



# Updated Learner profiles and Learning paths - draft

**EUROPEAN COMMISSION**  
*DIGIT D2 – Interoperability Unit*



**Interoperability**  
—Academy—  
by European Commission

ISA<sup>2</sup>

## Interoperability Academy

ISA<sup>2</sup> action 2019.01

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**TRASYS**  
INTEGRATED SOLUTIONS



Why do we need Learner Profiles?

1. To understand individual learning requirements and underpin Learning Path development.
2. To inform LMS development roadmap, functional requirements and technical specification.
3. To provide the basis for IOP Academy UX requirements.
4. To ensure user-centricity and to provide templates for further UX work.
5. To ensure interoperability with established roles-based standards (such as ESCO, CEN).



The Interoperability Academy needs to be sustainable and standards compliant.  
The Interoperability Academy needs to be interoperable!

In developing the Learner Profiles, we have therefore used the following established standards as a baseline reference:

- European e-Competence Framework (e-CF),
- CEN CWA 16458-1 European ICT Professionals Role Profiles,
- ESCO (Skills, Competences, Qualifications and Occupations) classification
- DigiComp,
- ISA and JRC user- and learner-centricity work.

- Based on best practice from established standards.
- Standardised template that can be used to develop role-based learner profiles across a variety of sectors and disciplines.
- Linked to role specifications to provide continuity and provide potential for mapping at a later stage.
- Clearly defined indicators covering professional, role-based, motivational and personal aspects.
- Provides basis for developing objectives- and outcomes–focussed learning pathways.

IMAGE	Occupation:	<b>Learner Canvas</b>	
	SUMMARY DESCRIPTION		
Age profile: Role-type: Motivation:	Accountable for:	Responsible for:	Challenges
	Tasks		Knowledge
Qualifications	E-CF Competencies		ESCO URI

# Learner Canvas



Occupation:

**MAPPING TO ESCO AND  
CWA 16458-1**

SUMMARY DESCRIPTION

Accountable for:

**MAPPING TO CWA 16458-1**

Responsible for:

Tasks

**MAPPING TO ESCO AND  
CWA 16458-1**

E-CF Competencies

**MAPPING TO e-CF AND EQF**

Challenges

**PERSONA RELATED INFO**

Knowledge

**MAPPING TO ESCO**

Age profile:  
Role-type:  
Motivation:

**PERSONA  
RELATED  
INFO**

Qualifications

ESCO URI

**LINK TO ESCO RECORD**



## Occupation: Chief Information Officer

Ensures the alignment of the Information Systems strategy with the business strategy. Provides leadership for the implementation and development of the organisations architecture and applications. Develops and maintains Information Systems to generate value for the business and meet the organisation's needs.

### Accountable for:

- ICT Strategy and Implementation
- ICT Governance Policy
- ICT Department & Budget

### Responsible for:

- Digital Transformation Strategy
- Project Portfolio
- Information Security Strategy

### Tasks

- Enable the company's digital strategy
- Define and implement ICT strategy and ICT governance
- Ensure the reliability, confidentiality, security and integrity of Information Systems
- Ensure the quality and management of ICT customer-supplier relationships in particular contracts
- Define and ensure compliance with Service Level Agreements
- Ensure that ICT change management processes are implemented

### E-CF Competencies

- A.1. IS and Business Strategy Alignment Level 5
- A.3. Business Plan Development Level 5
- E.2. Project and Portfolio Management Level 5
- E.4. Relationship Management Level 4
- E.9. IS Governance Level 5

**Age profile:** 40-55

**Role-type:** strategic leadership

**Motivation:** self-motivated learner, clear career goals, clear personal development plan

### Qualifications

Graduate: academic discipline

Postgraduate: Masters business, ICT

Occupational: leadership, project management

# Learner Canvas

### Challenges

- Time management
- Prioritising personal development
- Keeping up with industry best practice and tech state of art
- Ensuring legislative compliance: cyber security, data protection, accessibility
- Ensuring standards compliance
- Diminishing budgets
- Maintaining effective capacity and resources

### Knowledge

- ICT project management methodologies
- decision support systems
- information architecture
- information structure
- market analysis
- software architecture models
- software design methodologies
- systems development life-cycle

### ESCO URI

<http://data.europa.eu/esco/occupation/82f90e87-de92-4678-adae-61d3e5f7e1e4>



## Occupation: Systems Architect

Designs, integrates and implements complex technical ICT solutions ensuring procedures and models for development are current and comply with common standards. Monitors new technology developments and applies if appropriate. Provides technological design leadership.

### Accountable for:

- Solution Specification
- Integrated Solution

### Responsible for:

- Solution and Critical Business Process Integration Proposal

### Tasks

- Specify and implement the architecture of complex ICT solutions
- Lead development and integration of components
- Lead and/ or conduct system integration
- Ensure incorporation of security by design
- Analyse technical and business requirements
- Develop and maintain a comprehensive record of usability requirements
- Create data models
- Design enterprise architecture and information systems

### E-CF Competencies

- A.5. Architecture Design Level 4
- A.7. Technology Trend Monitoring Level 4
- A.9. Innovating Level 4
- B.2. Component Integration Level 4
- B.6. Systems Engineering Level 4

**Age profile:** 30-45

**Role-type:** professional managerial

**Motivation:** self-motivated learner, problem-based learning PBL, continuous CPD, maintain skillset

### Qualifications

Graduate: computer science  
Postgraduate: Masters ICT  
Occupational: specialist & vocational certifications

# Learner Canvas

### Challenges

- Time management and task prioritisation
- Managing/liasing multiple dynamic delivery teams
- Keeping up with industry best practice and tech innovation
- Maintaining awareness of industry standards requirements
- Engaging senior leadership
- Engaging sector stakeholders

### Knowledge

- business process modelling
- database development tools
- hardware platforms
- systems development life-cycle
- systems theory
- web programming
- Agile project management
- ICT process quality models
- ICT system integration

### ESCO URI

<http://data.europa.eu/esco/occupation/e1c72b5f-4c5c-487c-a6df-e84b64a51dae>



## Occupation: Software developer

Ensures the building and implementing of ICT applications. Contributes to low-level design. Writes code to ensure optimum efficiency and functionality and user experience. Designs and/ or codes components to meet solution specifications.

### Accountable for:

- Documented code

### Responsible for:

- Software components

### Tasks

- Develop, engineer and integrate components
- Follow user experience guidelines
- Aware of and address known security vulnerabilities, applying security by design
- Shape documentation
- Resolve issues prior to and following testing
- Define/interpret technical requirements
- Develop automated migration methods
- Develop software prototype

### Qualifications

Graduate: computer science  
Occupational: specialist &  
vocational certifications

### E-CF Competencies

- |                                 |         |
|---------------------------------|---------|
| ○ B.1. Application Development  | Level 3 |
| ○ B.2. Component Integration    | Level 2 |
| ○ B.3. Testing                  | Level 2 |
| ○ B.5. Documentation Production | Level 3 |
| ○ C.4. Problem Management       | Level 3 |

# Learner Canvas

### Challenges

- Understanding and defining user requirements
- Keeping up with iterations and releases: frameworks, tools, and libraries
- Seeing the 'big picture'
- Tight deadlines
- Wider team communication and collaboration
- Change requests and change management
- Integrating 3<sup>rd</sup> party, legacy or custom code/apps
- Security

### Knowledge

- ICT debugging tools
- computer programming
- computer programming language(s)/paradigms
- engineering principles
- engineering processes
- integrated development environment software
- project management
- technical drawings
- tools for software configuration management

### ESCO URI

<http://data.europa.eu/esco/occupation/f2b15a0e-e65a-438a-affb-29b9d50b77d1>





## Occupation: Policy Manager

Responsible for managing the development of policy programs and ensuring that the strategic objectives of the organization are met. Oversees the production of policy positions, as well as the organization's campaign and advocacy work in fields such as environmental, ethics, quality, transparency, and sustainability.

### Accountable for:

- Organisational policy positions
- Strategic alignment

### Responsible for:

- Policy development
- Campaigns & Advocacy
- Stakeholder engagement

### Tasks

- Contribute to organisational strategy
- Develop and ensure compliance with policies
- integrate strategic foundation in daily performance
- monitor company policy
- create advocacy material
- Engage staff, customers and stakeholders
- perform business analysis, research, and perform data analysis

### E-CF Competencies

- |                                   |         |
|-----------------------------------|---------|
| ○ A.8 Sustainable development     | Level 2 |
| ○ C.2. Change support             | Level 3 |
| ○ C.4. Problem management         | Level 2 |
| ○ E.4. Relationship management    | Level 3 |
| ○ E.7. Business change management | Level 3 |

**Age profile:** 30-50

**Role-type:** professional, managerial

**Motivation:** collaborative learner, informal learner, learning objectives guided by leadership

### Qualifications

Graduate: academic discipline  
Occupational: management, public policy, business process analysis

# Learner Canvas

### Challenges

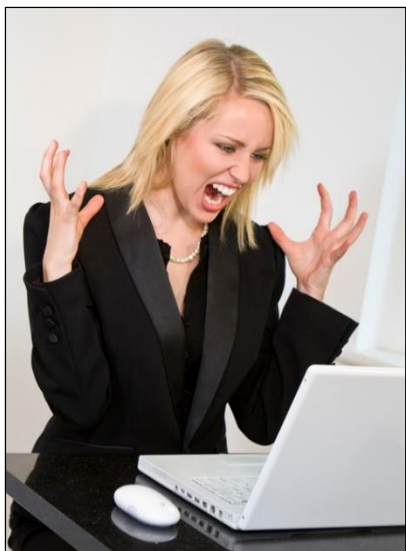
- Keeping up with developments in public policy
- Liaising with multiple organisational departments
- Limited knowledge of IT
- Understanding complex technical problems
- Policy implementation and change management
- No focus beyond organisational boundaries
- Regulatory/statutory compliance

### Knowledge

- business analysis
- corporate social responsibility
- organisational policies
- strategic planning
- business process modelling
- marketing department processes
- operations department processes
- quality standards
- risk management

### ESCO URI

<http://data.europa.eu/esco/occupation/64e38ce7-3901-4261-bfee-77c7a77397f2>



## Occupation: Project Manager

Defines, implements and manages projects from conception to final delivery. Responsible for achieving optimal results, conforming to standards for quality, safety and sustainability and complying with defined scope, performance, costs, and schedule. Deploys agile practices where applicable.

### Accountable for:

- Project Plan
- Validated Solution

### Responsible for:

- Solution Documentation

### Tasks

- Organize, coordinate and lead the project team
- Maintain stakeholder engagement and communication
- Supervise project progress
- Coordinate, record and ensure quality compliance
- Circulate and distribute information from the project owner
- Ensure the project helps to support the organisation's wider goals
- Comply with budgets and delivery times
- Update the project according to changing circumstances

### E-CF Competencies

- |   |         |
|---|---------|
| ○ A.4. Product/Service Planning         | Level 4 |
| ○ E.2. Project and Portfolio Management | Level 4 |
| ○ E.3. Risk Management                  | Level 3 |
| ○ E.4. Relationship management          | Level 3 |
| ○ E.7. Business change management       | Level 3 |

### Qualifications

Graduate: academic discipline  
Occupational: project management certification (Prince II, PMP, ECQA)

# Learner Canvas

### Challenges

- Workload and multiple conflicting deadlines
- Resourcing and staff management
- Lack of specialist technical/IT knowledge and skills
- Planning/understanding technical risk
- Stakeholder engagement
- Lack of formal/reliable communication channels
- Scope creep/scope changes
- Lack of management engagement

### Knowledge

- project management methodology
- change management methodology
- budget management tools
- project management tools
- corporate social responsibility
- quality standards
- risk management
- corporate social responsibility

### ESCO URI

<http://data.europa.eu/esco/occupation/bea99fea-0383-4c63-b944-70d4799de2c5>



The Canvases are designed to allow the easy expansion of Learner Profiles, mapped to the root standards. Based on the feedback received in the previous phase, 5 new profiles were designed:

- **Public Administration Manager**
- **Town/City Councillor**
- **Legal Advisor**
- **Civil Engineer**
- **Financial Manager**



## Occupation: Public Administration Manager

**ROLE DESCRIPTION:** Directs, monitors and evaluates the implementation of government policies. Public administration managers may also participate in the design and creation of public policies.

### Accountable for:

- Government policy implementation
- Public policy implementation

### Responsible for:

- Finance and resource management
- Stakeholder engagement
- Communications and awareness

### Skills & competencies

- liaise with local authorities
- liaise with politicians
- maintain relationships with government agencies
- manage budgets
- manage government policy implementation
- manage staff/supervise staff
- manage resources used for implementation
- write reports on the implementation process
- communicate with government officials and the public to inform them on the policies.

### Digital Competencies – DigiComp

	Proficiency level
1. Information and data literacy	4
2. Communication and collaboration	5
3. Digital content creation	3
4. Safety	3
5. Problem solving	5

**Age profile:** 30 - 45

**Role-type:** public sector managerial

**Motivation:** collaborative learner, informal learner, learning objectives guided by leadership

### Qualifications

Graduate: academic discipline

Post-graduate: masters public administration

Occupational: management, public policy

# Learner Canvas

### Challenges

- Keeping up with developments in local and national legislation
- Liaising with multiple organisational departments
- Public relations
- Limited knowledge of IT
- Understanding complex technical problems
- Policy implementation and change management
- Understanding multiple fields and disciplines
- Regulatory/statutory compliance

### Knowledge

- budgetary principles
- government policy implementation
- public policy implementation
- legislation procedure
- accounting techniques
- project management principles
- public finance
- public law

### ESCO URI

<http://data.europa.eu/esco/occupation/0752ed49-03e7-4d75-8314-a051b3771a1d>



## Occupation: Town/City Councillor

**ROLE DESCRIPTION:** Town & City councillors represent local citizens in the council and perform local legislative duties. They examine the concerns of the residents and respond to them in an appropriate manner, and represent their political party's policies and programs.

### Accountable for:

- local legislation
- spending and budgetary targets
- public relations

### Responsible for:

- managing budgets & staff
- policy implementation
- political campaigns

### Skills & competencies

- advise on legislative acts
- analyse legislation
- build community relations
- maintain relations with local representatives
- maintain relationships with government agencies
- observe confidentiality
- perform political negotiation
- write meeting reports

### Digital Competencies – DigiComp

1. Information and data literacy
2. Communication and collaboration
3. Digital content creation
4. Safety
5. Problem solving

### Proficiency level

- 2  
4  
3  
2  
4

# Learner Canvas

### Challenges

- Keeping up with legislative requirements
- Time management
- Understanding IT/technical developments
- Working with multiple stakeholders, including the public
- Community relations
- Understanding a wide variety of topical issues
- Funding and financial stewardship

### Knowledge

- government policy implementation
- budgetary principles
- election law
- political parties
- project management principles
- public finance
- public law

### ESCO URI

<http://data.europa.eu/esco/occupation/7226c10f-701b-4711-8843-140aace12c6f>

**Age profile:** 40-60

**Role-type:** local government

**Motivation:** rapid on-the-job, problem focussed learning requirements, specific topic-led objectives.

### Qualifications

Elected role: qualifications may vary.  
Higher and vocational.  
Professional training.



## Occupation: Legal Advisor

**ROLE DESCRIPTION:** provide legal advisory outside courtrooms in relation to legal affairs covering matters such as merging of multinationals, housing purchase, modification of contracts and its implications. They help clients in general to abide by the regulations and avoid committing illegal acts.

### Accountable for:

- Legal documentation
- Legal analysis and recommendations

### Responsible for:

- Legal advice, support and consultancy within, and across organisations

### Skills & competencies

- advise on legal decisions
- analyse enforceability
- compile legal documents
- ensure law application
- identify clients' needs
- interpret law
- protect client interests
- provide legal advice

### Digital Competencies – DigiComp

1. Information and data literacy
2. Communication and collaboration
3. Digital content creation
4. Safety
5. Problem solving

### Proficiency level

- 4  
4  
3  
5  
5

**Age profile:** 30-45

**Role-type:** consultant, external/  
internal advisory

**Motivation:** clear personal  
development goals,  
learning driven by  
professional  
certifications, currency  
with legislative  
developments

### Qualifications

Graduate degree – law  
Post graduate specialisation  
Professional qualifications

# Learner Canvas

### Challenges

- Keeping current with legislative developments in corporate/civil law
- Keeping up with legal requirements governing use of technology
- Dealing with varied client-base
- Prioritising personal development goals
- Balancing time management and workload
- Working across a number of locations
- Advocacy across multiple stakeholders

### Knowledge

- legal terminology
- business law
- civil law
- contract law
- corporate law
- court procedures
- legal case management
- legal research

### ESCO URI

<http://data.europa.eu/esco/occupation/31854d78-3615-43a4-aa3a-c597ecb20ceb>



## Occupation: Civil Engineer

Design, plan, and develop technical and engineering specifications for infrastructure and construction projects. Apply engineering knowledge across projects such as infrastructure for transportation, housing and buildings, to the construction of natural sites. Design plans that seek to optimise materials and integrate specifications and resource allocation within the time constraints.

### Accountable for:

- Delivery of infrastructure and construction projects

### Responsible for:

- technical/engineering specifications
- resource allocation
- compliance with safety legislation

### Skills & competencies

- adjust engineering designs
- approve engineering design
- perform scientific research
- use technical drawing software
- compile GIS-data
- conduct quality control analysis
- develop geological databases

### E-CF Competencies

A.8. Sustainable Development	Level 3
A.9. Innovating	Level 4
E.2. Project and Portfolio Management	Level 3
E.3. Risk Management	Level 3
E.5. Process Improvement	Level 4

**Age profile:** 35 - 60

**Role-type:** Professional

**Motivation:** problem focussed learner, needs on-the-job solutions, personal development goals shaped by vocational qualifications

### Qualifications

Graduate: STEM discipline  
Occupational: field related professional qualifications  
Apprenticeship

# Learner Canvas

### Challenges

- Complex project management
- Compliance with various health and safety regulations
- Risk management
- Keeping up to date with technical standards (ie GIS)
- Managing diverse resources across multiple locations
- Understanding and utilising IT

### Knowledge

- civil engineering
- engineering principles
- engineering processes
- mining, construction and civil engineering machinery products
- technical drawings
- project management
- Surveying
- urban planning
- construction methods

### ESCO URI

<http://data.europa.eu/esco/occupation/d7d986e1-7333-431b-9719-0c5c6939e360>



## Occupation: Financial Manager

**ROLE DESCRIPTION:** manage financial operations of organisations such as the assets, liabilities, equity and cash flow. Evaluate the strategic plans of the company in financial terms, maintain transparent financial operations for taxation and auditing bodies, and create the financial statements.

### Accountable for:

- organisational accounts
- annual report

### Responsible for:

- resource and budget management
- financial performance
- financial operations

### Skills & competencies

- advise on financial matters
- analyse financial performance
- analyse market financial trends
- create a financial plan
- enforce financial policies
- follow company standards
- liaise with managers
- strive for company growth

### Digital Competencies – DigiComp

1. Information and data literacy
2. Communication and collaboration
3. Digital content creation
4. Safety
5. Problem solving

### Proficiency level

- 2  
3  
2  
2  
3

**Age profile:** 35-60

**Role-type:** senior management

**Motivation:** self-motivated learner, clear career goals, clear personal development plan

### Qualifications

Graduate – degree (finance, economics)  
Professional qualifications (accountancy, book-keeping)

# Learner Canvas

### Challenges

- IT and technology
- Keeping current with industry and market trends
- Maintaining positive financial performance
- Staff / resource management
- Compliance
- Budget challenges
- Risk management and disaster planning
- Keeping up with industry best practice
- Influencing strategic decision-making

### Knowledge

- financial analysis
- financial management
- financial statements
- Accounting
- budgetary principles
- business valuation techniques
- cost management
- fraud detection
- public finance

### ESCO URI

<http://data.europa.eu/esco/occupation/30f3ea93-882a-4525-841c-1d5b4b64076f>






**ISA<sup>2</sup> programme**  
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Run by the Interoperability Unit at DIGIT (European Commission) with 131€M budget, the [ISA<sup>2</sup> programme](#) provides public administrations, businesses and citizens with specifications and standards, software and services to reduce administrative burdens.



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