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eCF Council Project:
**e-CF Multistakeholder partnership driving ICT
professional up-skilling and pick up of employability**

WP5
DLV5.7 – Final reporting

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BITA	12/5/2018	V 0.2	Collection of different pilot
BITA	2/7/2018	V 0.3	Final draft
FPM	11/09/2018	V0.3	Dissemination level correction
BITA	23/09/2018	V0.4	Review total, update on platform info
FPM	2/10/2018	V0.4	Small editing corrections
BITA	8/10/2018	V0.5	Inserted Adfor pilot data, and Cefriel updated data. Some numbers check
FPM	9/10/2018	V0.5	Small editing corrections
FPM	23/10/2018	V0.5	Added extra info on cefriel 2 nd course

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TABLE OF CONTENTS

.....	1
TABLE OF CONTENTS	3
WP5 – INTRODUCTION & OVERVIEW	4
<i>Results of pilots in numbers</i>	5
WP5 – OVERVIEW OF PILOTS	6
<i>Italian pilot (E8) - Cefriel</i>	6
<i>Bulgarian pilot (D2)</i>	13
<i>Spanish pilot (B3)</i>	17
<i>Dutch pilot (A7)</i>	20
WP5 – THE PARTICIPANTS	26
WP5 – WEBPLATFORM	26
WP5 – CONCLUSIONS AND LESSONS LEARNED	28

WP5 – Introduction & Overview

Work package purpose

The purpose of WP5 was to organise a pilot programme based on the work done in WP3 and WP4. Part of the pilot is to present the ‘courses’ on an online platform.

The pilot phase runs until may 2018. The goal is to test the learning material with the target participants and also develop ways to certify the learners (goal is 100 participants)

WP5 has core partners that actually run the pilot

E.8	Information Security Management	CEFRIEL
A.1	IS and Business Strategy Alignment	FPM
B.3	Software Testing	UAH
D.2	ICT Quality Strategy Development	ESICEE
A.6	Application Design	ADFOR
A.7	Technology Trend Monitoring	BITA (WP Leader)

WP5 consisted of seven activities

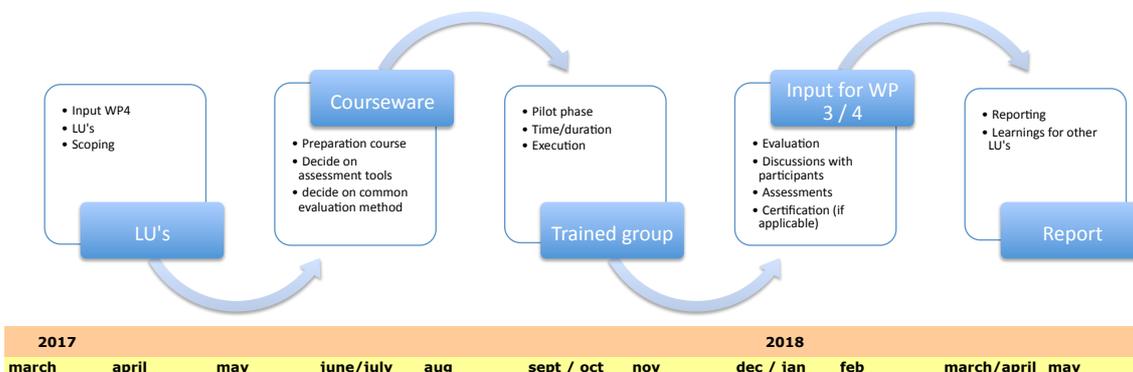
- 5.1 Content for pilot programme
- 5.2 Online presentation of the material
- 5.3 Pilot training path
- 5.4 Qualification path including 3 webinars
- 5.5 Pilot assessments. F2F meetings based on qualification programme specification
- 5.6 Pilot certifications
- 5.7 Reporting experience in the pilot programme

WP5 was based on the work done of the other work packages, mainly WP4.

Planning

- monthly calls 1st Tuesday of the month 9.15-10.00AM
- march-august – course building
- march-jun - Online / web publication
- april-may – certification decisions
- sept-dec – running pilot, webinar and F2F meetings
- jan-feb – feedback sessions, assessments for each competence
- march – survey, certification, interoperability issues
- may – reporting and publishing

WP5 timing & flow - running the pilot



Tasks as defined in the project plan were:

- Task 1 – Selecting a pilot group of ICT workers/ professionals to get involved in the testing joint programme.
- Task 2 – Selecting the job profile
- Task 3 - Designing the pilot
- Task 4 – Developing open content
- Task 5 – Scheduling training sessions and certification path
- Task 6 – Supplying training path
- Task 7 – Supporting certification path for each e-competence
- Task 8 – Assessment center for each e-competence
- Task 9 – Certification, transparent in interoperability
- Task 10 – Publishing open content on the web

Results of pilots in numbers

Although in the project plan only 100 participants were requested the project partners involved in total **158 participants** in 4 different pilot courses and webinars. **140 were certified**.

Partner	Cefriel (IT)	Esi cee (BG)	Uah (ES)	Bitá center (NL)	Adfor (IT)	total
Number of participants	17	71	35 (91 applied)	22	13	158 (214)
Numbers of certified participants	17	71	20	20	12	140

WP5 – Overview of pilots

Italian pilot (E8) – Cefriel

Organization of training

CEFRIEL provided a course programme on Information Security Management to ITALTEL employees. Therefore, CEFRIEL decided to test the learning unit's structure and the online platform with course participants, in order to anticipate issues and requests. Even if the E.8 competence was composed of 12 learning units, CEFRIEL decided to test in the pilot the first five learning units, because the contents of all learning units hadn't been finalized yet. However, the face to face sessions of the learning units not tested was used to improve the contents and the structure. These improvements were included in the revision of the e.8 competence that has been made at the end of 2017.

The learning unit 1 and 3 had 4 hours of face to face session, while learning unit 2 has 1 day of face to face session. All participants had been manually registered in the eCF platform and manually enrolled in the courses.

The first day of training was followed by an initial survey on the eCF topic, while after the finishing of the training path there was another survey about the learning units and the platform. The results can be find in the annex.

Italtel started the training path on 31st May 2017. The complete training path was ten days long, finished on July 18th 2017 and covered most of the topics of the E.8 competence Learning units that was defined in WP4. However, the pilot had the objective to test only the first five Learning units and the face to face local meetings were focused on the first three learning units.

The training path terminated with the presentation of a project work by groups of participants and with the Certificate of Completion of the eCF Alliance project and the CEFRIEL certificate.

Due to a second session during this pilot, CEFRIEL tested all the 12 learning units, that has been modified at the end of 2017, to embrace the suggestions coming from the workshop in Fondazione Politecnico and to update the material with new technologies and emerging trends.

The course programme was completely blended, so all the learning unit has a face to face session. The training was followed by the final assessment, which was made with the same process of the one done in the previous pilot, and by a quality control survey.

Face to face meetings E8

Organized by CEFRIEL, Venue: ITALTEL S.p.A.

Target audience and figures: Security Specialist, Security Manager, IT staff

L1 - 16 participants) - May 31st 2017

L2 - 14 participants - June 6th 2017

L3 - 15 participants - June 13th 2017



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WP5 – DLV 5.7 – Final Training path – How to have local meetings

Learning Unit 1 – 31/05/2017

Participants		
NOME	COGNOME	FIRMA
ANTONIO	BENINATI	
ELIO	BUDOVINO	<i>Elio Budovino</i>
EMONE	CAPPELLETTI	<i>Emone Capelletti</i>
ANDREA	CARRETTONI	<i>Andrea Carrettoni</i>
MICHELA	CHIOSI	<i>Michele Chiosi</i>
FABIO	COLOMBO	<i>F. Colombo</i>
GIANNA	CORNACCHIA	<i>Gianna Cornacchia</i>
CHIARA	DOTTI	
ANGELO	LURAGHI	<i>Angelo Luraghi</i>
LUIGI	MATTELLINI	<i>Luigi Mattellini</i>
CESARE MASSIMO	NARDUCCI	<i>Cesare Narducci</i>
EMONE	OGARDI	<i>Emone Ogardi</i>
MASSIMILIANO	RIBELLINO	<i>Massimiliano Ribellino</i>
ROBERTO	ROMAGNISE	<i>Roberto Romagnise</i>
ENRICO	BORGES	<i>Enrico Borges</i>
LUCA	STELLARI	
ANDREA GRAZIANO	TIMPANARO	<i>Andrea Graziano</i>
CLAUDIO	ZENABONI	<i>Claudio Zenaboni</i>

Page 1 out of 6

1 Learning Unit 2 (06/06/2017)

Participants		
NOME	COGNOME	FIRMA
ANTONIO	BENINATI	
ELIO	BUDOVINO	<i>Elio Budovino</i>
EMONE	CAPPELLETTI	<i>Emone Capelletti</i>
ANDREA	CARRETTONI	<i>Andrea Carrettoni</i>
MICHELA	CHIOSI	<i>Michele Chiosi</i>
FABIO	COLOMBO	<i>F. Colombo</i>
GIANNA	CORNACCHIA	<i>Gianna Cornacchia</i>
CHIARA	DOTTI	
ANGELO	LURAGHI	
LUIGI	MATTELLINI	<i>Luigi Mattellini</i>
CESARE MASSIMO	NARDUCCI	<i>Cesare Narducci</i>
EMONE	OGARDI	<i>Emone Ogardi</i>
MASSIMILIANO	RIBELLINO	<i>Massimiliano Ribellino</i>
ROBERTO	ROMAGNISE	<i>Roberto Romagnise</i>
ENRICO	BORGES	<i>Enrico Borges</i>
LUCA	STELLARI	
ANDREA GRAZIANO	TIMPANARO	<i>Andrea Graziano</i>
CLAUDIO	ZENABONI	<i>Claudio Zenaboni</i>

2 Learning Unit 3 (13/06/2017)

Participants		
NOME	COGNOME	FIRMA
ANTONIO	BENINATI	
ELIO	BUDOVINO	<i>Elio Budovino</i>
EMONE	CAPPELLETTI	<i>Emone Capelletti</i>
ANDREA	CARRETTONI	<i>Andrea Carrettoni</i>
MICHELA	CHIOSI	<i>Michele Chiosi</i>
FABIO	COLOMBO	<i>F. Colombo</i>
GIANNA	CORNACCHIA	<i>Gianna Cornacchia</i>
CHIARA	DOTTI	
ANGELO	LURAGHI	<i>Angelo Luraghi</i>
LUIGI	MATTELLINI	<i>Luigi Mattellini</i>
CESARE MASSIMO	NARDUCCI	<i>Cesare Narducci</i>
EMONE	OGARDI	<i>Emone Ogardi</i>
MASSIMILIANO	RIBELLINO	<i>Massimiliano Ribellino</i>
ROBERTO	ROMAGNISE	<i>Roberto Romagnise</i>
ENRICO	BORGES	<i>Enrico Borges</i>
LUCA	STELLARI	
ANDREA GRAZIANO	TIMPANARO	<i>Andrea Graziano</i>
CLAUDIO	ZENABONI	<i>Claudio Zenaboni</i>

Second course dates

- Learning Unit 1 Current security scenarios and ISM role - Face to face session March 8th, 2018
- Learning Unit 2 Technological security: attacks and countermeasures - Face to face session March 8th, 2018 April 19th, 2018
- Learning Unit 3 Infosecurity governance and standard - Face to face session March 9th, 2018
- Learning Unit 4 Application level security - Face to face session April 5th, 2018 April 20th, 2018 June 8th, 2018
- Learning Unit 5 Vulnerability evaluation in real-world - Face to face session April 6th, 2018 April 19th, 2018
- Learning Unit 6 Security in new technologies - Face to face session -March 23rd, 2018
- Learning Unit 7 The overall risk and incident management process - Face to face session -May 25th, 2018 June 21st, 2018
- Learning Unit 8 Information Security Project Management - Face to face session May 10th, 2018 May 11th, 2018
- Learning Unit 9 Digital identity security - Face to face session June 7th, 2018 April 6th, 2018
- Learning Unit 10 Legal aspects in information security - Face to face session May 24th, 2018 June 22nd, 2018
- Learning Unit 11 Forensics - Face to face session May 24th, 2018 May 25th, 2018
- Learning Unit 12 Elements of Information Security Governance and Risk planning - Face to face session June 21st, 2018

Final assessment

The verification of the acquired skills, as well as through the continuous interaction with participants during face to face sessions, was fulfilled by carrying out a "project work".

During the course, about halfway, there was a face to face session to discuss what topics can be covered in the project work. During this session, the trainer provided information about what slat should be adopted for theme selection and for the project work itself, as well as examples of titles that emerged in other similar editions of the training path. In particular the criteria for proposing and selecting a topic should be:

- The topic should be suitable for the development of a subsequent study in groups of 2/3 people
- The topic was ideally of corporate interest
- The topic should be suitable to the preparation of a sharing moment of the theme by the proposer (5 minutes) in a face to face plenary session.

The interactive discussion between trainer and participants regarded many topics, which, if appropriate, were discussed and commented and some of them were merged if related between each other. The topics emerged during this process were many and more than needed: consequently, participants selected a subset of them using a “voting” process in which each participant should vote the three topics he preferred.

This session allowed a preliminary evaluation of:

- The ability of the participants, already halfway through, to propose a topic related to information security and to preliminarily dissect it and share with others the implications related to the course scope
- The ability of participants to evaluate and select computer security topics and to understand (self-assessing) their aptitude for contributing to the topic

After the assignment of the most voted topics to the work groups, participants had available half of the duration of the course programme (more or less one month in this case) to prepare a detailed study of the assigned topic and to prepare some related material to be used in the sharing session. This material was a powerpoint presentation with a predefined structure:

- A description of the problem
- A detailed study that was done
- The proposed solution
- What are the benefits/impacts in the organization?
- What has been learned in terms of knowledge and skill in doing the project work, in particular from a methodological point of view.

The final session with the presentation of the above-mentioned material involved all the groups of participants with a presentation of 20/30 minutes each followed by some questions.

This final assessment structure allowed evaluating:

- The ability of participants to examine in depth autonomously a topic of information security, considering both technical aspect and impacts on the involved organization.
- The ability of participants to come up to a solution of an issue related to information security
- The ability of participants to evaluate the provided solution considering the organization benefits
- The self-awareness of acquired knowledge and skill.

Participants and certifications

A total of 17 ITALTEL employees participated to the course programme in Information Security Management. All of them has concluded the training path and had the final assessment, with the above-described approach. The final presentations had been evaluated by an information security manager with expertise in information security coming from both consultancy and training. All the presentation had been considered fine and complete. All the participants received a certificate of attendance of the course.

Italian pilot (A6) - Adfor

It was not easy to organise a significant Pilot, due to the specificity of the Competence. The way we finally run the Pilot was at same time sustainable (reasonable effort), and effective as integrated in the VET High Technical path “ITS TTF” for employability, supported by EU and ESF.

The pilot ran successfully, and was appreciated by participants and Randstad, founding partner of the TTF Foundation who was involved in the organised of the training session and hosted it. 12 out of 13 participants received an attendance certificate on completion of the Pilot and the final workshop.

Background

The e-CF Competence for this pilot was A.6 Application Design. According to e-CF, this is a really wide and horizontal Competence, more similar to a job profile than to a Competence, including a plurality of knowledge and skills to acquire and demonstrate.

The Qualification Profile developed in WP4 also added more knowledge and skills to the e-CF examples (Dimension 4), for better consistency with the e-CF description (Dimension 2 and 3).

Therefore 9 Learning Units (LUs) were defined and developed, each addressing a specific a area of the Competence. The LUs and their association to the Proficiency Levels are listed in the figure here down.

A.6_Application Design						
Num	Learning Unit Title	Proficiency Level				
		1	2	3	4	5
LU 1	Requirements engineering					
LU 2	Requirements formalisation					
LU 3	Object-Oriented analysis and design					
LU 4	Data modelling techniques					
LU 5	User interface design					
LU 6	Application design related to development models					
LU 7	Application integration and innovative technologies					
LU 8	Costs and time estimation for application development					
LU 9	Application design process management					

Based on our experience, acquired delivering courses matching many of the contents of the LUs, we estimated an average of 3 days (21 hours) face to face training for each LU.

We realised that the delivery of a full learning path was not sustainable. So, we had to design some kind of partial pilot.

We delivered this year some of our course having contents close to a LU, but still partially matching because of customisation required by the clients, and with a limited number of significant participants.

Therefore, instead of trying to find out a way for delivering a limited number of LUs (one to max three), we decided to have a different more significant approach.

First of all we focused on the LUs at Proficiency Level 1. This is still a wide set of knowledge, and the full path, again, requires a huge effort both by trainers and participants.

The solution we found was to cooperate with ITS TTF Tech Talent Factory, a High Technical School supported by the EU and the ESF (European Social Fund). The two-year learning path on IT fundamentals includes courses and internship, and it is oriented to up-skill and employability. Participants are young people with a high school degree aiming to have a better IT knowledge, or unemployed persons seeking to find a good occupation opportunity thanks to the IT demand by the organisations.

The knowledge delivered by the TTF is oriented to a job profile, as required by the market, but it matches most of the contents of Proficiency Level 1. Base training on soft skills, fundamentals of IT and programming, and introduction to project management are also included. More information about TTF are in Annex 1, the ITS TTF Brochure, and in the website www.itstechtalentfactory.it.

The students completing the training path get an EQF level 5 qualification, which is actually higher than the EQF level 3 assigned by e-CF to Proficiency Level 1. So, running a session for them was also an opportunity to compare training and contents, implementing in some way a certification based on previous knowledge plus additional content. The training session was designed, planned and delivered accordingly, and it is described in point 3 “The pilot training session”.

For the organisation we cooperated with Randstad Italy, the Italian branch of one of the global leaders in the HR services industry with main office in Amsterdam. Randstad Italy (www.randstad.it) is one of the founding partners of the TTF Foundation.

In the first part of the session participants were asked to register to the training platform, and invited to further use it for their competence development. Registration was done using smartphones. Each participant got a copy of the eCF Alliance brochure.

Here are some photos taken during the session.



Registering to the platform
and attending the session.



Session running



The final workshop was based on a case study, presenting a scenario in a realistic situation. The trainer explained the scenario, the high-level requirements, the stakeholders, the data model.

The workshop consisted in further developing at least one specific Use Case, documenting it using a framework proposed by the trainer. The work was assigned individually and discussed by the group, with interesting results even if the time allowed was short.

Participants list

Workshop "Application Design": Progettare le applicazioni

24 settembre 2018

Nome	Cognome	Firma
ALFIO	MINISALE	Alfio Minisale
ALESSANDRO	PIRONANO	Alessandro Pironano
LUCA	CATTANEO	Luca Cattaneo
RICCARDO	MONTANO	Riccardo Montano
EMANUELE	CAPITANI	Emanuele Capitani
ALESSANDRO	PASQUALE	Alessandro Pasquale
FEDERICO	PORRECA	Federico Porreca
EROS	PICCONI	Eros Picconi
ENRICO	SEBATO	Enrico Sebato
ALFONSO	CANCELLARA	Alfonso Cancellara
GIAMMARIA	PORTA	Giammaria Porta
MASSIMO	CHEM	Massimo Chem
SAMUELE	LOMBARDI	Samuele Lombardi

Workshop "Application Design": Progettare le applicazioni

25 settembre 2018

Nome	Cognome	Firma
ALESSANDRO	PASQUALE	Alessandro Pasquale
ENRICO	SEBATO	Enrico Sebato
MASSIMO	CHEM	Massimo Chem
EMANUELE	CAPITANI	Emanuele Capitani
FEDERICO	PORRECA	Federico Porreca
EROS	PICCONI	Eros Picconi
ALESSANDRO	PIRONANO	Alessandro Pironano
ALFIO	MINISALE	Alfio Minisale
ALFONSO	CANCELLARA	Alfonso Cancellara
SAMUELE	LOMBARDI	Samuele Lombardi
RICCARDO	MONTANO	Riccardo Montano
GIAMMARIA	PORTA	Giammaria Porta

To each participant an acknowledge certificate of attendance and completion was released.

Comments and suggestions by participants

Most participants added comments in the questionnaires. The most frequent comments sound like "too short and not enough time for more practice". But all appear positive. Here is the translation of each comment from Italian.

1. The session should be more practical. Contents are rather interesting, but I would prefer to work more on real cases.
2. I found very interesting the interaction model and the use case application schema
3. I would like to have more time per practical exercises.
4. I am interested to have more material to go further into the contents.
5. The session should last more in order to expand some topics.
6. The trainer was very competent and presentations were engaging, but I would like to have more exercises to practice. Pity the time was short.
7. Make the session longer and add time for more practice.
8. Useful overview and new topics too, it would be useful to expand the session for more simulation/exercises.
9. Very interesting, I appreciated that teachings were presented with reference to personal experience of the trainer. Presentations were very clear.

Bulgarian pilot (D2)

New Bulgarian University and BASSCOM announced the trainings among students in Project Management Master Program and HR departments of 80 ICT companies.

3 2/3-day face to face sessions covering 4 from 7 Learning Units (LU1 Principles of Quality Management and Process Management; LU5 Quality Assurance of Service/Project Management Processes; LU6 Quality assurance in agile environment (Scrum, XP, Kanban and others) and LU7 Formulation / adopting of Quality Management Strategy for the organization) accomplishing with the Certificate of Completion of the Alliance project and the ESI CEE certificate.

Roles

ESI CEE:

- Design of the course, developing the learning units and upload it to the platform
- Disseminate the course: development of advertising materials

BASSCOM:

- Disseminate the course: creation of the registration form and recruiting ICT professionals
- Registration of the participants

D2 contents for each learning unit

2.1. Learning Unit 1 Principles of Quality Management and Process Management

- Principles of process-based quality management – presentation, uploaded pdf presentation and materials in eCF Alliance platform.
- Quality assurance strategy – presentation and interactive discussion. Uploaded pdf presentation and materials in eCF Alliance platform.
- Translate quality management strategy into operational terms - presentation, uploaded pdf presentation and materials in eCF Alliance platform.

2.2. Learning Unit 5 Quality Assurance of Service/Project Management Processes

- Planning of quality assurance of service/ project – presentation, uploaded pdf presentation and materials in eCF Alliance platform.
- Maintain quality of service/project. Monitoring and control process – presentation, uploaded pdf presentation and materials in eCF Alliance platform. Interactive exercise.
- Maintain quality of requirements management process – presentation, uploaded pdf presentation and materials in eCF Alliance platform. Interactive exercise.

2.3. Learning Unit 6 Quality assurance in agile environment (Scrum, XP, Kanban and others)

- Agile quality management in project/ organizational context - presentation, uploaded pdf presentation and materials in eCF Alliance platform.
- Apply QM in agile frameworks (Scrum and Kanban) – Kanban game
- Test.

2.4. Learning Unit 7 Formulation / adopting of Quality Management Strategy for the organization

- Formulation of a QM strategy in organization – practical exercise.
- Implementation of QM models - presentation, uploaded pdf presentation and materials in eCF Alliance platform.

	Forum	Self-assessment Test	Exercises	Evaluation Exercise	Evaluation Test	Another Test
Learning Unit 1 - Principles of Quality Management and Process Management	1					
Learning Unit 5 - Quality Assurance of Service/Project Management Processes	1		1	1		
Learning Unit 6 - Quality assurance in agile environment (Scrum, XP, Kanban and others)	1		1	1	1	
Learning Unit 7 - Formulation / adopting of Quality Management Strategy for the organization	1		1	1		

Face to face meetings D2 - Learning unit planning

- Learning Unit 1 Principles of Quality Management and Process Management - January 17th, 2018
- Learning Unit 5: Quality Assurance of Service/Project Management Processes - February 8th and 9th, 2018
- Learning Unit 6: Quality assurance in agile environment (Scrum, XP, Kanban and others)- July 15th, 2017
- Learning Unit 7: Formulation / adopting of Quality Management Strategy for the organization - January 18th and 19th, 2017




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LU5-QA of service/ Project management processes

Face-to-face training based on CMMI

Participant list

8-9 Feb 2018, Sofia

Name	Company	Role in the organization	e-mail	Signature
Alexandrina Gancheva	Comptel	Senior Software Engineer	alexandrina.gancheva@nokia.com	<i>[Signature]</i>
Dimitar Kalfov	Comptel	Software Support Specialist	dimitar.kalfov@nokia.com	<i>[Signature]</i>
Filipina Grozdanova	Vision	Technical Delivery Manager	filipina@vision.com	<i>[Signature]</i>
Ljubomira Novackikova	Digimark	Chief Operations Officer	ljubomira@digimark.com	<i>[Signature]</i>
Georgi Hristov	Digimark	Project Manager	g.hristov@digimark.com	<i>[Signature]</i>
Miroslav Ivanov	Digimark	Project Manager	miroslav@digimark.com	<i>[Signature]</i>
Georgi Dimitrov	Stemo	Project Manager	georgi@stemo.com	<i>[Signature]</i>
Ervin Yanakiev	Stemo	Project Manager	erwin@stemo.com	<i>[Signature]</i>
Tsvetelina Tsenova	Stemo	Project Manager	tsvetelina@stemo.com	<i>[Signature]</i>
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Name	Company	Role in the organization	e-mail	Signature
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Юлиан Мехмедов	Software group	Head of Development & Implementation	julian.mehmedov@gmail.com	<i>[Signature]</i>
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Participants and certifications

- A total of 71 people requested registration in the courses providing information such as name, surname, e-mail, position in the organization and phone number.
- LU 1 Principles of Quality Management and Process Management and LU 7 Formulation / adopting of Quality Management Strategy for the organization – 24 participants enrolled
- LU 5 Quality Assurance of Service/Project Management Processes – 15 participants enrolled
- LU 6 Quality assurance in agile environment (Scrum, XP, Kanban and others) – 32 participants enrolled
- 53 really started, completed the courses and earned their certificates. The participants are C-level managers, team leaders, department leaders. The assessment methods were group assignments, practical exercises and theoretical test.
- LU 1 Principles of Quality Management and Process Management and LU 7 Formulation / adopting of Quality Management Strategy for the organization – 15 participants completed the course
- LU 5 Quality Assurance of Service/Project Management Processes – 12 participants completed the course
- LU 6 Quality assurance in agile environment (Scrum, XP, Kanban and others) – 26 participants completed the course

Results

High scores on almost any aspect (see also support of D2). Course is recommended by over 90% of the participants. Also, the practical approach was received very well by the participants. Only the length of the lectures could be shorter and even more practical exercises will be appreciated.

Some feedback:

Which part of the course would you say was most useful for you?

- Kanban game
- The provision of practical examples
- The interactive provision of the Kanban part – very good approach
- Very well provided information about Kanban and Scrum

What were the strengths of the course?

- Very practical oriented course
- Very interesting approaches and stories from the practice.
- The dedication of the tutor
- Learning by playing
- The tutor and his experience in the topic

Spanish pilot (B3)

The Spanish pilot attracted 91 participants in total. The course was build up in 5 session according the the five different Learning Units. An extra session in 2018 and voluntary online sessions were also provided

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- LU1 - Fundamentals of Testing - What is testing and the main testing principles and processes as well as psychological factors
- LU2 - Testing Throughout the Software Life Cycle - Software development models and their connection to testing processes including description and comparison of test levels, test types and maintenance testing
- LU3 - Testing Design Techniques - Basic description of main test case design techniques as well as proper specification and documentation of test design
- LU4 - Tool Support for Testing - Categories of test tools and how to introduce them into the organization's testing processes
- LU5 - Test Management - Insight of test management processes, including the planning of testing, test strategies, management and monitoring of test plans

The course period with face to face meetings was from 31 October 2017 until 22 December 2017 (first edition), 1 January 18th, 2018 (extended edition)

Organization of training

Upon entering each new module, the student was required to fill in the Initial self- assessment on the learning outcomes of the learning unit to access the content of the unit.

The content was unblocked as the students were performing the self-assessment tests of each subsection.

The Test subsection that included the evaluation activities was only unlocked when all the questionnaires and self-assessment exercises had been carried out.

In the learning units 3 and 4 there was a mandatory exercise in the forum.

In the learning unit 3 there was a practical case that had to be done mandatory titled "Experiment on testing practices and methodology"

The next learning unit was unlocked when everything related to the previous one was finished.

Within the teaching and learning platform the self-assessment and theoretical evaluation exercises were scored on 3 and the practical ones on 5.

Participants and certifications

A total of 91 people requested registration in the course providing information such as name, surname, e-mail, and phone number but only 35 really started the course. 17 out of these 35 completed the course and earned the right to take the final examination on 21st December 2017. 14 of examined participants finally passed and earned their certificates.

As some participants requested an extension of time to complete the course and to prepared the final exams, the course was extended some additional weeks so 8 additional participants plus the 3 students who did

not pass the first exam, took exam on 18th January 2018. 6 of these 8 additional ones passed and earned the certificates. So in total 20 students passed the course.

Those who passed the course earned both the Certificate of Completion of the eCF Alliance project as well as a long-life learning extension course certificate issued by University of Alcalá.

Extended edition

As the date of the final exam of the course in December approached, some students requested an extension for completing the course (as they were progressing slower than expected due to their jobs) as well as the logical second call for exam. The teaching team accepted and this was organized as follows:

All the tasks and questionnaires of the course (including the 5 modules) were extended from December 22nd, 2017 to January 15th, 2018.

Virtual session Review 1 (by Enrique García Cortés) scheduled for 09th January 2018 at 2:00 p.m.

Virtual session Review 2 (by Ana Castillo Martínez) scheduled for 15th January 2018 at 2:00 p.m.

The second call for examination on January 18th, 2018. The exam will follow the same design but questions and exercises are different.

Requirements for extension

Only students who have completed a relevant part of the course were invited to the extension: the team sent them an e-mail to confirm the option.

Different recording of the different courses can be found on YouTube:

- <https://www.youtube.com/watch?v=An7HC1LoIDM>
- https://www.youtube.com/watch?v=lj5nnGa_Dlw
- <https://www.youtube.com/watch?v=QYCaANz8emY>
- <https://www.youtube.com/watch?v=N8-qNMHOVyw>

Additional recording on Test Estimation Techniques for Software Testing, Risk and Configuration Management videos can be found on YouTube:

- https://www.youtube.com/watch?v=btNboe_EhX8&list=PLDC2A0C8D2EC934C7&index=20
- <https://www.youtube.com/watch?v=Vdm1Lh540LM&list=PLDC2A0C8D2EC934C7&index=21>
- Configuration management: <https://www.youtube.com/watch?v=AaHaLjuzUm8>
- Risk: <https://www.youtube.com/watch?v=pEyV13hbQ5w>

Some more virtual sessions:

- <https://eu.bbcollab.com/recording/4215ac72d5554dfaa84464f551b0dc06>
- <https://eu.bbcollab.com/recording/e08fe220d6984acc9751c6fc7630c32c>
- <https://eu.bbcollab.com/recording/66d6f69fffd84552b6dbf86deb13a35d>
- <https://eu.bbcollab.com/recording/50bfd1bdc82a472e99e95e8984031e3c>



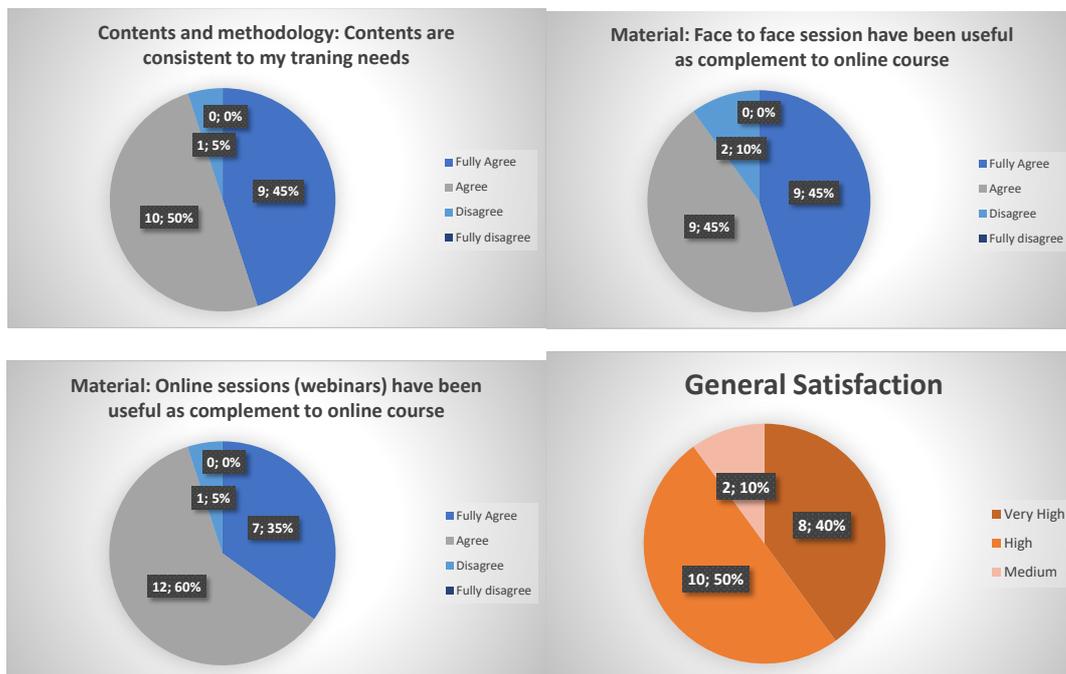
- <https://eu.bbcollab.com/recording/eefe73341ae54c189c9c37bcfded18be>
- <https://eu.bbcollab.com/recording/477b5531f83b40469f07e7fe3b010317>

Summary of contents

	Forum	Self-assessment Test	Exercises	Evaluation Exercise	Evaluation Test	Another Test
Learning Unit 1 - Fundamentals of Testing	1	4	2	1	1	2
Learning Unit 2 - Fundamentals of Testing	1	4	2	2	1	2
Learning Unit 3 - Fundamentals of Testing	1	6	4	4	1	2
Learning Unit 4 - Fundamentals of Testing	1	3	4	1	1	2
Learning Unit 5 - Fundamentals of Testing	1	6	2	2	1	2

Curso Software Testing Online				Curso Software Testing Online				Curso Software Testing Online				Curso Software Testing Online			
Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid				Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid				Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid				Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid			
Fecha presencial: 31 de octubre de 2017				Fecha presencial: 31 de octubre de 2017				Fecha presencial: 31 de octubre de 2017				Fecha presencial: 31 de octubre de 2017			
APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017	APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017	APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017	APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017
Edgari Pérez	José Ramón			Luis Lardigue	Ricco			Carolina Martínez	Paul			Alvaro Miranda	Ricardo	50147644	
Gerica Diego	Alberto José			Luis García	Sergio	352540-3		Concepción	Jorge Luis			África Pérez	Mónica	4900728-4	
Gerica Jiménez	Ruben	4902143P		Marcos	Antonio	352540-3		Del Río Cabo	Pilar			África Lantcha	Héctor		
Gerica Urteagueru	José Ramón	06 P94255G		Marcos Villanueva	Fernando	5338206-0		Rico	Guillermo			Adrián	María Dolores		
Gonzal Fernández	Julian	0983289-6		Marcos Sáenz	Abel			Domingo Chahony	Yvan	4323644-5		Adrián Ruiz	Antonio		
González López	Manuel	34891400-V		Marta Rodríguez	Miguel Ángel	4039463-C		Escudero Puente	Rodrigo	5193183-5		Araceli Comas	Luis	50942344F	
González Navarro	Angel	01387423P		Marines Barrio	Salvo	3398214-F		Fernández López	Ricardo	2835096-3		Berto	Alfonso		
González Navarro	Marcos			Marines Urata	José Eugenio	01387423P		Fernández Rey	María Jesús			Colinda Gómez	Patricio Pablo		
Gutiérrez Arvil	Nicolás			Marcel Parfines	Fernando	35569202G		Fernández de Canabazo	Valencia			Carolina Alaga	Rodrigo		
Imbach Santos	José	01387423P		Roberto Moreno	Roberto			Pérez de Oza	Isabel	4628553-8		Caro Barrios	Fernando José		
Isabel Sánchez	Ana María			Roberto Domínguez	Rafael			Pérez	Luis	4628553-8		Colinda Nolas	Isabel		

Curso Software Testing Online				Curso Software Testing Online				Curso Software Testing Online				Curso Software Testing Online			
Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid				Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid				Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid				Lugar de impartición: CFTEC Aula, Avda del Agua, 2, Sector 3, Getafe, Madrid			
Fecha presencial: 31 de octubre de 2017				Fecha presencial: 31 de octubre de 2017				Fecha presencial: 31 de octubre de 2017				Fecha presencial: 31 de octubre de 2017			
APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017	APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017	APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017	APELLIDOS	NOMBRE	DNI	FIRMA ASISTENCIA 31/10/2017
Pérez Díaz	Antonio	70274796G		Rodríguez Madrid	Antonio	029489-8		Sobrado Fernández	Rafael			Bergames Casanova	Antonio		
Pérez Pargas	José			Rodríguez Muñoz	David	0893186-6		Solera Viland	Borja			Marcos Alonso	Miguel Ángel		
Pérez Miranda	Guerra	5096782T		Rodríguez Alcaraz	Luis Manuel	0126052-0		Tomeida Sanchez	Carmen			Chaves Castro	Begoña	04944954	
Pérez Pablos	Daniel	0870847CE		Ruano	José	0126052-0		Vega Cabrera	Walter Adolfo	5174922G		Ortega Díaz	David	3326734W	
Pérez	Sonia	61479425G		Ruano Ruiz	Rubén							Ortiz Rodríguez	David	4640133-7	
Puerta Vilagras	Pilar			Ruiz Fernández	Francisco							Pacheco Gouveia	Luis	37297305E	
Quirce Castellano	David	0981578E		Sala Nieto	Eva María	516609E						Pagés Calera	Lorenzo	46326907	
Rico Caspá	Manuel	01387423P		Sánchez Nieto	Juan Ramón	01387423P						Pastor Galdero	Ana María	51002921A	
Rico Ala	Alberto	01387423P		Sara Dominguez	Almudena							Pérez Margale	Adrian		
Sabes González	Eva Gloria	47601918		Sánchez	Christina	0204044E						Podina Cabo	Sergio		
Sabes Alja	Araceli	2014910		Serrano García	Jose Antonio	5070799-4						Podina	Pablo	4680027	



Dutch pilot (A7)

Executive summary

This document reports the organization and deployment of the A7 testing pilot course in fact a series of masterclasses. The report includes organizational, administrative, statistical and monitoring data covering all the phases for the teaching of this pilot course.

Preparation/Organization of the course

BITA CENTER:

- Design of the course, developing the learning units and upload it to the platform
- Disseminate the course: contribution for recruiting ICT professionals

CIONET and BITA CENTER:

- Disseminate the course: creation of the registration form and contribution for recruiting ICT professionals
- Provide venue for face to face sessions and masterclasses

Some webinar content can be found here:

<https://www.dropbox.com/sh/pcb5ji5wrhdugnj/AAAUUXWlvQWr6wAIHYCEaQqUa?dl=0>

MI MASTERCLASS
INSTITUTE

MASTERCLASS TECHNOLOGY TREND MONITORING

**NA DEZE MASTERCLASS HEEFT
U DE KOMENDE 3 JAAR GEEN
TRENDRWATCHER MEER NODIG!**

- > Visionairs als sprekers en verandermanagers
- > Invloed op eigen functioneren



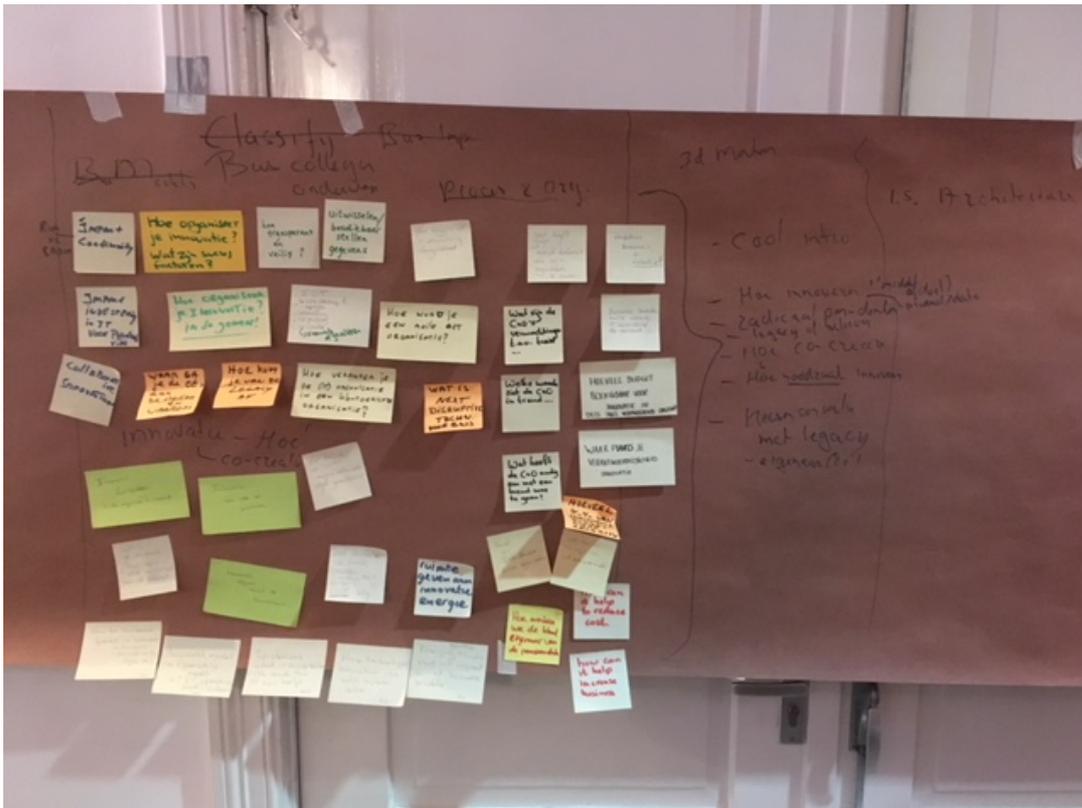
Course Start, Venue Station Bloemendaal, Bloemendaal - 19 October, 2017

Course Completion, 7 December, 2017 (first edition), 30 January, 2018 (extended edition)

Presentation of the course

The course was presented as a series of masterclass for senior (level 4 and 5) participants. For two main reasons we chose for this format instead of a regular course. 1. The overall topic Trend Monitoring is too wide, abstract and too variable to cover this in a regular way. Interaction and reallife input from the participants is central. 2. The level of the participants (CIO's, Senior Innovation Managers and C-level people) with over 15 years of working experience is not really right to push a certain format.

The format also included 2 external speakers/moderators per sessions. We had 8 high level speakers and top CIO's and researchers in the programme.



Learning unit planning, organisation and detailed content of the masterclasses

We held 4 regular sessions of 5 hours each and 1 'examination session' with presentations of 5-8 minutes by all participants on what their strategy would be from now on with regards to trends followed by a discussion and feedback. In addition we provided the participants with a set of reading material (reports, magazines, articles, presentations, research, etc) to get them prepared for the next session or as additional

LU2 and LU3 were held on the same date

LU1 New emerging technologies and business impacts

- Monitor new technologies trends
- Classify business impacts of technologies
- Evaluate impacts of new technologies on business

LU 2 The impact of data driven systems and transparency

- Explain how transparency is changing business and society.
- Describe the logics of exponential growth of technology and its impact
- Explain the role of people and systems in a network society
- Explain how co-creation works

LU 3 The impact of technology driven decentralization

- Analyse the relationship between decentralization and technology
- Analyse the impact of decentralization on business processes
- Recognise digital as in the new normal
- Apply blockchain logics

LU 4 Convergence of Operational Technology and Information Technology

- Recognize the potential of the convergence of Operational Technology and Information Technology
- Demonstrate the impact of the convergence on the role of the IT department. Identify the impact of the convergence on the role of humans in business processes

LU 5 Analysis of future development of business, customer needs and technology application

- Identify the key resources
- Identify the key parameters to be analysed in a trend monitoring
- Analyse ICT and business impact of future trends

Participants and certifications

A total of 22 people registered for the series of masterclasses. Due to various reasons, 2 people could not complete all sessions. 20 people got certified. The satisfaction level was very high with a mark of 8,5 out of 10.

Pilot Masterclass series 2017 - eCF Alliance WP5

Voornaam	Achternaam	Functie	Bedrijf
Jeroen	Aris	Enterprise Architect voor Infrastructuur	Teva Pharmaceuticals
Mark	van Beijnen	CIO	Alrijne Zorggroep
Peter Paul	van Dijk	Enterprise Architect	AIM CIO Office
Hans	van der Zwaag	CIO	PGGM
Hans	Geurts	IT Operations Director EU	Wolters Kluwer
Ashwand	Prahladsingh	Informatiemanager	Stedin
Pieter	Riley	Sr. Manager Delivery	Blokker Holding
Jacques	Martens	Teamleider ICT	Woonzorg Nederland
Folkert	de Gans	Teamleider Operations	Woonzorg Nederland
Daniel	Blank	ICT Manager	Doniger Fashion Group
Ferdinand	Uittenbogaard	CISO	Ministerie van Volksgezondheid, Welzijn en Sport
Suze	van der Meuler	Innovatiemanager	PWN
Robert	Borst	ICT Manager	De Stihl Groep
Annemiek	van Jole	Manager a.i. Kennisteam Informatiemanagement en procesontwerp	Ministerie van Economische Zaken / Rijksdienst voor Onderzoek en Innovatie
Swanda	Groenewegen	Directeur Ontwikkeling & Vernieuwing	DJI SSC-i, Ministerie van Veiligheid en Justitie
Rolf	Soeten	ICT Manager	Synbra ICT Shared Service Centre
Pepijn	van der Spek	Innovatie Manager / Coordinator SSC-ICT Innovatie team	Ministerie van Binnenlandse Zaken en Koninkrijksrelaties
Bas	van Haaren	Programma manager	Sligro Food Group
Teun	van Liempd	Team lead Business Process Management	Sligro Food Group
Carla	Hoekendijk	Lector	Amsterdam University of Applied Science
Gerard	van der Velde	Director Exploitation Management & QoS	Air France - KLM I&O Commercial PSIM-EM
Joke	Cuperus	Directeur	PWN

Certifications delivery session

30 January, 2018 at 14-18:00 p.m.
3D Makers Zone, Haarlem

An extra session was planned on request by the participants to present their innovation plan for their own companies. By presentation a coherent view and subsequent discussion with the group, this served a proof of competence and provided the participants the certificate.

The certifications were issued by BITA Center in collaboration with the VU Amsterdam (university)





WP5 – The participants

As shown few pages before, although in the project proposal only 100 participants were planned during the pilot phase of the eCF Council project, partners involved in total **158 participants** in 5 different pilot courses and webinars and **140 were certified**:

Partner	Cefriel (IT)	Esi cee (BG)	Uah (ES)	Bitacenter (NL)	Adfor (IT)	total
Number of participants	17	71	35 (91 applied)	22	13	158 (214)
Numbers of certified participants	17	71	20	20	12	140

WP5 – Webplatform

The open contents created during the project are available on a moodle based web platform.

Where to find the web platform: <http://www.ecfalliance-training.org/>



Co-funded by the Erasmus+ Programme of the European Union



Ecf Alliance training

Social networks



NAVIGATION

- Home
- Site announcements
- Courses

LATEST ANNOUNCEMENTS

Keep in touch

16 Jun, 14:37 Admin User

Older topics ...

CALENDAR

September 2018

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Welcome to the eCF Alliance Online Training!

On this platform you have the chance to acquire some of the most relevant competences included in the European e-Competence Framework (eCF):

- IS and Business Strategy Alignment
- Application Design
- Technology Trend Monitoring
- Testing
- ICT Quality Strategy Development
- Information Security Management

The courses offered are completely **free of charge**. They will offer you an introduction to key concepts and allow you to test the skills acquired.

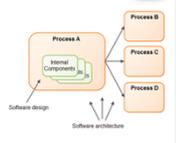
Course categories

11



IS and Business Strategy Alignment

6



Architecture Design

10



Application Design

1



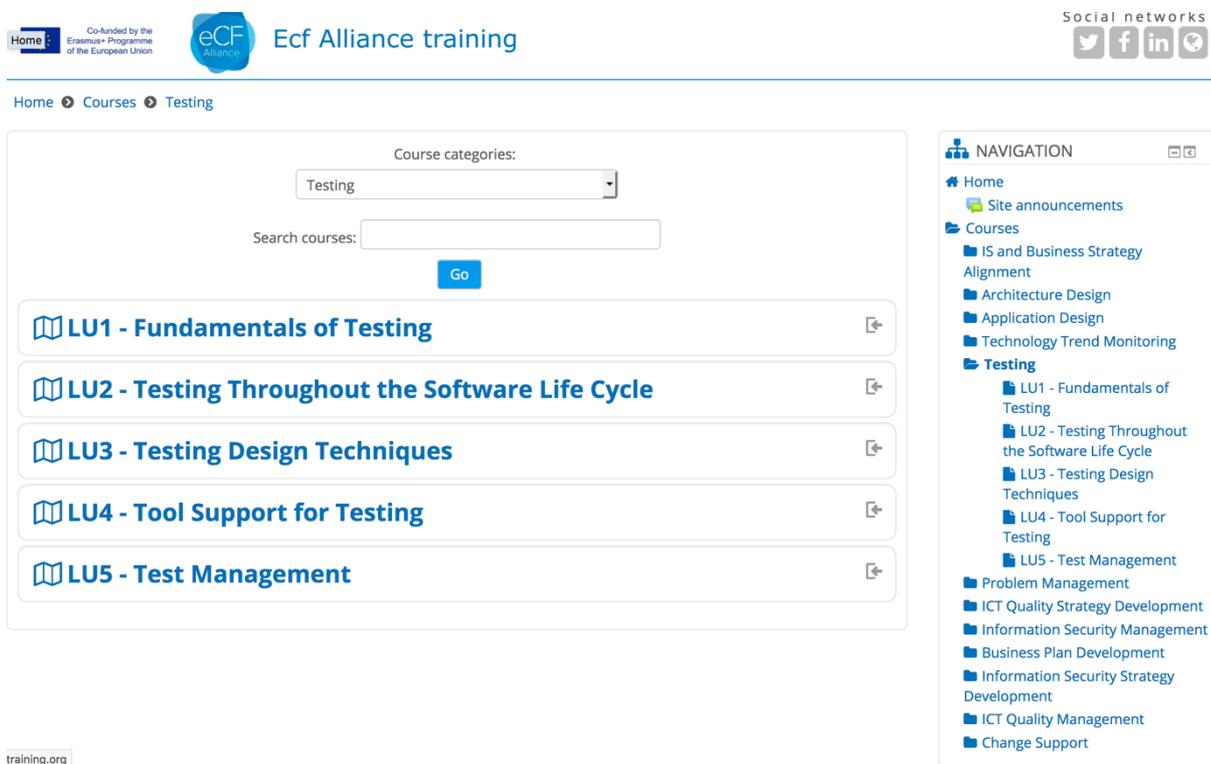
Technology Trend Monitoring

The platform aims at three different target groups

- ICT Professionals and Students (Trainee or Learner)
- VET Providers (Trainer) or HR Professionals from large organizations or ICT companies
- Administrators

When registered the different users can act on the platform. The student can navigate, select a training path and follow online or offline training. The administrator can follow students and VET providers. Trainers can upload materials and 'advertise' their material

The different course all are build up according to a strict scheme and aligned with the logical build up of eCF 3.0 and the work done (Learning Units) in WP4.



The screenshot shows the eCF Alliance training platform interface. At the top left, there is a 'Home' button and a logo for 'Co-funded by the Erasmus+ Programme of the European Union'. The main header includes the 'eCF Alliance' logo and the text 'Ecf Alliance training'. On the right, there are social network icons for Twitter, Facebook, LinkedIn, and YouTube. Below the header, there is a breadcrumb trail: 'Home > Courses > Testing'. The main content area features a search bar with a dropdown menu for 'Course categories' set to 'Testing'. Below the search bar is a 'Go' button. A list of five Learning Units (LUs) is displayed, each with a book icon and a right-pointing arrow: 'LU1 - Fundamentals of Testing', 'LU2 - Testing Throughout the Software Life Cycle', 'LU3 - Testing Design Techniques', 'LU4 - Tool Support for Testing', and 'LU5 - Test Management'. On the right side, there is a 'NAVIGATION' sidebar with a list of menu items: 'Home', 'Site announcements', 'Courses', 'IS and Business Strategy Alignment', 'Architecture Design', 'Application Design', 'Technology Trend Monitoring', 'Testing' (with sub-items for LU1-LU5), 'Problem Management', 'ICT Quality Strategy Development', 'Information Security Management', 'Business Plan Development', 'Information Security Strategy Development', 'ICT Quality Management', and 'Change Support'. At the bottom left, there is a small 'training.org' logo.

More contents about the platform can be find inside DLV5.2 report.

WP5 – Conclusions and lessons learned

WP5 consisted – apart from the reporting - of six activities and although the approach and settings were different, we also found a number of areas that were difficult for all pilot partners.

The content, the pilot training path and webinars

In Spain and Bulgaria the pilots were done within a university setting and in Italy and the Netherlands this was done by VETs. Different learning cultures, different levels of participants, different approach in content and format, the variety was the best we could hope for. By having really different pilots we learned a lot on how and where eCF content could be applied. Some difficulties also arose during the pilots. Webinars can be produced in different ways (interactive, live, recorded, etc) and on many different levels (record the talks of a teacher, use interactive tooling and content). It is hard to set a standard since budgets will always be limited.

The online part

During the pilot phase the online course platform with open content also was installed successfully. Candidates can really go there, choose a course and read about the contents, levels etc. Again the different learning cultures in different European countries provided different content. Nevertheless we worked hard to establish a common approach in terms of connecting to eCF, presenting Learning Units, describe the course (same length). With a full fledged solution and many courses available, this can be a good example on how learning can be shaped in the future.

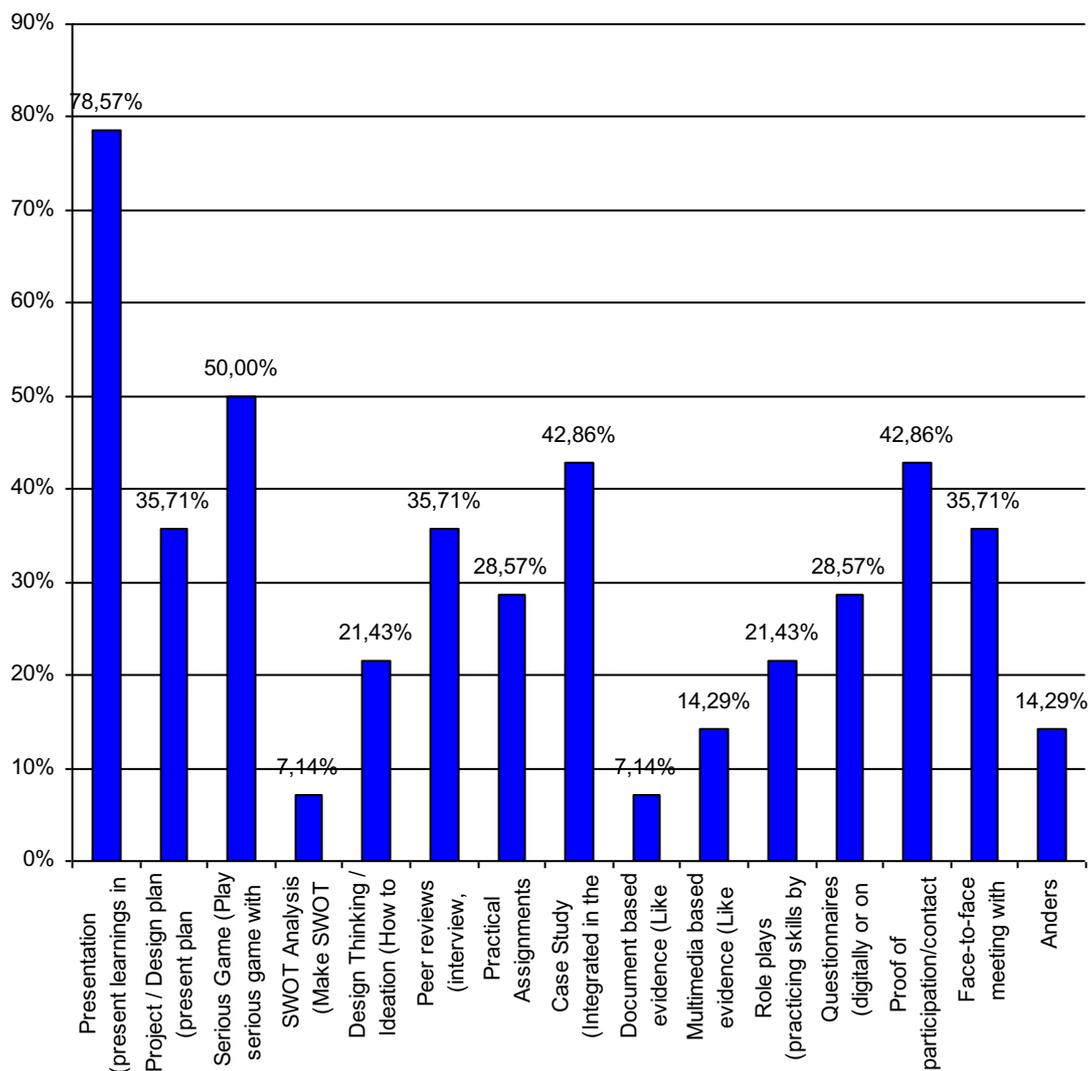
Assessments, face to face meetings and certification

This remains an area of development.

eCF can serve a basis for companies for 21st century skills for example 64% of the group that participated in the Technology Trend Monitoring (A7) pilot says that an eCF connection is useful (while 36% says it does not really matter). On the question how the participants would like to see the assessments and certifications organized. We received a really mixed set of answers (see figure below).

Also between the pilot partners, there were extensive discussion on this topic. It was decided that for the pilot phase the best way to learn was to organize this per pilot and organization. However we did create a certification toolkit (figure below) that was based on principles from portfolio testing and Cedefop. For the scope of this project, the team believed this was the best approach and the maximum results we could achieve.

In order to have a complete picture also Face to Face meetings with specialists and stakeholders were organized in each country.



Pilot A7 – Technology Trend Monitoring – feedback from participants what could be good ways to assess and certify this course

Assessment & Certification Toolkit V2 WP5

Sort	description	how to deploy	formal	non-formal	in-form
1 Presentation	present learnings in structured way	individually or group	x		
2 Project / Design plan	present plan focused at your own organisation	individually		x	
3 Serious Game	Play serious game with the complete group or create small groups. Discuss outcomes	groups			x
4 SWOT Analysis	Make SWOT analyses of cases	individually or group		x	
5 Design Thinking / Ideatic	How to start a change or innovation process	groups		x	
6 PR plan	If you know what the plan is, one should be able to promote it	individually or group		x	
7 Hackathon	Different challenges and unforeseen outcomes might be the result. Cooperation, Co-creation, etc	groups			x
8 Work Based Learning	Do project at the workplace	individually	x		
9 Work Based Evidence	Relevant Work outcomes descriptions	individually	x		
10 Practical Assignments	Integrated in the training and training material	individually or group	x		
11 Case Study assignments	Integrated in the training and training material	individually or group	x		
12 Document based evidenc	Like articles, white papers, blogs, reports, studies, texts etc.	individually			x
13 Multimedia based evidenc	Like videos, visuals, podcasts etc.	individually			x
14 role plays	practicing skills by faking reality	group		x	
15 questionnaires	digitally or on paper, checking facts and knowledge	individually	x		
16 participation/contact hours	by attending the course the student will gain knowledge	individually		x	
17 face-to-face meeting with examiner	examiner is checking knowledge by interviewing student	individually		x	
18 applying methods	applying learned methods on a case	individually		x	
19 peer reviews	interview, feedback	individually		x	
methods					
Cedefop logics applied	formal, informal, non formal	identification, documentation,			
Portfolio testing applied	assessment, certification				