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Project Deliverable Report

D10.3 - Report with an assessment of the WP results including ID10.7-ID10.11

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Contributors	Christopher Kew, David Griffiths		
Authors (Partner)	OUNL, ALTRAN, LOGICA, FBM-UPF, ILABS, CERTH/ITI, UHANN, INSEAD, University of Bolton, UvA, SU, SURF, SYN, UNESCO-IHE, Agora		
Contact Person	David Griffiths (University of Bolton)		
WP/Task responsible	Christopher Kew (University of Bolton)		
EC Project Officer	Mr. M. Májek		
Abstract (for dissemination)	This report summarises Dissemination work carried out by the TENCompetence Project between months 30 and 42. It includes sections on workshops and events, standardisation of project outcomes, awareness raising and the TENCompetence Foundation, business models and interim sustainability plan.		
Keywords List	Valorisation, dissemination, events, outcomes		

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1. Reading guide

Following the format used with the equivalent report during project year 3 (D10.2), the layout of this report is intended to provide easy access to information pertaining to the principal achievements of WP10 during the last twelve months. An overview of work carried out between months 30 and 42 is provided in the introduction and a more detailed report on activities is available in the main body of the report.

Readers looking for a detailed breakdown of WP10 outcomes for this period are referred to the appendices at the end of this report.

The introductory chapter of this document summarises the work of WP10 and outlines five of the key tasks which fall within its remit namely; tasks 10.1, 10.2, 10.4, 10.5 and 10.6.

Section 3 of this deliverable covers work on efforts carried out to raise awareness and ensure the availability of project outcomes (peer reviewed papers and software) to relevant stakeholders. This work falls within the scope of task 10.1.

Events organised by TENCompetence make up the content of the fourth chapter in this report which corresponds to work carried out under task 10.2. These events include workshops and conferences organised by consortium members for the purposes of awareness raising.

Task 10.4 covers work in the field of standardisation within the project, details of which can be found in chapter 5 of this report.

Chapter 6 of this report relates to task 10.5, the “Promotion and Support of the Development of the Foundation”. Work carried out here between months 30 and 42 focuses mainly on the recruitment of contacts for potential subscriber and associate partner status. Work to set up the Foundation is ongoing, and will be reported in the TENCompetence Sustainability Plan.

Chapter 6 also describes work on task 10.6, Business Models Version 2. This builds on work started in DIP3 to analyse current lifelong competence development topics from a “real world” perspective and focuses on how project partners consider the issue of lifelong learning and the relevance of TENCompetence. A methodology is described for carrying this work forward in the final phase of the project.

2. Introduction to WP10 (Dissemination and Valorisation)

This deliverable builds on the work of D10.2 and reviews dissemination and valorisation efforts carried out in TENCompetence work package 10 between June 2008 and June 2009. It applies the same definition of dissemination and valorisation as used in D10.2, namely, “any activity[ies] directed at raising awareness of the project aims and objectives, as well as its outcomes, to the wider community”.

The dissemination efforts of WP10 are intended to raise awareness of the project and its outcomes among key stakeholders and the public more generally. Furthermore, it is anticipated that the work of work package 10 will contribute to the uptake and deployment of the TENCompetence system throughout Europe and that a core user group will carry on the maintenance and development work of the TENCompetence system once the project funding period has expired.

The dissemination channels for the research development and integration work of the project include open workshops, conference presentations, flyer distribution and poster exhibitions. Academic journals and conference proceedings are also used to communicate in-depth research findings and outcomes.

The work of WP10 is determined by the Detailed Implementation Plan (DIP) 3 and DIP 4 which outlines details of tasks to be performed. Each of these tasks, six in total, and the concomitant results obtained to date are summarized below with the exception of task 10.3 (*Pro-active internal dissemination*), which has no tangible outcomes to report save a collection of internal newsletters.

Task 10.1: Raising awareness and ensuring availability of project outcomes

This task lies at the core of the WP10 remit and is intended to keep the public abreast of project developments and to provide a gateway to the various outcomes which are available for download and viewing. These gateways include the TENCompetence website <http://www.tencompetence.org> which represents the public face of the project as well as the project repository (DSpace) at <http://dspace.ou.nl/handle/1820/496> and Sourceforge (<http://sourceforge.net/projects/tencompetence>). An additional project portal is due for delivery shortly in the form of a Liferay installation for use by project subscribers and partners. This will become the Foundation Website at the end of the project.

During the last twelve months 51 papers have been submitted and accepted for publication in journals and conference proceedings. More details of these outcomes are available in Appendix 1.

Task 10.2: Organizing workshops and events

As mentioned above, WP10 seeks to raise awareness of the project aims and outcomes through a range of activities including the organization and delivery of workshops and events. At the time of writing, the project has organised and delivered six open workshops in four different European countries. With the exception of the latest workshop, all of these events included a call for papers and resulted in published proceedings. During this reporting period, the 5th TENCompetence Open workshop attracted over fifty participants and fifteen papers were published in the proceedings. Whilst the April 2009 event attracted 50 delegates,

participants were recruited from industry in keeping with recommendations by the commission to disseminate the project outcomes to non-academic stakeholders and no papers were published.

As well as helping to publicize the project, the workshops serve to recruit, subscribers and, in some cases, Associate Partners who will actively participate in the work of the project Foundation.

Further awareness raising events include the annual Winter School held in Innsbruck in February 2009. These events have, over the last four years, established a tradition of excellence in research and knowledge exchange.

Feedback from the project review indicated that greater emphasis should be placed on events where the priority target audience of Human Resources Managers, Personnel Managers, and representatives of social agencies would be represented, i.e. fairs and conferences on HRM etc. As a result the project had a stand at Employment Week in Brussels, and will participate in two more trade exhibitions in the coming months, as well as organizing a workshop in parallel with the Chartered Institute of Personnel Development annual conference.

Task 10.4: Promoting standardization of project outcomes

In addition to monitoring developments in the extensions and creation of specifications, this task ensures that these developments are fed back to standards making bodies and that the project is active in the appropriate working group. Work has been carried out with respect to a learning path specification, the provision of services in IMS LD, competence profiles and assessment.

Task 10.5: Promotion and support of the development of the Foundation

In this task, the work of WP10 includes the implementation of facilitation of the TENCompetence Foundation process defined by management. In order to promote the Foundation, WP10 will supervise the production and distribution of dissemination related materials (articles, press releases, newsletters, promotional and demonstration videos) by the various partners. It will, of course, also work to produce and disseminate the aforementioned in addition to coordinating the efforts of others.

WP10 will play a role in helping to forge a Foundation identity and to provide a public face for the Foundation and its activities. The Foundation will take over ownership of TENCompetence project outcomes, and maintain and promote them in the future. In the first instance project partners will be invited to become full members, but other organizations will also be invited to join as aspirant partners (including the present associate partners). Similarly project contacts will be invited to join as subscribers. The former can follow developments through regular newsletters and can participate in forums based around stakeholder communities and events whilst associate partners will essentially have more direct involvement in the maintenance and development of Foundation software and activities.

Since the inception of the project, WP 10 has maintained a list of contacts who have expressed varying levels of interest in the TENCompetence project. It is anticipated that subscribers and associate partners of the Foundation will, for the most part, be recruited from this directory which currently includes 148 contacts drawn from academia as well as industry the world over. The project also includes 31 associate partners (see Appendix 4 for details).

Task 10.6: Define critical use cases and potential business models

In this period consultations were carried out with partners to identify specific business models for use of the Personal Competence Manager, but they proved unable to be sufficiently concrete to provide a basis for analysis from first principals. Consequently work on this task has focused on identifying a modelling framework which can support us in analysing the context in which the TENCompetence infrastructure will intervene, and enable us to articulate the value proposition in a formal way. Osterwalder's methodology has been selected and a Template prepared. A process of consultation has been initiated, primarily with project partners, to make use of the template in elucidating the business models supported by TENCompetence. It will be applied to the three domains of TENCompetence activity: E-learning, Personal Competence Development and Knowledge Management.

A second template has been prepared to gather partners own sustainability plans. This sheds light on the business models supported by TENCompetence in much more specific and less generically applicable way. The template was completed by all main partners, and the results summarized in a grid for analysis. The individual partner plans, developed with this template, are available in Appendix 6 to this deliverable, as part of the interim sustainability plan.

3. Awareness and availability of project outcomes

In order to raise awareness of the project aims and outcomes, WP10 works to provide easy access of all scientific outcomes including papers, software and related manuals. To these ends the project provides access to open source channels such as DSpace (<http://dspace.ou.nl/handle/1820/496>) where stakeholders can download and read academic research papers (published and unpublished) produced since the beginning of the project. Links to published outcomes focusing on the Research and Technological Design and integration outcomes of the project (papers, book chapters etc.) are also made available through the front page of the public site (www.tencompetence.org).

Access to server software is provided through Sourceforge (<http://sourceforge.net/projects/tencompetence>) and web applications are currently listed at <http://www.tencompetence.org/node/182> with links to manuals and guides where available.

This document provides an inventory of all scientific outcome publications produced in the last twelve months, available in Appendix 1. They fall into one of two categories:

a) those publications which satisfy the project quality control criteria for scientific outcomes, as set out in the project handbook and which have been published.

b) those scientific and technology publications which have been submitted and accepted but not yet published Outcomes published between month 30 and 42 include:

- 3 Book Chapters
- 13 Journal articles
- 36 Articles from Proceedings.

4. Organising Workshops and Events

Public awareness raising is a key component of the WP10 dissemination strategy and WP10 actively seeks to disseminate outcomes to confirmed and potential stakeholders through the organisation and delivery of public events such as workshops and conference tracks. In the last twelve months the project has organised three events independent of other organisations, and co-organised a fourth event with the Salzburg Research Institute in Austria.

The two principal categories of project workshop are Open Workshops organised for and on behalf of WP10 by core partners, and events which are co-organised with other organisations or which are organised within the scope of a larger event. The project also organizes an annual Winter School event for stakeholders with a research interest. These events are, for the most part, attended by PhD and post-doc researchers and they serve to further disseminate information within the research community.

The following lists the above workshops and events and assesses their impact where possible. In addition to these events, it should be noted that the project engaged in numerous other dissemination activities which do not feature in this section of the report but which are briefly mentioned here as testimony to the efforts made to publicise the project and its outcomes.

4.1. Open Workshops

With 14 European partners across 9 European countries, the TENCompetence project can expect to benefit from dissemination efforts within these member countries. To ensure that this happens, larger project partners are tasked with hosting and running at least one dissemination event during the project lifetime.

These events are usually scheduled to run immediately before or after a closed project meeting and are hosted by the partner with responsibility for organizing the meeting. To date meetings and events have taken place in the Netherlands, Spain, the UK, Bulgaria and Greece.

In addition to these events, the project actively seeks opportunities to organise pre or post conference workshops TENCompetence presence at large TEL events (e.g. OEB 2009).

All event proceedings can be accessed www.tencompetence.org

To date there have been six open workshops organised independently of any other event, workshop or conference. Those organised and run since month 30 (May 2008) include:

1. *Stimulating Personal Development and Knowledge Sharing: The 5th TENCompetence workshop (October 2008 - Sofia, Bulgaria)*

The call for papers for this workshop resulted in the submission of thirty papers of which fifteen were included in the workshop proceedings and nine of these ear-marked for publication in the International Journal of Continuing Engineering Education and Life-Long Learning (IJCEELL).

<http://www.inderscience.com/browse/index.php?journalID=6>

These are available as a PDF file at: <http://dspace.ou.nl/handle/1820/1961>.

The attendees included a large contingent of Bulgarian, British, Spanish and Dutch participants of a total of 63 delegates.

2. Exploring lifelong competence development: TENCompetence Workshop (April 23rd – Utrecht, Netherlands)

Unlike previous Open Workshops, this one day event was organised in the Netherlands for a Dutch audience. The event was intended as a dissemination event for potential end-users <http://www.partners.tencompetence.org/mod/resource/view.php?id=98>

The event attracted 50 participants and resulted in the addition of 8 people to the Foundation contact list.

4.2. The Winter School

Over the last four years, the TENCompetence Winter Schools have become synonymous with opportunities for training and collaboration between PhD students on TENCompetence related topics.

TENCompetence Winter School 2009

The third TENCompetence Winter School took place in Austria in the first week of February and lasted 5 full days. The programme included 17 different lectures focused on issues relating to competence management in Learning Networks. 25 attendees from 11 countries attended the event. Further details of the event are available from <http://www.tencompetence.org/node/167>.

4.3 Conference track at Edumedia

Further to those events which were organized and run by TENCompetence project partners, the TENCompetence track at the Edumedia conference was the result of collaboration with the Salzburg Research Institute, Austria.

The programme for this event can be accessed at http://edumedia.salzburgresearch.at/index.php?option=com_content&task=view&id=177

Edumedia Conference (2nd-3rd June 2009)

The track consisted of 3-5 time slots with 2-3 presentations per slot and focused on the question of which tools, methods, frameworks and architectures are best suited to support self-organized learners in their competence development process. The event was geared towards the interests of educational technologists, scientists, elearning trainers & teachers and resulted in the addition of several new contacts to the contact list.

The proceedings for the conference can be accessed from here: <http://sunsite.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-349/>

4.4. Future Directions and Activities

With only five months of the funded project period remaining, WP10 is and will continue to focus its efforts on promoting the project outcomes and the Foundation. More specifically, this will result in the organization and hosting of three additional events by the project including a dissemination workshop in Italy, Sestri-Levante organised by local partner ILABS in July 2009, followed by a similar event in Fontainebleau, France organised by local partner INSEAD. The onus will be on promoting the implementation and use of the TENCompetence Personal Competence Manager and the project Foundation. A third major workshop is scheduled to take place as an end-of-project event in November in Manchester, UK. Organised by the University of Bolton, this event will also seek to promote the Foundation, and includes a call for papers for academic presentations. In keeping with suggestions from the commission, all three workshops aim to recruit participants from the fields of Human Resources and industry more generally, to ensure dissemination of the project outcomes to “real world” end users.

Interventions at other events are scheduled and will feature poster exhibitions and flyers (ALT-C, Zukunft Cologne, OEB).

5. Promoting standardization of project outcomes

Standards and specifications play a pivotal role in the TENCompetence project which seeks to implement them wherever they are available and to develop them wherever a gap is identified. A number of consortium partners boast a strong track record in this field including the Open Universiteit Nederland; The University of Bolton, through the CETIS service representing JISC; Giunti Interactive Labs s.r.l.; CERTH/ITI; FD Learning and SURF.

Given the expertise available, it was anticipated that these partners would work to develop a number of specifications for subsequent delivery to standards bodies. However, whilst the provision of relevant input to bodies such as CEN/ISSS, IMS, and IEEE LTSC continues to be an important goal, the project has, in some instances, reassessed its plans to develop entirely new specifications, preferring instead to adopt and adapt existing specifications where appropriate thereby reducing labour overheads and avoiding the needless multiplication of specifications.

The following section provides an overview and status update of standardization work in the project.

5.1. The learning services connector

One example of this rethink includes the work of the learning services connector specification which was initially identified as a requirement of the runtime connection between communication and collaborative services (forums, chats, shared whiteboard, etc.) to learning design engines due to the lack of a standard mechanism in SCORM and Learning Design based runtime engines. Rather than create a specification from scratch, the developers of the connector decided to base their work on the W3C Widget specification (<http://www.w3.org/TR/widgets/>).

A small number of extensions have been developed as part of the implementation. These include extensions to the Widget API, which is defined in W3C Widgets 1.0: APIs and Events. This is the least well developed of all the W3C Widget family of specifications, and, whilst submission of extensions developed as part of the TENCompetence project to W3C or any other standards organisation is possible, further development and implementation of the extensions are required before they can be formalised and promoted to a standards body.

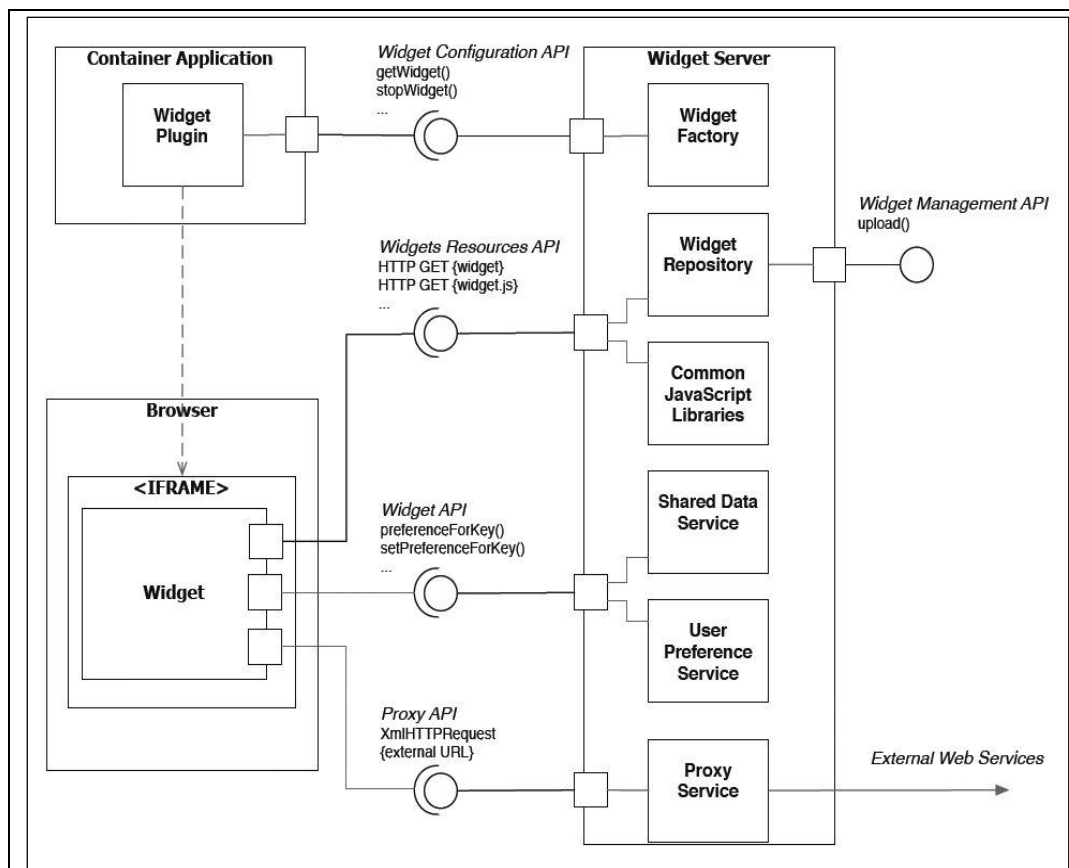
Connection protocol and widget services

There are three parts of the "TENCompetence Connection Protocol" with potential for standardization:

- a) Reference Architecture for a Widget Server
- b) Extensions to the W3C Widgets 1.0: APIs and Events Specification
- c) Widget Service specification.

a) Reference Architecture for a Widget Server

As part of the development of our implementation architecture was defined that is quite generic and could be applied quite easily to implementations in other programming languages or using other protocols. This is elaborated in a number of documents and papers produced by the project; the diagram below summarises the generic model of the reference architecture. Each service interface is elaborated in the architecture; the Widget API is based largely around the W3C Widgets specification.



b) Extensions to the W3C Widgets 1.0: APIs and Events Specification

The project focused on working with the W3C Widgets 1.0 specification as it evolved over the course of this work. A small number of extensions were developed as part of the implementation, and these could potentially be submitted back to W3C or submitted to another standards organisation. The extensions are to the Widget API, which is defined in W3C Widgets 1.0: APIs and Events. This is the least well developed of all the W3C Widget family of specifications, and so any formalisation of the extensions will need to wait until it reaches a more mature state.

The extensions themselves cover the use of shared states amongst Widget instances, and accessing properties defined by the context in which the Widget is running (for example, runtime system preferences, user properties, course details and so on).

c) Widget Service specification

Another aspect of the Widget work has been to develop a simple service specification that enables container applications to request a Widget to be instantiated, and that returns configuration information that the container application uses to render the Widget. There are also additional methods that enable a Widget to be stopped and resumed from the container application. These are elaborated below:

getWidget(String user_id, String run_id, String env_id, String service_id, String type): [String, String, String]

The getWidget() method instantiates (if necessary) and returns the URL and the height and width in pixels for a *widget* of the given *type*. For example:

```
IWidgetAdapter adapter = Dispatcher.getAdapter('WidgetAdapter');
String[3] widget = adapter.getWidget(userid,runid,servid,'chat');
url = widget[0];
height = widget[1];
width = widget[2];
```

The getWidget method results in the following sequence of actions by the Widget Service:

1. The Widget Service checks the WidgetInstances collection to see if there is an existing Widget Instance matching the supplied parameters. If one exists, skip to step 6.
2. Search the Widgets collection to locate a matching *Widget* for the type specified. If none exists, throw a *WidgetTypeNotSupportedException*.
3. Create a new Widget Instance using the supplied parameters, and the Widget ID of the selected *Widget*.
4. Add a randomly-generated Nonce value to the Widget Instance, and generate an *id_key* from the Widget Instance using the Secure Hashing Algorithm (SHA_1).
5. Store the Widget Instance and its *id_key* in the WidgetInstances collection.
6. Generate a URL for the Widget Instance, using the URL value of the Widget from the Widgets collection, plus the *id_key* from the WidgetInstances collection, the Widget Service URL as *url*, and Widget Proxy Service URL as *proxy*. E.g.:
http://my.widget.server/widgets/converter/index.html?id_key=134ab324ed3423b23ff1232d&url=http://my.widget.server/widgets/service&proxy=http://my.widget.server/proxy
7. Obtain the height and width of the *Widget* from the Widgets collection.
8. Return the URL, height, and width as a String Array.

The Learning Design Server should use the supplied URL within an IFrame in the user's application, set to the height and width specified.

stopWidget(String user_id, String run_id, String env_id, String type)

The `stopWidget()` method is equivalent to the `Lock()` method in the *Widget API*. The *Widget* is no longer capable of having its shared data altered.

`resumeWidget(String user_id, String run_id, String env_id, String type)`

The opposite of `stopWidget()`.

Amendments to the IMS Learning Design specification to support Widgets

As a result of the work on Widgets in the project we are ready now to take a fresh look at the "services" aspect of the LD specification and to suggest improvements. Currently we support widgets by adding a "widget={type}" parameter to the Service element; this is not an optimal solution, however, as the type of Widget is clearly not the same as the IMS LD Service type (typically we use "Conference"). Instead we would propose to create a generic service type that can be more easily configured. We would also remove the constraint of requiring a Resource for each Service as in practice this is not needed in the majority of cases.

Suggested vocabularies of common IMS Learning Design Properties

In designing Widgets we identified an issue with the naming of properties; from the perspective of a Widget designer it is not possible to know in advance how the properties of a given unit of learning will be named, and so if a Widget is to interact with IMS LD Level B units it has to be designed for that specific UoL. We suggest identifying a common set of property names, possibly similar to the CMI attributes defined by SCORM that a Widget designer could rely upon. This would not be exhaustive, but should cover common properties such as "score" or "completion" attributes used in conditions.

Exposing Widget Configuration details for authoring tools

The current architecture assumes that all Widgets are configured dynamically at runtime rather than responding to pre-authored settings. However, in many cases it is desirable for authors to configure Widget defaults at design time. This would require that Widgets expose the values they use for configuration (typically set through the `setPreferenceForKey()` method in the *Widget API*) such that the Container Application may set them in advance. To achieve this we would need to define an extension to the *Widget Manifest* enabling a Widget to expose the preference keys they use. This would have imply that a design using such keys would need to be run in an environment where the specific Widget was available at runtime, and not another Widget of similar type; this has implications for the authoring tools and the runtime services for handling this type of semantic gap.

5.2. Assessment Process Specification

IMS-QTI provides no means to support the design and management of assessment processes and to this end work package 6 has developed an Assessment Process Specification. In practice, there are many different assessment process models (sometimes described as assessment plans and scenarios) and new models will be developed. Based on our experience with the development of the IMS Learning Design specification (LD), a standard educational modelling language used to specify a wide range of pedagogical approaches/strategies, we set out to develop an abstract notation based on various assessment process models. We expect

that the abstract notation can be used to specify a wide range of assessment approaches/strategies if not all. In a way analogous to extending IMS Meta-Data and IMS Content Package (CP) to LD, we extended QTI by applying the framework of LD to APS: from a content-based specification to an activity-centric and process-oriented specification. And similar to the term learning design in LD, the term assessment design refers to the formal description of an assessment approach/strategy. Also, similar to the unit of learning (UoL) in LD, a unit of assessment (UoA) in APS is a package of an assessment design and associated assessment resources (e.g., QTI assessment items/tests) using IMS CP.

APS, following common IMS practice, should consist of: (a) a conceptual model, (b) an information model, (c) XML Schemas binding, (d) a Best Practices and Implementation Guide. Among these, the conceptual model is the core of the specification, and this is what has been developed so far. Further information on the APS is available from project deliverable D6.2.

Following further implementation work and validation a decision will be taken on how best to move this specification through the standardisation process.

5.3.Learning Path Specification

In the abstract of their paper entitled “Towards a learning path specification”, Jansen et al (2007) write:

“Flexible lifelong learning requires comparability and exchangeability of courses, programmes and other types of learning actions both in a national and international context.....in order to achieve comparability and exchangeability a uniform and meaningful way to describe learning paths towards attainment of learning outcomes is needed.”

(Jansen et al 2007:77)

Drawing on literature from the fields of lifelong learning and curriculum design, the paper goes on to examine the potential role of the IMS-Learning Design specification which, with its ability to “define the completion of learning paths and its constituent parts as well as [having] an expression language to explain all kinds of conditions” is identified as a possible candidate on which to build the learning path. As well as presenting the main elements of the learning path model, the paper maps them onto the IMS Learning Design specification.

The initial model of the spec was delivered in D7.1 and is available at <http://www.partners.tencompetence.org/mod/resource/view.php?id=353>.

Details of this work have been forwarded to the Dublin Core Education Application Profile Task Group which is developing an Education Application Profile. Ensuing discussions indicated a willingness on the part of the Dublin Core task group to work towards a harmonisation of work undertaken by TENCompetence in the development of the learning path specification in order to avoid any duplication of work and so that the task group can take any relevant aspects of the TENCompetence work into account in the development of their DC_Education Application Profile.

Drawing on this work the team has worked with CEN/ISSS/WS-LT and developed a proposal for a CEN Workshop Agreement (CWA) on Learning Path Descriptions. Funding has been sought by these partners to pursue this line of work, which has so far not been forthcoming.

5.4. Competence profile standard

IEEE has established a standard for Reusable Competency Definitions (WG20)¹, but there is no accepted standard for competence profiles. During the period of the TENCompetence IEEE has been carrying out an initiative to remedy this by establishing a standard for competence profiles and maps. TENCompetence has engaged with this process and provided input from its own domain model, but progress has been slow. Nevertheless, this seems to be the best forum for establishing agreement, and so TENCompetence continues to engage in it seeks to move it forward.

¹ <http://Itsc.ieee.org/wg20/>

6. Promotion sustainability of the TENCompetence Foundation

6.1. Preparing for launch of the Foundation

In an effort to facilitate the work of the Foundation process, WP10 is coordinating a campaign of promotion using audience-specific materials in the form of newsletters, press-releases, posters, flyers and videos to raise awareness of the project outcomes and the foundation at appropriate events. In addition to these materials, WP10 is working towards the rebranding of the public face of TENCompetence via the Foundation website which is being implemented through the Liferay portal. This new site will support the activities of the Foundation including:

- Maintaining the code base and managing the release schedule
- Facilitating and providing leadership to the TENCompetence developers network
- Facilitating the TENCompetence user network
- Developing the TENCompetence vision.

The foundation will provide a point of contact for the user group via mailing lists, forums and a range of other resources intended to support stakeholders in their use and continued development of the TENCompetence infrastructure and tools. Plans for the rebranding of TENCompetence are underway and development of the Foundation website is set to take place in summer months.

WP10 currently maintains a list of prospective Foundation associates, which according to the strategy for the Foundation are classified as:

1. **Subscribers**, who are able to: follow developments through regular mailings and participate in forums based around stakeholder communities and public events, SIG communities. A mechanism for subscribing to the Foundation will be provided in the Foundation server.
2. **Associates**, who engage with the Foundation in representing their needs and requirements, and in aligning their work with that of the Foundation. This can be achieved by creating and signing a Memorandum of Understanding which represents and regulates the relationship between the Foundation and the Associate who is working with the software. Associates do not have voting rights within the Foundation.
3. **Full members**, who have voting rights on the organisation board. Full membership is recognition of input provided to the organisation by the member, be it in terms of employee time or financial contribution, as specified in the by-laws of the TENCompetence Foundation. Full membership is normally preceded by Associate status, and is achieved by application to the Board.

The Foundation contact list includes 148 organizations and this number is expected to grow as WP10 conducts dissemination events in the months leading to the expiry of project funding. TENCompetence has 31 Associated Partners.

It has been decided to invite all project partners to be full members of the Foundation, all Associate Partners of the project to be Associate Members of the Foundation, and all project

contacts to be subscribers to the Foundation. However it is anticipated that members will move between these categories, in line with their participation in the foundation.

6.2. Interim sustainability plan

An interim TENCompetence sustainability plan was developed, which defines the specific measures which partners foresee in order to sustain the achievements of the project. An interim sustainability plan was produced, focusing on the practical measures which would be taken by project partners to sustain the achievements of the project. This took the form of a template which was filled in by partners prior to the Sestri Levante project meeting, and progressed at the project meeting in Sestri Levante. The results are available in Annex 6 an analysis of partner plans as of June 2009. These will develop in the coming final phase of the project, and in response to the forthcoming releases of the system. It is planned to produce an updated and expanded sustainability plan at the end of the project period.

6.3. Defining critical use cases and potential business models outlines

In this period consultations were carried out to identify specific business models for use of the Personal Competence Manager, but they proved unable to be sufficiently concrete to provide a basis for an analysis of business models to be carried out from first principals. This seems to be because of:

- a) the wide scope of application of the infrastructure
- b) the lack of equivalent systems which currently exist which we could study and draw conclusions from
- c) related to the previous point, there is a bootstrapping problem: potential future service providers will not put effort into understanding how they can engage with a system until it has been shown that this is viable for them, but this cannot be demonstrated until service providers have engaged.

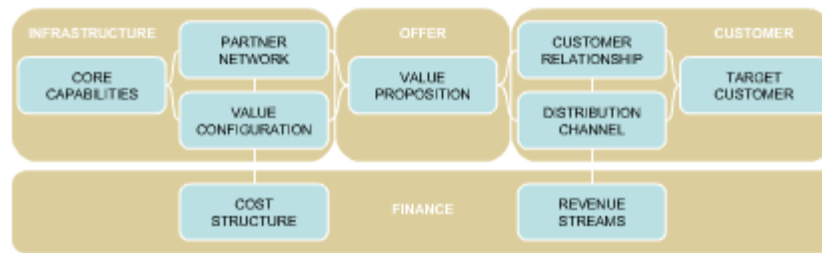
This indicates that it is necessary, on the one hand, to work closely with partners in developing and sustaining their own use of the infrastructure, and on the other, to develop generic business models which can help in the task of explaining the opportunities to potential adopters.

Consequently the interim sustainability plan has focused on partner plans (see section 6.2 above), while work on this task has focused on identifying a modelling framework which can support us in analysing the context in which the TENCompetence infrastructure will intervene, and enable us to articulate the value proposition in a formal way. These two lines of work will be brought together in the final sustainability plan.

It was decided to make use of Osterwalder's methodology. Osterwalder conducted an extensive survey of business model approaches in his PhD thesis, and is currently publishing a book on Business Model Generation².

² An online version of Osterwalder's Business Model Generation is available at http://www.businessmodelgeneration.com/downloads/businessmodelgeneration_preview.pdf

Osterwalder has integrated various conceptualizations of a business model into a single design template. This template allows enterprises to describe their business model, comprising nine building blocks and their relationships:



Osterwalder's model for generating business models

Infrastructure

1. Core capabilities: The capabilities and competencies necessary to execute a company's business model.
2. Partner network: The business alliances which complement other aspects of the business model.
3. Value configuration: The rationale which makes a business mutually beneficial for a business – in a broad sense - and its customers. In fact, this comprises the relations within, and agreements between, all partners in the partner network.

Offering

4. Value proposition: The products and services a business offers. Quoting Osterwalder (2004), a value proposition "is an overall view of products and services that together represent value for a specific customer segment. It describes the way a firm differentiates itself from its competitors and is the reason why customers buy from a certain firm and not from another."

Customers

5. Target customer: The target audience for a business' products and services.
6. Distribution channel: The means by which a company delivers products and services to customers. This includes the company's marketing and distribution strategy.
7. Customer relationship: The links a company establishes between itself and its different customer segments. The process of managing customer relationships is referred to as customer relationship management.

Finances

8. Cost structure: The monetary consequences of the means employed in the business model. A company's DOC.
9. Revenue: The way a company makes money through a variety of revenue flows. A company's income.

A template has been prepared using Osterwalder's work as a basis, and in the coming months this will be applied to the three domains of TENCompetence activity: E-learning, Personal Competence Development and Knowledge Management.

7. Appendices

7.1 Appendix 1: Awareness and availability of project outcomes

Table 1. Scientific and technology output (status accepted and published)

WP	Authors	Title	Journal/Event	Source Link
8	Angehrn, A., & Maxwell, K.	TENTube: A video-based connection tool supporting competence development	Proceedings of the 4th TENCompetence Open Workshop. Empowering Learners for Lifelong Competence Development: pedagogical, organisational and technological issues	http://hdl.handle.net/1820/1265
8	Berlanga, A. J., Bitter-Rijkema, M., Brouns F., & Sloep, P.B.	On the importance of personal profiles to enhance social interaction in Learning Networks	Proceedings of Web Based Communities Conference (WEBC 2008)	http://hdl.handle.net/1820/1248
8	Berlanga, A. J., Sloep, P. B., Brouns, F., Bitter, M., & Koper, R.	Towards a TENCompetence ePortfolio	International Journal of Emerging Technologies in Learning (iJET), 3, 24-28.	http://hdl.handle.net/1820/1282
8	Brouns, F., Fetter, S., & Van Rosmalen, P.	How to trigger emergence and self-organisation in Learning Networks	In R. Koper (Ed.), Learning Network Services for Professional Development. Berlin, Germany: Springer Verlag.	http://hdl.handle.net/1820/1941
8	Kester, L., & Sloep, P. (2009)	Kester, L., & Sloep, P. (2009). Knowledge dating and knowledge sharing in ad-hoc transient communities.	In R. Koper (Ed.), Learning Network Services for Professional Development. Berlin, Germany: Springer Verlag.	http://hdl.handle.net/1820/1940

WP	Authors	Title	Journal/Event	Source Link
8	Berlanga, A., Rusman, E., Bitter-Rijkema, M., & Sloep, P. (2009).	Guidelines to foster interaction in online communities for Learning Networks.	In R. Koper (Ed.), Learning Network Services for Professional Development. Berlin, Germany: Springer Verlag.	http://hdl.handle.net/1820/1939
8	Sloep, P., & Kester, L. (2009).	From Lurker to Active Participant	In R. Koper (Ed.), Learning Network Services for Professional Development. Berlin, Germany: Springer Verlag.	http://hdl.handle.net/1820/1938
	Nikolov, R. (2008).	A Model for European e-Competence Framework Development in a University Environment.	Proceedings of the 5th International TENCompetence Open Workshop "Stimulating Personal Development and Knowledge Sharing" (pp. 38-42). October, 30-31, 2008, Sofia, Bulgaria.	http://hdl.handle.net/1820/1932
	Kalz, M., Berlanga, A., Van Rosmalen, P., Stoyanov, S., Van Bruggen, J., & Koper, R. (2009)	Semantic Networks as Means for Goal Directed Formative Feedback	In V Hornung-Prähauser & M. Luckmann (Eds.), Kreativität und Innovationskompetenz im digitalen Netz - Creativity and Innovation Competencies in the Web, EduMedia Fachtagung 2009 (pp. 88-95). Mai, 4-5, 2009, Salzburg, Austria: Salzburg Research	http://hdl.handle.net/1820/1895
4	Moghnieh, A., & Blat, J.	A basic framework for integrating social and collaborative	2009 Proceedings of the first conference on Research,	http://hdl.handle.net/1820/1946

WP	Authors	Title	Journal/Event	Source Link
		applications into learning environments.	Reflection, and Innovations in Integrating ICT in Education: Vol. 2 (pp. 1057-1061). April, 22-24, 2009, Lisbon, Portugal: M-ICTE2009.	
7	Zerr, S., Olmedilla, D., Nejdil, W., & Siberski, W. (2009). Zerber+R:	Top-k Retrieval from a Confidential Index.	Proceedings of the 12th International Conference on Extending Database Technology: Advances in Database Technology (pp. 439-449). March, 24-26, 2009, Saint Petersburg, Russia (ISBN: 978-1-60558-422-5).	http://hdl.handle.net/1820/1945
	Nadeem, D., Stoyanov, S., & Koper, R. (in press). International	Social support system in learning network for lifelong learners: A Conceptual framework.	Journal of Continuing Engineering Education and Lifelong Learning.	http://hdl.handle.net/1820/1750
8	Fetter, S., Berlanga, A. J., & Sloep, P. B. (2009).	Designing an Ad Hoc Transient Communities Service in Order to Enhance the Social Capital of Learning Communities	the 8th International Conference on Web-based Learning (ICWL) 2009. August, 19-21, 2009, Aachen, Germany.	http://hdl.handle.net/1820/1744
7	Kärger, P., Olmedilla, D., Abel, F., Herder, E., & Siberski, W. (2008).	What do you prefer? Using Preferences to Enhance Learning Technology.	IEEE Journal for Transactions on Learning Technologies, 1(1), 2008.	http://hdl.handle.net/1820/1663

WP	Authors	Title	Journal/Event	Source Link
	Popescu, I., Jonoski, A., Bhattacharya, B., & Keuls, C. (2009).	On-Line Competence Based Learning in Hydro informatics	UNESCO-IHE. Event: The 8th International Conference on Hydro informatics January, 12-16, 2009, Concepción, Chile.	http://hdl.handle.net/1820/1643
	Sligte, H. W., & Koper, R. (2008).	Empowering Learners for Lifelong Competence Development: pedagogical, organisational and technological issues.	Proceedings of the 4th TENCompetence Open Workshop. April, 10-11, 2008, Madrid, Spain: SCO-Kohnstamm Instituut, Amsterdam, The Netherlands	http://hdl.handle.net/1820/1634
	Miao, Y., Sloep, P., Hummel, H. G. K., & Koper, R. (2008).	An Analysis of Unreliability of Competence Information in Learning Networks and the First Exploration of a Possible Technical Solution.	Paper presented at the TENCompetence Workshop: Stimulating Personal Development and Knowledge Sharing. October, 30-31, 2008, Sofia, Bulgarian: TENCompetence Workshop	http://hdl.handle.net/1820/1606
	Miao, Y., Van der Klink, M., Boon, J., Sloep, P. B., & Koper, R.	Enabling Teachers to Develop Pedagogically Sound and Technically Executable Learning Designs [special issue].	Education, 30(2), 2009.	http://hdl.handle.net/1820/1605
7	Herder, E., & Kärger, P.	Hybrid Personalization for Recommendations.	In J. Baumeister & M. Atzmüller, Proceedings of the 16th Workshop on Adaptivity and	http://hdl.handle.net/1820/1594

WP	Authors	Title	Journal/Event	Source Link
			User Modeling in Interactive System, ABIS 2008 (pp. 20-25). October, 6-10, 2008, Würzburg, Germany:	
7	Koesling, A., Herder, E., De Coi, J., & Abel, F.	Making Legacy LMS adaptable using Policy and Policy templates.	J. Baumeister & M. Atzmüller, Proceedings of the 16th Workshop on Adaptivity and User Modeling in Interactive System, ABIS 2008 (pp. 35-40). October, 6-8, 2008, Würzburg, Germany: University of Würzburg.	http://hdl.handle.net/1820/1593
	Koesling, A., Krause, D., & Herder, E.	flexible Adaptivity in AEHS Using Policies.	In W. Nejd, J. Kay, P. Pu & E. Herder (Eds.), Proceedings Adaptive Hypermedia and Adaptive Web-Based Systems 5th International Conference, AH 2008 (pp. 410-415). July 29-August, 1, 2008, Hannover, Germany: Lecture Notes in Computer Science (Springer Berlin/Heidelberg)	http://hdl.handle.net/1820/1592
	Shoikova, E., Denishev, V., & Milanov, R.	Developing the Personal Competence Manager Evaluation Work: 'EPIQ Business Demonstrator'	In R. Koper, K. Stefanov & D. Dicheva (Eds.), Proceedings of the 5th International TENCompetence Open Workshop "Stimulating	http://hdl.handle.net/1820/1590

WP	Authors	Title	Journal/Event	Source Link
			Personal Development and Knowledge Sharing" (pp. 61-66). October, 30-31, 2008, Sofia, Bulgaria: TENCompetence Workshop.	
	Schaffert, S., & Kalz, M. (2009).	Persönliche Lernumgebungen : Grundlagen, Möglichkeiten und Herausforderungen eines neuen Konzepts.	In K. Wilbers & A. Hohenstein (Hrsg.), Handbuch E-Learning (Gruppe 5, Nr. 5.16, pp. 1-24). Köln, Germany: Deutscher Wirtschaftsdienst (Wolters Kluwer Deutschland), 27. Erg.-Lfg. Januar 2009	http://hdl.handle.net/1820/1573
4	Hernandez-Leo, D., Moghnieh, A., Navarrete, T., Blat, J., Gilabert, S., Santos, P., & Perez-Sanagustin, M. (2008).	From planning learning paths to assessment: Innovations to the practical benefits of Learning Design	In European LAMS Conference 2008 (pp. 139-140). June, 25-27, 2008, Cádiz, Spain.	http://hdl.handle.net/1820/1572
6	Sharples, P., Griffiths, D., & Scott, W. (2008).	Using Widgets to Provide Portable Services for IMS Learning Design	In R. Koper, K. Stefanov & D. Dicheva (Eds.), Proceedings of the 5th International TENCompetence Open Workshop "Stimulating Personal Development and Knowledge Sharing" (pp. 57-60). October, 30-31, 2008, Sofia,	http://hdl.handle.net/1820/1558

WP	Authors	Title	Journal/Event	Source Link
			Bulgaria: TENCompetence Workshop.	
5	Grigorov, A., Georgiev, A., Petrov, M., Varbanov, S., & Stefanov, K. (2008).	Building a Knowledge Repository for Life-long Competence Development.	In R. Koper, K. Stefanov & D. Dicheva (Eds.), Proceedings of the 5th International TENCompetence Open Workshop "Stimulating Personal Development and Knowledge Sharing" (pp. 21-25). October, 30-31, 2008, Sofia, Bulgaria: TENCompetence Workshop	http://hdl.handle.net/1820/1571
6	Pérez-Sanagustín, M., Santos, P., Moghnieh, A., Hernández-Leo, D., & Blat, J. (2008).	A Context-based Methodology for the Integration of Web 2.0 Services in Learning Scenarios.	In R. Koper, K. Stefanov & D. Dicheva (Eds.), Proceedings of the 5th International TENCompetence Open Workshop "Stimulating Personal Development and Knowledge Sharing" (pp. 15-20). October, 30-31, 2008, Sofia, Bulgaria: TENCompetence Workshop.	http://hdl.handle.net/1820/1567
	Glahn, C., Specht, M., & Koper, R. (2008).	Supporting Reflection in Informal Learning.	In Proceedings of the ECTEL Doctoral Consortium '08. October, 17, 2008, Maastricht, The Netherlands.	http://hdl.handle.net/1820/1522

WP	Authors	Title	Journal/Event	Source Link
10	Wild, F., Kalz, M., & Palmér, M. (Eds.) (2008).		Proceedings of the First International Workshop on Mashup Personal Learning Environments (MUPPLE08). September, 17, 2008, Maastricht, The Netherlands: CEUR Workshop Proceedings, ISSN 1613-0073.	http://hdl.handle.net/1820/1501
6	Kalz, M., Van Bruggen, J., Giesbers, B., Eshuis, J., Waterink, W., & Koper, R. (2008).	A Model for New Linkages for Prior Learning Assessment.	Campus Wide Information Systems, 25(4), 233-243.	http://hdl.handle.net/1820/1500
6	Petrov, M., Aleksieva-Petrova, A., Stefanov, K., Schoonenboom, J., & Miao, Y. (2008).	Evaluation of TENCompetence proof of concept assessment tools	In H. W. Sligte & R. Koper (Eds.). Proceedings of the 4th TENCompetence Open Workshop. Empowering Learners for Lifelong Competence Development: pedagogical, organisational and technological issues (pp. 97-101).	http://hdl.handle.net/1820-1634
6	Petrov, M., Aleksieva-Petrova, A., Stefanov, K., Schoonenboom, J., &	TENCompetence Assessment Model and Related Tools for Non Traditional Methods of Assessment	In H. W. Sligte & R. Koper (Eds.). Proceedings of the 4th TENCompetence Open Workshop. Empowering	http://hdl.handle.net/1820/1634

WP	Authors	Title	Journal/Event	Source Link
	Miao, Y. (2008).		Learners for Lifelong Competence Development: pedagogical, organisational and technological issues (pp. 91-96).	
2	Sligte, H., & Koper, R. (Eds.) (2008).	Infrastructures for Lifelong Competence Development (special issue).	International Journal Emerging Technologies in Learning, Vol. 3, pp 46-52. /1479;	http://dspace.ou.nl/handle/1820
7	Peterson, R., Herrington, J. Deslea, K., Tzvetkova-Arsova, M., & Stefanov, K. (2008).	Assisting Bulgarian special educators with competency development online.	The International Journal of Information and learning technology: Campus-Wide Information Systems, special issue on "ePortfolio, employability and lifelong learning in the knowledge society", 25(4), 197-208.	http://hdl.handle.net/1820/1679
4	Stefanova, E., Ilieva, M., Nikolova, N, & Stefanov, K. (2008)	Turning university professors into competent learners	In H. W. Sligte & R. Koper (Eds.), Proceedings of the 4th TENCompetence Open Workshop. Empowering Learners for Lifelong Competence Development: pedagogical, organisational and technological issues (pp. 15-20).	http://hdl.handle.net/1820/1634

WP	Authors	Title	Journal/Event	Source Link
7	Drachsler, H., Hummel, H., & Koper, R. (2008).	Using Simulations to Evaluate the Effects of Recommender Systems for Learners in Informal Learning Networks.	Proceedings of the 2nd Workshop on Social Information Retrieval for Technology Enhanced Learning, SIRTEL'08 at the 3rd European Conference on Technology Enhanced Learning (EC-TEL 2008). CEUR Workshop Proceedings, VOL-382.	http://hdl.handle.net/1820/1483
2	Sligte, H., & Koper, R. (Eds.) (2008).	Infrastructures for Lifelong Competence Development (special issue).	International Journal Emerging Technologies in Learning, 3, 1-76.	http://hdl.handle.net/1820/1479
2	Sligte, H., & Koper, R. (Eds.) (2008).	Empowering Learners for Lifelong Competence Development: Pedagogical, Organizational and Technological Issues.	International Journal Emerging Technologies in Learning, 3, 4-6.	http://hdl.handle.net/1820/1478
7	Glahn, C., Specht, M., & Koper, R. (2008).	Reflecting on Web-readings with Tag Clouds.	Conference Paper, Computer-based Knowledge & Skill Assessment and Feedback in Learning Settings (CAF) Special Track at the 11th International Conference on Interactive Computer aided Learning (ICL 2008).	http://hdl.handle.net/1820/1472

WP	Authors	Title	Journal/Event	Source Link
6	Tvarožek, J., Kravčík, M., & Bieliková, M. (2008).	Towards Computerized Adaptive Assessment Based on Structured Tasks.	In W. Nejdl et al. (Eds.), Adaptive Hypermedia and Adaptive Web-Based Systems (pp. 224-234). Springer Berlin / Heidelberg.	http://hdl.handle.net/1820/1470
4	Moghnieh, A., Hernández-Leo, D., Navarrete, T., Santos, P., Blat, J., & Schoonenboom, J. (2008).	Supporting Distance Learning Activities and Social Interaction: a Case Study.	In P. Díaz, Kinshuk, I. Aedo & E. Mora (Eds.), Proceedings of the 8th International Conference on Advanced Learning Technologies (pp. 801-805).	http://hdl.handle.net/1820/1300
3	Sampson, D., & Fytros, D. (2008).	Competence Based Educational Metadata for Supporting Lifelong Competence Development Programmes.	In P. Diaz, Kinshuk, I. Aedo & E. Mora (Eds.), Proceedings of the 8th IEEE International Conference on Advanced Learning Technologies (ICALT 2008), pp. 288-292.	http://hdl.handle.net/1820/1489
4	Schoonenboom, J., Sligte, H., Moghnieh, A., Hernández-Leo, D., Stefanov, K., Glahn, C., Specht, M., & Lemmers, R. (2008).	Supporting life-long competence development using the TENCompetence infrastructure: a first experiment.	International Journal of Emerging Technologies in Learning (Special Issue), 3(1), 53-59. July, 2008.	http://online-journals.org/ijet/article/view/557

WP	Authors	Title	Journal/Event	Source Link
5	Marenzi, I., Demidova, E., Nejd, W., Olmedilla, D., & Zerr, S. (2008.)	Social Software for Lifelong Competence Development: Challenges and Infrastructure	International Journal of Emerging Technologies in Learning (iJET), 3, 18-23.	http://hdl.handle.net/1820/1533
5	Marenzi, I., Demidova, E., & Nejd, W. (2008).	LearnWeb 2.0. Integrating Social Software for Lifelong Learning.	Proceedings of the ED-Media 2008. World Conference on Educational Multimedia, Hypermedia & Telecommunications. June, 30 - July, 4, 2008, Austria, Vienna.	http://hdl.handle.net/1820/1260
6	Glahn, C., Specht, M., & Koper, R. (2008).	Implications of Writing, Reading, and Tagging on the Web for Reflection Support in Informal Learning.	In P. Dillenbourg & M. Specht (Eds.), Times of Convergence: Technologies Across Learning Contexts – Lecture Notes in Computer Science 5192 Springer 2008, ISBN 978-3-540-87604-5.	http://hdl.handle.net/1820/1290
3	Berlanga, A. J., Sloep, P. B., Brouns, F., Bitter, M., & Koper, R. (2008).	Towards a TENCompetence ePortfolio.	International Journal of Emerging Technologies in Learning (iJET), 3, 24-28.	http://hdl.handle.net/1820/1282

Table 2. Scientific and technology output (status accepted but not yet published)

Author(s)	Title	Journal/Event	Source Link
Santos,P., Colina, X., Hernández-Leo, D., Melero, J., & Blat, J.	Enhancing Computer Assisted Assessment Using Rubrics in a QTI Editor.	The 9th IEEE International Conference on Advanced Learning Technologies. July, 14-18, 2009, Riga, Latvia.	http://hdl.handle.net/1820/1906
Pérez-Sanagustín, M., Hernández-Leo D., & Blat, J.	Conditioning Factors for Group Management in Blended Learning Scenarios.	The 9th IEEE International Conference on Advanced Learning Technologies. July, 14-18, 2009, Riga, Latvia.	http://hdl.handle.net/1820/1907
Melero, J., Hernández-Leo, D., Arroyo, E., & Blat, J. (accepted).	Improving the usability of an approach for visually supporting the creation of Personal Development Plans.	The 9th IEEE International Conference on Advanced Learning Technologies. July, 14-18, 2009, Riga, Latvia.	http://hdl.handle.net/1820/1908

7.2 Appendix 2: Organisation of project workshops and events

Introduction

Task 10.2 stipulates that awareness raising workshops and events be organised for the wider public in contrast to WP9 training related events which target identified stakeholders. In addition to this, the task involves the distribution of dissemination materials by all local partners where possible.

In keeping with these demands, WP10 has been actively identifying opportunities for the dissemination of the project aims and outcomes and organising interventions where appropriate. The two main types of intervention include open workshops which are fully independent events organised for and on behalf of work package technical partners and those events which are attached to international educational technology related conferences. In the period May 2008 to May 2009, WP10 worked to disseminate information on the project at a number of TEL related conferences and events across Europe (OEB, ALT-C etc.). In addition to these events, the project also organised the annual TENCompetence Winter School during which project outcomes are disseminated among Ph.D. students, associate partners and core partners.

This report provides a snapshot of these events and assesses their impact where possible.

Open workshops

These workshops are organised by core project partners and are generally held in conjunction with the closed project meetings which take place on a quarterly basis. In line with the consortium's ethos, these workshops are open to all comers and free of charge. Over the last 12 months, a period stretching from month 30 to month 42, the project organised and ran two open workshops:

- Stimulating personal development and knowledge sharing: The 5th TENCompetence Open Workshop (October 2008, Sophia, Bulgaria)
- Exploring lifelong competence development: The 6th TENCompetence open workshop (April 2009, Utrecht, Holland).

The following section gives a descriptive review of both events and accounts for the following criteria in relation to each:

- geographical spread
- number of attendees
- impact.

Stimulating personal development and knowledge sharing: The 5th TENCompetence Open Workshop

This was the second of two open-workshops held in Sofia, the first of which was held in 2006. Organised by TENCompetence consortium partner Sofia University, this workshop aimed to identify and analyse state-of-the-art research and technologies in the fields that

provide the building blocks for the development of an open source competence development infrastructure.

Run over a two day period, 39 people were registered as open workshop participants, with 63 actually attending the workshop which featured as part of larger event, for which there was no registration in advance. The attendees included a large contingent of Bulgarian, British, Spanish and Dutch participants drawn largely from the field of Higher Education.

Impact

The event included a total of fifteen presentations from TENCompetence partners, Associate Partners and interested parties from outside the project. 15 papers were published out of about 30 proposals nine of which will be published in the International Journal of Continuing Engineering Education and Life-Long Learning (IJCEELL)

<http://www.inderscience.com/browse/index.php?journalID=6>

The workshop proceedings were published in March 2009.

Exploring lifelong competence development: TENCompetence Workshop

Organised by SURF in conjunction with the UvA and contributions from the University of Bolton, this one day workshop was hosted by the SURF Foundation at their offices in Utrecht on April 23.

Unlike previous workshops, this event did not include an academic call for papers as a result of commission recommendations to attract more commercial and industrial stakeholders in order to further the valorisation and exploitation aims of the project in its final stages. As a result, no proceedings were published.

The event attracted 54 participants from a diverse range of practitioner and professional backgrounds. These are summarised as follows:

- 6 Dutch universities
- 1 Belgian university
- 2 institutes for higher vocational education
- multinational companies, like Nokia and British Telecom
- large Dutch companies, (e.g. Ordina)
- the Dutch Ministry of Defence
- the Dutch Police Academy
- the Dutch Organisation for Work, Income and Employee Insurances (UWV)
- some 10 SME's
- independent consultants
- interested individuals.

In addition to the above, 12 people from various TENCompetence partner institutions also attended the event. The participants were predominantly Dutch and as a result, the event was conducted in the Dutch language.

As well as providing participants with a general overview of the project and its rationale, the workshop also provided a platform for partners to showcase the work of business demonstrator pilots by way of explaining the project in more practical terms. More specifically the objectives included:

- Reinforce participant's understanding of the project in relation to the explanation delivered in the keynote.
- Encourage participants to think about the state-of-the-art of lifelong learning in their respective countries.
- To promote the TENCompetence infrastructure to relevant industry sectors.

The event included presentations from those core and associated partners engaged in business pilot demonstrators (UNESCO-IHE, Empower and Agora) and a number of discussions took place around the related experiences. No hands-on activities were carried out.

An agenda of the event and links to slides is available at:
<http://www.tencompetence.org/node/196>

Impact

Whilst no calls for participation were made for this event, its outcomes include the addition of 8 additional contacts to the list of potential Foundation subscribers/partners. In view of the need to recruit non-academic organisations as both end-users of the project software and members of and contributors to the Foundation, these contacts are considered to be of particular value due to their commercial status.

Additional events

As well as those open workshops organised by consortium partners, a number of other profile-raising activities were organised.

ALT-2008

The Advanced Learning Technology Conference 2008 took place at the University of Leeds in the UK from the 9th to the 11th of September.

Organised by the University of Bolton (WP10) and run by Chris Kew (University of Bolton), this open workshop went under the title of: "Managing Lifelong Competence Development: the TENCompetence system". The workshop lasted for 90 minutes and started with an introductory presentation on the aims the TENCompetence project. The second part of the workshop involved a hands-on session in which participants used graphically detailed worksheets to explore the PCM tool and to create Competence development profiles. The audience was made up of 17 participants drawn mostly from educational technologist and researcher professions in the UK.

The workshop was designed to demonstrate and explain the TENCompetence infrastructure in relation to the need to:

- Define competence profiles to enable self-directed learners to achieve goals
- identify Competence development opportunities
- selecting development programmes
- assess competencies.

Impact

Of the 17 participants, four expressed an interest in participating in the project and a total of nine participants expressed their interest in receiving news updates from the project.

Online Educa Berlin 2008

University of Bolton, SURF and LOGICA held a day-long pre-conference workshop on 3 December 2008 at OEB. The workshop went under the heading of “Supporting lifelong competence development and employability using TENCompetence services” and consisted of input from both WP9 and WP10.

The workshop attracted 30 attendees and served as a platform to raise awareness of the project rationale and outcomes and included a demonstration of the available tools, notably the PDP tool.

In the final analysis it appeared that the notion of ePortfolios was of most interest to the attendees.

Of the 30 participants, six requested news updates from the project.

In addition to the workshop, University of Bolton and LOGICA ran an exhibition stand on behalf of the project which included a live demonstration of the PDP tool and the distribution of flyers. The stand generated a modest degree of interest in the form of three subscribers.

Winter School 2009

The third TENCompetence Winter School took place on February 1-6, 2009 in Innsbruck (<http://www.tencompetence.org/node/167>). The theme of this event was “Competence Management in Learning Networks”. The programme included lectures and hands-on sessions from leading experts in the field.

The main objective of this week long event was to stimulate the emergence of communities of practice and learning networks and to support joint research opportunities.

The event was based around 17 lectures delivered by 17 lecturers (10 from the TENCompetence core partner institutions and 7 external).

25 attendees from 11 countries attended the event.

Future directions and activities

With only six months remaining, the work of WP10 will focus almost exclusively on the valorisation and exploitation of the project outcomes. For the most part, this will involve raising awareness of the projects objectives and outcomes at industrial and commercial related events (as opposed to purely academic events), in order to promote the uptake and use of the personal Competence manager in real world business contexts. A strong emphasis is placed on the work of the Business Demonstrator pilot partners and their results to help contextualize the use of the TENCompetence tools.

To this end a number of Human Resource Management events have been identified as potential platforms for the dissemination of TENCompetence research and results. It is anticipated that the project will have a presence at a number of HRM and employment based exhibitions in Europe, and will run pre-conference workshops where possible. At the time of writing, work package ten has a confirmed presence at the Employment Week conference in Brussels on June 24 and 25th which includes a project stall for the distribution of flyers and a forum for a thirty minute exposé on the project. Details of the event can be found at: <http://www.employmentweek.com/cms.php>

On the 16th July, project partner ILABS will host a one day open workshop entitled: “Learning and Competence Development in Europe for tomorrow and beyond”. The workshop will combine an insight into the state of the art of competence development, stimulating discussion and accounts of pilot user experiences with the TENCompetence software. In keeping with the drive to disseminate the project outcomes as widely as possible among the business community, the event is seeking to recruit participants from the business community.

Other prospective activities include interventions at the Zukunft Personal HRM conference in September and the Personal Austria HRM exhibition in October among others.

Summary

A total of six open workshops have been organized, hosted and run by the TENCompetence consortium. Each event has been documented on the public website and presentations and proceedings are made available through the project repository.

7.3 Appendix 3: Awareness Raising events organised by TENCompetence

The following table provides a list of all events organized by TENCompetence which have served to raise awareness of the project.

Events Organised by TENCompetence				
Event	Start Date	Location	Activity	URL
5 th TENCompetence Open Workshop Stimulating Personal Development and Knowledge Sharing	October 2008	Sofia, Bulgaria	Open-workshop	http://www.tencompetence.org/files/sofia2008_presentations.htm
TENCompetence Winter School 2009	February 2009	Innsbruck, Austria	Winter school	http://www.tencompetence.org/node/184
Exploring lifelong competence development , TENCompetence One day workshop (by invitation)	April 2009	Utrecht, Netherlands	Workshop	http://www.tencompetence.org/node/195
Events co-organised by TENCompetence				
Technology Support for Self- Organised Learners (TSSOL08) at Edumedia 08	June 2008	Salzburg, Austria	TENCompetence conference track	http://edumedia.salzburgresearch.at/index.php?option=com_content&task=view&id=177&Itemid=160&lang=en
Other events organised by TENCompetence				
Pre-conference workshop at OEB 2008	December 2008	Berlin, Germany	TENCompetence half- day workshop	NA

7.4 Appendix 4: List of Associate Partners and contacts

Overview signed Memoranda of Understanding				
Status May 2008				
nr	Between	and	signed	Activity
1	TENCompetence Consortium	University of Wologong, Australia	23-01-2006	Visiting Scholars Programs. Joint research, trial and joint implementations. Joint applications for research funding. Joint scholarly publications and events. Training-pilots, use of LSA for use cases. Contact: Rob Koper
2	TENCompetence Consortium	LORENET (LICEF), Canada	07-09-2006	Distinguished Visiting Scholars Programs. Joint publications Joint applications for research funding. Co-experimentation and validation of LT. Contact: Rob Koper
3	TENCompetence Consortium	Institute of Informatics and Software Engineering, Slovak University of Technology in Bratislava, Slovakia	12-12-2006	Pilots with integrated system, evaluation and dissemination. Contact: Milos Kravcik
4	TENCompetence Consortium	Department of Information Technologies, Vilnius Gedimas Technical University, Lithuania.	18-12-2006	Collaboration and exchange of achievements. Contact: Milos Kravcik
5	TENCompetence Consortium	EiFeL, European Institute for e-learning	18-12-2006	Future user, technology service provider to members, promotion of best practices, dissemination.
6	TENCompetence Consortium	Srednja ekonomska sola Maribor, Slovenia	20-12-2006	Dissemination and collaboration in LD., knowledge and competence development, education process modelling. Contact: Milos Kravcik
7	TENCompetence Consortium	The Computer Architecture and Technology Department, University of Seville, Spain	03-01-2007	IMS-LD pedagogic CATD scenario. Evaluation of CATD support tools in Seville university. Contact: Milos Kravcik
8	TENCompetence Consortium	Tallinn University, Estonia	10-01-2007	Exchange of doctoral students. Joint virtual research seminars. Dissemination in Baltic region. Contact: Milos Kravcik
9	TENCompetence Consortium	ELearning Technology R & D Laboratory, Technical University, Sofia, Bulgaria	25-01-2007	Joint training and activities. Collaboration in pilot and software component development. Contribution to use cases. Contact: Milos Kravcik

Overview signed Memoranda of Understanding				
Status May 2008				
10	TENCompetence Consortium	The Learning Societies Lab, University of Southampton, United Kingdom	25-01-2007	Technical exchange, workshops. Joint publications. Joint bids, consultation on strategic issues. Contact: Milos Kravcik
Overview signed Memoranda of Understanding				
Status d.d 18 December 2007				
nr	Between	and	signed	Activity
11	TENCompetence Consortium	Faculty of Mathematics , Physics and Informatics Comenius University of Bratislava, Slovakia	25-01-2007	Pilot .design prototype of adaptive testing, test with math students. Disseminate and evaluate field test. Contact: Milos Kravcik
12	TENCompetence Consortium	IBBT Acknowledge	09-02-2007	Future user and learning service provider. Contact: Marlies Bitter.
13	TENCompetence Consortium	Peoples Open Access Education Initiative	26-03-2007	Application of prototypical tools with health workers, doctors. Report on test results. Contact: Marlies Bitter
14	TENCompetence Consortium	Bulgarian Investment Consulting Agency	12-04-2007	Dissemination of best practices in Bulgaria. Promotion and assessment of new opportunities. Contact: Chris Kew
15	TENCompetence Consortium	Grupo de Investigación EVALFOR , Facultad de Ciencias de la Educación Departamento de Didáctica , Puerto Real Universidad de Cádiz	19-04-2007	Participation in pilots, demonstrators, dissemination for Latin America, Mediterranean area. Create, store and interchange learning activities and units of learning. And competence development programs. Contact: Marlies Bitter
16	TENCompetence Consortium	MGA Education ltd.	19-04-2007	Data tracking and analysis. Develop business models for lifelong learning and corporate social responsibility. Run pilots, standardized learning competencies in engineering. Contact: Chris Kew
17	TENCompetence Consortium	Claude Martin Association "Une idée derrière l'écran".Arles, France	21-05-2007	Identification of partners for testing, software and best practices. Testbed activities in France plus result reports.
18	TENCompetence Consortium	ICT in Education Directorate – Ministry of Education and Sciences, Republic Bulgaria,	30-06-2007	Organisation of pilot training in Bulgarian schools. Use of Bulgarian e-learning resources the Training networks for lifelong competence

Overview signed Memoranda of Understanding				
Status May 2008				
				development. Use of existing TENCompetence learning resources via Bulgarian National Education Portal. Joint activities.

Overview signed Memoranda of Understanding				
Status d.d 18 december 2007				
nr	Between	And	signed	Activity
19	TENCompetence Consortium	Grupo de Investigación de Tecnología Educativa (GITE) Universidad de Murcia	27-8-2007	Exchange of doctoral students; Joint virtual research seminars Joint publications Field tests Dissemination to Spanish speaking countries in Latin America.
20	TENCompetence Consortium	Vereniging Openbare Bibliotheken, Netherlands Public Library Association, (VOB)	24-08-2007	Joint virtual workshops and activities. Joint publications and presentations. Tests of TENCompetence concepts and tooling for library and librarian professionals, with special attention to the youngsters. Dissemination of TENCompetence results for Dutch library sector.
21	TENCompetence Consortium	Raycom BV The Netherlands	1-10-2007	Open source software development, running pilots and sharing practice with respect to IMS LD, Open Educational Resources and e-Portfolio's.
22	TENCompetence Consortium	Athabasca University	07-12-2007	Create a learning community for LLL Develop workshop for N. American users of TENCompetence infrastructure Distinguished visiting scholar program. Joint publications Joint application for research funding Joint experimentation & validation.

Overview signed Memoranda of Understanding

Status d.d 18 december 2007

23	TENCompetence Consortium	CAPDM, CAPDM limited Edinburgh. http://www.capdm.com/capdmweb/Home.html	05-03-2008	<p>Joint EU funded R&D projects on competence frameworks and education.</p> <p>Development of exemplar (XML) competence frameworks and standards (proof of concept/demonstrators) for specific industries and subjects</p> <p>Mutual dissemination of pragmatic practice</p> <p>Exploration of construction and evaluation of successful competency based learning environments.</p>
24	TENCompetence Consortium	JISC regional support center Wales	27-02-2008	<p>Promotion of TENCompetence in Wales</p> <p>Identification and broker pilot partners/projects.</p> <p>Support pilot projects</p> <p>Disseminate project findings.</p>
25	TENCompetence Consortium	Empower Limburg	2 -4-2008	<p>Joint definition cross sector competence profiles</p> <p>Operationalization of these profiles in behavioural indicators</p> <p>Piloting and evaluation of tools for PDP</p> <p>Exploration of shared business model for regional competence development</p> <p>Organization of workshops.</p>
26	TENCompetence Consortium	Agro-Know Greece	29-4-2008	<p>Participation in TENCompetence events</p> <p>Connecting rural communities AgroKnow to TENCompetence</p> <p>Connection Agroknow-TENCompetence services</p> <p>Design, piloting of business model Agroknow-TENCompetence.</p>

Overview signed Memoranda of Understanding

Status d.d 18 december 2007

27	TENCompetence Consortium	Salzburg research Forschungsgesellschaft Austria	29-5-2008	<p>Joint special tracks in events/conferences</p> <p>Joint co-operation on common research topics</p> <p>Participation TENCompetence Winter School</p> <p>Joint research and dissemination.</p>
28	TENCompetence Consortium	UHI (University of Highlands and Islands) Millennium Institute	1-10-2008	<p>Engagement in professional networks</p> <p>Knowledge Sharing.</p>
29	TENCompetence Consortium	GSIC/EMIC Group, University of Valladolid, Spain	6-11-2008	<p>Use IMS LD QTI RUNTIME SYSTEM</p> <p>Develop web-based authoring tool for creation of pattern based units of collaborative learning and assessment.</p>
30	TENCompetence Consortium	Universita degli Studi di Genova Dipartimento di Informatica, Sistemistica e Telematica	24-06-2009	<p>Conduct pilots with project applications</p> <p>Create community of users.</p>
31	TENCompetence Consortium	Universita di Firenze, Dipartimento di Scienze dell'@Educazione e de Culturali e Formativi	24-06-2009	<p>Pilot project applications</p> <p>Create a community of users</p>

CONTACTS OVERVIEW

	Name of partner	Status a) have shown interest b) subscriber AP candidate	Source 1.direct contact 2.website
INTERNATIONAL ORGANIZATIONS			
1.	EADTU	1	1
2.	EDEN	2	1
3.	EUCEN	2/3	1
4.	RCE Rhine-Meuse	1	1
5.	UNHCR	1	1
6.	OCDE, Lund University	1	1
7.	NetUniversité	2	1
8.	Intelartes	1	1
9.	IFS Institute for Future studies	1	1
EUROPE			
Austria			
10.	BIT Media International	1	1
11.	Alpen-Adria University	1	1
12.	ZSI Centre for social Innovation	1	1
13.	Institute for Information Systems and New Media, Vienna University of Economics and Business Administration (WUW)	1	1
Belgium			
14.	DSI - Le FOREM	1	1
15.	Hogeschool Brussel, --Gent	1	1
16.	Universiteit Antwerpen	1	1
17.	Universiteit Brussel	1	1
18.	KU Leuven	1	1
19.	Lanxess Human Resources	1	1
20.	Ministerie van Onderwijs Vlaanderen	1	1
21.	Technomatch project Antwerpen	1	1
22.	Concentra Media en Video opleidingsinstituut	1	1
23.	University of Liege	1	1
24.	IBBT - Acknowledge	3	1
Bulgaria			
25.	Bulgaria Medical University Sofia	1	1
26.	Bulgaria Research Associate national laboratory	1	1

	Name of partner	Status a) have shown interest b) subscriber AP candidate	Source 1.direct contact 2.website
	of Computer Virology		
27.	IPT - Intellectual Products & Technologies Ltd	1	1
28.	Virtech LTD	1	1
	Czech Republic		
29.	RPIC VIP Regional Employment Agency	1	1
	Eire		
31.	Perioperative Health Institute, Cork University	1	1
	France		
32.	The Transitioner Angenius Institute Jean-François Noubel	1	1
33.	University Louis Pasteur –Strasbourg I. Laboratory of Educational Sciences Dept of Department of Educational Sciences.	1	1
34.	Institut Universitaire de Technologie d'Arles	1	1
35.	Université de Provence Faculté des sciences de l'éducation	1	1
	Finland		
36.	Josek Ltd	1	1
	Germany		
37.	LFQ Landesinstitut für Qualifizierung NRW - Services LFQ State Institute for Qualification Northrhine-Westphalia	1	1
38.	University of Potsdam, Dept of Teaching-Learning Research & Multimedia	1	1
	Greece		
39.	Universite de Thessalie	1	1
40.	Universite Ouvert Hellenique	1	1
41.	SEERC, South - East European Research Center Thessaloniki Greece	1	1
	Italy		
42.	Indire, Istituto Nazionale di Documentazione per l'Innovazione e la Ricerca Educativa	1	1
43.	University of Pavia	2	1
	Latvia		
44.	Riga Technical University – Distance Education Study Centre	1	1
	Netherlands		
45.	ASML	1	1
46.	BLOMBERG INSTITUUT		1
47.	CELEBES OUNL, Arcus college, St Bernadinus	1	1

	Name of partner	Status a) have shown interest b) subscriber AP candidate	Source 1.direct contact 2.website
	Heerlen		
48.	Con7Study B.V.	1	1
49.	CWI Employment services	1	1
50.	Digitale Universiteit	2	1
51.	ECABO	1	1
52.	ELDvo	1	1
53.	Expertise Onderwijsadviseurs	1	1
54.	Friesland College	2	1
55.	FONTYS	1	1
56.	Fundeon, voorheen Bouwradius	1	1
57.	Gilde opleidingen	1	1
58.	Horeca Branche Instituut	3	1
59.	IDB Water Partnership Programme	2	1
60.	Innovam, opleidingscentrum mobiliteitsbranche	1	1
61.	Interlates	2	1
62.	INTRAQUEST	1	1
63.	Kenniscentrum EVC	1	1
64.	Kenniscentrum GOC	1	1
65.	Kenniscentrum Handel	1	1
66.	Kennisnet, Stichting Kennisnet	1	1
67.	KENTEQ kenniscentra	1	1
68.	KOC	1	1
69.	Koninklijke Landmacht	2	1
70.	Ministerie van Defensie	2	1
71.	Nokia	2	1
72.	Politieacademic	2	1
73.	OSTrain	2	1
74.	LOB HTV	1	1
75.	Max Groote centrum voor BVE /volwasseneneducatie	1	1
76.	The Mediator Group	1	1
77.	Ministerie van Defensie	1	1
78.	OPeduca,	1	1
79.	PNA training	1	1
80.	Radboud UMC	1	1
81.	Ruud de Moor Centrum	1	1

	Name of partner	Status a) have shown interest b) subscriber AP candidate	Source 1.direct contact 2.website
82.	Savantis	1	1
83.	Saxion Hogescholen	1	1
84.	SENER,NOVEM EG-liason ERA-more	1	1
85.	SH&M, Stichting Hout en Meubel	1	1
86.	SHELL International Chemical	1	1
87.	Syntens	1	1
88.	SVGB,	1	1
89.	SVO, kenniscentrum opleidingen food sector	1	1
90.	SYMBIO6, Leidschendam	1	1
91.	SLO	1	1
92.	TEAMKOMPAS, training en coaching	1	1
93.	TERRECO, environmental solutions	1	1
94.	VAPRO	1	1
95.	VOB-OBH, Librarian in residence project	1	1
96.	VZN Opleiders Nederlandse Ziekenhuizen	1	1.
97.	VTL kenniscentrum transport en logistiek	1	1
98.	VOC, vakopleiding carrosseriebedrijf	1	1
99.	WCC, smart search & match	1	1
100.	Inter Access	2	1
	Norway		
101.	Oslo University College	1	1
	Poland		
102.	Academy of Humanities and Economics Lodz Poland	1	1
	Portugal		
103.	Centro e-Learning TecMinho Campus de Azurém Universidade do Minho	1	1
104.	Intergenerational Valorisation and Active Development	2	1
105.	Ministry of Education Portugal ICT programme for schools Gabinete de Informação e Avaliação do Sistema Educativo (Information and Educational System Evaluation Department)	1	1
106.	University of Porto, Dept. Of civil engineering	1	1
	Romania		
107.	IPA SA R&D, Engineering and Manufacturing for Automation and Information Technology	1	1
108.	Kaunas Maironis Gymnasium	1	1

	Name of partner	Status a) have shown interest b) subscriber AP candidate	Source 1.direct contact 2.website
	Slovakia		
109.	Institute of Informatics and Software Engineering, Slovak University of Technology in Bratislava, Slovakia	2	1
	Spain		
110.	Campus Virtual UCM	1	1
111.	Hipólito José Aceituno Aldeguer	1	1
112.	Universidad d'Alacant / University of Alicante	1	1
113.	MIDECampus, Facultad de Ciencias de la Educación Puertoreal Cadiz	1	1
114.	Protean	1	1
115.	University of Barcelona	2	1
116.	Universidad Complutense de Madrid	1	1
117.	University of Valladolid ETSI	1	1
	Sweden		
118.	Royal Institute of Technology (KTH) Stockholm,	1	1
	Switzerland		
119.	Faculté des Lettres Université de Lausanne	1	1
120.	Swiss Federal Institute for Vocational Education and Training	2	1
121.	UNITAR	2	1
122.	University of Lugano, NewMinE Lab	1	1
	United Kingdom		
123.	British Telecom	2	1
124.	Bournemouth Arts Institute	1	1
125.	Cass Business School, City University	2	1
126.	Centre for Social and Economic Exclusion	1	1
127.	Centre of Excellence in Teaching and Learning in Reusable Learning Objects – London Metropolitan University	1	1
128.	Cheadle and Marple Sixth Form College	2	1
129.	Colleg Harlech WEA	2	1
130.	Edinburgh University	1	1
131.	ELEMENTE.Ltd	2	1
132.	GRAHAM GUEST Coaching, Counseling	1	1
133.	IET UserLab	1	1

	Name of partner	Status a) have shown interest b) subscriber AP candidate	Source 1.direct contact 2.website
134.	London Metropolitan University	1	1
135.	London South Bank University	2	1
136.	Open University, Institute of Educational Technology	2	1
137.	Scottish Qualifications Authority (SQA)	2	1
138.	University of Ulster	2	1
139.	University of Southampton	2	1
AFRICA, AMERICA, ASIA, PACIFIC			
Australia			
140.	EIT Hawks Bay	1	1
141.	Flinders University, Dept. Of Anaesthesia and Pain Medecine	1	1
New Zealand			
142.	NZ Open Source Virtual Learning Environment Project Open Education	1	1
Canada			
143.	CAPLA ,,Canadian Association for Prior Learning Assessment	1	1
144.	Opn design	1	1
145.	Recombo Inc	1	1
146.	Simon Fraser University	1	1
Japan			
147.	University of Aizu Software Engineering Laboratory	1	1
S. Africa			
148.	NBNtrust , Waterkloof Pretoria S. Africa	1	1

7.5 Appendix 5: Interim Sustainability Plan

This interim sustainability plan was produced by focusing on the practical measures which would be taken by project partners to sustain the achievements of TENCompetence.

The results are provided below, and constitute a snapshot of partner plans in June 2009. These will develop in the coming final phase of the project, and in response to the forthcoming releases of the system.

It is planned to produce an updated and expanded sustainability plan at the end of the project period. This will include discussion of the wider future TENCompetence users and service providers, and Foundation strategy.

The process

The process of developing the Sustainability Plan was established at the project board meeting in Utrecht, 21st April 2009 and documented in the plan posted to the TENCompetence intranet for WP10 on 24th April.

This process was conducted using a proven approach applied by partner SURF in planning for the sustainability of the projects which they fund. This was adapted for the purposes of TENCompetence, and the resulting request for contributions to the project sustainability plan is reproduced in the following section.

As planned, all principal partners provided sustainability plans with sufficient time to prepare an overview for the Sestri Levante meeting of 13th July. The results were gathered and collated, and a summary of the results represented in a grid. This was the basis for further discussions at the project meeting, both more detailed discussions with individual partners and also analysis of the sustainability of the project as a whole. The grid itself is not included in this report, as it was simply a means of facilitating the interpretation of the collated results, but a summary of results is presented here.

Some brief observations on the outputs to be sustained

The outputs whose sustainability has been planned are described in the deliverables of WP3, and so they are not described in detail here. Suffice it to say that together they constitute the TENCompetence Personal Competence Manager (PCM), an integrated infrastructure which provides a framework for the whole process of lifelong competence development. It is made up of a set of service based applications which are accessed through portlets in the Liferay platform. One of the advantages which this approach offers is flexibility, as the provider can decide which portlets to deploy in a particular instance of Liferay, and can also choose to implement other applications which make use of the same services. There are also two applications which are more loosely linked to the infrastructure: the ReCourse Learning Design editor, which creates Units of Learning to be run in the PCM, and TENCompetence Tube, which provides a video based overview of competence development activities for a particular community. Clearly an institution which seeks to deploy the TENCompetence infrastructure has choice in deciding if they wish to deploy the whole range of Liferay portlets, or only a subset, or if they wish to make use of the services without the applications which TENCompetence provides.

The input from partners in this sustainability plan suggests that this decision depends on

- a) the aims and objectives which the education institution has adopted (or the part of that institution active in TENCompetence)
- b) The policy which it has adopted to achieve them.

Opportunities for exploitation

We divide the opportunities for exploitation as follows.

a) Commercial / educational. Lifelong competence development is not part of the core mission for the commercial partners in TENCompetence (although this would be different if they were, for example, Human Resources consultancies). For the educational partners, however, support for competence development is inevitably part of their mission, and the TENCompetence tools directly address their core processes of teaching and learning. Consequently we analyse these two groups separately, in terms of both the TENCompetence outputs as an opportunity for delivering services, and also as a means of improving their internal effectiveness.

b) internal / external. All partners have potential opportunities to apply the PCM either to make their own internal processes more effective, or as the basis for services which they offer to other individuals and organisations.

Commercial partners

The principal **commercial partners** in TENCompetence are ALTRAN, ILABS and LOGICA. Like any organisation, they have a need manage the lifelong competence development of their own employees in order to maintain their competitiveness. In this respect the potential for exploitation of the PCM depends on their existing provision in Human Resources (HR) management, and whether the time is ripe for moving to another system.

All three commercial partners recognise that the functionality of the PCM has the capability to provide valuable services for their clients and within their own organisations. However all three explicitly state that the PCM is in direct competition to existing products.

In the case of LOGICA the company *“has its own systems to offer its clients readymade solutions and services to match consultants with job openings and to track and assess the development of its consultants. LOGICA’s first priority is to align these processes worldwide.”*

Similarly in the case of ALTRAN the company *“has developed and deployed a Knowledge management system that classifies the competences of the personnel using a knowledge tree. This is used by consultants to:*

- *map its knowledge*
- *find experts on a specific theme to identify training past courses taught related on a specific knowledge area*

- *current and completed projects in a knowledge area*
- *evaluate candidates for a job in their knowledge of a specific area, etc.*

Deployment of TENCompetence in ALTRAN would require at least this functionality plus added useful functionalities.”

ILABS are in a similar situation, where there are established HR management products in the organisation. But they do see that there a possibility of applying the PCM in “*knowledge sharing among ILABS' employees*”. However the fact that this opportunity is limited in scope tends to underline the general picture, which is that companies do not see a motivation for replacing their own HR management processes with the PCM.

We note that these responses from commercial organisations do not mention the principal benefits of the PCM in supporting individuals and groups in managing their **lifelong** competences. This suggests that the principal problem for the PCM is that the potential benefits of integrated lifelong competence management are often not a deciding factor for commercial organisations, because the scope of the PCM is wider than the remit of the companies. The PCM manages competences during a lifetime, and across different domains, while typically the focus of an HR system is on competences strictly related to the specific tasks to be undertaken by employees during their current period of employment. As LOGICA point out, this is particularly the case in a time of economic crisis, when customers are focusing on reducing production costs rather than optimizing HR processes.

All three commercial partners in TENCompetence are providers of a wide range of technical solutions for a variety of purposes, and they do not have a particular mission to support lifelong competence development for their customers (although this is within their remit). Thus the PCM constitutes one more of the possible systems which they can offer customers.

The information provided by these partners shows that the possibilities for exploitation in the marketplace depend on (a) the fit between the PCM and their current portfolio of technologies, and (b) the interests and preferences of their clients.

The same problem with the focus of companies' interests is true for the opportunities for TENCompetence commercial partners to sell PCM based services to their clients. However, in this case there are added **barriers to commercial exploitation**. Firstly, there is a **functionality overlap** between the products which ALTRAN and ILABS have developed and market, and those aspects of the PCM which might be of interest to commercial organisations. In some cases the use of Open Source software (such as the PCM) is also problematic, either because of company policy, or because of the opportunity cost of lost sales of proprietary products sold by the company. Clearly there has to be a very strong motive for these organisations to move away from the revenue stream of established services with existing products.

Secondly, the PCM is new software, and as such it inevitably has a **low level of maturity**. While it has been tested and trialled, it has not been validated by the market to the same extent as a software product which has been optimised by years of real world applications. Consequently there is some risk involved with moving to the PCM, which is perceived by all commercial partners. This is stated most explicitly by LOGICA. They are platform agnostic, but have a natural preference for working with long established and well supported platforms. Thus they would require a professional service and support department before they would

consider selling services based on the PCM to clients. This presents a bootstrapping problem: how can such a service and support department be set up (by a company or by the TENCompetence Foundation) until a revenue stream is available to support it?

It is clear that the commercial use of IT evolves over time, and so one might expect the PCM to achieve adoption over time. However, the fact that its main benefits relate to lifelong issues which are not in scope for many companies is a strong argument in favour of the conclusion that commercial organisations will not be the drivers for adoption. They are, however, potential beneficiaries of the results of widespread PCM adoption in the wider context (for example the enhanced ability to locate suitable personnel, support for finding paths to new employment for workers who are surplus to requirements, the ability to integrate competence development objectives to a wide range of competence development opportunities). Thus we may foresee that enterprise systems in commercial organisations will have a positive view of engagement with the PCM once it has achieved a threshold of adoption.

Educational partners

Unlike the commercial partners in TENCompetence, the **educational partners do have a mission to support competence development**, and so the TENCompetence tools address their core processes of teaching and learning. However, the way in which these activities relate to lifelong learning varies substantially.

Three of the educational partners have a clear vision of themselves as providers of lifelong learning services.

Partner **Bolton** has a policy of becoming a “Professional University”, i.e. focused on preparing learners for participation in the workplace at a professional level, and meeting needs of professionals for extending their competences and gaining new ones.

For partner **OUNL** the major student cohort is professionals between 30 and 45 years old who want to keep up to date in their field, who want to advance their career, or who want to make a career shift.

Partner **Sofia** is a leading provider of Lifelong training services in Bulgaria.

Thus these three partners all aim to provide a service which intervenes in the learners' lifelong competence development. Consequently they have a potential need for an integrated system which can provide a means whereby learners can be supported in identifying their competence development goals, planning how to achieve them, direct them to learning activities, and obtain a record of their achievement. Because of this all three partners are potential adopters of the full functionality of the integrated Personal Competence Manager. In the case of OUNL and Bolton this focus on lifelong learning services is a response to a challenging operating environment, and represents an opportunity to gain a competitive advantage.

It should be noted that in some cases, most strongly with the OUNL, the project outcomes will be applied not only within the institution's own core processes, but also be ‘exported’ to consortia in which the OUNL participates.

However, it is not necessary for an adopter of TENCompetence to work with the whole system. Indeed the purpose of developing a service based system (apart from its technical advantages) is to support a variety of ways of engaging with the system. Educational institutions have a motivation to engage in **subsets of PCM functionality**. For example, an educational institution might decide that it is most effective for them to provide courses, or to publish learning materials, both of which can be contextualised within the Personal Competence Manager.

Other educational partners may make use of project outcomes to conduct research into one aspect of the approach taken by TENCompetence, for example:

UHANN see opportunities for exploiting LearnWeb (in combination with other tools under development in UHANN) in research which integrates, applies, evaluates and showcases knowledge management tools.

INSEAD see opportunities to make use of the TENCompetence Tube application as an infrastructure which can be adapted and applied to continue research work on experience exchange and innovation-oriented collaboration.

Àgora are considering using the PCM after the end of the project, in particular the PDP tool.

FBM-UPF see the opportunity to increase the quality of the courses which they offer without necessarily engaging in the wider provision of lifelong competence development services. They plan to do this by visualizing competences and subject matter, ePortfolio and informal learning opportunities for University students.

SURF (a smaller partner in terms of person months, and so with no exploitation plan) see potential, particularly in the use of PDP and ePortfolio linked to courses.

As is the case for commercial organisations, there is also an opportunity to for **educational organisations to deploy the PCM to increase the effectiveness of their internal processes**. Thus partner FBM-UPF plans to apply aspects of the PCM to support the lifelong competence development of FBM-UPF teachers, while partner Bolton plans to use Learning Design approaches in their internal training effort to unify teaching practice across international sites, and to use the Wookie component of the PCM in their Moodle courses.

A number of the constraints which were discussed in relation to commercial partners do not apply to educational partners. There is no opportunity cost in adopting the PCM, because these organisations do not have an income stream from the use of other systems. Moreover there is a strong precedent for the adoption of Open Source solutions, as at least four of the 5 partners use Moodle as a key delivery technology.

Exploitation strategy

The key selling point of the PCM is that it makes it possible to unify competence development activities, over a lifetime and in a range of contexts. The exploitation planning process has shown that Commercial partners are too strongly focused on current operational concerns for the PCM to offer sufficient benefits to justify the direct costs and opportunity costs involved in its deployment. Similarly some educational organisations see their core activity as being the provision of courses, and therefore the aspects of the PCM which support this functionality are not sufficient motivation for them to deploy the system.

The only partners for whom deployment of the integrated PCM makes economic sense are those education partners who can use it to position themselves as lifelong learning providers, and for whom the system can serve as a means of differentiating their offering from the competition, and as a means of providing new services.

Note that this does not mean that commercial organisations and the broad mass of educational institutions cannot engage with the PCM, or use it to provide or consume services. On the contrary the exploitation planning process has shown that most partners expect to be able to engage in the PCM in one way or another. To these should be added two of the smaller partners in terms of project participation (SURF and AGORA), both of whom are keen to be participate. It simply means that they will not themselves establish a PCM server, or make use of the full range of services which another PCM server offers. This is problematic for the prospects of the PCM only to the extent that such users beyond the project partnership are only likely to engage with the system once a critical mass of users has been established.

Thus exploitation planning process identifies the key potential adopters within the consortium as educational providers with a commitment to lifelong learning. However, logic indicates that the entities with the greatest potential gain from the deployment of the PCM are not these institutions (although the benefit for them is clear), but rather the government agencies who are explicitly charged with retraining the European workforce in the face of recession, unemployment, or social dislocation of one sort or another. It is likely that this would be done at the same level as that which is responsible for defining the educational system, i.e. at the level of the member state, or at the level to which this is devolved in a particular state. However, as standardisation of qualifications across Europe is becoming increasingly important, the PCM offers a means of managing such structures across the boundaries of member states.

It is intervention on this scale which would guarantee a market for actors who only wish to provide or consume services in a particular aspect of the PCM. It is not reasonable, however, to expect this very large scale deployment without convincing examples of effective use on the smaller scale. Consequently the immediate strategy of the TENCompetence Foundation is to establish and maintain strong sustainable business demonstrators in those partners who have a business model which can benefit substantially from the PCM, and to expand out from this base.

In the case of OUNL, planning for the deployment of the PCM is at an advanced stage. A pilot project for two OUNL programmes (Learning Sciences & Technologies and Informatics) starts in September 2009. This will be funded by the OUNL and will be fully operational in January 2011. Implementation projects for all OUNL programmes will start in 2010.

However, for the other two strong candidates for early adoption in the consortium (Sofia and Bolton) the situation is less clear. In Sofia the commitment to the PCM is at the level of the Centre of Information Society Technologies (CIST) institute, rather than at the level of the University as a whole. While CIST has independence and would like to deploy the PCM, it is not in the position to mandate adoption to the institution as a whole (which is the case in OUNL). In Bolton, there is currently a major technological change underway with the replacement of the institutional VLE and rolling out Moodle. The scale of this change means that immediate and widespread implementation is not an option. Consequently the first stage of adoption will be for the internal PDP and staff competence development programme. Thus it is likely that OUNL will be the lead adopter, with Sofia and Bolton taking a more measured approach to full deployment of the PCM. It is likely that all three partners would want to establish their own PCM server to support these activities (whether or not this is physically in the premises).

The exploitation strategy which emerges from this process may therefore be summarised as:

1. Use the PCM as a means of establishing differential services for partners who see their mission as providing lifelong competence development. The best candidate early adopters in the consortium are OUNL, Sofia and Bolton. OUNL has detailed plans for use in their core business. Bolton will introduce the PCM through their internal staff development processes, and Sofia is planning to provide lifelong learning services in Bulgaria.
2. Maximise the engagement of other partners by enabling them to offer services or consume them through the PCM, as set out in the detailed exploitation plans provided below.
3. Extend this to the commercial and academic partners of the early adopters beyond the consortium, and to the members of the networks to which the early adopters belong.
4. Disseminate effective practice and publicise the success of the PCM as a tool for providers of lifelong competence development, through the TENCompetence Foundation
5. Build on success stories of PCM adoption, convince government agencies and similar bodies to adopt the system
6. Build the participation of a wide range of organisations, SMEs and individuals in national networks

The template used to gather partner sustainability plans

- 1) The opportunities for use of TENCompetence products in your institution, in general terms (e.g. issues to be addressed by the institution, key areas where there are needs, areas where change is particularly required...)
- 2) The constraints which you foresee at the institutional level for the use of TENCompetence products, in general terms.
- 3) Are you planning to deploy the results of the project?
 - a) in your institution?
 - b) in partnership with other institutions?

3.1) If **you are** planning to deploy the results of the project, please specify the actions you will take:

- a) Which tools will be deployed, and for who?
- b) Who in what role will manage of the deployment plan, and what in general terms are their responsibilities?
- c) How will this be funded (after the TENCompetence funding period), and what are the budgets involved?
- d) What changes are needed (work processes, roles) to make sure that, the deployment will succeed.
- e) What needs are there for future users be trained & supported? What services are required to support the users?

3.2) If **you are not** planning to deploy the results of the project, please describe as precisely as possible

- a) What are the specific barriers to your use of the products of TENCompetence? Please think of this in terms of a number of areas where these products are potentially useful to the institution, perhaps in terms of your answer to question 1.
- b) Is there anything that TENCompetence, or the TENCompetence Foundation, could do to overcome any of these barriers, perhaps in terms of the software products, or the services which need to be supplied?

4) Do you think that there are good opportunities for deployment of TENCompetence software products in your country?

If so:

- a) In which parts of the business, education and public sectors?
- b) Which TENCompetence software products are most promising?
- c) What should TENCompetence do to promote their use?

If not:

- a) What are the principal obstacles?
- b) What (if anything) could TENCompetence do to overcome them?

Individual partner sustainability plans

In the following pages the interim sustainability plans for each partner are provided.

ALTRAN

ALTRAN Opportunities

- Provision of a tool that facilitates the work of the managers and human resource department.
- Personnel mastering several competence profiles.
- Lifelong learning opportunities for its engineers.
- Knowledge sharing among employees.
- Provision of a tool that facilitates the work of the training department.
- Rapid identification of experts in specific areas

ALTRAN Constraints

ALTRAN has developed and deployed a Knowledge management system that classifies the competences of the personnel using a knowledge tree. This is used by consultants to

- map its knowledge
- find experts on a specific theme
- identify training past courses taught related on a specific knowledge area
- current and completed projects in a knowledge area
- Evaluate candidates for a job in their knowledge of a specific area, etc.

Deployment of TENCompetence in ALTRAN would require at this functionality plus added useful functionalities.

ALTRAN deploy?

Yes

ALTRAN which tools used

Internal use as stated in “opportunities”

Commercial use of the results of the project: As TENCompetence is Open Source the Business Model should be based on a teaching or staff training model with a consulting work of the ALTRAN Engineers in the client sites that includes:

- PCM as a tool for the training department in charge of defining the training plans (learning paths) taking in account profiles and competences.
- PDP as a tool for learners to manage the evolution made in his competences and learning plans.
- Graphical Planner to detect opportunities related to competences.

ALTRAN roles

The responsible for the deployment of TENCompetence Project in ALTRAN Technologies will be the DOPE (Dirección de Operaciones y Planificación Estratégica) department in charge of knowledge management.

ALTRAN budgets

The budget involved will be from de DOPE department. This department has a budget to develop and to deploy support systems and tools.

ALTRAN changes needed

Installation, configuration and customization of the TENCompetence tools that best fit client needs.

Collaboration with client to a) define competence maps, ensuring the correct training of client's personnel in these disciplines and ensure that the client's personnel acquire the necessary competences. b) define and to implant the learning paths needed to develop its business activities.

ALTRAN training- support

Training in the TENCompetence concepts to the client personnel.

A team dedicated to technical support to solve possible problems, incidences and questions will be desirable.

ALTRAN sectors in Spain

Enterprises in HR and recruitment could be interested in improvements in finding appropriate profiles from the definition of competences needed to meet vacancies, leading to better and faster fits.

Consulting and Engineering companies: The focus should be in medium and large enterprises (more than 250 employees) and multiple national or international head offices, with high number of projects and very high level of mobility of engineers from one project to another. As in the ALTRAN pilot, selection of external candidates to hire, planning and carrying out engineers CPD, best fit of professionals to projects, finding experts for specific projects, definition of teaching requirements for each profile assignment of appropriate courses for engineers by competences and objectives.

ALTRAN products in country

The integrated PCM.

Bolton

Bolton opportunities

- a) The Wookie widget server (within Bolton and beyond) as a means of delivering flexible services.
- b) Bolton has a policy of becoming a “Professional University”, i.e. focused on preparing learners for participation in the workplace at a professional level, and meeting needs of professionals for extending their competences and gaining new ones.
- c) University of Bolton expansion in the United Arab Emirates. The same educational experience is to be provided at both campuses, though the courses are delivered by non-UK staff. This creates a requirement for a unifying description of the educational experience which is greater than that normally required at a face to face institution. TENCompetence may be relevant, especially the LD aspects.
- d) The IDIBL project establishes an inquiry based learning approach for the University.
 - A pilot is being run to use the Learning Design Toolkit to define the workflow for the negotiation of a learning contract. This could be extended
 - Learning Design (as a concept) could be included in the course.
 - It may be possible to leverage the PCM as a means of facilitating learners' navigation through the space of possible support available to them in their enquiry.
- e) The IEC runs a Masters in learning technology, aims to use new developments in learning technology worked on in the department in delivering the course. More generally, Learning Design will become part of the department's technology that will underpin aspects of the research that we undertake, including business games, and models of pedagogy.

Bolton Constraints

There is pedagogic and organisational resistance to technological change. There are currently major technological changes at (e.g. a new VLE, Moodle), plus well established technologies. It is hard to argue that a new technology is required, which will not duplicate current functionality. So propositions for introduction of new technologies have to be very carefully managed.

- a) The Wookie Widget server is constrained by resistance to added complexity in the Virtual Learning Environment.
The Professional University policy is relatively new, and the transformation to be achieved not fully articulated. The fit of the TENCompetence tools is an open question. There is a danger of demotivating users with an immature tool set.
- b) The problems faced by Bolton's campuses abroad are not those covered by the core TENCompetence use cases.
 - d) The initial response of the IDIBL pilot of the TENCompetence Learning Design Toolkit is that the *player* UI is not adequate in the context of raising the quality of the educational experience across the University.
- c) Use in delivering a course on learning technology has been constrained by the need to model professional delivery using polished tools. It is confidently expected that these will be available at the end of the project.

Bolton deploy?

Yes, in Bolton and with Apache.

Bolton which tools used

- Wookie will be deployed experimentally to add services to the institutional VLE (Moodle). It has also been submitted to the Apache Incubator to extend its use to a very wide community who want to deliver W3C widgets and related technologies.
- The pilot use of the Learning Design Toolkit in the context of IDIBL will be extended (pending positive results from pilot activities).
- Liferay based PCM system will be used in pilot activities to assess the viability of its use within the context of the Professional University policy. A pilot is under discussion for representation of the University of Bolton CPD offering.

Bolton roles

Use of the TENCompetence outputs in University of Bolton will be coordinated by Dai Griffiths, Reader in eLearning at the Institute for Educational Cybernetics. His role will be to support the process of planning and implementing use.

The use of the Wookie Widget server will be coordinated by Scott Wilson.

Use of outputs in IDIBL will be coordinated by Stephen Powell, and subject to approval by the IDIBL project.

Bolton budgets

The use of Wookie is funded by internal projects in the University of Bolton. A business plan has been developed as part of the submission of the software to the Apache Incubator.

The IDIBL project is funded by the departments who run the individual courses which make use of the IDIBL methodology. Costs will be minimal as we have in-house expertise.

CPD offering would be funded by core University of Bolton budgets.

Bolton changes needed

Wookie: An OS community needs to be created.

IDIBL related work: create a team of LD authors available to make appropriate UOLs.

LD as part of dept technology: spread LD expertise across the dept.

Business one. Make new strategic partnerships, promotional activities.

Each school is doing its own thing with engaging with the business community in their areas. There is no-one pulling this together, though there are people smoothing the way. You have to talk to the schools, and probably the best place is the business school or the engineering dept and built environment. That's where you get the upskilling stuff.

New partners will be required to help University of Bolton develop innovative applications for LD e.g. business games, which may lead to future shared projects and funding proposals.

Bolton training

Training in IMS LD related technologies can be handled in house by University of Bolton. Use of the PCM will require training as soon as possible in the key functionality available, particularly PDP and competence definitions.

Bolton sectors in country

Most promising from University of Bolton perspective are business, built environment, engineering, creative industries.

Health is a possible area, but it has a very well developed competence based structure already, which may make adoption difficult.

Bolton products in country

PCM as an integrated system.

LD toolkit

Wookie.

TENCompetence promote

Describe what is offered by the system in ways which are more flexible and more targeted.

Bolton UK obstacles

Overcoming traditional practices, this cuts across the areas identified.

The tradition of competence based approaches is viewed poorly because of history. In many areas the use of the PCM would be easier to achieve if the word competence were completely avoided.

ILABS

ILABS opportunities

- Linking LearnWeb with ILABS' tools, mainly the Hive repository.
- Linking LD-Player with ILABS' LD-Editor.
- Maintaining contacts with our current Business Demonstrators.
- Combine ILABS' offering with Open Source tools.
- Possible knowledge sharing among ILABS' employees.

ILABS constraints

1. Linking TENCompetence tools with ILABS' tool requires the adaptation of some drivers and the compliance of the formalisms.
2. The combination of proprietary products with open source tools raises some IPR issues. In case of combination with tools coming from other research projects (e.g. LD-Editor developed in Prolix project), a technology alignment may be necessary.

ILABS deploy?

Yes

ILABS which tools used

LearnWeb, as a tool searching resources into Hive repository, and sharing knowledge between community users.

eXact-LD-Player, as a tool for learners to manage the learning activities.

ILABS roles

Project Portfolio Control Board (PPCB), responsible for handling a portfolio of projects given a constrained pipeline. The PEA (Project Execution Approval) gate is under its supervision. Members are:

- Chief Operation Officer (COO)
- Chief Marketing & Sales Officer (CMSO)
- Chief Financial Officer (CFO)
- Sales Directors
- Chief Solution Architects
- Project Management Officer (PMO) and Lines Managers (SW Development/Content Development/Test/Support).

ILABS budgets

Either from the Production Department or from specific commitments from clients. The Production Department has a budget to develop and to deploy support systems and tools.

ILABS training -support

A team dedicated to technical support to solve possible problems, incidences and questions.

ILABS opportunities in Italy

ILABS plans to promote TENCompetence-based products in both the Italian and world-wide markets.

In Italy the local government bodies could be the most interested in TENCompetence products, as well as third-age associations and educational centres.

INSEAD

INSEAD opportunities

TENCompetence Tube and different versions and adaptations. At CEDEP, in INSEAD Programmes, and in other educational and non-educational institutions.

INSEAD constraints

- Current familiarity of users with Web 2.0
- Firewalls.

INSEAD deploy?

Yes, after further developments that we were not able to perform in TENCompetence.

INSEAD which tools used

TenTube

- GMPTube, used in the General Management Programme (GMP) at CEDEP.
- Laboranova project. InnoTube supports and stimulates innovation-centred knowledge exchange among distributed groups and communities.
- **Eagle Tube** and ChangeMasters Tube to support and stimulate experience exchange and innovation-oriented collaboration among people deploying our management simulations.

INSEAD roles

CALT will take responsibility for the deployment and diffusion of TENCompetence Tube.

INSEAD budgets

Internal R&D budgets, and potentially new EU project submissions, Cost of development: 80,000 Euros.

INSEAD changes needed

We believe we have reached a mature stage; minor adaptations will be required for different deployment contexts.

INSEAD training

We currently have a User's Manual and Training Videos. If demand grows, we plan to offer a workshop on how to best deploy TENCompetence Tube.

INSEAD sectors in France

ALL - Research, Teaching, Business, Public Sector.

INSEAD products in country

TENCompetence Tube.

INSEAD promote

Quick links to articles and webpages describing TENCompetence Tube.

Hannover

Hannover opportunities

LearnWeb enhanced with the InterWeb platform provides a platform for integrating, evaluating and showcasing knowledge management tools that are under development at the UHANN – currently GroupMe! and SpreadCrumbs.

Hannover constraints

Core TENCompetence tools (PCM, PDP, LearnWeb) need more iterations of development before larger scale deployment, as confirmed by the initial outcomes of our business demonstrator. In particular the user interface of the tools needs serious reworking, which most likely will not be reachable before the end of the project. Therefore:

- we aim to concentrate our efforts on LearnWeb 2.0.
- adoption of tools should start with small scale experimentation and iterative refinement.
- End-users should be told that the tools are still experimental.

Support would be required from management, via the eLearning Support Group, ELSA Integration with Stud.IP institutional system would be necessary.

Hannover deploy?

Yes.

Hannover which tools used

LearnWeb 2.0

- as an experimental tool for the support of knowledge management
- as a platform for integrating our own experimental tools, GroupMe! and SpreadCrumbs.

The initial target group will be UHANN staff, who will use LearnWeb 2.0 for knowledge management at the workplace. Regular use and feedback will be solicited by means of targeted studies.

Hannover roles

The final responsible for the deployment plan is the head of our group at the UHANN, Wolfgang Nejd. At the moment, the responsibility is delegated to Eelco Herder.

Hannover budgets

LearnWeb 2.0 in internal projects at least during the next two years. Two Ph.D. students will continue to be involved with the tool as part of their Ph.D. research.

The actual budget depends on the evaluation of outcomes and prospects.

Most likely we will position LearnWeb 2.0 in the NoE Stellar as well.

Hannover training

A team dedicated to technical support to solve possible problems, incidences and questions will be desirable.

Hannover sectors in Germany

For the moment, we would not seek opportunities for deployment in Germany. We do have contact points with government (e.g. Ministerium für Wirtschaft und Kultur) and industry (e.g. IMC AG).

LOGICA

LOGICA opportunities

Could be used in our HR department

- to regulate LOGICA's HR processes
- creating competence profiles of LOGICA staff
- using the assessment functionality to assess its employees
- use the tools to support and provide training to its employees.

Could be used as an internal repository for sharing and communicating information.

LOGICA constraints

1) LOGICA has its own systems to offer its client readymade solutions and services.

- to match consultants with job openings
- to track and assess the development of its consultants.

LOGICA's first priority is to align these processes worldwide. It will then look at tooling.

2) Replacing current systems with TENCompetence products would lead to high costs with a major technical impact on the organization (over 40.000 employees).

3) At this moment the tools are not ready yet to be released but we hope to overcome the existing barriers before the end of the project. Prior to use by LOGICA TENCompetence products need further development and improvement, and a professional service and support department. When this is achieved LOGICA could offer its service to interested organizations that need help implementing the products of TENCompetence.

4) TENCompetence themes are not of daily interest for customers, who presently focus on reducing production costs rather than optimizing HR processes. Moreover LOGICA's business typically has a short run-time whereas in TENCompetence this is much longer.

LOGICA deploy?

No.

LOGICA sectors in Holland

There is demand for more technology in learning environments in the Netherlands, in primary, secondary and universities. We see a lot of SAP methodology being integrated.

Schools are merging into big organizations to combine forces on mostly administrative level. New technology could

- cut these costs
- provide the users, students and teachers, with a standardized registration and student tracking system.

TENCompetence could collaborate with suppliers of student management systems, like SAP, who could learn and improve their products looking at the strategy and project outcome of TENCompetence.

OUNL

OUNL opportunities

The major OUNL student cohort is between 30 and 45 years old, and employed. These are professionals who want to keep up to date in their field, who want to advance their career, or who want to make a career shift. These motives closely resemble the major TENCompetence use cases, and thus the infrastructure developed by TENCompetence can be expected to meet their needs.

OUNL constraints

OUNL is a distance learning university in the Dutch higher education system and bound by its legislation. Some central TENCompetence concepts do not fit well the traditional higher education structure and practices, e.g.

- acknowledging competences acquired on the job
- keeping up to date through professional learning networks
- tailor-made development trajectories
- etc.

OUNL deploy?

Yes.

OUNL which tools used

In two of OUNL's core processes:

- a) its educational offering through the OUNL faculties
- b) its regional function as an expertise centre in the field of lifelong learning.

This will apply Liferay and most of the tools developed by TENCompetence.

Health Academy Limburg, a consortium of educators and service providers in the health sector addressing Netherlands' aging population, and the staff shortage – quantitative and qualitative - in the sector. Limburg has the highest average age and the lowest birth rate in the Netherlands. In the consortium OUNL is an expertise centre in blended and lifelong learning.

The Health Academy Limburg is shortlisted for a project grant from the Platform Beroepsonderwijs (National Vocational Training Platform). One of three components of this 3-year project is design and (pilot) implementation of a 'virtual health services architecture' using TENCompetence concepts and components like competence profile editing and management, the Personal Development Planner, a lifelong personal e-portfolio, acknowledgement of previously acquired competences, and learning networks.

OUNL roles

Within OUNL the TENCompetence project is conducted by the Centre for Learning Sciences and Technologies (CELSTEC), responsible for OUNL's R&D remit. Two years ago CELSTEC organized a one-week strategy session with the OUNL Board and Deans to

investigate options to introduce the TENCompetence ideas in OUNL's educational offering. This was followed up by several more of such meetings, eventually resulting in the draft of a radical new business model.

OUNL budgets

1) A new business model for OUNL early 2009 has been approved by the Board, and a two-year pilot of TENCompetence ideas with two OUNL faculties will start in September 2009. The planned pilot budget is E. 700.000,-

A subscription system with various membership-types:

- free membership of a professional community
- free use of online tools (as developed by TENCompetence)
- access to open educational resources, and in general keep up to date
- basic membership to keep up to date and to be able to study and sit exams for certified courses
- premium membership to study and receive expert learning and career development services.

2) The OUNL Board has contributed E. 100.000,- to the first phase of the Health Academy Limburg project, through staff input, o.a. to lead the Work Package that designs the consortium's future ICT architecture, which will incorporate many of the concepts and tools from TENCompetence. The Health Academy.

The Health Academy Limburg is shortlisted for a project grant of E. 700.000, - from the Platform Beroepsonderwijs (National Vocational Training Platform) on a total project budget of E. 2 million.

Sofia

Sofia opportunities

- CIST at US is a leading provider of Lifelong training services in Bulgaria, and as such is interested in using the whole TENCompetence platform for various training offerings, tailored to the user needs.
- We are also interested in providing the TENCompetence framework as an open lifelong competence development framework to the whole society by hosting the main hardware servers needed for the use of the framework.

Sofia constraints

There are currently no constraints in Sofia University.

However, if the University decides to change its policy there could be problems in supporting more wide use of the TENCompetence framework for external training services provision, and for their free provision.

We see some risks in

- proper and timely implementation of the next general TENCompetence framework release
- discontinuity of the support for the current version of the TENCompetence services.

Sofia deploy?

Yes, internal and external.

Sofia which tools used

Planning to establish various partnerships related to the joint use of the TENCompetence platform and tools, mainly with already registered TENCompetence associated partners. These include but is not limited to the Ministry of Education and Sciences, Technical University and several SME's.

We are planning to deploy all TENCompetence tools and to use them both for education of students, as well as for providing lifelong competence development services for external consumers.

We will provide TENCompetence framework first in the public education sector, and will support all the main lifelong competence development initiatives in Bulgaria. Also, we will provide lifelong competence development services to all Bulgarian companies, who are interested in formalizing their job competence profiles and developing individualized personal lifelong competence programs for their employees.

Sofia roles

We will continue to use the same team, who was responsible for the implementation and the support for the whole TENCompetence framework during the project lifecycle.

Sofia budgets

This will be funded by the Scientific and Research Department of the University, from the financial sources accumulated from all research projects executed in the University.

Sofia changes needed

None.

Sofia training

We have enough experience from the pilots and business demonstrators we already implemented.

Sofia sectors in Bulgaria

Pilots and business demonstrators already implemented have shown that there are opportunities.

Sofia products in country

The Web-based tool look more promising, as they are flexible, independent, easy to manage and configure.

We would be interested to see how Liferay can be used for hosting all web services, and all additional portlets.

Sofia promote

More reliable and complete training and marketing instruments.

Higher quality of the software, as close to professional software as possible.

FBM-UPF

FBM-UPF opportunities

a) Lifelong competence development of FBM-UPF teachers. FBM-UPF has a Center for Teaching Quality and Educational Innovation¹ (CQUID), providing CPD opportunities for teachers to enhance their teaching competences or develop new competences (e.g., usage of the virtual campus, how to write a subject matter plan according the EEES guidelines). CQUID has identified the following problems:

- University teachers are very busy, and the number of activities offered each year is so high that makes it difficult for professors to identify and plan the activities more relevant to them.
- The activities respond to teachers expressed needs, and to educational policy changes, but they do not meet a FBM-UPF strategy of leading the professors to specific teaching competence profiles (according to teaching domain).
- Teachers often participate in more informal learning sessions (e.g., teaching innovation workshops) external to CQUID. CQUID cannot track these.

TENCompetence products could help in defining teaching competence profiles for teachers, so they can plan personal learning plans identifying activities that best suit their needs. ePortfolio could enable teachers to collect CQUID or external evidence supporting the competences they master.

b) Visualizing competences and subject matter, ePortfolio and informal learning opportunities for University students. TENCompetence products can offer solutions to the following problems identified by the Teaching Quality and Innovation Unit of the Engineering Education Studies².

- Students have no global view of the competences they are developing, and how the different qualification levels are related to the subject matter.
- Students have a virtual campus with closed communities for each subject matter no support for informal discussion and sharing.
- Facilitation of student mobility between European universities, as definition of competences (more easily comparable) needs supporting tools.

FBM-UPF constraints

The University has recently adopted Moodle, which has and is being adapted to FBM-UPF needs. The introduction of new products needs to be carefully managed.

A critical success factor would be transparent integration of end users, i.e. authentication of tooling.

FBM-UPF deploy?

Internal: Yes.

External: Eventually yes, in collaboration with other universities in Spain.

FBM-UPF which tools used

University teachers: planning and ePortfolio portlets in Liferay.

University learners: Competences visualizations, planning and ePortfolio portlets in Liferay, LearnWeb.

FBM-UPF roles

Use of the TENCompetence outputs in University of Bolton will be coordinated by Davinia Hernández-Leo, Lecturer at FBM-UPF and Director of the Teaching Quality and Innovation Unit of the Polytechnic School at FBM-UPF. His role will be to support the process of proposing, planning and implementing use.

FBM-UPF budgets

Educational innovation projects internal to FBM-UPF, the Generalitat of Catalonia or the Spanish Ministry of Education.

FBM-UPF changes needed

Increase the points for professors related to teaching competences, not only taking into account the activities the FBM-UPF (i.e. the CQUID organizes).

Spread interest in developing teaching competence across the University.

Make partnerships with other universities with the aim of formulating common teaching competence profiles for university professors.

Make partnerships with other universities with the aim of investigating how contrasting competences to facilitate students' mobility can be supported with software tools based on the TENCompetence results.

Make students (and professors) see the importance of informal learning, through discussion and sharing beyond the classrooms.

FBM-UPF training

The CQUID and La Factoria supporting services for professors at the FBM-UPF would need an initial training so that they can support professors and students later. A continuous support by TENCompetence Foundation would be also required by these services at FBM-UPF.

FBM-UPF sectors in Spain

SMEs for internal competence development and social services (such Agora) to provide competence development opportunities.

FBM-UPF products in country

PCM as an integrated system that can be customized according to specific needs.

FBM-UPF promote

Enhance the usability of the tools, especially when they are used in an integrated way.
Establish a good website of reference with discussion forums, demonstration of tools and manuals (not only user manuals, but also for developers)