HARMONIZED UNITS DESCRIPTION

MODULES	LESSONS	TOPICS	Skill level[1]	LEARNING TIME	LEARNING OUTCOMES
Module 1 Cluster Strategy & Value Chain Management	Lesson 1.1 Cluster management and value chain concepts	Introduction to cluster management's main concepts	2	1:50	Set up the cluster strategy: assessing the members' needs, defining the cluster's mission and its business model Detect key partnerships of potential innovation or likely to strengthen the value chain across sectors and borders Manage collective intelligence: Facilitate a network of economic agents, linking them to one another, fostering collaboration and handling the communication within the network
		Topic 1: Cluster management basis			
		Topic 2: Value Chain analysis			
	Lesson 1.2 Cluster strategy and business model development	Introduction to cluster strategy	2	6:30	
		Topic 1: Diagnostic			
		Topic 2: Strategy			
		Topic 3: Monitoring and evaluation			
		Topic 4: Business model			
		Topic 5: Services			
	Lesson 1.3 Collective intelligence management	Introduction	2	2:30	
		Topic 1: Gathering data from the cluster stakeholders			
		Topic 2: Generating innovative ideas and potential projects			
		Topic 3: Developing collaborative projects - Consortium agreement			
		Topic 4: Facilitating and coordinating project teams			

[1] Based on the Bloom's Taxonomy, cf. p.7

Module 2 Innovation Management	Lesson 2.1 Innovation, creativity and clusters	Introduction	2	2:30	Detect key partnerships of potential innovation or likely to strengthen the value chain across sectors and borders
		Topic 1: Innovation - knowledge and creative process			
		Topic 2: From business to innovation			
		Topic 3: Generating collaborative innovation			
	Lesson 2.2 Toward industry 4.0	Introduction to Industry 4.0	2	14:30	
		Topic 1: Additive manufacturing			
		Topic 2: Augmented and Virtual reality			
		Topic 3: IoT & Robotics			
		Topic 4: Big data & Cloud computing			
		Topic 5: Artificial intelligence			
		Topic 6: New organisation and processes			
		Topic 7: Accompanying the human resources			
	Lesson 2.3: Strategic intelligence and technological watch	Introduction to strategic intelligence	2	6:00	
		Topic1: Designing a strategic intelligence system			
		Topic2: Technological watch			
		Topic 3: Strategic intelligence tools			

Module 3 Cluster Management and Communication techniques	Lesson 3.1 Creativity management tools	Introduction to creativity management and design thinking	3	9:20	Manage collective intelligence: Facilitate a network of economic agents, linking them to one another, fostering collaboration and handling the communication within the network Increase creativity within the team and among the cluster members in order to facilitate innovation
		Topic 1: Design thinking process			
		Topic 2: Mind mapping			
		Topic 3: Problem solving methods			
		Topic 4: Decision making tools			
		Topic 5: Meetings facilitation tools			
		Topic 6: Agile techniques			
	Lesson 3.2 Cluster communication	Introduction: Communication basics	2	7:30	
		Topic 1: Setting up a communication strategy for my cluster			
		Topic 2: Selecting the communication tools			
		Topic 3: Action plan implementation and monitoring			
		Topic 4: Organising and managing the communication function			

Module 4: International Collaboration	Lesson 4.1 European cluster policies	Introduction	2	1:00	The main European cluster policies and public subsidies
		Topic 1: EU cluster and innovation support policies			
	Lesson 4.2 European public and private financing	Introduction	2	2:00	
		Topic 1: EU subsidies for clusters			
		Topic 2: Suitable financing tools according to development stages			The main private financing opportunities
	Lesson 4.3 Internationalisation processes	Introduction: Setting up an international strategy for my cluster	2	4:00	The internationalization processes
		Topic 1: Selecting partners			
		Topic 2: Building "C2C" relations			
		Topic 3: Organising international missions			
		Topic 4: Internationalisation cases			

Overall Cluster4Smart training	
Overall skill level[2]	2
EQF level*	6
Overall learning time	60:00

*EQF level 6 descriptors**

Level	Knowledge	Skills	Responsibility and autonomy
	theoretical and/or factual.	*cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).*	*ability of the learner to apply knowledge and skills autonomously and with responsibility*
6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups

See full EQF levels: https://europa.eu/europass/fr/description-eight-eqf-levels

[2] Based on the Bloom's Taxonomy, cf. p.7

EQF correlations with the NQFs of the Cluster4Smart consortium countries.

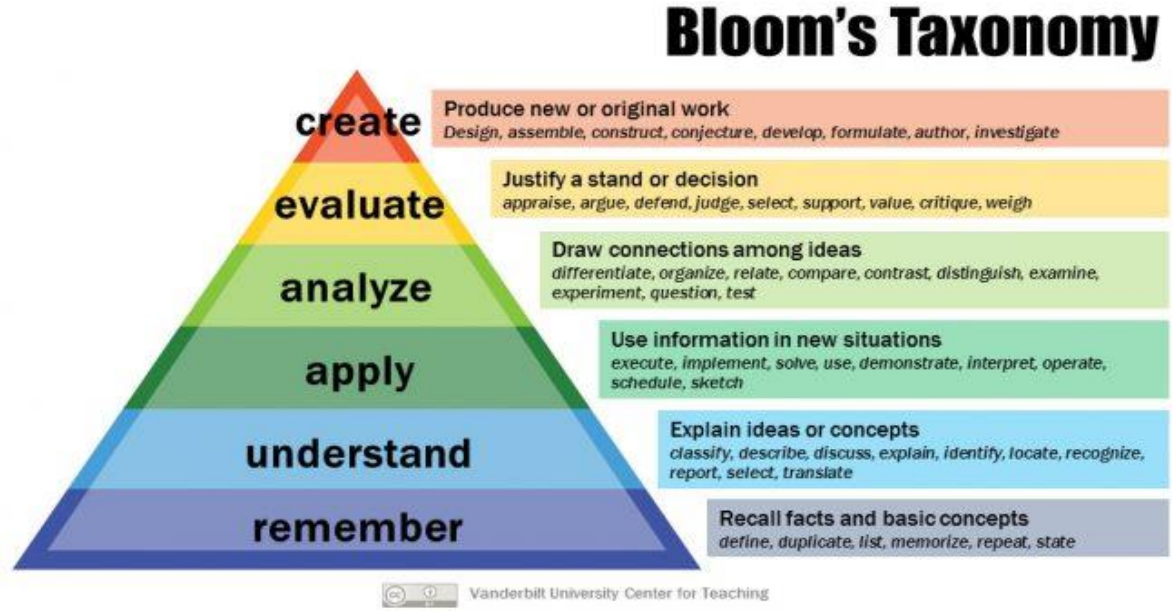
EQF levels	HuQF		SpQF (MECU)			FrQF	
	Levels	*Descriptors (Summary)*	*SNCFP levels*	*MECES levels*	*Descriptors*	*Levels*	*Desciptors*
8	8	Independant research methodology; Expert knowledge; Leader/cooperation skills; Creative thinking.	Not applicable	4	Doctor	I	Confirmed knowledge of fundamental scientific principles; Mastery of design or research processes. (Doctor/Master 2)
7	7	In depth knowledge of main features and theories; Analysis skills; Adaptability of skills and methods in various working conditions.	(5)	3	Master		
6	6	Fundamental knowledge; Learning autonomy; Use of knowledge in professional context; Critical thinking.	(4)	2	Bachelor	II	Mastery of fundamental scientific principles for the profession; Autonomy in exercising the activity. (Bachelor, Master 1)
5	5	Theoretic and practical knowledge; Responsible decision making; Self improvement skills; Autonomy; Self monitoring.	3	1	Advanced technician	III	High level of knowledge and abilities enabling autonomous responsibilities concerning design/supervision/ management.
4	4	Application of basic facts and concepts in usual context; Problem identification and solution suggestion; Responsibility.	2	Not applicable	Middle technician	IV	Basic level of theoretical knowledge; Autonomous execution of a technical work, and/or supervisory/coordination responsibilities.
3	3	Basic knowledge; Methods application; Adaptation to new situations; Self reflexion; team work.				V	Full qualification for carrying out specific actvities; ability to use corresponding instruments and techniques; Autonomous execution work within the limits of the techniques involved.
2	2	Basic knowledge; Realisation of particular tasks; Independance in simple tasks; Ability to handle complex tasks with instructions.	1	Not applicable	Operator	Not applicable	
1	1	Key knowledge; Autonomy in simple tasks; Ability to handle complexe tasks with supervision; Self evaluation.					

Source: Cluster4Smart NQFs comparative summery, 2018

Skill levels description: Bloom's Taxonomy

The skill levels of each Cluster4Smart lesson have been evaluated according to the Bloom's Taxonomy[3], for the trainees to be aware of the course objectives in terms of learning outcomes, and to be able to situate the level of the certification in their respective countries.

Bloom's Taxonomy		
1	**Knowledge**	recall of specifics and universals, the recall of methods and processes, or the recall of a pattern, structure, or setting
2	**Comprehension**	type of understanding or apprehension such that the individual knows what is being communicated and can make use of the material or idea being communicated without necessarily relating it to other material or seeing its fullest implications
3	**Application**	refers to the use of abstractions in particular and concrete situations
4	**Analysis**	breakdown of a communication into its constituent elements or parts such that the relative hierarchy of ideas is made clear and/or the relations between ideas expressed are made explicit.
5	**Evaluation**	judgments about the value of material and methods for given purposes
6	**Creation**	ability to generate and produce a new or original work.



[3] Some resources about the Bloom's taxonomy:
https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/
https://tips.uark.edu/using-blooms-taxonomy/
https://teaching.uncc.edu/services-programs/teaching-guides/course-design/blooms-educational-objectives