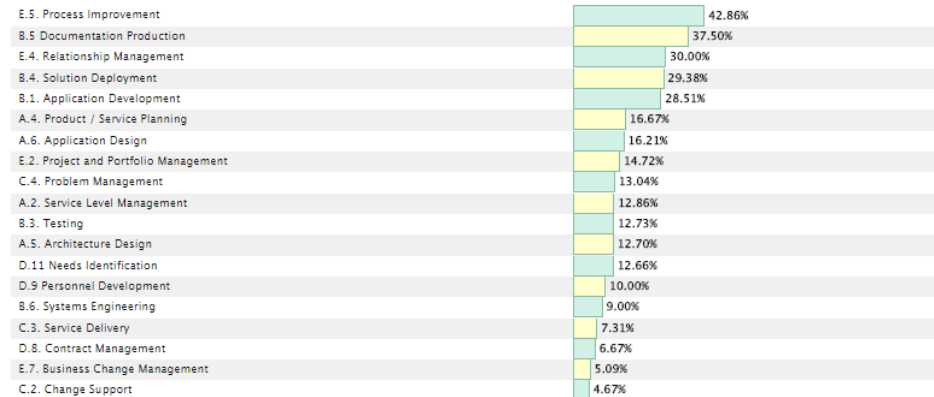
Personal results

The histogram below shows a measure of your mastery for each e-CF competence you declared to possess.

A detailed analysis is presented below the histogram, showing for each e-CF competence a measure of proficiency levels and the list of sets of required knowledge and skills you do not sufficiently have.

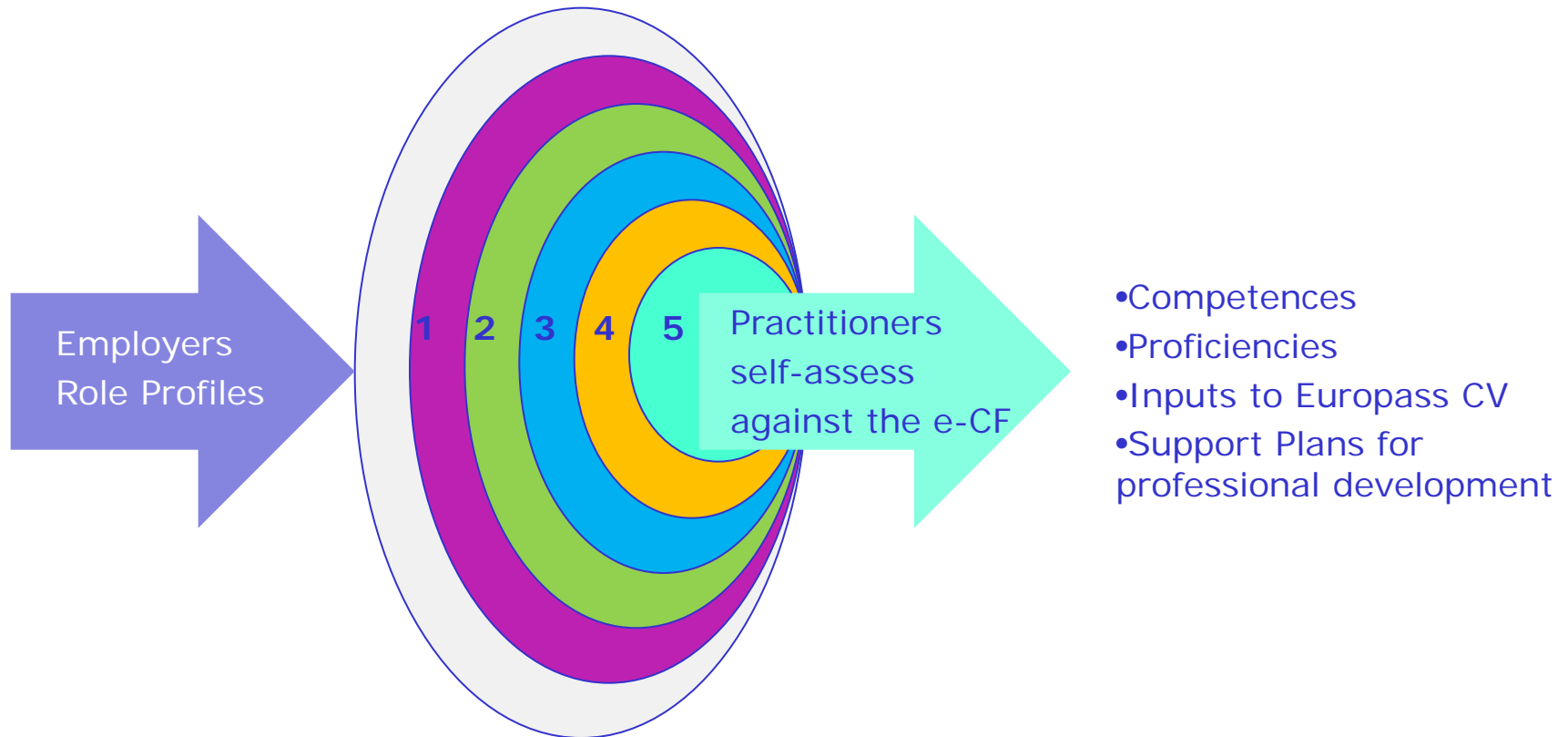
Report for e-CF competences for Ugo Rossi

The measure of your mastery for each e-CF competence is expressed as a percentage where 100% means you have declared to "posses" all competence proficiency levels and all sets of knowledge and skills at the highest degree (competences you declared "not to have" are not shown).





Professional Progression into an organization





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The professional path of the ICT Security specialist

Path	Professional level	IT Security Specialist profile positioning (upon e-CF)	Exam tools
User Competencies			ECDL IT Security (automatic exam)
Entry Qualification	•1: associate	•ICT Security Administrator	ITA Security module (automatic exam)
Level of professional Qualification	•2: professional	•ICT Security Specialist	Self Assessment (e-CM) Accredited Assessor
	•3 senior professional	•ICT Security Specialist senior	
Certification	•4: lead	•ICT Security Integrator	Written exam (Core) Self Assessment Real experience Portfolio Exam commission
	•5 principal	•--	



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Requirements for Security Specialist qualification and certification

- ❖ seniority in the role of at least 36 months
- ❖ self - assessment ranking > 75%
- ❖ written exam
- ❖ oral exam with commission



Otherwise QUALIFICATION as professional for ranking between 50 and 75%



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peer-to-peer monitoring of competencies evolution

Detailed Personal Report

Welcome riccardo squizzato **LOGOUT** [Back to questionnaire](#)

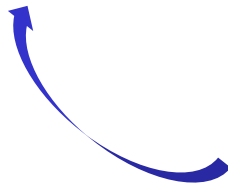
Personal results [Export to PDF](#)

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Competence Manager - <https://competenceonline.it/manager/>

Personal results [Back to questionnaire](#) [Export to PDF](#)

The histogram below shows a measure of your mastery for each e-CF competence you declared to possess.
A related analysis is presented below the histogram, showing for each e-CF competence a measure of proficiency level and the list of uses of required knowledge and skills in the related digital competence (as declared) for that use (see below).

Report for e-CF competences for Ippolito Rossi

The "mastery of use" values for each e-CF competence, expressed as average scores (0-100) (uses are here filtered to "limited" (all competence proficiency levels are at use of knowledge and skills at the highest degree competence (as declared) for that use (see below)).

Competence	Mastery of use
B.1. Problem Solving	61.84%
B.2. Communication Proficiency	51.18%
B.3. Teamwork Management	50.00%
B.4. Strategic Decision	49.38%
B.5. Innovation Development	48.13%
B.6. Project Service Planning	46.47%
B.7. Analytical Design	45.76%
B.8. Project and Portfolio Management	45.72%
B.9. Business Management	45.49%
B.10. Service Management	45.24%
B.11. Training	45.17%
B.12. Performance Design	45.17%
B.13. Data Interpretation	44.95%
B.14. Personal Development	44.92%
B.15. System Development	44.82%
B.16. System Deployment	44.75%
B.17. Business Change Management	44.70%





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Thanks for your attention

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