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# Cycle-3 demonstrators development and implementation tool set

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## Project Deliverable Report

### D4.5 - Cycle-3 demonstrators development and implementation tool set

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<b>Abstract (for dissemination)</b>	<p>This document presents an implementation methodology for the preparation and execution of TENCompetence cycle 3 demonstrator pilots according to the infrastructure currently available. The methodology includes the description of the tasks and procedures needed to be considered from describing the training in terms of competences and selecting the usage profiles more useful for the pilot, to the evaluation of the pilot success. It also reports the plans for the business demonstrators that will be executed by Associate Partners (with support of the eight larger consortium partners) in cycle 3.</p>		
<b>Keywords List</b>	Pilot implementation methodology, testing and validation, cycle 3, business demonstrators, Competence Development Programmes, Integrated Infrastructure		



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## Preface

In the third cycle of the TENCompetence project, the evaluation results of cycle 2 pilots and the output of the Aspect RTD activities in cycle 2 are again taken into account as input for this last cycle (Griffiths et al., 2007; Moghnieh et al., 2008; Hernández-Leo et al., 2008). The cycle 3 pilots are 'business models demonstrators', mainly involving external parties. On one hand the associate partners are expected to take advantage of the TENCompetence concept and infrastructure and on the other hand to demonstrate its benefits to the wider lifelong learning community.

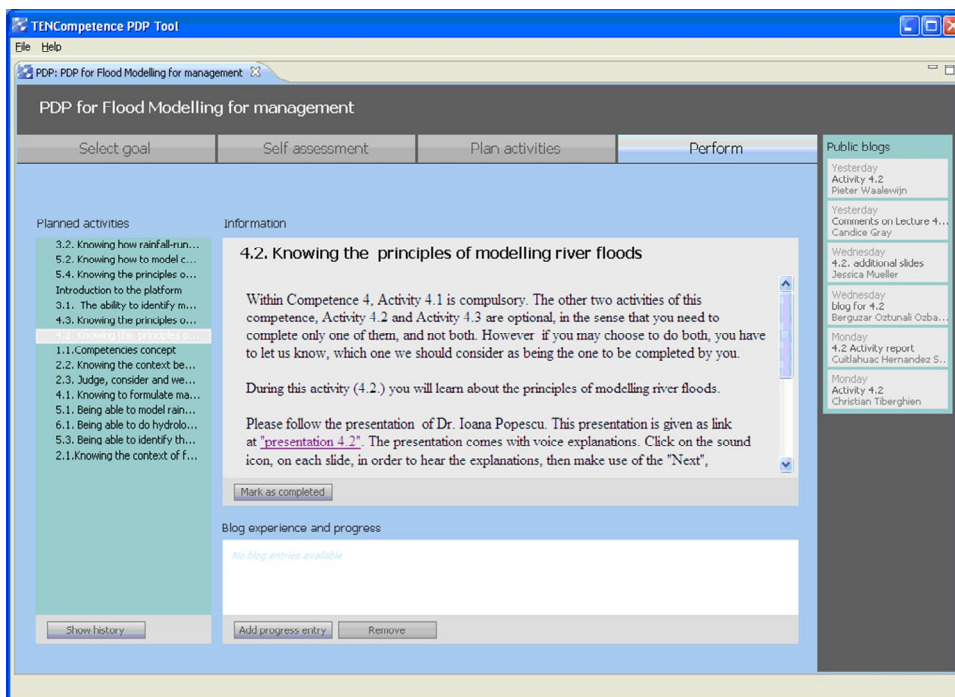
Associate partners are invited to carry out demonstrator pilots that evidence the applicability and sustainability of business models designed and developed to supply one or more TENCompetence services. The demonstrators may be also organized within consortium partners' own organizations; together with external organizations; or with a group of professionals centered around a topic; within their own locality, or at a national or international level.

This document presents a pilot implementation methodology, a tool intending to support associate partners and the consortium partners assisting them (see DIP-3) in the adoption and usage of the project results in piloting activities. The methodology has been elaborated according to the technical infrastructure currently available. That is why it will be updated next year when new developments are ready for being used in real lifelong learning scenarios. The document also reports the plans achieved so far for the business demonstrators.

## Introduction

TENCompetence aims at supporting lifelong competence development by establishing a technical and organisational infrastructure, using open-source standards-based, sustainable and innovative technology. With this freely available infrastructure the European Union aims to boost the ambitions of the Knowledge Society, by providing easy access to facilities that enable the lifelong development of competences and expertise in the various occupations and fields of knowledge.

The TENCompetence infrastructure supports the creation and management of networks of individuals, teams and organisations in Europe who are actively involved in the various occupations and domains of knowledge. These 'learning networks' support the lifelong competence development of the participants from the basic levels of proficiency up to the highest levels of excellence. The networks consist of learners, educational institutes, libraries, publishers, domain specific vendors, employers, associations, and all others who deliver services or products in a specific field. In the network, providers can for example make their competence development materials available and learners can select and use competence development materials (see for example Figure 1, which shows a screenshot of the PDP tool developed in the TENCompetence project.)



**Figure 1. TENCompetence PDP tool (screenshot from the Water Management pilot)**

The TENCompetence infrastructure is intended to be useful for any person, group or organisation that has a need to develop some competences in any field. However the focus is more on: adult persons mainly (18 years or older), formal and informal groups/teams, all kinds of organisations in the public and private sector (among which SMEs); the development of competences in complex domains of knowledge; formal and informal education, training, learning and knowledge management.

This document introduces a pilot implementation methodology, a tool intending to support associate partners (and the consortium partners assisting them) in the adoption and usage of TENCompetence in piloting activities. The methodology is structured as follows. Chapter 1

provides general advice to organisations, on the basis of which they can decide whether to start a pilot and establish their goal. How to describe training in terms of competences is covered in Chapter 2. Chapter 3 is devoted to list the TENCompetence tools so that institutions can think up which tools will be useful for them and why. This chapter complements Chapter 4 which explains the TENCompetence usage profiles and how they are related to the tooling. Chapter 5 includes the template that can be completed to describe a business demonstrator pilot. Some hints on how to develop or collect units of learning with each competence are depicted in Chapter 6. Chapter 7 describes how to set up an evaluation of the pilot. Finally, Chapter 8 suggests the steps to follow when implementing the pilot. Appendix 1 includes a glossary with the main concepts used in TENCompetence. The plans achieved so far regarding the business demonstrators to be executed by associate partners are listed in Appendix 2.

Based on the experiences of the project, the several roles or profiles, which can be involved in the preparation of business demonstrators are the following (the description of their competences is detailed in Bitter et al, 2007): *Requirements analyst, Architectural designer, Interface/interaction designer, System developer, Software tester, System manager, Pilot designer and evaluator, Trainer, Public relations officer, Pedagogical expert, Learning technology expert, Business manager, Human resource manager, Services provider*. The following table suggests reading paths for these different stakeholders.

<i>Chapter / Stakeholder</i>	Requirements analyst, Business manager, Human resource manager	Architectural designer, Interface/interaction designer, System developer, Software tester	System manager	Pilot designer and evaluator, pedagogical expert	Learning technology expert	Services provider
1. Why a TENCompetence pilot?	*			*	*	*
2. Describe your training in terms of competences				*		
3. Think up which tools will be useful and why	*	*		*	*	*
4. Consider the usefulness of one or more of the usage profiles for your situation	*			*		
5. Set up a detailed pilot description, using the template	*	*		*	*	
6. Develop or collect units of learning with each competence				*	*	*
7. Set up an evaluation of the pilot, to judge success, improve intervention and/or generate knowledge.				*		
8. Actual implementation			*	*	*	*



## 1. Why a TENCompetence pilot?

TENCompetence enables new ways of integrating personal competence development into lifelong learning scenarios. The project is valorising and disseminating its results in a variety of ways and works with a variety of partners on promoting new competence development models, establishing new educational models, new standards for competence definition and exchange, description of Learning Paths and others.

You could profit from the experiences made and the tools developed so far in TENCompetence in various ways by establishing a pilot within a cooperation with the project.

1. Research effects of new tools for integration of learning resources, competence specifications, learning activities, active learning communities and others learning support services.
2. Bring yourself up-to-date what new technologies developed in TENCompetence could do for you and what the actual benefits could be. Learning about the alternative approaches of TENCompetence and the tools developed therefore which are developed under an open source licence.
3. Contrast your existing approaches to learning support with new ways made possible via the interwoven services and facilities from TENCompetence and the approaches taken by the numerous partners that already joined the partner network (June 2008 these were about 30 organisations).
4. Understand problems of internationalisation of learning approaches. By becoming an associated partner you have access to all planning and description of pilots based on TENCompetence infrastructure and network. This will allow you to look at professional development in several European and International partner pilots including Spain, Slovakia, Bulgaria, Lithuania, UK, France, Estonia, the Netherlands, Belgium, Australia and Canada.

In order to get an idea which scenarios are supported by TENCompetence tooling you could also use the main usage profiles developed (see Chapter 5 for a detailed description):

1. Assess competence: assessment of competence is important in several critical business situations ranging from a performance state analysis towards the definition of professional development plans on all organizational levels.
2. Conduct learning activities: The actual conducting of learning activities can be structured in a variety of ways and available tooling can support you here in giving new structure probably more appropriate to the actual needs of end users and the learning need.
3. Plan route: definition and planning of individual learning routes is a core meta-cognitive component of the learning process and can be supported on different tooling levels.
4. Provide Support: TENCompetence enables tooling for support services on individual levels as also on connecting in learning networks (collaboration services).
5. Develop learning materials: While today pre-prepared learning materials are the standard to use in TENCompetence alternative approaches like user generated content, structuring of content based on competence taxonomies and other approaches are central.
6. Build competence development programme: Understanding the relation between different competences and how they can be developed is supported with different tools.
7. Manage personal competence development: to enable the individual to assess, analyse, and develop personal competences is a key scenario supported with TENCompetence tooling.

## 1.1 Target Groups and Possible Piloting Scenarios

In a call for cooperation for partners from TENCompetence mainly three different target groups where differentiated, i.e. individual people, groups or teams, and organizations.

Further focus was set to individuals 18 or older, the development of complex skills, and formal and informal forms of education, training, learning and knowledge management.

Pilots can target all of these three levels in a variety of scenarios (see Table 1) in which TENCompetence services or tools are integrated and which are expected to demonstrate an added value over current solutions. Example scenarios include:

- Individuals gaining performance on complex skills, develop a career into a certain direction, or other.
- Groups or teams who want to share knowledge, resources, learning activities, or increase team performance by collaboration on these various levels, groups that want to develop competences in a team or support dedicated team members for better performance.
- Organizations who want to better manage expert knowledge, train personnel on specific job requirements, manage the explication and distribution of knowledge in communities of practice, adapt team performance and skills, knowledge to new situations.

**Table 1. TENCompetence user groups**

Individual people	<ul style="list-style-type: none"> <li>· People with a need to develop some general or specific competences to perform their job better, to solve any type of problems or to learn to cope with specific situations. Also those with a need to improve their career, or a desire to change their jobs.</li> <li>· People who want to share knowledge, skills, perspectives and views with others, e.g. in order to develop new knowledge.</li> <li>· People who need a formal degree, diploma or certificate at any time in their life.</li> <li>· People who want to develop competences due to the intrinsic motivation to learn something in a certain area. This includes people who want to develop competences to improve their quality of life (hobbies, family life, social environment, etc.), or to get support in something which is difficult for them.</li> <li>- People who want to increase their proficiency levels</li> </ul>
Groups or Teams	<ul style="list-style-type: none"> <li>· Groups who have to solve complex problems and tasks or have to cope with difficult situations in which group collaboration will increase the chance of successful performance.</li> <li>· Groups who want to support new/novice members in their teams.</li> <li>· Groups who want to share knowledge, skills and points of view to develop their insights and competences in the field (e.g. research teams).</li> <li>· Groups in companies who want to (or must) develop competences in order to perform better.</li> </ul>
Organisations	<ul style="list-style-type: none"> <li>· Organisations that want to disseminate and manage new and expert knowledge within the organisation / workplace.</li> <li>· Organisations that have to train personnel to learn or fulfil specific (new, complex or changing) job requirements.</li> <li>· Organisations that produce knowledge and want to manage the exploitation, management and dissemination of knowledge.</li> <li>· Organisations that want to develop the competences of groups/teams/departments within the organisation to cope with a new situation, e.g., new product, new competitors, new market challenges.</li> </ul>

## **1.2 *Why should you run a pilot and what are the core questions?***

Some core questions which you already have considered or not in your targeted piloting scenarios are:

- Do I have an explicit or implicit modelling and usage of competences in the selected education/training scenario?
- How are the competence structures related to the current main guiding structure of the curriculum?
- How can competence-based tools and services overcome some of the problems you currently are confronted with?

## 2. Describe your training in terms of competences

The purpose of this chapter is to give guidelines on how to move from a topic-based to competence-based learning. This change involves several challenges that include how to translate a content-based distribution of materials into a competence division, how to evaluate learning, and how to configure a system following a competence-based orientation.

### 2.1. Transformation of the curriculum into competences

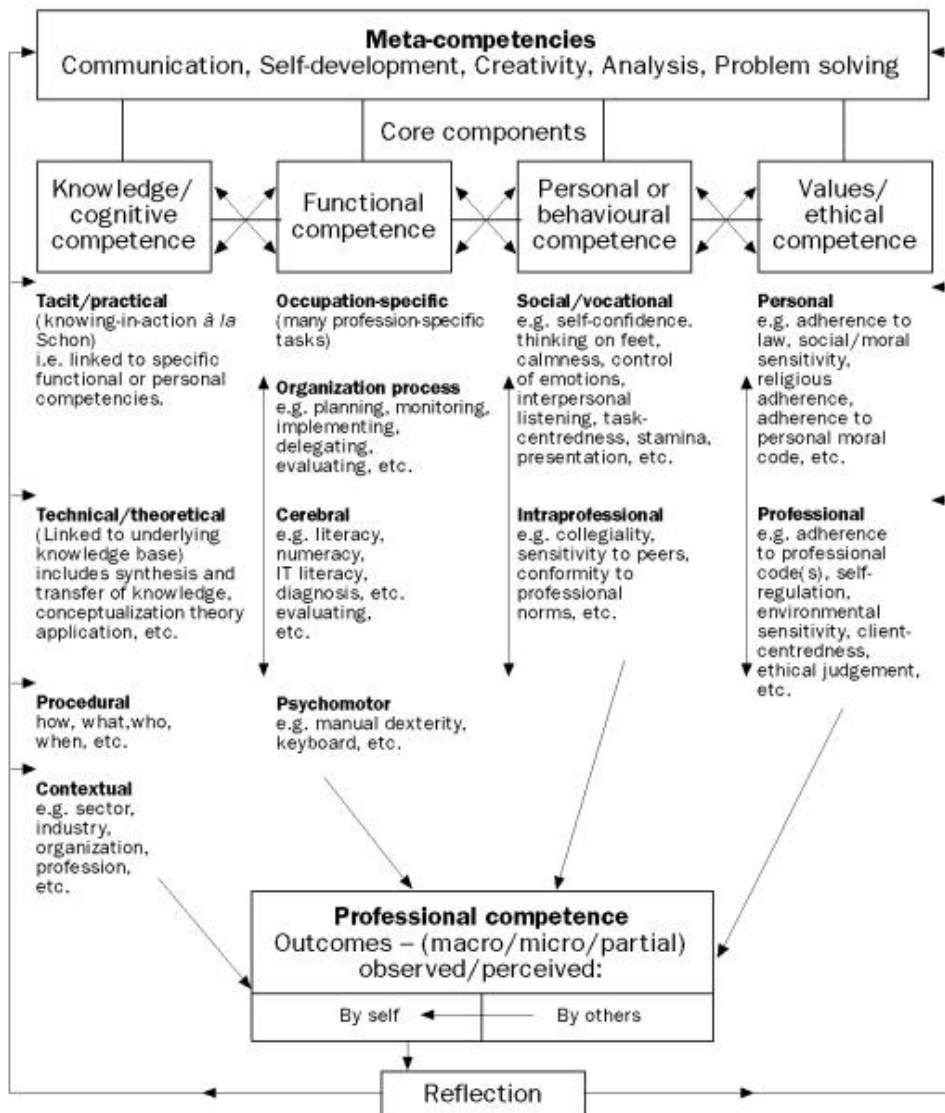
The approach which is taken within TENCompetence entails an understanding and transformation of the content of a topic driven training into a competence development based learning. Competences are modelled in the TENCompetence project as follows: each learning network has a competence map which contains a series of competence profiles for roles, functions and jobs (see Appendix 1). A competence profile, which is an instance of a certain competence model, contains one or more competences, which must be attained, in order to meet the demand of the profile. Moreover, each profile has several levels.

A curriculum built on competences is one of the cornerstones for educating learning professionals. A first pitfall is to reduce the competence concept too much, without really taking into account the attitude and/or the motivation. This limitation occurs by focusing knowledge only in function of “can”. A second pitfall has to do with the interpretation of knowledge. In some competences the understanding is rather insights (has insight in..., understands...), which is also too narrow for defining a competence. As defined in Appendix 1, a Competence is defined as the ability (‘disposition’) of an actor to act effectively and efficiently upon the events in an ecological niche (an occupation, a hobby, a market, a sport, etc.).

The first steps in setting up such a competence-based learning process involve defining learning paths or plans composed of different activities which integrate all the different elements needed to develop each competence.

The above explained approach is based on the competences concepts introduced by Cheetham and Chivers (Cheetham & Chivers 1996, Cheetham & Chivers 1998). The model is generic, and it can be applied to diverse areas. However for each pilot there are specific characteristics, contextual and subject matter requirements, which influence the transformation into competence-based learning. The developed core-competences may have different sub-competence structure, where some sub-competences may be completely omitted (see Figure 2).

Along with the transformation from a topic-based to competence-based learning, new roles appear in the education process, such as competence provider or competence assessment provider.



**Figure 2. The Cheetham and Chivers competence model (extracted from Cheetham & Chivers 1996)**

## 2.2. The process of translating content-based training into competence-based learning

Due to the specificity of content for any training, the transformation of it into competence-based learning can be done by thorough analyzing of each component of the training in close cooperation with the expert in the topic. The remaining part of the chapter will expand and explain the process on an existing pilot of the TENCompetence project, the Water Management pilot: Flood Modelling for Management (FMM).

The original Module FMM was based on a topic structure, which consisted of four related and sequential course topics:

1. Flood management and information technology
2. Flood processes
3. Flood modelling: methods and techniques
4. Flood modelling: advanced features.

Participants had to follow the topic and sequence of the sub parts.

During the re-design of the module so that it is based on competences, its content was re-constructed according to the core competence model elements of Cheetham and Chivers. The identified **Competence profile(s) were:**

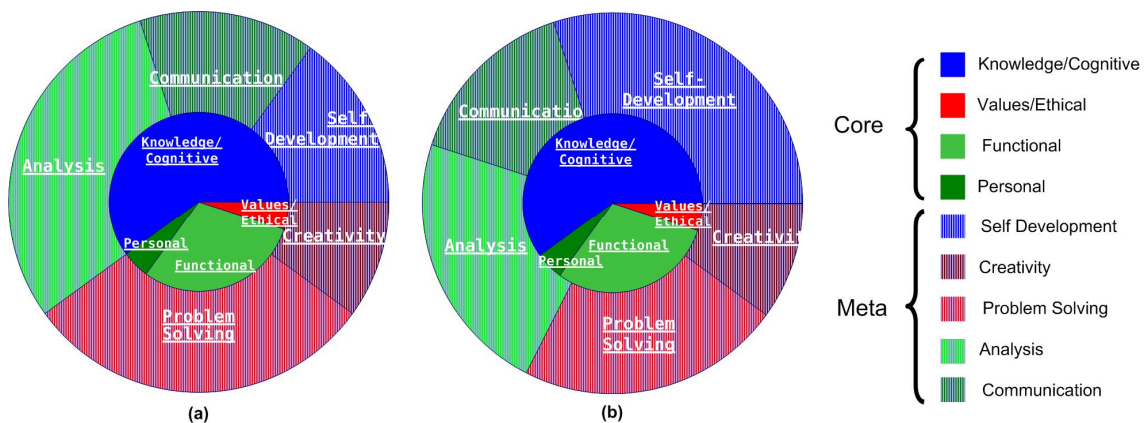
- Basic/compulsory: Catchment modeller
- Specialised: River basin modeller, Urban modeller.

These competence profiles are composed of the following **competences:**

- Ability to identify the cause of a flood
- Ability to identify the type of a flood
- Ability to simulate a type of flood
- Ability to interpret and evaluate the impacts of a flood
- Ability to prepare and advise/communicate on possible flood prevention and mitigation actions, including technical and ethical considerations.

The aim of the pilot was to compare what will be the performance of learners in a competence based learning orientation, if two learning paths are provided. Following the Cheetham and Cheevers competence elements, learning paths were identified (see Figure 3).

As a result the FMM was setup in two runs, one where, the expert still has a major role in proposing the competence development process (Figure 3a), and a second one, where the learners themselves decide on their competence development plan (Figure3b).



**Figure 3. Graphical representations of the competence-based training, adapted from (Cheetham & Chivers 1996) a) Experts propose specific competence development plans  
b) Learners decide on the competence development plans to follow**

The solution shown in Figure 3a) represents an intermediate approach in the change towards competence-based lifelong learning. The difference between the two approaches (3a and 3b) consisted in the fact that the responsibility of the learner is bigger, because his/her self-assessment becomes more evident in the option 3b). While all the required competences, as defined by Cheetham and Chivers (knowledge, functional, personal and ethical) remain the same in both approaches, the problem-solving and analysis are reduced at the expense of self-assessment of the student. (S)he will be able to self-assess very well him/her-self, but the advantage at being exposed to more professional problems, from the expert experience, will not be there any longer, and will have to be gained, over time, by work experience.

The process and the steps which have to be followed, in order to transform a course, from a content based course into a competence-based course are:

- identify an expert in the area in terms of competences;
- identify the competence model to be applied (e.g., Cheetham & Chivers 1996);
- re-structure the content of the course, by defining the competences and sub-competences (this will require several iterations);
- implement the competence-based course in a learning environment;
- run the course in test mode. That will entail that students will not only follow the competence based learning path, but they will also give feed-back on the process of learning and on the experience of learning itself. In many cases the environment can hamper the process and then this should be carefully distinguished, from the process of learning;
- refinement of the competence-based learning content, based on the feedback coming from the test run.

These steps are very general and they may be influenced by the selected competence model, and by the content itself. The steps are given just as an indication and are not intended as a rule.

### 3. Decide which tools will be useful

This chapter presents the list of tools produced by the TENCompetence project that are already available for use. You can find details on which usage profiles the tools belong to (the profiles are explained in Chapter 4), what type of clients they are (rich or web clients), and where the tools can be accessed or downloaded. To fully understand the facilities of these tools, readers are encouraged to read the quick start guide of each tool.

#### 3.1 Tools Overview

##### **PCM - Personal Competence Manager**

*(Please note, this is a proof-of-concept and expert tool only)*

Usage profile(s) / use case(s): Create Course, Create Profiles, (Follow Course)

Type: rich client

Summary:

- For Create Simple Course: rich client that can Create Simple Courses (containing basic learning activities and resources), which don't require IMS Learning Design.
- For Create Profiles: client capable of creating / editing competence profiles (containing competences; the client can also create competence development plans to achieve those competences) within a community context.
- (For Follow Course): allows following simple courses (without IMS Learning Design), which were created by the PCM itself. Learning is supported by collaboration functionality (chat, forum and Skype). The learning is the primary goal of the Follow Course functionality. This Follow Course functionality of the PCM should not be used after May 2008, Learners should use the functionality offered by the PDP and SLeD tools instead.

Status: available for use. Future extensions in the PCM client will be minimal, because other client tools should replace the PCM. However, the services offered by the PCM server will be extended regularly, to accommodate change requests.

Download: <http://www.tencompetence.org/PCM/download.html>

##### **PDP – Personal Development Plan tool**

Usage profile(s) / use case(s): PDP

Type: rich client, web client

Summary: The PDP tool enables learners to create their own personal development plans by selecting a competence profile, stating their goal and motivation, following a self-assessment, creating their learning plan and performing the activities in the plan (some of them may be links to courses in the SLeD system).

Status: first version of the web client was ready in October 2008, available for testing at <http://pdp.it.fmi.uni-sofia.bg/>

Download (rich client): <http://hdl.handle.net/1820/1545>

##### **LearnWeb2.0**

Usage profile(s) / use case(s): Share Knowledge

Type: web client

Summary: users can search / publish / comment on / rate and share resources.

Status: available for use, but there are some reliability problems that are being currently solved. Available at: <http://phpcake.it.fmi.uni-sofia.bg/users/login> (username: *eval2*, *eval3* ... *eval9*; password: *equal to username*)



### ReCourse Learning Design Editor

Usage profile(s) / use case(s): Create Course

Type: rich client

Summary:

- Graphical editor to create / edit full IMS Learning Designs (Units of Learning).
- Units of Learning can be packaged as per IMS Content Packaging specification.
- Packages can be uploaded to CopperCore server.
- Offers management of "runs" and users on CopperCore server.
- LD "runs" can be created from within ReCourse and populated with users.
- Integration with "widgets" and widget server.
- Integration with OpenDocument.net repositories.

Status: available for use at <http://www.tencompetence.org/ldauthor/>. Supports IMS LD level A. Development in progress for future, extended, versions supporting Levels B and C and improved editor UI.

### Learning Design Runtime Tools

Usage profile(s) / use case(s): Follow Course

Type: web client

Summary:

- An updated/extended web based Learning Design player (SLeD).
- A SCORM (SCO) 1.2 service for Learning Design.
- A Widget Server & Widget Service for Learning Design.
- An updated/extended (APIS) QTI engine.

Features:

- allows a SCO 1.2 object to be played as part of a Unit of Learning.
- Widget server allows a configurable and extendable platform for adding new services (widgets).
- Widgets already created for system include chat, forum and vote tools.
- Widget server can be queried from an authoring system (such as ReCourse) to determine which services are available.
- All downloadable in one bundle, similar to the original "CCRT" CopperCore download.
- Interprets QTI2p1 tests.

Status: available for use at <http://www.tencompetence.org/ldruntime/widgetserver>

### Overview Tool

Usage profile(s) / use case(s): usage Profile "Overview" (exploring resources, persons and competence profiles) in particular "connecting with relevant peers in the network community"

Type: rich and web client

Summary: provides an overview of links between people and their Competence Development Opportunities (CDO). CDO is a broad term which includes not only traditional courses, workshops, and reference material, but also 'live' resources, such as communities of practice developed around a given competence, or experts and peer groups. Overview of available CDOs can be provided by supporting the users in navigating through a Structured Space in which different type of CDOs are grouped in categories.

Status: rich client available at <http://dspace.ou.nl/handle/1820/1603>, web client available at <http://tenc-wp8.it.fmi.uni-sofia.bg/>.

### TENTube

Usage profile(s) / use case(s): usage Profile “Overview” (exploring resources, persons and competence profiles) in particular “connecting to competence networks through video-enhanced navigation and game dynamics”

Type: web client

Summary: TENTube v1.0 has been released. In its current version TENTube allows to visualise three kinds of videos (Competence Development Awareness, Competence Development Opportunity and Competence Development Expert) and to navigate / explore the Network represented by the users, the videos and the related tags and the connections (e.g. ‘has seen’, ‘knows’, ‘has submitted’, ‘is inspired by’, ‘is a version of’) among them via the embedded Network Visualisation and Navigation Tool, NVNT.

Status: the tool is available for use at

<http://labs.calt.insead.edu/prototyping/Tentube/tentube.html> (ask [laurent.declara@insead.edu](mailto:laurent.declara@insead.edu) for access). No integration with the PCM services.

Other tools are under development (see Chapter 4).

## 3.2 Integrated use of the tools

To enable an integrated view of the TENCompetence tooling and even the use of external tools, it is possible to use a third party platform as a container for the TENCompetence tools. For example, the ELGG platform was explored as a candidate for the Digital Cinema pilot<sup>1</sup> (see Hernández-Leo, D., et al. 2008). Besides, the recent strategy taken in TENCompetence is to use Liferay Portal as the portal environment for the project tooling.

## 3.3 Quick start guides

WP9 has coordinated the creation of “Quick start guides” for a number of tools including:

- PDP tool
- PCM (expert users)
- ReCourse
- LearnWeb 2.0.

These guides are designed to give a working overview of the tools and can be used for a variety of training purposes including workshops and pilots. Some of these guides have been translated to Spanish and Bulgarian according to the requirements of the pilots.

As more tools become available, WP9 will continue to produce QuickStart manuals.

The quick start guides can be found by TENCompetence partners here:

[http://www.partners.tencompetence.org/mod/resource/view.php?id=33&subdir=/Quickstart\\_Guides](http://www.partners.tencompetence.org/mod/resource/view.php?id=33&subdir=/Quickstart_Guides)

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<sup>1</sup> See <http://pilot.tencompetence.org/ninos>

## 4. Employing usage profiles in your pilot

This chapter describes nine what we call “usage profiles”. These are scenarios for using the TENCompetence infrastructure for a few frequently occurring purposes. The aim of the usage profiles is to help providers in setting up their pilot, by describing the activities that are most important in their specific usage profile. The nine usage profiles are:

- Follow Course
- Create Course
- Personal Development Plan
- Knowledge Management
- Overview
- e-Portfolio
- Competence Assessment
- Matching Competences on Job Profiles
- Social Help.

Below, each profile is described, the main activities in the usage profile are listed. Throughout all usage profiles, activities are categorized as follows:

- *Start* - Activities at the beginning of the main activity of the usage profile
- *Search and navigate* – Search for and navigate through various resources such as learning activities, people and documents.
- *Preparation* - Preparatory activities by learners or designers before they perform the main activity of the usage profile.
- *Execution* – Performance of the main activity of the usage profile
- *Collaboration* – Interaction with other people
- *Control learning* – Activities related to getting an overview of and reflect on the competence development progress
- *Evaluation* – Rating of various resources
- *Contribute* – Adding various resources to the learning network.

### 4.1 Follow Course

In the usage profile Follow Course, a lifelong learner follows a formal training as part of their competence development. In this scenario, the TENCompetence infrastructure is a platform through which providers can make their courses (according to the IMS Learning Design specification) available. Learners can search for courses that match their needs, they can register for courses, and they can perform the activities that belong to the courses for which they have registered.

The activities available in this usage profile are:

- Start
  - The learner registers for a course
- Search and navigate
  - The learner searches for a course
  - The learner searches for an activity or resource for which he or she has registered
  - The learner navigates through activities and resources
- Execution
  - The learner performs activities and uses resources
  - The learner carries out assessment activities
- Collaboration
  - The learner participates in forums and chats
  - The learners exchange and share their products of course work.

- Control learning
  - The learner marks activities as completed
  - The learner marks courses as completed

## 4.2 Create course

In the Create Course usage profile, a learning designer creates (according to the IMS Learning Design specification) a course and makes it available to teachers and learners.

The activities available in this usage profile are:

- Preparation
  - The learning designer creates a Unit of Learning
- Contributing
  - The learning designer publishes a Unit of Learning
- Execution
  - Teachers and learners gain access to and perform a Unit of Learning (see previous usage profile)

## 4.3 Personal Development Plan

The Personal Development Plan is a personal environment, completely owned by the user. It is used for creating a plan for personal competence development, following the plan and reflecting on progress made. Learning from other learners within the PDP is not a relevant issue, yet the plan can be shared with others.

The activities available in this usage profile are:

- Planning
  - The learner creates and adapts a personal development plan (PDP)
- Execution
  - The learner follows a PDP
- Control learning
  - The learner reflects on their progress within the PDP
- Collaboration
  - The learner is able to blog progress to other experts and learners

## 4.4 Knowledge Management

The usage profile Knowledge Management is directed at setting up communities to share knowledge about various topics. The resources and discussions about the resources are at the centre, organised per topic. Topics are clustered in topic areas.

The activities available in this usage profile are:

- Search and navigate
  - The learner searches topic areas or topics
- Contribute
  - The learner creates a topic area
  - The learner fills the topic area with resources
  - The learner creates topics under the topic area
  - The learner re-groups the resources to different topics
- Collaboration
  - Learners discuss topics
  - Learners collaboratively write conclusions of their discussion

- A learner creates a community of people within a topic area who can view and/or edit topics and resources
- A learner makes his or her topic area publicly available
- Evaluation
  - A learner rates resources

## 4.5 Overview

In the Overview usage profile, people with a learning need or specific interest try to get in contact with other people or resources that might be relevant to them. The overview tool provides them with an overview of relevant people and resources, by matching these to the learner's needs or interests.

The activities available in this usage profile are:

- Search and navigate
  - The learner browses learning/knowledge networks for resources that match his or her needs and for people who have similar interests.
- Collaboration
  - The learner describes him- or herself by creating and editing their personal user profile.
  - The learner establishes a connection to other people by adding them to their contact list and/or by involving in an introduction game.
  - The learner gets into contact with peer learners by posing a diversity of messages, such as discussion threads in forums, chat messages, and rating resources.
- Contribute
  - The learner adds resources to the learning/knowledge network.

## 4.6 E-portfolio

In an e-portfolio learners present acquired competences and experiences that they feel confident about and that may hold relevant information to a specific audience, for example customers or potential employers. E-portfolios increase the employability of learners, but also serve as showcases, and are part of a person's digital identity. Key features of elements making up an e-portfolio are the competence itself and the level achieved, an explanation wrapper drawing the connection to a presentation goal, and evidence to support the claim. Additionally, the learning path followed to achieve the competence can be included.

The activities available in this usage profile are:

- Prepare
  - The learner browses a list of competences for inclusion in one of the presentations of their portfolio.
  - The learner creates a presentation by selecting competences, adding evidence for each competence and adding annotations.
  - The learner edits a presentation.
  - The learner manages the various presentations in their portfolio by creating, editing, deleting and exporting presentations.
- Collaboration
  - The learner exports his or her portfolio to a file, such as pdf, HTML or Word.

## 4.7 Competence assessment

In the Competence Assessment usage profile, a professional/learner wants to have one or more of his/her competences assessed by one or more individuals against a target competence profile, be it (part of) a formal educational programme or the competence profile of a profession or a function that (s)he wants to attain. Competence assessment is usually intensive, involving more than one assessor. It may take place at an assessment centre.

The activities available in this usage profile are:

- Start
  - The learner finds assessment providers for their selected competences
  - The assessment provider handles a request for competence assessment
  - The assessment provider provide the tests the learner has to perform
- Prepare
  - The learner performs a self-assessment
  - The learner collects evidence for their acquired proficiency level
- Execution
  - The learner performs competence assessment tests
  - An assessor judges evidence provided by the learner
  - An assessor judges performance in practice tests
  - A chief-assessor makes the final judgement
- Collaboration
  - The learner discusses tests results with assessors

## 4.8 Matching Competences on Job Profiles

In Matching Competences on Job Profile, competence profiles of people are matched to job profiles of organisations. Lifelong learners will typically use the system to explore job opportunities and to find out which competences they need to acquire to keep qualified for their current position or to be eligible for a new position. Organisations will use the system for: matching current personnel and/or applicants with a job profile; composing a team that covers the competences needed for a particular job; finding out current needs for competence assessment programs.

The activities available in this usage profile are:

- Prepare
  - The learner creates or edits their competence profile (resume)
  - The organisation creates or edits a job description profile
- Collaboration
  - The learner asks a question to the organization
- Start
  - The learner searches for a job matching their competence profile
- Contribute
  - The organization posts a job profile.
- Execute
  - The organisation matches people to their job profile
- Collaboration
  - The organization composes a group of people for performing a specific job
  - Learners contact peers or add peers to their contact list

## 4.9 Social Help

The Social Help usage profile focuses on how the support of learners in a learning network by their peers can be facilitated. Providing support solves a learner's need and it strengthens social ties. The system helps people to find suitable peers and to connect to them.

The activities available in this usage profile are:

- Prepare
  - A learner joins or sets up a learning community, by setting up a wiki and populating it with resources, questions and guidelines
- Collaboration
  - A learner asks for help
  - Suitable peers are selected matching the support context
  - Suitable peers are invited for help
  - The learner's problem is discussed, answers are formulated and rated
  - The learner adds a peer to their contact list

## 5. Set up a business demonstrator pilot description

The following template has been designed to guide consortium partners assisting associate partners in the description of TENCompetence business demonstrators. Filling in Table 2 will allow you to have the overall description of the pilot.

**Table 2. Template for describing TENCompetence business demonstrator**

<b>Name of the business demonstrator</b>	
SHORT DESCRIPTION: Include here a short description of the business demonstrator (from 100 to 200 words approx.)	
NAME AND DESCRIPTION OF THE ASSOCIATE PARTNER	Include here the name of the associate partner and its description
USER GROUPS	Describe the types of user group involved in the demonstrator (see Chapter 2)
SETTING	Describe the setting (e.g., workplace), mention the location of expected users, etc.
ROLES	List the different possible roles involved in the pilot from its design until its completion and the estimated number of persons that will play each role. Possible roles are: Requirements analyst, Architectural designer, Interface/interaction designer, System developer (also of the GUI container linking to TENC tools), Software tester, System manager (also help-desk functions), Pilot designer and evaluator, Trainer, Public relations officer, Pedagogical expert, Learning technology expert (or learning designer, content developer...), Business manager, Human resource manager (competence provider, competence assessment provider), Services provider, learner, expert, tutor/teacher/coordinator/mentor/study advisor, assessor, other (please specify)
TOOLING	Indicate the TENCompetence tools (and the complementary external tooling, if applies) that will be used in the demonstrator (see Chapter 3)
USAGE PROFILES	Mention which usage profiles will be used in your pilot (see Chapter 4)
AIM AND EXPECTATION OF THE DEMONSTRATOR	Indicate the aim and expectation of the demonstrator
CONTEXT	Detail the context of the pilot (elaborated description of the demonstrator)
BUSINESS MODEL	Describe how client organizations and service providers cooperate in this demonstrator (see Krekels, B., et al. 2008)
RELEVANCE OF TENCOMPETENCE FOR THE DEMONSTRATOR PILOT CONTEXT	Describe the relevance of TENCompetence for the pilot context (see Chapter 1). Specify also any problem/challenges you envisage regarding the implementation of TENCompetence in the pilot context. (For TENCompetence business demonstrators only.)
COMPETENCE PROFILES AND COMPETENCES INVOLVED	Define the competence profile(s) involved in the demonstrator (a set of Competences that define the minimum requirements for a specific function/job) and its associated competences (a Competence is defined as the ability ('disposition') of an actor to act effectively and efficiently upon the events in an ecological niche (an occupation, a hobby, a market, a sport, etc.). In short: the ability to perform effectively in a situation.) (see Chapter 2)
TRAINING NEEDS	Describe any training needs required for carrying out the demonstrator
IMPLEMENTATION PLAN	Define the implementation plan (see Chapters 6 and 8 )
EVALUATION PLAN	Formulate the evaluation plan to be followed to know what happened in the pilot, whether the pilot was successful, how can it be improved, etc. (see Chapter 7)



## 6. Develop or collect units of learning with each competence

This chapter provides on one hand some basic guidelines and recommendations on how to develop or collect units of learning with each competence and on the other hand it describes the different resources that may be used in a pilot.

### 6.1 Guidelines and recommendations

#### Content collection

**Contact with experts in the required competence profile** should be done in order to collect material that can be used for the pilot. The material will need to be further adapted to each competence. The expert, i.e. content/course provider, may be a teacher, a training professional, a tutor, a mentor or any person that has experience in the competence profile at issue.

During the pilot, the users themselves have the possibility to create their activities which can be shared and found by other users. The diversity of the content providers guarantees different approaches to acquire a competence and the richness of the activities.

#### Content adaptation: new material and existing material

a) The content needs to be **adapted to the specificities of self-training** so that each user can follow and go through the personal learning path easily and in an autonomous way. Indeed, the users may be studying at home or isolated from other users and may not have an expert to help them through. Therefore, the material needs to be user friendly in order to make it possible for the user to do the activities without the support of an expert. Though, the system allows the users to communicate between them and share information through the use of chat, blogs, etc.

Example from the Ágora Pilot: if an activity includes exercises of English grammar in a word document, it is necessary to also include the answers in another document so that the user can make an auto-assessment. In addition, there is also the possibility to submit the users' answers to an expert for their assessment which is not the typical case in the lifelong learning scenario.

b) The collected content needs to be **adapted to each competence**.

Some resources may be appropriate to several competences. In this case, there is a need to adapt the resources to each competence. There is also the possibility of adding the same activity to several contents although this practice should be avoided as it may lead to misunderstandings when the competences belong to the same competence profile.

In case the competence profiles are used in different user groups, the competences may be shared and/or include the same activities.

For any new or existing material including pictures or photographs, it is important to check copyrights in order to be able to use them for the Pilot.

## 6.2 Units of learning

### Units of Learning (UoL)

In case you need to provide guided courses with a **Personnel Development Plan** you may be interested in creating UoLs compliant with IMS Learning Design specification (LD). **ReCourse** is used in order to create UoLs and **SLeD** for their execution (see Chapter 3).

*A UoL can be seen as a general name for a course, a workshop, a lesson, etc that can be instantiated and reused many times for different persons and settings in an online environment. The Learning Design is used to plan and develop UoLs and enables the creation of a complete, abstract and portable description of the pedagogical approach taken in a course, which can be realized by a conforming system. It can model multi-role teaching learning processes and supports personalization of learning routes (Koper & Olivier, 2004).*

With this type of resources the user is guided step by step through the activity. We found that it is especially useful and efficient for the users which are not familiar with computer technologies as they need more assistance.

### Other (simple) activities

Several resources can be used to develop a competence, i.e. pdf, hot potatoes (auto-assessment activity), word documents, web links, etc.

For instance, *Ágora* users have shown greater interest for the **interactive activities**, in which they have the possibility to learn and practice at the same time rather than an activity in which the computer is being used only to provide instructions or theoretical concepts and the users have to note down the information to be able to fulfill the activity<sup>2</sup>. The material should be as interactive as possible<sup>3</sup>.

There can be several options to develop a competence, i.e. different materials that enable a user to acquire the same competence. In this sense, the users can choose the options which suit them best. We have noted that some users like to go through the different options in order to better understand the issue.

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<sup>2</sup> In this sense, the *Ágora* users who were doing grammar exercises which were presented in a Word document got a bit confused as they had to write down the answers on a paper as it is not possible to enter them directly into the system. Thereafter, they would have to see the correct answers in another document. To summarise, the learners completed the activities more easily and with more interest, when there were less steps/clicks to do.

<sup>3</sup> An example of interactive activity would be:

An on-line activity explaining English grammar in which the learners have the possibility to read about the theory why listening to the explanation in English. Afterwards, the learners have the possibility to practice with exercises and auto-evaluate themselves. This type of activity is also possible using “hot potatoes” resource.

## 7. Setting up a pilot evaluation

In evaluating a pilot, we distinguish between three steps:

1. Set up evaluation plan
  - a. What do you want to know?
  - b. How are you going to measure what you want to know?
  - c. How are you going to analyse your data?
2. Execute evaluation plan
3. Discuss and report results

This section discusses the first step of the process of setting up an evaluation plan. The kind of evaluation activities that you will perform are most strongly influenced by what you want to know. We distinguish five things you might want to know, corresponding to five goals of pilot evaluation:

1. What happened in the pilot?
2. Is the pilot successful?
3. Does the pilot have an effect?
4. How can the pilot be improved?
5. How does the pilot work?

Sometimes, evaluators may want to perform a pilot evaluation with more than one goal, or even with all five goals. However, it is often preferable to focus on only one or two of these goals, to keep the evaluation manageable.

For each of these five goals, the way in which data for the evaluation are collected and analysed is different. Below, for each of the five goals separately, a scenario for evaluation is presented.

Note that this document cannot be a comprehensive introduction to pilot evaluation. We refer the reader to (Griffiths, et al. 2007) for further details.

### 7.1 *What happened in the pilot?*

What happened in the pilot? is the most basic question, but it is often an important one. An answer to this question is important to pilot coordinators and to those who fund pilots. A description of the pilot can also be very useful to people who want to start a pilot themselves, and are looking for examples.

To answer this question, a detailed description of the pilot is set up. This can be done by asking pilot coordinators, but an analysis of relevant pilot documents and interviews with learners can also be part of the strategy of data collection. It will often be handy to use a template for data collection, such as the one described in Chapter 5. The task of the describer is to make a detailed, informative and useful summary of the information. To enhance the accuracy of the description it is advisable that one asks the pilot coordinator and others involved in the pilot for their feedback.

### 7.2 *Is the pilot successful?*

Often it is not enough to know what happened in the pilot. Especially funding initiatives of pilot projects will be very interested to know whether the pilot was successful. To answer this question, success criteria must be set up, by which the outcomes of the pilot are judged. It is very important that success criteria are set up before the pilot starts. Success criteria can be very divergent and might include among others:

- Number of people reached, i.e. number of people who start with the pilot
- Effort on pilot activities put in by participants, if needed separately for different activities (e.g. time spent on learning activities, number of posts in the forum, number of chats, amount of knowledge exchange)
- Extent to which pilot tools have been used in pilot activities
- Number or percentage of people (successfully) finishing the pilot
- (Gain in) level of competence development or gain reached by pilot participants
- Satisfaction with the pilot among participants
- Wish to continue competence development after the pilot among participants

In this evaluation data collection is typically done using questionnaires and sometimes analysis of log files for data on effort spent, possibly supplemented by interviews with participants. Most criteria will be measured after the pilot, some at the start of the pilot. A few criteria require comparison between the situation before and after the pilot, e.g. a gain in level of competence development. Data analysis is straightforward: the outcomes of the questionnaires and interviews are compared to the criterion, and if they exceed the criterion, the pilot can be considered a success with respect to that criterion.

### **7.3 Does the pilot have an effect?**

For replication of the pilot elsewhere it is important to know whether the pilot has had an effect. The basic question is whether the outcomes of the pilot would have been the same if the participants had not followed the pilot. The effects concerned are often changes in a construct that involves a state, cognition, attitudes or behavior of participants, for example participants have acquired knowledge and skills by following the pilot, or the unemployment among participants decreases.

This type of evaluation involves both measuring what changes occurred in the construct involved during the pilot, and what changes would have occurred if the pilot had not been there. The construct involved is always defined beforehand. For measuring the changes during the pilot, the construct (e.g. level of competence development) is measured both before and after the pilot. Measuring what would have happened if the pilot had not been there is not easy, and requires hard thinking of the pilot evaluator. Sometimes, the change in the construct, say level of competence development, with the pilot participants is compared to the change in the competence development with a group of people who are comparable to the pilot group, but who do not follow the pilot, a so-called ‘control group’. Additional measures such as asking the pilot for the effect that the pilot has had on them, can be used. In this evaluation data collection is typically done using questionnaires, sometimes supplemented by interviews with participants. Data analysis consists of comparing the results of what happened during the pilot to the results of what would have happened if the pilot would not have been there, and see whether the results differ considerably (‘statistically significant’).

### **7.4 How can the pilot be improved?**

One important function of piloting a specific programme or intervention is to see how it works out in practice. The information on what went well and what went wrong can be used in further improving the programme. The focus in this evaluation is on the process of the pilot (‘what happened’), in combination with a judgement of aspects of this process as good or bad.

For this type of evaluation, the experiences of participants are very informative, thus interviews with participants, but also with pilot coordinators and developers, are of high value. Information on what went well and wrong during the pilot can be gathered in several ways:

- by asking participants, coordinators and developers, typically in an interview, what in their experience went well and wrong, and to what extent they are satisfied with the pilot.

Participant characteristics such as age, gender and education should be recorded, to get an impression for whom the pilot works well or not.

- by analysing log files of activities during the pilot.

## **7.5 How does the pilot work?**

The final evaluation type aims at understanding how the pilot works. What are the ‘active ingredients’ of the pilot, and how do they work together to produce the pilot effects? This evaluation is the most ‘scientific’ type, and it is also called ‘theory-driven’ evaluation. In this evaluation, the pilot evaluator makes explicit beforehand how he or she thinks that the pilot works and, from that, predictions, hypotheses, are derived, and tested. For example, one might assume that using the TENCompetence infrastructure will increase the feeling that people control their own learning, and this may lead to better and more competence development. In this type of evaluation, both questionnaires, log file analysis and interview data may be used. Using more than one data collection method, e.g. questionnaires combined with interviews will typically increase the validity of the evaluation results.

## 8. Actual implementation

Each pilot should be described using the template introduced in Chapter 5. The elements considered in the template aim at guiding the set-up of a pilot. One of these elements is the implementation plan. This chapter describes some basic guidelines and recommendations on how to deploy and monitor the actual pilot implementation plan.

**Table 3. Tasks of interest when implementing pilots  
(for each task you should be able to estimate the *time to implement*)**

Task name	What to look for during the implementation
DESIGN THE TRAINING SESSIONS	You should consult all stakeholders involved in order to have a clear picture about the needs, trainee availability, trainers and consultants' plans and vision, any time or context constraints, etc. As the result you should have a plan about the training methodology, training goals, time schedule, detailed session plans, etc.
PREPARE THE EXACT COMPETENCE DEVELOPMENT PLAN	You should start with the competence standards and descriptions related to the business demonstrator unit, after that to come up with the main competence profiles related to the main target user groups and usage scenarios, and according to the main goals, to develop at least one specific competence development plan related to each competence profile (see Chapter 2). As the result, you should have all competence development plans described in details using the TENCompetence model and paradigm (plan as a set of activities, for each activity as a set of appropriate resources, see Appendix 1).
DEVELOP THE ACTIVITIES AND RESOURCES	After you have the competence development plans, you are ready to compile, find and identify all appropriate resources. You need to follow the competence development plan description, and to develop the resources most useful for the related activities, stated goals, etc. (see Chapter 6). As a result, you should have all resources developed, described using the metadata scheme chosen, and placed in the chosen file storage or digital repository.
RECRUIT PARTICIPANTS	Once you know what tools you will use (see Chapter 3), and what information regarding users' log-in, tracking of their progress and evaluation of their results will be needed, you should prepare all the configuration tasks and information in advance, and to inform all participants about their account names, passwords (if applies) and other relevant information. Main result: all users are registered and ready to use all the tools needed.
PREPARE ALL THE NEEDED RESOURCES ON THE SERVERS	Before the start of the every user group pilot training you should be sure that all competence development plans, learning activities and learning resources are put inside the main servers to be used, using the available TENCompetence tools, and made available to users through the planned TENCompetence end users tools. Main result: all competence development plans, activities, resources, forums and other resources are available from the servers used through the planned tools to be used.
SET UP THE HELP DESK	Help desk should be set up and made available to the users. The support should be provided through the mixed team involving competence development experts, TENCompetence tools experts and system administrators responsible for the TENCompetence servers involved. Main output: help desk set up (team recruited, made available for the well specified and feasible time period).
PREPARE THE EVALUATION INSTRUMENTS	Each pilot demonstrator includes specific evaluation plan (see Chapter 5 and 7). In this plan all the needed instruments should be described (questionnaires, tests, interviews, etc.), so for the implementation we need just to prepare all the needed instruments, to choose the media to be used (paper form, audio recording, computer-based tests) and to organise the use of the instruments when it is appropriate. Main result: all needed evaluation instruments prepared and ready to be used.
PREPARE ALL THE MONITORING TOOLS	During the implementation of the pilot, we need to monitor the progress and take notes about how every step from the implementation plan was performed, what problems were faced, how they were resolved, etc. We can use various tools for the monitoring of the implementation (project management tools, checklists, execution tables, etc.) Main result: All monitoring tools chosen, prepared and used (filled in).
START THE PILOT	This is usually done according to the plan. The main result: all logging, monitoring and evaluation information started to be collected.
PERFORM ALL THE NEEDED ACTIVITIES,	All the activities are performed according to the plan. For each activity all the needed additional information (logging, monitoring, evaluation, etc.) is collected and stored for

LOGGING ACTIVITIES AND EVALUATION ACTIVITIES	later use.
EXPECTED END OF THE PILOT	According to the plan.
ANALYSIS AND REPORTING	Usually performed according to the evaluation plan and chosen methodology, using all the accumulated and stored information (see Chapter 7) Main result: Evaluation results analysis, Implementation report, Monitoring report, etc.

After we finished the implementation, we can start the report documenting the deployment procedure. This description should report how all the planned activities were implemented, where they digressed from the plan, were the results close to what was expected, how each individual problem was solved, etc.

Additionally, details like how the registration / enrolment of participants was performed, actual number of participants and their general characteristics, workload of learners, dates of actual implementation, any training performed, description of the systems used, example screenshots and figures, problems in the implementation encountered, should be given. Especially important is to present various monitoring examples illustrating how the implementation was carried out (like video, logs from systems, screenshots, etc.).

The main important result from this stage is the Implementation report. In this report special attention should be given to highlighting the usefulness of the TENCompetence tools used (see Chapter 7), what were the main problems / barriers for the users, and especially important will be to stress what recommendations and ideas for improvement of the tools were generated or mentioned either directly from the users, or were identified indirectly from their behaviour, opinion or reflections.

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## Appendix 1: Glossary

Table 4. TENCompetence glossary

Terms	Description
<b>Community</b>	A domain representing a certain profession. Users can collaborate within the context of a certain community. As such, each entity exists in the context of exactly one Community. Synonym for Learning Network.
<b>Competence profile</b>	A set of Competences that define the minimum requirements for a specific function/job.
<b>Competence</b>	A Competence is defined as the ability (‘disposition’) of an actor to act effectively and efficiently upon the events in an ecological niche (an occupation, a hobby, a market, a sport, etc.). In short: the ability to perform effectively in a situation.
<b>Competence development plan</b>	A Competence Development Plan (CDP; synonyms: route, learning path, curriculum, programme) is an ordered set of activities and units of learning that have to be (or are) followed to attain a certain Competence.

## Appendix 2: Plans for business demonstrators

This appendix reports the plans achieved so far around the implementation of business demonstrators by associate partners (with the support of the larger TENCompetence consortium partners).

### *Summary of the progress achieved by each consortium partner*

- **OUNL**
  - The OUNL together with public and private sector partners from the Limburg region - *the Empower Limburg consortium* - is preparing a business demonstrator to **improve mobility of middle managers between its partners**. The **PDP** tool will be used in this demonstrator, together with **experimental procedures on how to define shared competence profiles between organizations** (see Table 5).
  
- **SU**
  - Bulgarian SME *EPIQ Electronic Assembly* (user organization, associate partner) and associate partner *Technical University Sofia* (supporting the supply of TENC services)
    - Competence development of **engineers and specialists** (>95),  
**8 pre-defined key job positions**: Project Engineer; Quality Support Engineer; Test Engineer; Process Engineer; Project Leader; Customer Service Representative; Procurement Specialist and Recruitment Specialist
    - Expected business benefits: **Process and Internal management improvement**, Personnel or HR management development, Risk reduction, Flexibility, Economy and Strategic fit (See detailed planning in Table 6).
  
- **UB**
  - The TENCompetence project has made a considerable commitment to IMS Learning Design, and has developed new infrastructure for both authoring and running learning activities. These tools are not intended for simple learning activities, where the teacher simply wishes to distribute learning resources and activity instructions to learners, but rather for situations where there is a need to define complex learning flows. One of the key areas where this functionality is required in lifelong learning is in the delivery of complex simulations of the kind frequently used in business role playing games. These are often delivered using paper based materials, and if they are implemented as computer based systems they generally use proprietary implementations, often built on a individual bespoke basis. The IMS specification is structured in terms of roles, acts and plays, and so it has clear applications in this field. The Versailles Negotiation Unit of Learning included in the IMS LD Best Practice Guide is an example of this. Nevertheless this potential has never been explored in a practical way, and still less has it been systematically examined.  
 There is therefore an opportunity to position the infrastructure developed within TENCompetence as a standards based toolkit for the development of more interactive simulations. In the final phase of the project Bolton University will actively explore this potential, and in the course of this work plans to carry out a **Business Demonstrator in which the IMS LD Toolkit is used to implement a business role play** for use with competence development purposes in an authentic context. Details of the demonstrator user group have not yet been finalised, but the presence of a Business School within the University of Bolton is a solid basis for this work. The LD toolkit will also be presented to external institutions who have an interest in implementing role plays for a business context.

The resulting UOLs will be incorporated into the TENCompetence infrastructure, so that they can be used as the basis for the creation of personal development plans.

- **INSEAD**
  - INSEAD will deploy TENTube in the *CEDEP* inter-organizational context– the European Centre for Executive Development. It will be a TENCompetence business demonstrator whose objective is to validate that the design principles underlying systems like TENCompetence Tube contribute in a measurable way to stimulating knowledge exchange, collaborative learning, and ultimately effective competence development in online communities (see detailed planning in Table 7).
  
- **LOGICA**
  - LOGICA and SURF have organized SME events for dissemination purposes, and it is looking for an opportunity to plan a business demonstrator with an associate partner.
  
- **ILABS**
  - ILabs effort for Business Demonstrator has been carried out changing the focus after the TENCompetence meeting in Sofia. Instead of searching for a SME requiring extra funding, they searched a non-profit institution. ILabs performed an exploration over Italian institutions involved in “lifelong competences”. The direct contacts have been carried out over 8 national institutions, but the outcome has been disappointing. One of the most promising contacts is the *Education Councillor of Comune di Milano*, who is still evaluating the proposal. ILABS developed a document in Italian for describing the benefits of joining TENCompetence, and they are now starting a new phase of market prospecting involving ILABS’s managers and salesmen. ILABS’s feeling is that this is not the right period for proposing new partnerships, because the companies are busy in closing the year. ILABS is confident to have more success from January on.
  
- **UHANN**
  - UHANN is exploring the possibilities of conducting a business demonstrator with the *Medical School Hannover* or the company *ATOS Origin*.
  
- **FBM-UPF**
  - FBM-UPF has negotiated a collaboration with MIZAR multimedia SME to run a business demonstrator. MIZAR is a content provider devoted to educational purposes (e.g., one of their specializations is around "Spanish language for business"). The aim is to extend their business model by also delivering (using TENCompetence services) competence development programs (see Table 8).
  - FBM-UPF has also planned a business demonstrator with the DobleVia associate partner, a non-profit company of educational, social and cultural services. The goal of this business demonstrator is offering training opportunities for competence development to their employees, which typically have changing job requirements. The demonstrator will involve three competence profiles (Educator, Monitor and Informer). (See detailed planning in Table 9).
  - Other pilot opportunities are being discussed with the associate partners University of Alicante and University of Cádiz (both in Spain). Their focus of interest is on competence development of teaching professionals, who also need support for their lifelong learning and their universities act as the competence providers that formulate the competences expected in their staff.



- **ALTRAN SDB**
  - ALTRAN SDB is organizing a business demonstrator for (medium and large engineering) *Altran's Companies*. The main objective is to study the advantages offered by the TENCompetence solutions when compared to the traditional systems used to manage CVs or those based on knowledge maps. The demonstrator will be carried out in several phases. In the first phase the focus will be on how it is possible to offer the learning plans more appropriate to the engineers depending on their mastered competences and goals. (See detailed planning in Table 10).

These business demonstrators will complement the pilots conducted in the four main scenarios of the previous cycles: 1.) Training for digital movie production; 2.) Training for continuous education of professional teachers in the use of information and communication technologies; 3.) UNESCO-IHE - Institute for Water Education; 4.) Agora association - competence development of adults for their inclusion in the Society.

**Table 5. Description of the Empower Limburg Business Demonstrator following an adaptation of the template suggested in Chapter 5**

<b><i>Empower Limburg business demonstrator</i></b>	
<p><b>SHORT DESCRIPTION:</b>                      The OUNL together with public- and private sector partners from the Limburg region - the Empower Limburg consortium – implements a business demonstrator to improve mobility of middle managers between its partner organizations. The PDP tool will be used in this demonstrator, together with experimental procedures on how to define shared competence profiles between organizations.</p> <p>For this specific pilot four competence profiles have been defined between the eight participating partner organizations: for 'Operational Manager', 'Tactical Manager', 'Human Resource Manager', and 'Senior Human Resource Manager'. The demonstrator will address a mix of use cases: people wanting to keep up to date; people looking for a promotion; and people considering to change jobs.</p> <p>A total of 20-25 participants are expected to join the pilot at the start, but additional participants may join later. For each of the participants a personal development programme will be compiled, using the TENC-PDP. Learning opportunities will include specially designed non-formal learning activities at one of the other partner organizations (internship); specially designed non-formal learning activities at one's own work place; and formal courses and training activities.</p>	
<p><b>NAME AND DESCRIPTION OF THE ASSOCIATE PARTNER</b></p>	<p>Empower Limburg Foundation.</p>
<p><b>USER GROUPS</b></p>	<p>For this specific pilot four competence profiles have been defined between the eight participating partner organizations:</p> <ul style="list-style-type: none"> <li>• Operational Manager</li> <li>• Tactical Manager</li> <li>• Human Resource Manager</li> <li>• Senior Human Resource Manager</li> </ul> <p>The demonstrator will address a mix of use cases: people wanting to keep up to date; people looking for a promotion; and people considering to change jobs.</p> <p>The eight participating organizations are:</p> <ul style="list-style-type: none"> <li>• Mondriaan Zorg Groep (health insurance)</li> <li>• Centraal Bureau voor de Statistiek (National Bureau of statistics)</li> <li>• Provincie Limburg (the province of Limburg)</li> <li>• UWV (labour market re-integration)</li> <li>• Onderwijsstichting Movare (foundation managing 60 primary schools)</li> <li>• Open Universiteit (open university)</li> <li>• Gemeente Maastricht (Maastricht city council)</li> <li>• Licom NV (labour market re-integration)</li> </ul>
<p><b>SETTING</b></p>	<p>All participants are presently employed, and the pilot activities will be integrated in their daily work as much as possible. To realise their individual development plans, the following types of activities are foreseen:</p> <ul style="list-style-type: none"> <li>• Personal projects at the workplace, paying special attention to specific competence gaps (non-formal learning)</li> <li>• Short- to mid-term secondments to one of the other participating organizations, paying special attention to identified competence gaps (non-formal learning)</li> <li>• Formal courses and training activities</li> <li>• Individual studying of learning resources, possibly concluded with a presentation (individual learning)</li> <li>• .....</li> </ul>
<p><b>ROLES</b></p>	<p>Roles involved in the pilot are:</p> <ul style="list-style-type: none"> <li>• Overall pilot coordination: Responsibility of the project leader, Empower Limburg Foundation</li> <li>• Reference group: Representative from each of the eight participating organizations, doubling as contact person for his/her organization</li> </ul>

	<ul style="list-style-type: none"> <li>• Moderator for competence (profile) definition: OUNL/TENCompetence</li> <li>• E-tooling provider: OUNL/TENCompetence</li> <li>• Content provider: Hogeschool Zuyd, OUNL, any other relevant provider</li> <li>• Career coach: three staff members from the partner organizations</li> <li>• Secondment/internship 'broker': still to be identified (08-12-09)</li> <li>• Community moderators: still to be identified for each of the four profiles (08-12-09)</li> </ul>
TOOLING	The PDP tool and extended community functionality will be used in this demonstrator, together with experimental procedures on how to define shared competence profiles between organizations. In addition to the competence self-assessment included in the PDP, all participants will be offered the opportunity to participate in a more extensive intake procedure with personality test and career coaching consults.
USAGE PROFILES	Personal Development Plan, Competence Assessment. The demonstrator will address a mix of use cases: people wanting to keep up to date; people looking for a promotion (vertical mobility); and people considering to change jobs (horizontal mobility).
AIM AND EXPECTATION OF THE DEMONSTRATOR	<p>The aim of the demonstrator is to upgrade the level, and improve mobility, of middle managers between the eight partner organizations. Specific job profiles to be addressed in the pilot are those of 'Operational Manager', 'Tactical Manager', 'Human Resource Manager', and 'Senior Human Resource Manager'.</p> <p>At the end of the pilot the participants should have:</p> <ul style="list-style-type: none"> <li>• decreased their competence gaps related to the profile they selected at the start of this pilot</li> <li>• extended their professional network through participation in their profile community</li> <li>• increased their mobility through secondments/internships</li> </ul>
CONTEXT	<p>The pilot context is a network of public and private sector organizations that defined a shared problem in the area of middle/senior management. The nature of the problem however, is different for each of them, e.g.:</p> <ul style="list-style-type: none"> <li>• Ageing: most senior managers will leave the organization within the coming five years, and thus middle management has to be developed (vertical mobility)</li> <li>• Retaining young potentials: most recruited young middle managers leave the organization within a year, thus have to be provided with a more challenging (personal development) environment</li> <li>• Changing environment: present middle managers are not flexible enough to meet today's demands, and need to be upgraded (provided their personality allows this)</li> <li>• Lay-offs: because of a merger, a number of managers will be made redundant, thus they should increase their horizontal mobility</li> </ul> <p>The pilot aims to address all of these through the various types of activities planned in the project.</p>
BUSINESS MODEL	<p>The Empower Limburg partners provide funding for the small secretariat of the Foundation that initiated the pilot. In addition, all participating organizations provide staff time for the reference group, and three organizations also provide the services (1 day/week) of career coaches. The e-tooling services are provided by OUNL/TENCompetence. The partner organizations in principle have agreed to provide opportunities for mutual secondments/internships.</p> <p>All eight organizations have staff participating in the pilot. Each participant has an individual budget from his/her employer to finance any formal courses and/or training activities.</p>
RELEVANCE OF TENCOMPETENCE FOR THE DEMONSTRATOR PILOT CONTEXT	<p>OUNL/TENCompetence contributes to the pilot in three areas specifically:</p> <ol style="list-style-type: none"> <li>1. Moderation in defining four shared competence profiles between the eight partner organizations</li> <li>2. Providing the PDP for: <ol style="list-style-type: none"> <li>a. Self assessment on each individual competence</li> <li>b. Gap analysis on the complete competence profile</li> <li>c. Defining a personal development plan</li> </ol> </li> <li>3. Providing wider online community services</li> </ol>

COMPETENCE PROFILES AND COMPETENCES INVOLVED		Function:	Operational Manager	Tactical Manager	HR Advisor	Senior HR Advisor
	#	Competence:				
			Development level			
	1	Focused action	2	3	2	2
	2	Flexibility			2	2
	3	Individual-directed leadership	3	2		
	4	Initiatif			2	3
	5	Integral working			2	3
	6	Integrity			3	3
	7	Customer orientation	2		2	3
	8	Management identification	2		2	3
	9	Motivating		3		
	10	Networking skills	1	2		
	11	Environmental sensitivity		2	2	3
	12	Negotiating		2	2	2
	13	Entrepreneurship		2		
	14	Staff development	3			
	15	Organisational sensitivity	2	2	2	3
	16	Persuasion	2	2		
	17	Planning and organising	2		2	2
	18	Problem analysis			2	2
	19	Team building	2	2		
	20	Innovativeness		2		
	21	Vision		2	2	3
22	Progress monitoring	2				
23	Quality assurance	2				
	<p>Each of these 23 competences is described (in Dutch) comprising:</p> <ul style="list-style-type: none"> <li>• Brief description (2-3 lines)</li> <li>• Definition of the three levels, with for each level: <ul style="list-style-type: none"> <li>○ 1-line description</li> <li>○ 5-6 behavioural indicators (used for the self assessment in the PDP)</li> </ul> </li> </ul>					
TRAINING NEEDS	<p>The following training needs have been identified:</p> <ul style="list-style-type: none"> <li>• Career coaches need to be trained in using the PDP in their role of coach</li> <li>• Pilot participants need to be trained in using the PDP</li> <li>• The community environment probably will only need a manual</li> </ul>					
IMPLEMENTATION PLAN	<p>The internal kick-off (with the partner organizations) took place on December 2, while the actual participants will first meet on December 15. Actual activities will start early January 2009. The overall Empower pilot is expected to run for a year, while the TENCCompetence part will be concluded with the conclusion of the Personal Development Plans. The following activities have been planned so far (08-12-2008):</p> <ul style="list-style-type: none"> <li>• Internal kick-off: December 2</li> <li>• Kick off and introduction to concept, tooling and other resources to participants: December 15</li> <li>• Individual intake assessment by a mobility coach: January-February</li> <li>• Self assessment on the selected competence profile in the TENC-PDP: January-February</li> <li>• Optional 270-360 degree feedback, to be reflected in the TENC-PDP: January-February</li> <li>• Based on assessment, selection of relevant learning activities: February</li> <li>• Start of personal development activities: February</li> </ul>					
EVALUATION PLAN	<p>The evaluation plan is still under development at the moment (08-12-2008).</p>					



**Table 6. Description of the BU EPIQ-2 Business Demonstrator following an adaptation of the template suggested in Chapter 5**

<b><i>BU EPIQ-2 business demonstrator</i></b>	
<p><b>SHORT DESCRIPTION:</b>            This business demonstrator will take place at EPIQ Electronic Assembly Business Unit EPIQ-2 (BU EPIQ-2), Botevgrad, Bulgaria, and will last from 01 Nov. 2008 until 30 Jun. 2009. The aim of the business demonstrator is, after an intensive research on the company training needs, to develop a sustainable implementation of the TENCompetence concept and open source infrastructure at EPIQ-2 EA to support communities and individuals within the company to further develop their competences, by using distributed knowledge resources and learning units, routes /programmes, and activities that are available online. The process of the BU EPIQ-2 Business Demonstrator developing will be based on the intensive research and analysis on: (1) Relevance of TENCompetence for the BU EPIQ-2 Demonstrator Pilot Context; (2) Identification of business benefits for the BU EPIQ-2 per core PCM use cases: Assess competence, Build Competence Development programme, and Plan route, Conducting learning activities, Provide support, Develop Learning materials and Manage personal competences; (3) Application of the systematic approach for building the BU EPIQ-2 business demonstrator model for the TENCompetence infrastructure implementation in a real business environment in order to unify the processes of representing competences, planning competence development programmes, and coordinating competence development networks, as well as facilitating competence development activities. BU EPIQ-2 as a high technology organization it is now even more important to have motivated and talented employees to help meet the organization's goals and objectives. The BU EPIQ-2's business demonstrator will focus on 8 pre-defined key job positions: Project Engineer; Quality Support Engineer; Test Engineer; Process Engineer; Project Leader; Customer Service Representative; Procurement Specialist and Recruitment Specialist.</p>	
<p><b>NAME AND DESCRIPTION OF THE ASSOCIATE PARTNER</b></p>	<p>The TENCompetence Associate Partner: The Technical University – Sofia Research and Development Laboratory on ‘eLearning Technologies and Standards’ (<a href="http://demlab.tu-sofia.bg/">http://demlab.tu-sofia.bg/</a>) was established in 1997 under the EU funded TEMPUS SJE Project 7388/ 1994-97. The Laboratory mission is to foster projects which develop multi-party open standards-based e-learning environments and to support research into the architectures and infrastructure necessary to support e-learning systems integration. The Laboratory seeks to develop a range of research and development agendas aimed at facilitating next generation e-learning across education and training sectors by doing interdisciplinary research and development activities in the field of ICT and Educational Technologies. Also the main purpose of the R&amp;D Laboratory is to stimulate innovation in higher engineering education and corporate training by employing advanced educational approaches and technology enhanced learning as well as implementing global standards and specifications for learning technology (SCORM) in the real university environment. Through collaborations with educational organizations, government and commercial partners, the R&amp;D Laboratory fosters the adoption of the next generation of distributed competence based e-learning and information systems.</p> <p>The Business Demonstrator Target SME: The domain of EPIQ (<a href="http://www.epiq.com">http://www.epiq.com</a>) has been chosen because it provides rich opportunities for testing the TENCompetence system. EPIQ emerged as a group in 1998 and went public on NASDAQ Europe, but listed since October 2003 on EURONEXT Brussels. EPIQ accounts for 10 entities in 6 countries. The Group has currently companies in Belgium, Germany, France, Czech Republic, Bulgaria and Mexico. EPIQ plants have been certified in complete conformance to the requirements of ISO-9001, ISO-9002, ISO-14001, VALEO-1000, QS-9000 and/or TS-16949 standards. EPIQ (Euronext Brussels: EPI) designs and produces electronic and electro-mechanical systems and sub-systems. EPIQ provides a wide range of integrated services from product development up to mass production. EPIQ designs and produces high-added-value electronics and electro-mechanical systems and subsystems, which are the control and operating components for end products in the consumer market. EPIQ manufactures, finishes and tests printed circuit boards and supply complete systems and subsystems. EPIQ also supplies the required engineering, research and development (R&amp;D), and logistic management, including JIT and SILS supply.</p> <p>The pilot TENCompetence Business Demonstrator will take place at BU EPIQ-2 Botevgrad, Bulgaria. The factory is located at Botevgrad, 60 km away from Sofia, Bulgaria, with more than 195 people currently employed. Quality certificates: ISO/TS 16949, ISO 14001.</p> <p>The company's main activities are: Manual and automated assembly of electronic components on PCB, including SMD and automated insertion processing; Board testing: testing whether all components are present and whether the board shows the desired electrical behavior; Module assembly: attaching the circuit board to other parts, such as plastic housing; Final functional test Plastic injection molding; Chip on Board assembly; Development and manufacturing of plastic injection moulds; Development and manufacturing of factory automation equipment.</p>





USER GROUPS	<p>BU EPIQ-2 as an <b>organization</b> that wants to distribute and manage new and expert knowledge within the organization/workplace; that has to train personnel to learn specific (new, complex and changing) job requirements; that produces knowledge, and wants to manage the exploitation, management and dissemination of knowledge; that wants to develop the competences of groups/teams/ departments within the organization to cope with a new situation, e.g., new product, new competitors, new market challenges.</p> <p>Professional <b>communities</b> within BU EPIQ-2: who have to solve complex problems and tasks or have to cope with difficult situations in which group collaboration will increase the chance of successful performance; who want to support new/novice members in their teams; who want to share knowledge, skills and points of view to develop their insights and competences in the field (e.g. research teams); who want to (or must) develop competences in order to perform better.</p> <p>Individuals at BU EPIQ-2: with a need to develop some general or specific competences to perform their job better, to solve some types of problems or to learn to cope with specific situations; with a need to improve their career, or a desire to change jobs; who want to share knowledge, skills, perspectives and views with others, e.g. in order to develop new knowledge; who want to develop competences due to the intrinsic motivation to learn something in a certain area.</p>
SETTING	<p>The business demonstrator will take place at BU EPIQ-2, located at Botevgrad, 60 km away from Sofia, Bulgaria.</p> <p>Plant equipment and facilities: 5000 sq. meters production area, Antistatic floor, 6 SMD lines with capacity of 80.000 components/h, FIFO component store organization, PC network, Web based Quality documentation system, Production, distribution, warehousing and financial activities of the company are managed by BAAN IV ERP system</p> <p>Development Capabilities: Microcontroller programming: 4 bits (Epson, Marin, Samsung...); 8 bits (ST, Motorola, Microchip, Infineon...); 16 bits (Motorola, Melexis)</p> <p>C or Assembler: Motor control, sensor interface, digital signal processing; CAN bus, LIN bus ASIC (source Melexis): CMOS mixed analogue/digital systems; High-voltage applications up to 80V (on-chip regulator, special I/Os); Core integration (4, 8 and 16 bit RISC), ROM, RAM, EEPROM, FLASH; Peripherals (ports, timers, PWM, A/D, D/A...); CAN, LIN; Integrated sensors; Hall effect (switch, latch, linear); Pressure; IR, optical array; Accelerometer</p> <p>PCB and Process: Synergy effects by a close relationship between production and development; Very good experience of E.M.C. ; From single side to 4 layers; Flex board; Chip on Board; Pin &amp; Paste; Flip chip</p> <p>Mechanical part design: Conceptual design (study for basic principles / ideas); Housings; Connectors; Facades, buttons (two or more colors injection, painting, screening, printing, laser engraving)</p> <p>CAD Tools: Electronics: ORCAD, CADENCE, PSPICE; Mechanics: Pro/ENGINEER/AUTOCAD; CAN: CANALYSER, TRAMINATOR.</p>
ROLES	<p>Possible roles involved in the pilot:</p> <p>Business &amp; pilot project manager – 1 person</p> <p>Human resource manager (competence provider, competence assessment provider) / Competence manager – 3 people</p> <p>Requirements analyst – 3 people</p> <p>Pilot designer and evaluator – 2 people</p> <p>Infrastructure / System manager (also help-desk functions) – 1 person</p> <p>Learning technology experts (learning designer, content developer) – 2+8 people</p> <p>Learners – 40 people</p> <p>Trainer/Tutor/Teacher/Coordinator/Mentor/Subject-matter expert – 10 people</p> <p>Assessor – 3 people</p>
TOOLING	<p>The final decision about the technology infrastructure will be made after demonstration and consultation with the BU EPIQ-2 stakeholders. The applied TENCompetence tools may include: Personal development plan (PDP tool), LearnWeb 2.0 Knowledge Sharing System and probably the PCM (expert users).</p>
USAGE PROFILES	<p>Creating / editing competence profiles (containing competences and competence development plans) within a community context. Create simple courses (containing basic learning activities and resources, within competence development plans which do not require IMS Learning Design).</p> <p>Creating personal development plan (PDP) for a specific user. Competence development plans are associated to competences and competence profiles. Users may adopt and adapt competence development plans existing in the system.</p>
AIM AND EXPECTATION OF THE DEMONSTRATOR	<p>The aim of the business demonstrator is to develop a sustainable implementation of the TENCompetence concept and infrastructure at BU EPIQ-2, with a focus on supporting communities and individuals within the organization to find the best solution to their training needs. It will lead to a shift towards more integration between living, learning and working, lifelong learning, self-directed learning and self-organization, production of knowledge instead of consumption, learning activities instead of learning objects, knowledge sharing in communities,</p>

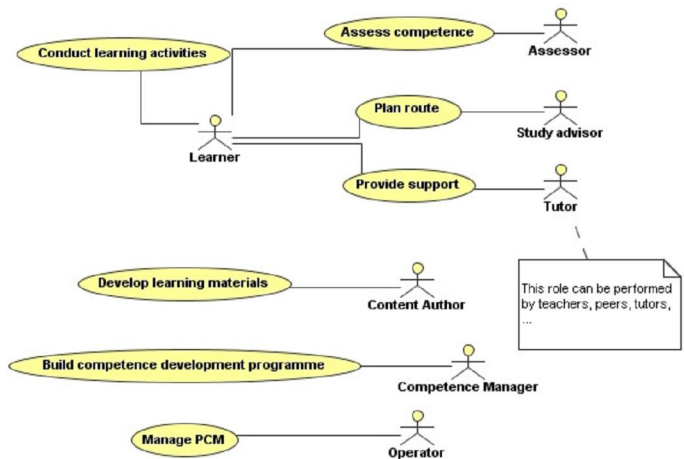


	<p>more attention for informal learning, assessment of prior learning and competence assessment and more attention on personal and social factors. The expected business benefits for BU EPIQ-2 when implementing the TENCompetence concept and infrastructure can be seen as Process and Internal management improvement, Personnel or HR management development, Risk reduction, Flexibility, Economy and Strategic fit.</p>
<p>CONTEXT</p>	<p>BU EPIQ-2 as a high technology organization needs to get more out of their employees and in this time of increasing global competition it is now even more important to have motivated and talented employees to help meet the organization's goals and objectives. The broad context: Competence management methodology offers a strategy and approach to work structurally on the development of employee competences in order to increase the performance of the organization. Competence management can help BU EPIQ-2 to direct the changes in line with the organization's vision, mission and strategic objectives. Applying competence management methodology as a strategy that consists of several steps it will to help BU EPIQ-2 stakeholders to ensure successful adoption of the new skills and competences and the integration of the norms and values in the daily work activities of the employees. Step 1: Develop competence management strategy. In general, most organizations develop a competence strategy to support the development of their professionals. BU EPIQ-2 stakeholders will determine the available time for identification of the competences and the required resources for the implementation of the competence management strategy. Step 2: Define Competence Profiles. After extensive research, a competence profile for all positions within the BU EPIQ-2 will be made. The competence profile is an elaborate profile of a function, which consists of a set of competences and a competence definition and the observable behaviors for each profile as well as the required competence proficiency and priority level. Also, BU EPIQ-2 will create a competence catalogue. In this catalogue all competences with belonging definitions and observable behaviors will be outlined in categories. Step 3: Validate competence profiles. The validation process is a feedback session in which BU EPIQ-2 stakeholders and employees can indicate whether they agree with the competence profiles, definition and observable behaviors. The process for doing the competence profile model requires some strategic planning that includes the identification of existing core competences, required competences and the "gap". The competence dictionary, containing 30+ competences from which the models are developed, will be reviewed and modified. Starting with the executive group is the ideal way to implement a competence system. Actually going through the modeling process brings about understanding, ownership and commitment. Executives then see the competence system as a way to ensure that the right competences are in place to carry out the business plan, and not just as a human resource activity.</p>
<p>ACTIVITIES PLANNING</p>	<p>A six-step model planning process for the Business Demonstrator has been discussed and proposed.</p>

	<p>The TENCompetence Associated Partner - R&amp;D Laboratory “eLearning Technologies &amp; Standards” will provide consulting and transfer of know-how in the following areas:</p> <ul style="list-style-type: none"> <li>• Infrastructure setup</li> <li>• Creation of competence profiles catalogue</li> <li>• Evaluation of training needs and current practices and resources</li> <li>• Creation of personal development plans, associated to competences and competence profiles, support and supervision</li> <li>• Pilot evaluation and definition of recommendations for further improvement</li> </ul> <p>The pilot organization – BU EPIQ-2, Botevgrad, Bulgaria, will implement the TENCompetence concept and infrastructure to improve the training process and enhance the company competence management processes. Provide feedback to the TENCompetence project.</p>
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<p>RELEVANCE OF TENCOMPETENCE FOR THE DEMONSTRATOR PILOT CONTEXT</p>	<p>The seven use cases (presented in a following figure) would be suitable for BU EPIQ-2 to improve its human resources management through development of community networks and competence profiles, creation of competence development programs and planning routes associated to competence profiles, development of learning resources, assessment of competence, conduct learning activities, provide support and supervision, and management of the personal competence plans.</p> <p>To determine the business benefits of TENCompetence use cases we focus more specifically on the added value for BU EPIQ-2 of the core use cases rather than focusing on the purely financial aspect. The key stakeholders were asked to score the added value per identified business benefit for an organization as high, medium, or low (as proposed in Krekels, B., et al. 2008). The respondents were free to articulate the number of business benefits they saw and the added value to each business benefit. Using this free format the intention was to get a good indication of how critical a use case is for the BU EPIQ-2.</p> <p>The table below gives an overview of each individual learning goal combined with one or more use cases with an extended explanation.</p>
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No.	Goal	Achieved by combining
1	I want to keep up to date within my existing function or job	<i>Assess competences</i> , to assess the Learner’s current competences. Based on the results, the Learner <i>Plans a route</i> . <i>Conducting learning activities</i> then takes the Learner along the route. When questions or problems arise, <i>support is provided</i> by Tutors or Experts.
2	I want to study for a new function or job or improve my current job level	<i>Assess competences</i> , to assess the Learner’s current competences. Based on the results, the Learner <i>Plans a route</i> . <i>Conducting learning activities</i> then takes the Learner along the route. When questions or problems arise, <i>support is provided</i> by Tutors.
3	I want to reflect on my current competences to determine which functions and jobs are within my reach or to help me define new learning goals	<i>Assess competences</i> , to assess the Learner’s current competences. Matching the results with <i>built competence development programmes</i> shows how close the match of the Learner’s competence profile/status is with certain functions and jobs.
4	I want to improve my proficiency level of a specific competence	<i>Assess competences</i> , to assess the Learner’s current competences. Based on the results, the Learner <i>Plans a route</i> . <i>Conducting learning activities</i> then takes the Learner along the route. When questions or problems arise, <i>support is provided</i> by Tutors.
5	Want some support on a non-trivial learning problem	Tutors can <i>provide support</i> to a Learner, to guide the learner to optimize results or solve a learning problem.
6	Want to explore the possibilities in a new field (learning network) to help define new learning goals	Learners can browse across developed learning materials, built competence development programmes and planned routes of other Learners to explore the potential of the learning network in relation to their learning aims.



BUSINESS MODEL	<p>The expected business benefits for BU EPIQ-2 when implementing the TENCompetence concept and infrastructure can be seen as Process and Internal management improvement, Personnel or HR management development, Risk reduction, Flexibility, Economy and Strategic fit. These benefits can be explained in details taking in consideration the previous use cases and summarized in the following table:</p> <table border="1" data-bbox="480 349 1430 1003"> <thead> <tr> <th data-bbox="480 349 967 394">Corporate Benefits</th> <th data-bbox="967 349 1430 394">User Benefits</th> </tr> </thead> <tbody> <tr> <td data-bbox="480 416 967 1003"> <ul style="list-style-type: none"> <li>• Alignment of the competence development policy with the BU EPIQ-2 strategic goals and objectives</li> <li>• Focus on the main processes within the organization</li> <li>• Provision of support to organizational transformation and (culture) change</li> <li>• Create a culture of lifelong learning and continuous competence development</li> <li>• Direct alignment with the BU EPIQ-2 training and development plan</li> <li>• Saves considerable costs in terms of employee downtime, travel/accommodation costs</li> <li>• Accommodates rapidly changing competence development program and learning resources</li> <li>• Facilitates competence assessment</li> </ul> </td> <td data-bbox="967 416 1430 1003"> <ul style="list-style-type: none"> <li>• Facilitates lifelong competence development</li> <li>• Increase performance level of the employees</li> <li>• Individuals involved in professional communities learn in an interactive environment with the benefits of being able to create and share professional knowledge</li> <li>• Learner, as a part of a professional community, can work through the learning path at their own rate (self paced) at any given time in any location. Ideal for 'just-in-time' on-job training and knowledge transfer.</li> <li>• Global access to standards that impact best practices and processes Learners can return immediately to their working environment, putting new skills to work on the same day, increasing the benefit of the training.</li> </ul> </td> </tr> </tbody> </table> <p>The process of a business model development to supply TENCompetence services within the EPIQ's training process will be supported by the team of the Technical University – Sofia Research &amp; Development Laboratory “E-Learning Technologies and Standards”.</p>	Corporate Benefits	User Benefits	<ul style="list-style-type: none"> <li>• Alignment of the competence development policy with the BU EPIQ-2 strategic goals and objectives</li> <li>• Focus on the main processes within the organization</li> <li>• Provision of support to organizational transformation and (culture) change</li> <li>• Create a culture of lifelong learning and continuous competence development</li> <li>• Direct alignment with the BU EPIQ-2 training and development plan</li> <li>• Saves considerable costs in terms of employee downtime, travel/accommodation costs</li> <li>• Accommodates rapidly changing competence development program and learning resources</li> <li>• Facilitates competence assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitates lifelong competence development</li> <li>• Increase performance level of the employees</li> <li>• Individuals involved in professional communities learn in an interactive environment with the benefits of being able to create and share professional knowledge</li> <li>• Learner, as a part of a professional community, can work through the learning path at their own rate (self paced) at any given time in any location. Ideal for 'just-in-time' on-job training and knowledge transfer.</li> <li>• Global access to standards that impact best practices and processes Learners can return immediately to their working environment, putting new skills to work on the same day, increasing the benefit of the training.</li> </ul>
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COMPETENCE PROFILES AND COMPETENCES INVOLVED	<p>The company has defined more than 100 job positions, from which the demonstrator will be focused on 8 pre-defined key-positions:</p> <ol style="list-style-type: none"> <li>1. Project Engineer</li> <li>2. Quality Support Engineer</li> <li>3. Test Engineer</li> <li>4. Process Engineer</li> <li>5. Project Leader</li> <li>6. Customer Service Representative</li> <li>7. Procurement Specialist</li> <li>8. Recruitment Specialist</li> </ol>				
TRAINING NEEDS FOR THE DEMONSTRATOR IMPLEMENTATION	<p>All products manuals will be needed (PCM, PDP, Web2.0, etc.) translated in Bulgarian language. Localized versions of the software will be preferable. Training of trainers and mentors will be needed, as well as constant help support service.</p>				
LIFELONG LEARNING NEEDS OF EPIQ-2	<p>The BU EPIQ-2 domain is challenging in a number of ways, which provide rich opportunities for validating the TENCompetence concept and infrastructure in the Cycle 3 pilot “business demonstrators”:</p> <ol style="list-style-type: none"> <li>1. BU EPIQ-2 has real and urgent need for competence management improvement.</li> <li>2. A business demonstrator at BU EPIQ-2 will involve the definition, development and management of an extensive and complex set of competences.</li> <li>3. The competences required in the electronic industry are very complex and rapidly changing.</li> <li>4. BU EPIQ-2 professionals require highly flexible training opportunities.</li> <li>5. There is a constant flow of employees that need to be trained. This makes BU EPIQ-2 a good domain for sustainable implementation and future infrastructure testing and improvement.</li> </ol> <p>The company faces the following problems:</p> <ol style="list-style-type: none"> <li>1. There is a lack of competence profiles. Job descriptions are available, but not a detailed and well structured competence catalog.</li> <li>2. There is a lack of a competence development program.</li> <li>3. The traditional topic-based onsite corporate training process is time-consuming and a better effectiveness is desired.</li> <li>4. There is no centralized knowledge management system or a digital repository of learning resources available. Very detailed materials, instructions and training plans are available though.</li> </ol>				

	<p>The possible solutions include:</p> <ol style="list-style-type: none"> <li>1. Creating a catalog with clearly defined and measurable competence profiles within a community context, which allow mapping to competence development plans and learning activities.</li> <li>2. Making the switch from traditional content-oriented learning to competence-based self-directed learning, knowledge capturing and sharing and learning resource reuse</li> <li>3. Introducing technology-enhanced learning environment and services:             <ol style="list-style-type: none"> <li>a. establishing the TENCompetence open infrastructure (hardware and software)</li> <li>b. employing competence-based self-directed learning, knowledge capturing and sharing</li> </ol> </li> <li>4. Creating simple courses (containing basic learning activities and resources) within competence development plans which do not require IMS Learning Design (LD).</li> <li>5. Creating personal development plans for a specific user. Competence development plans are associated to competences and competence profiles. Users may adopt and adapt competence development plans existing in the system.</li> </ol>																										
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EVALUATION PLAN	<p>The evaluation plan describes the context of the evaluation activities and discusses the evaluation design.</p> <p>The BU EPIQ-2: Context of Evaluation</p> <p>Goals of the Business Demonstrator and outline of the objects of evaluation:</p> <ul style="list-style-type: none"> <li>• The impact of the TENCompetence concept implementation in real-life business environment</li> <li>• The added value of the TENCompetence open-source infrastructure as a technological base for the enhancement of BU EPIQ-2's competence management process.</li> <li>• The competence-based training.</li> </ul>																										

	<p>User groups</p> <p>Four basic user groups of can be distinguished. The grouping of users is made upon two criteria: intermediate and end users and users on individual and organizational level.</p> <p><i>Competence managers/Training designers:</i> intermediate users on organizational level, responsible for producing competence development programs and planning routes associated to competence profiles.</p> <p><i>Learning resource producers:</i> intermediate users on individual level - members of HR staff, learning designers and subject matter experts (e.g. team leaders) producing and delivering the learning materials. Designers, trainers and tutors could be distinguished in this group. The members of this group are from the BU EPIQ-2, consulted and supported by TU-Sofia members.</p> <p><i>Learners:</i> end users on individual/professional community group level - BU EPIQ-2 employees, divided in 8 professional communities - Project Engineer, Quality Support Engineer, Test Engineer, Process Engineer, Project Leader, Customer Service Representative, Procurement Specialist and Recruitment Specialist. After the analysis of the training needs, planning the training events and design of the competence development program, a preliminary evaluation report will be prepared. It will cover all necessary details, regarding evaluation objectives, audiences, instruments, methods and schedule.</p>
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**Table 7. Description of the CEDEP Business Demonstrator following an adaptation of the template suggested in Chapter 5**

<b>CEDEP Business Demonstrator</b>	
<p><b>SHORT DESCRIPTION:</b>            INSEAD together with CEDEP – the European Centre for Executive Development – will launch a business demonstrator in the context of TENCompetence whose objective is to validate our hypothesis that the design principles underlying systems like TENCompetence Tube contribute in a measurable way to stimulating knowledge exchange, collaborative learning, and ultimately effective competence development in online communities. This is one of the fundamental premises of WP8 on the TENCompetence project which focuses mainly on the social network dimension of competence development and management systems and in particular, on how to facilitate more informal ways of knowledge exchange, linking the collective competence-related knowledge and expertise of the community of users, and including knowledge forms such as tacit knowledge, know-how and actual experiences. The CEDEP business demonstrator will in particular target 3 different user groups (i.e. top HR managers, course participants, alumni) in an inter-organizational context composed of a learning network of peers from CEDEP member companies which count among the best companies in the world (e.g. L’Oréal, HSBC, Sanofi Aventis, Valeo, etc).</p>	
<p><b>NAME AND DESCRIPTION OF THE ASSOCIATE PARTNER</b></p>	<p><b>CEDEP</b> – the European Centre for Executive Development - is an Executive Education Consortium, founded in 1970 in association with INSEAD to design and develop innovative open, company specific and limited consortium programmes for its members. The consortium is composed of approximately 30 industry leaders, such as Aviva, Bekaert, Fortis, ING, L’Oréal, HSBC, Renault-Nissan, Sanofi Aventis, Tata Steel and Valeo. These companies co-govern the institution, as well as co-create and co-design all programmes, as is typical in inter-organizational Learning Networks. Further information can be found at <a href="http://www.cedep.fr">www.cedep.fr</a></p>
<p><b>USER GROUPS</b></p>	<p>The user groups targeted at CEDEP are of three types which consist of:</p> <ul style="list-style-type: none"> <li>• Top HR managers of the member companies;</li> <li>• Participants of the courses;</li> <li>• Alumni community.</li> </ul>
<p><b>SETTING</b></p>	<p>The users will be based at CEDEP’s premises at Fontainebleau, France</p>
<p><b>ROLES</b></p>	<p>The different roles that will be involved in the CEDEP business demonstrator include:</p> <ul style="list-style-type: none"> <li>• A professor (INSEAD)</li> <li>• A project leader (INSEAD)</li> <li>• A senior researcher (INSEAD)</li> <li>• A junior researcher (INSEAD)</li> <li>• A software developer (INSEAD)</li> <li>• A project coordinator (CEDEP)</li> <li>• Middle managers from member companies (CEDEP)</li> </ul>
<p><b>TOOLING</b></p>	<p>TENCompetence Tube</p>
<p><b>USAGE PROFILES</b></p>	<p>Usage Profile "Overview" (exploring resources, persons and competence profiles) and its use case 2 ‘Connecting to competence networks through video-enhanced navigation and game-dynamics</p>
<p><b>AIM AND EXPECTATION OF THE DEMONSTRATOR</b></p>	<p>TENCompetence Tube has a high potential to provide CEDEP participants with an attractive, interactive platform for extending their learning and networking beyond the classroom experience that CEDEP offers them. Thus the CEDEP business demonstrator will particularly pursue the following objectives: (1) Increase the proficiency level of participants’ management competence and experience between modules, between programmes, and after CEDEP. (2) Nurture and strengthen the cross-cultural cross-functional professional network developed while at CEDEP, and (3) Make it fun and simple for participants to share their experiences of implementing ideas from CEDEP programmes in their company, keep up-to-date with new developments in relevant managerial topics, and keep in touch with each other.</p>
<p><b>CONTEXT</b></p>	<p>The vast majority of knowledge management networks and communities fail to thrive because they do not take sufficiently into account the emotional, psychological and social needs of individuals. To be Effective Learning Networks need to:</p> <ul style="list-style-type: none"> <li>• Take into account the social nature of the network</li> <li>• Encourage users to actively engage with other users</li> <li>• Make it easy and enjoyable for users to engage in informal knowledge exchange with others</li> <li>• Stimulate users to actively participate in sharing and building on each others’ knowledge and experience</li> </ul> <p>Only if users see real value for themselves will they contribute to and maintain knowledge in the CEDEP Learning Network. It is in this context that we will deploy TENCompetence Tube.</p>



BUSINESS MODEL	A modus operandi where CEDEP is recruiting participants from member companies while INSEAD is providing research, management and technical assistance in the deployment of the CEDEP business demonstrator is currently discussed. The objective of the agreement would be that INSEAD focuses on the validation aspects to be carried out for the TENCompetence project while CEDEP takes in charge the logistic and more operational elements implied by the pilot.
RELEVANCE OF TENCOMPETENCE FOR THE DEMONSTRATOR PILOT CONTEXT	The TENCompetence project offers the opportunity to deploy TENCompetence Tube in a real context to i) do a comprehensive series of acceptance test cases with end users ii) fine-tune functionalities resulting from users' feedback iii) collect data through log files, surveys and user interviews to measure TENCompetence Tube's impact on <b>competence development in online communities</b> which is one of the fundamental promises of the TENCompetence project.
COMPETENCE PROFILES AND COMPETENCES INVOLVED	The competence profiles that will be involved in the CEDEP business demonstrator will be extremely diversified depending on the availability of participants of CEDEP member companies. Participant profiles may include: <ul style="list-style-type: none"> <li>• HR Managers</li> <li>• Strategic Business Director</li> <li>• Senior Manager, Strategic Planning</li> <li>• Director of Research and Development</li> <li>• Product Director</li> <li>• Director, Strategic Development</li> <li>• Innovation Manager</li> </ul>
TRAINING NEEDS	TENCompetence Tube is a tool particularly intuitive with a simple interface and functionalities so we do not anticipate particular training needs for the CEDEP user groups except a one-day workshop presenting TENCompetence Tube in the context of the CEDEP pilot.
IMPLEMENTATION PLAN	The tentative plan is the following: <ul style="list-style-type: none"> <li>• Identify, through interviews and surveys, the needs of three user groups (HR Managers, Participants and Alumni)</li> <li>• Determine the competences associated with the three user groups (HR Managers, Participants and Alumni)</li> <li>• Adapt TENCompetence Tube to the needs of the user groups (HR Managers, Participants and Alumni)</li> <li>• Populate TENCompetence Tube with videos. They could be categorized by key Executive Programme Topics: <ul style="list-style-type: none"> <li>○ Mastering Operational Knowledge</li> <li>○ Strategic Understanding &amp; Decision Making</li> <li>○ Leadership &amp; Team Work</li> <li>○ Culture &amp; Values</li> </ul> </li> </ul> <p>With an additional category for sharing more personal news</p> <ul style="list-style-type: none"> <li>• Participant News</li> </ul> <ul style="list-style-type: none"> <li>• Execute the demonstrator pilot</li> <li>• Evaluate the demonstrator pilot</li> <li>• A more concrete planning (including dates) is currently discussed with CEDEP.</li> </ul>
EVALUATION PLAN	The evaluation plan will be designed after the implementation phase took place. However, we plan to take advantage of a system like TENCompetence Tube to collect a large amount of data in log files, including relevant indicators like sign in frequency, time spent playing games, time spent navigating and exploring relationship networks, number of videos watched and submitted, number of new connections originating from games, or number of suggestions followed from recommending agents to validate our hypothesis.



**Table 8. Description of the MIZAR Business Demonstrator following an adaptation of the template suggested in Chapter 5**

<b>Mizar Multimedia business demonstrator</b>	
<p>SHORT DESCRIPTION:            FBM-UPF will collaborate with MIZAR multimedia SME to run a business demonstrator. MIZAR<sup>4</sup> is a content provider devoted to educational purposes (e.g., one of their specializations is around "Spanish language for business"). The aim is to extend their business model by also delivering (using the TENCompetence services) competence development programs. The applicability and sustainability of the business model will be demonstrated by means of a pilot (a business demonstrator) with an external (client) organization.</p>	
<p>NAME AND DESCRIPTION OF THE ASSOCIATE PARTNER</p>	<p><b>Mizar Multimedia</b> is an SME dedicated to producing and disseminating cultural and long life learning contents and services with a multimedia perspective.</p> <p><b>Mizar Multimedia</b> is specialized in education and communication. It has the capacities to create and develop contents and digital multimedia, multi-platforms and multilingual services for training purposes. Mizar has contributed to successful developments and international strategies for clients by optimizing their uses of new media for learning purposes.</p> <p><b>Among its principal activities, there is the development of multimedia editorial products:</b> develops enriched books for learning, especially for language learning, by creating synergies between different supports to make learning easy through practical means. Mizar uses the values and opportunities of books and combines them with technologies, interactive supports and internet platforms.</p> <p>It has developed <b>international language learning methods</b> for learning SPANISH: <i>Curso Es Español</i> for Espasa, <i>Es Tu ritmo</i> for Espasa and adapted it to Italy for Lang Ed., <i>Curso de Español</i> for Brazil Barsa Planeta, or the course <i>Conecta</i> for Zanichelli ed., <i>Mucho Gusto</i> for Lang Paravia Mondadori, etc.), and complementary materials (<i>Lecturas graduadas</i> collection for Espasa, <i>Español Es Fácil</i> Collection, for Espasa, <i>Spanish OK</i>, <i>Spanish Made Simple</i>), Spanish e-Learning platform for Espasa (<i>spanishfirst.com</i>). ENGLISH courses, TV English course (<i>Hoobs English</i>). Moreover, Mizar has developed children's multi-platform encyclopedias (<i>Enciclopedia Planeta Hoobs</i>, Enc. Temática del Estudiante).</p> <p><b>Teacher training e-learning:</b> uses internet and adapts new technologies to <i>educational</i> purposes and related services. Mizar develops didactic interactive environments for teacher training, planning, presenting in classrooms, and evaluation tools. It has developed the educational platform and contents for training teachers and students. Mizar develops contents for research, continuing education materials, activities, guides and recommendations for teachers and parents.</p> <p><b>Television and multimedia for learning:</b> develops educational and cultural productions for learning, interactive television with the Internet as a complementary tool for enriching and strengthening television contents, as well as teaching <b>critical analysis skills for facing the media.</b></p>
<p>EXPERIENCE TO DELIVER, SUPPORT AND ORGANIZE E-LEARNING OR E-SERVICES IN GENERAL</p>	<p>There are many examples that show Mizar's experience in delivering, supporting and organizing e-learning services, related to language learning or cultural contents.</p> <p>For example, e-Learning platform (<i>Spanishfirst</i>) and the didactic materials for Spanish language teachers elaborated by Spanish publishing houses (<i>Es Español</i>) including the units of learning, videos and interactive activities organized by competences, cultural aspects and contents, grammatical explanations.</p> <p><b>ICT and media education courses</b> (the use of new media) for professors and teacher trainers in Latin America (e.i. a course for broadcasting on satellite television with complementary materials and Internet tutoring for <i>AME (Asociación de Maestros de Escuelas) - Grupo Cisneros in Latin America</i>), and the development of a tool for the teacher to carry out didactic activities (<i>Eduinter</i>).</p> <p>Mizar has also developed <b>Media Education on the Internet</b> projects with and for international institutions aimed at training teachers and teacher training centers. For example, the Mentor Project (<a href="http://www.mediamentor.org">www.mediamentor.org</a>) was developed in collaboration with the UNESCO and the European Union, and Mizar is in charge of the renewal of the Mentor Association website (the site for the media literacy researchers from all over the world).</p> <p>Another notable example is the conceptualization of the thematic <b>channel BECA</b> (digital platform) for didactically exploiting educational contents on the Internet. Mizar academically enriched this channel with cultural contents for a teacher's environment; it provided the teachers with didactic materials used for exploiting the content, and activities to carry out in class with appropriate educational suggestions for using these materials. Moreover, Mizar developed and adapted more than 1000 learning objects and suggestions that nowadays you can find in <i>Planeta Saber</i>, the online Encyclopaedia of the <i>Grupo Planeta</i></p>

<sup>4</sup> <http://www.mizarmultimedia.com>

	( <a href="http://www.planetasaber.com/default.asp">http://www.planetasaber.com/default.asp</a> ).
USER GROUPS	Mizar wants to develop the platform for the lifelong learning of the Spanish that gathers the opportunities that the new technologies offer, with an approach for competences, adapting them to the different persons and situations, and from a more multicultural point of view. The specific user groups tackled in the business demonstrator are currently discussed, but will be a subgroup of the Mizar target audience as discussed in the BUSINESS MODEL section.
SETTING	To be defined, see CONTEXT
ROLES	Tentative roles are: requirements analyst, developer adapting and configuring the infrastructure, software tester, pilot designers and evaluators, trainer, public relations officer, pedagogical and content experts, learning designer, content developer, business manager, competence provider, competence assessment provider.
TOOLING	TENCompetence tools, including the PDP
USAGE PROFILES	Personal Development Plan (and probably others)
AIM AND EXPECTATION OF THE DEMONSTRATOR	Since Mizar Multimedia SME started its activity, it has developed and centred its interest on the lifelong learning by means of developing materials and dissemination for other companies and editorials, and now it has the opportunity, with the TENCompetence new tools, to develop its own service for further dissemination and consolidate its own language courses.
CONTEXT, BUSINESS MODEL, AND RELEVANCE OF TENCOMPETENCE FOR THE DEMONSTRATOR PILOT CONTEX	<p><b>Value proposition</b></p> <p>The knowledge of languages has turned into one of the basic skills for all the persons into a world increasingly global. The Spanish is, besides, one of the languages of major expansion in the whole world. An increase of the interest for the Spanish language has been stated, especially in countries like Brazil, the United States, United Kingdom or, in general, the Asian continent. Therefore, there is an increase of the demand around materials and services for the learning of the Spanish using the new technologies.</p> <p>The language learning market presents new challenges: it needs to be continuously adapted to the concrete requirements of the lifelong learners (segmentation and adjustment to the personnel and professional needs, and not only as an answer to the formal educational system), from a multicultural perspective (content with a multicultural vision that answers to the current globalization), and it must focus on the development of a few concrete competences to solve specific situations (abilities to manage oneself in different contexts and sectors).</p> <p>Mizar wants to launch new lines of learning products/ services adapted to contexts and specific <i>addressees</i> (professional, business used in systems of health, etc.). In this sense, Mizar needs to have new platforms enabling the distribution of its contents and putting them at the disposal of apprentices with specific ends.</p> <p>At the same time, Mizar needs, for its commercial expansion to offer services of training and orientation to the trainers/tutors/teachers who want to use the contents and tools of Mizar. The tutos and trainers are mediating among the students and the didactic contents put at their disposal. But, often, they have not the operative and cognitive capacities necessary for its use and management. From a proper training of the tutors in these aspects it is expected a general improvement of the system and a better distribution and marketing of the contents.</p> <p>Mizar wants to offer, as complement and reinforcement of its offer, an on-line system for Spanish tutors' training in the methods created and designed by Mizar. This system would be offered as one more commercial advantage, and a factor of productivity, the Mizar's commercial partnerships that distribute its products all over the world.</p> <p>A pilot experience is being planned with a partner collaborator of Mizar, HDSC from the United States of America (<a href="http://www.hdsc.us">http://www.hdsc.us</a>), who develops immersion language programs (called SpeakNow! Spanish) en New Hampshire, USA that involve industry specific application with culturally specific interactions.</p> <p>Mizar collaborates in SpeakNow! Spanish, which offers a variety of lessons, workshops, seminars, and professional coaching sessions throughout the year, as an integral part of its lifelong learning and training duty. Topics include Language Development, Media and Communication, and a variety of specific topics always in Spanish language, answering the particular concerns or their costumers. Currently the learning programs require personal presence and they are presented with multimedia and multiplatform materials. These materials answer the specific needs and competences needed to be developed by the attendants (as individuals and as a company worker).</p> <p>The development of the services platform for lifelong learning with TENCompetence tools is a new <b>opportunity for offering specific Spanish training services to tutors and to students with specific needs, not only as a support to the face-to-face activities, but also as a system to improve the distribution and dissemination of contents that Mizar has already developed.</b> In conclusion, it will give continuity to the work done and it will become a loyalty tool offering complementary services to the existent ones.</p> <p>The basic values for which we seek with the development of the demonstrator are:</p> <ul style="list-style-type: none"> <li>• <b>flexibility</b>, content, product, technological, and service adaptability for learning requirements and competencies development in different media and cultural contexts;</li> <li>• <b>commitment</b> to the <i>client/ user</i>, knowing their social and professional needs, and to provide</li> </ul>

	<p>the knowledge in order to obtain the best results in the learning process;</p> <ul style="list-style-type: none"> <li>• <b>reliability</b>, quality is the basic premise for developing the demonstrator;</li> <li>• <b>innovation</b>, the capacity to develop original projects with concrete answers to the needs of the learners by using the new technologies appropriate for a global context in today's society without losing sight of the local context. It promotes web-content development (web 2.0), so it reinforces ICTs among the target (digital literacy).</li> </ul> <p><b>Market segment</b>  <u>Persons that wish to learn Spanish Language communication skills</u>, including cultural expectations, for specific contexts, through interactive, adult-centered, pedagogy.          And, second but not less important, <u>Spanish tutors and trainers</u> who need to use Spanish as second language methods and contents.</p> <p>The market segmentation will be essential: recognizing that different market segments and the different needs they have in order to define and organize the competences. People that want to develop their competence in Spanish language for a specific context and purpose (E.g., professional development, services, medical attendance, social development) that is to be able to apply their knowledge in a manner consistent with cultural expectations. Even if it may be open to anyone interested around the world, the demonstrator is thought for the persons who attended to the SpeakNow! Spanish Programs. In this case, we have a direct target of around 300 students every year, and around 50 business companies and institutions that have been interested in the program. It would be offered as a lifelong Spanish learning service to the people and companies that has been participating in the programs (whose face-to-face training cost vary from \$75 to \$1,500 depending on length and time and program).</p> <p>From the experience Mizar has, the following core targets (individual or through the company) have been defined (examples of some customized competence “programs” by sectors that could be offered):</p> <ul style="list-style-type: none"> <li>• Healthcare area</li> <li>• Law</li> <li>• General Business</li> <li>• Tourism area:             <ul style="list-style-type: none"> <li>○ travel,</li> <li>○ tourism,</li> <li>○ hospitality,</li> <li>○ restaurant services, etc.</li> </ul> </li> <li>• Art</li> <li>• Import / export business industries / companies</li> </ul> <p>• Spanish tutors: the growth of the Spanish all over the world makes that a lot of Spanish tutors need more training, support and materials.</p> <p>In general, Mizar focuses on adult persons mainly, formal and informal teams or individuals, and on formal and informal learning and training.</p> <p><b>Competition</b>          Most important <u>competitors</u> are the publishing companies, the academies, the distance and/or online Spanish courses and resources.  <u>Publishing companies</u> are, at the same time, potential customers of Mizar. So Mizar would reinforce its differential value in comparison with other existent methods.  <u>Academies</u> are usually based in the face-to-face learning, so Mizar can complement the learning process.  <u>Distance or online Spanish courses and resources</u> are usually does not offer neither UoL for specific needs, nor the chance to use regular methods as support.</p> <p><b>Competitive values</b>          There are many differential activities that will help Mizar to create <u>special value and competitive advantages</u>:</p> <ul style="list-style-type: none"> <li>• Knowledge in specific learning Spanish materials development</li> <li>• Linguistic team with more than 8 years of experience</li> <li>• Focus in the development of competences</li> <li>• Existing contents that will help to centre the efforts in providing and adapting the TENCompetence services to the target and the purpose, so that the activities will create value that exceeds the costs of the service</li> <li>• Experience on transforming the contents into a lifelong learning service organized in competences adapted to specific contexts</li> <li>• Marketing &amp; Sales activities have the advantage of a click &amp; brick strategy:             <ul style="list-style-type: none"> <li>○ Channel selection:</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>▪ Open channel through internet</li> <li>▪ Promoting awareness among specific targets by means of “presential” courses, people interested on consolidating their learning</li> <li>○ Lifelong buyers interests</li> <li>○ Business and sectorial targeting for communicational purposes</li> <li>○ Focus on TENCompetence demonstrator as a service to maintain and supply customer / learner support for their needs of Spanish for specific contexts</li> </ul> <p><b>Revenue generation and costs-revenues</b> will be generated in two lines:</p> <ul style="list-style-type: none"> <li>• Focus in complementary services is the means to consolidate the sales and the use of contents and Spanish methods that Mizar has in the different markets in the world: support and reinforce the existing offers. So that it will be a differential value to the publishing houses that commercialize Mizar methods.</li> <li>• Commercial (eventually) offer for subscription service:             <ul style="list-style-type: none"> <li>○ More materials (for tutors)</li> <li>○ Units of learning and contents to go further in their learning process</li> <li>○ Specific contents for specific contexts of use of the Spanish language</li> </ul> </li> </ul> <p><b>Cost structure</b> will take advantage of structure that Mizar already has for the Spanish methods development, reinforced with technical developer and webmaster for the following.</p> <p>Mizar already has a linguistic team to develop their Spanish methods and contents, which includes linguists, educationalists, designers and multimedia experts so the demonstrator development will become a part of their job to create synergies among the contents and services offered.</p> <p>In summary, <b>Mizar’s competitive strategy</b> is based on three axes:</p> <ul style="list-style-type: none"> <li>• To <u>give a differential value for its Spanish methods</u> and a value that will make Mizar’s methods more complete and updated.</li> <li>• To <u>focus on a niche</u> with high interest:             <ul style="list-style-type: none"> <li>○ Learners with specific needs and contexts, that means to adapt the learning process to the different contexts of use. That means a different offer (different in objectives, objects of learning, time and context of practise and development).</li> <li>○ Tutors and trainers because it recognizes the important role that they play in lifelong learning strategies.</li> </ul> </li> </ul> <p>To <u>promote the loyalty</u> of the learners who already followed the SpeakNow Spanish! In other words, to take advantage of their participation in the program in order to attract their interest to improve their proficiency levels around the Spanish Language competences.</p>
<p>SUMMARY OF THE BUSINESS MODEL</p>	<p>Mizar has created general methods of Spanish learning for foreigners, both online and offline, mainly for other companies. TENCompetence provides Mizar to add a differential value in their chain of value. Content suppliers' training will improve the current chain of Mizar's value, and, consequently, its value for its commercial associates, clients and related institutions reinforcing its position on the market.</p> <p>The use of the services and tools of TENCompetence can allow the distribution and management such resources for specific purposes and singular contexts of lifelong learning and overcoming the barriers of space and distribution, as well as reinforcing the competitive current strategy.</p> <p>Schema:</p> <pre> graph LR     MC[Mizar Contents] --- P[+] --- NP[New Platform]     NP --&gt; MP[More publics]     NP --&gt; MT[More tools]     MP --- NS[New Services]     NS --- SS[Subscription serv.]     </pre>
<p>ABILITY TO CONTINUE WITH THE BUSINESS MODEL ONCE SUCCESSFUL</p>	<ul style="list-style-type: none"> <li>• Mizar has succeeded in the development of Spanish learning contents, materials and services during more than 8 years. It has experience and credibility among the Spanish as second language market. Espasa, Barsa Planeta, Pearson Group Paravia Bruno Mondadori, Zanichelli Editori, Espasa, Grupo Planeta, etc. evidence this reality.</li> <li>• Mizar will integrate the online new service through TENCompetence that complements its actual services and content developments so that:             <ul style="list-style-type: none"> <li>○ Integrates the linguistic and educationalist team that Mizar has</li> <li>○ Complements and reinforces the services that Mizar gives to their clients, educational publishing companies mainly</li> </ul> </li> <li>• Mizar collaboration with HDSC at the USA with the SpeakNow Spanish! assures that the course assistants (persons and groups interested in learning Spanish and which interests</li> </ul>

	have been identified) become a key target with high potential to become customer for a language service.
COMPETENCE PROFILES AND COMPETENCES INVOLVED	To be defined, but see Business Model for the overview of the tentative competence profiles for the business demonstrator.
TRAINING NEEDS	Mizar staff requires training around the TENCompetence tools. They are mainly creators of contents, which need to be adapted to the new infrastructure. Besides, manuals and training sessions initiating users in the use of the TENCompetence infrastructure are also needed for trainers (tutors, teachers, etc.) and the learners.
IMPLEMENTATION PLAN	<p>The details are currently under development. However, the implementation plan will include the following tasks:</p> <ul style="list-style-type: none"> <li>• Become more familiar with the TENCompetence concept and infrastructure</li> <li>• Select the usage profiles</li> <li>• Define the specific setting, and competence profiles (organisations, professions, sectors, persons)</li> <li>• Create the learning paths (competence development plans/programs) for each competence. This includes the elaboration of the learning units and activities and the links to the Mizar content (learning resources)</li> <li>• Define the assessment approach, adapting and implementing it for a person or a group / team.</li> <li>• Specify the evaluation plan</li> <li>• Configure and populate the infrastructure (TENCompetence services, and portal/GUI container)</li> <li>• Execution with the actual users</li> <li>• Make follow-up of the tools and services, adaptability to users.</li> <li>• Perform the evaluation</li> </ul>
EVALUATION PLAN	The evaluation plan is under development at the moment.

**Table 9. Description of the DobleVia Business Demonstrator following an adaptation of the template suggested in Chapter 5**

<b><i>DobleVia business demonstrator</i></b>	
<p>SHORT DESCRIPTION: DobleVia, a non-profit company of educational, social and cultural services, will be using the TENCompetence tooling within its organization. The goal of this business demonstrator is offering training opportunities for competence development to their employees, which typically have changing job requirements. The demonstrator will involve three competence profiles (Educator, Monitor and Informer).</p>	
<p>NAME AND DESCRIPTION OF THE ASSOCIATE PARTNER</p>	<p>DobleVia is non-profit organization that supplies educational, social and cultural services (<a href="http://www.doblevia.coop">http://www.doblevia.coop</a>). Has 170 personnel working in management, project coordination, social dynamizing activities, education, monitoring, informing and administrative personnel.</p>
<p>USER GROUPS</p>	<p>DobleVia is an organization:</p> <ul style="list-style-type: none"> <li>• that wants to distribute and manage new and expert knowledge within the organization/workplace. This knowledge is linked with the responsibilities and functions expected in the employees according to the different competence profiles required by the organization.</li> <li>• that has to train personnel to learn specific (new, complex and changing) job requirements (e.g., training a monitor that wants also to be an educator, or simply training a new monitor so that his or her proficiency level increases).</li> <li>• that produces knowledge, and wants to manage the exploitation, management and dissemination of knowledge (e.g., one team design activities or seminars with the objective of developing their competences, DobleVia wants to collect these activities and share it with another teams).</li> </ul>
<p>SETTING</p>	<p>Users will perform their competence development plans from their own workplace: either their own desk (if they have a computer with Internet connection) or a common computer room provided by the organization. It would be possible for users to work from homes, but it is not expected to be the rule.</p>
<p>ROLES</p>	<p>DobleVia acts as a user organization which will work around competence development plans associated to three different profiles: Educator, Monitor and Informer.</p> <p>The main roles involved in the demonstrator will be: System manager (probably in charge of the GUI container integrating TENCompetence tools, acting as help-desk assistant, etc.), human resource manager (acting as competence, competence assessment, competence-development plans provider, etc.), learning technology expert (providing support with the learning resources), experts and a potential audience of 140 employees (the invitation of participation in the pilot will be done in an incremental basis, starting with a group of 20 employees).</p>
<p>TOOLING</p>	<p>The main tool that will be applied in this demonstrator is the PDP tool (web client).</p>
<p>USAGE PROFILES</p>	<p>Personal Competence Plan and ePortfolio usage profiles.</p>
<p>AIM AND EXPECTATION OF THE DEMONSTRATOR</p>	<p>The main aim of the demonstrator is to support DobleVia's employees in their competence development regarding the profiles required by the organization. The demonstrator pilot also aims at offering opportunities for internal promotion, making possible, for example, to monitor the development of the required competences.</p>
<p>CONTEXT</p>	<p>DobleVia offers social and educational services in which its employees should master a broad set of competences that enables them to resolve daily issues, to do relationships with the clients, participants, make memorandums and statistics, etc.</p> <p>In this context, DobleVia will define three competence profiles (Educator, Monitor and Informer) with the associated competences and competence development plans.</p>
<p>BUSINESS MODEL</p>	<p>The benefits of this demonstrator pilot are mainly internal to the DobleVia organization (see also "USER GROUPS" section):</p> <ul style="list-style-type: none"> <li>• Provision of a tool that facilitates the work of the human resource manager</li> <li>• Personnel mastering several competence profiles</li> <li>• Lifelong learning opportunities for its employees (kept up to day)</li> <li>• Knowledge sharing among employees</li> </ul> <p>Of course, these benefits are also expected to enhance the quality of the services offered by</p>

	DobleVia.
RELEVANCE OF TENCOMPETENCE FOR THE DEMONSTRATOR PILOT CONTEXT	The application of the TENCompetence solutions in DobleVia will represent an importance change in the organization, which does not have till the moment any competence development policy for its employees (see also “BUSINESS MODEL” section)
COMPETENCE PROFILES AND COMPETENCES INVOLVED	<p>The competences that define the minimum requirements for the three competence profiles of this demonstrator pilot are:</p> <p><b>Competence profile “Informer”:</b></p> <ul style="list-style-type: none"> <li>• Being able to manage the flow of information between customer and service (to inform the potential audience, being able to identify incidences and suggestions)</li> <li>• Being able to manage the offered services (participants database, statistics, documentation)</li> <li>• Capacity for dealing with (new) clients and participants</li> <li>• Coordinating with the rest of the team</li> </ul> <p><b>Competence profile “Monitor”:</b></p> <ul style="list-style-type: none"> <li>• Being able to perform different types of socio-educative activities (propose, plan, execute and evaluate)</li> <li>• Being able to document different types of activities and their results</li> <li>• Group work</li> <li>• Being able to act in unexpected situations</li> </ul> <p><b>Competence profile “Educator”:</b></p> <ul style="list-style-type: none"> <li>• Project management (design, planning, development and evaluation)</li> <li>• Managing objectives (formulation and evaluation)</li> <li>• Methodology (design and implementation)</li> <li>• Being able to perform different types of socio-educative activities (propose, plan, execute and evaluate)</li> <li>• Being able to create content</li> <li>• Elaboration of reports</li> <li>• Application of quality standards</li> <li>• Incidences and suggestions management</li> <li>• Proposing strategies of community development</li> </ul>
TRAINING NEEDS	Training materials on the TENCompetence tooling (and probably also a specific event in DobleVia) will be needed.
IMPLEMENTATION PLAN	<p>The rough plan is the following:</p> <ul style="list-style-type: none"> <li>• Determine the competences associated with the three competence profiles (Educator, Monitor and Informer). The result of the initial efforts is shown in the “COMPETENCE PROFILES AND COMPETENCES INVOLVED” section.</li> <li>• Elaborate the competence development plans and embedded activities and resources.</li> <li>• Populate the system with the competence development plans</li> <li>• Execute the demonstrator pilot</li> <li>• Evaluate the demonstrator pilot</li> </ul> <p>The competence development plans and resources for the demonstrator will be developed in February and March 2009. The demonstrator will have two phases. The first phase will be in April 2009 and will involve 6 participants (DobleVia employees) with experience in the area of the competence profiles. The second phase will focus on another 6 participants who have lower proficiency levels in the competences involved in the demonstrator. This second phase will be carried out in June or July.</p>
EVALUATION PLAN	The evaluation plan is currently discussed.

**Table 10. Description of the Altran SDB Business Demonstrator following an adaptation of the template suggested in Chapter 5**

<h3>Altran SDB business demonstrator</h3>	
<p>SHORT DESCRIPTION: The main objective is to study the advantages offered by the TENCompetence solutions when compared to the traditional systems used to manage CVs or those based on knowledge maps. The demonstrator will be carried out in several phases. In the first phase the focus will be on how it is possible to <b>offer the competence development plans more appropriate to the engineers depending on their mastered competences and goals.</b> Other desired functionalities will be:</p> <ul style="list-style-type: none"> <li>• Find the more appropriated experts to work in a determinate project</li> <li>• Find experts to solve technical issues</li> <li>• Find what job offers are more interesting for a concrete candidate</li> </ul>	
<p>NAME AND DESCRIPTION OF THE ASSOCIATE PARTNER</p>	<p>Altran SDB is an organization of 900 employees, around 800 of them engineers that manage and develop projects in practically all the engineering fields. It is organized in four divisions: Aerospace and Defense, Industry, Telecommunications and Auto-motion. Each division with several knowledge areas. It offers to its clients three kind of services: project development, managed services, and consulting services. It is structured as shown in the figure below:</p> <p>Over these areas it has been created the “Excellence Centres” that brings together the experts in each area to capitalise the knowledge generated in the projects. The aim of this pilot is restricted to Aerospace division, mechanical engineering group (ING. MECÁNICA in the figure).</p>
<p>USER GROUPS</p>	<p>All the groups related to the training, managing and selection of the engineers, the employed engineers and the candidates. It is: Training Department, RRHH Department, Managers, Aeronautics Engineers and potential Candidates.</p>
<p>SETTING</p>	<p>For this demonstrator the users will be selected from the Aerospace division in the mechanical engineering group to perform their competence development plans from their own workplace, either their own desk in Altran SDB offices or in the client’s offices.</p>
<p>ROLES</p>	<p>Possible roles involved in the pilot:</p> <ul style="list-style-type: none"> <li>Manager – 1 person</li> <li>Human Resource Responsible – 1 person</li> <li>Competence manager-1 person</li> <li>Learning technology experts (learning designer, content developer, teachers)- 2-4 people</li> <li>Engineers- 10 people</li> </ul>
<p>TOOLING</p>	<p><b>PDP- Personal Development Plan tool</b> <b>LearnWeb2.0</b></p>



	<p><b>Overview tool</b> Probably also the LD authoring and runtime systems (ReCourse learning Design Editor and SLeD) Optionally the integration of all tools into <b>LifeRay Portal</b> will be considered.</p>
USAGE PROFILES	<p>Altran estimates that all nine usage profiles can be applied to this demonstrator (when the tooling is available)</p> <ul style="list-style-type: none"> <li>• follow course</li> <li>• create course</li> <li>• personal development plan</li> <li>• knowledge management</li> <li>• overview</li> <li>• e-portfolio</li> <li>• competence assessment</li> <li>• matching competence on job profiles</li> <li>• social help</li> </ul>
AIM AND EXPECTATION OF THE DEMONSTRATOR	<p>The main objective is to study the advantages offered by the TENCompetence solutions when compared to the traditional systems used to manage CVs or those based on knowledge maps.</p>
CONTEXT	<p>As we have already mentioned Altran SDB Technologies offers to its clients three kind of services: project development, managed services, and consulting services. In the three kinds of services the Altran SDB engineers must have a set of requirements of knowledge and accumulated experience, which permit them to successfully accomplish the challenges and difficulties of the projects. In this way, it is necessary to define the generic profiles to cover in the Altran SDB projects and concrete them with the particular knowledge and experience needed in each of them. In the same way, the professional development of the engineers should be joined to their (expected) competences (knowledge and experience) and to the role that they have to play in the project.</p> <p>The demonstrator will be developed in three phases:</p> <p><b>Phase I</b> In this first phase the Centre of Excellence for Mechanical Engineering of Altran Technologies in Spain will be involved.</p> <ul style="list-style-type: none"> <li>• How the system offer to an engineer the right training courses for her/his competences and objectives will be shown.</li> <li>• And if possible: <ul style="list-style-type: none"> <li>- How experts can be found by indicating some competences will be shown.</li> <li>- How a manager can find the right candidates for a project introducing the expected competences will be shown.</li> <li>- How a candidate can receive, automatically, the right job offers for his knowledge will be shown.</li> </ul> </li> </ul> <p><b>Phase II</b> The demonstrator will be extended with information corresponding to the same competence areas from Altran SDB CIS in Spain and another competence area will be included too.</p> <p><b>Phase III</b> Real information over some engineers, job offers and training courses of the Experts Virtual Communities of Altran SDB will be included into the demonstrator. We expect to demonstrate the utility and added value of TENCompetences in big multinational companies distributed in multiple countries.</p>
BUSINESS MODEL	<p>The benefits of this demonstrator pilot are mainly internal to the Altran SDB Technologies organization:</p> <ul style="list-style-type: none"> <li>• Provision of a tool that facilitates the work of the managers and human resource department</li> <li>• Personnel mastering several competence profiles</li> <li>• Lifelong learning opportunities for its engineers.</li> <li>• Knowledge sharing among employees</li> <li>• Provision of a tool that facilitates the work of the training department.</li> <li>• Improvement of efficiency in project development as engineers will access to better training and will be able to receive support from experts.</li> </ul> <p>Of course, these benefits are also expected to enhance the quality and the response time in the services offered to the clients, mainly in the consulting services.</p>



RELEVANCE OF TENCOMPETENCE FOR THE DEMONSTRATOR PILOT CONTEXT	It represents an important change in the way of managing the competences that imply new and better activities in the selection processes of engineers to work in a project and in the definition of the training necessities. It will also improve support facilities.
COMPETENCE PROFILES AND COMPETENCES INVOLVED	The competence profiles of the engineers in the area of study will be defined in the first phase of the pilot.
TRAINING NEEDS	All products manuals will be needed (PCM, PDP, Web2.0, etc.). Localized versions of the software will be preferable. Training in the use of all tools, as well as constant help support service.
IMPLEMENTATION PLAN	<ul style="list-style-type: none"><li>• To define and to map the Company's Competences in this area.</li><li>• Creation of Learning Paths in the area of Mechanical Engineering and the association of covered and required competences.</li><li>• Creation of the portfolio of Competences for a certain number of engineers with experience in the areas of interest.</li><li>• Mapping of required competences in some of our job offers in the areas of interest.</li><li>• Mapping of the competences of some candidates in the area of interest.</li><li>• System customization.</li><li>• Execution of the demonstrator</li><li>• Evaluation of the demonstrator</li></ul>
EVALUATION PLAN	The evaluation plan is currently discussed.