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KP-LAB

Knowledge Practices Laboratory

Integrated Project

Information Society Technologies

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Executive summary

The aim of this report is, first of all, to present the KP-Lab approach toward stakeholders in the wider framework of European policies.

Secondly, the KP-Lab definition of stakeholders and the strategy to address different stakeholders needs, concerns and expectations is presented in the following paragraphs.

The second chapter presents concrete examples of stakeholders' involvement in the KP-Lab project.

The third chapter proposes a tool for self-assessing stakeholders' awareness to be used by KP-Lab project partners and any researcher interested in improving its consideration of stakeholders' needs, concerns and expectations.

Finally, some conclusions and recommendations are presented.

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1 The framework

1.1 Introduction

The aim of this report is to present the KP-Lab approach toward stakeholders in the wider framework of European policies.

Along these lines, the first chapter provides a synthetic overview of stakeholders' involvement in research in European policies dedicated to technology-enhanced learning and public and private R&D activities. Secondly, it presents some possible definitions of stakeholders. After that, it illustrates the KP-Lab approach towards stakeholders and particularly the strategy to address different stakeholders' needs, concerns and expectations.

The second chapter presents concrete examples of stakeholders involvements in the KP-Lab project.

The third chapter proposes a tool for self-assessing stakeholders' awareness to be used by KP-Lab project partners and researchers interested in improving their consideration of stakeholders' needs, concerns and expectations.

Finally, some conclusions and recommendations are presented.

1.2 Stakeholders' involvement and European Policies

The role and the importance of stakeholders' involvement in research is increasingly acknowledged in European policies. This applies to technology-enhanced learning as well as to public and private R&D activities.

For instance, the recent Green Paper consultation on the formation of the European Research Area (ERA), called on stakeholders to take responsibility for the creation of the ERA and to focus on European added value.[1]

Concrete examples of how the involvement of stakeholders in research is foreseen in European policies and translated into practice are:

- The set up of the European Network of Living Labs, as a step towards the creation of a new European Innovation System (EIS). It is a collaboration of Public Private Partnerships (PPPs) where companies, public authorities and people link up to share information, research and test new products in the fields of information and communication technologies (ICT) and mobile services. The aim of the initiative is to stimulate innovation by moving research out of the laboratories and into the real life contexts of cities and regions; there, citizens and users will be encouraged to cooperate with researchers, developers and designers to contribute to the whole innovation process.[2]
- The establishment of European Technology Platforms (ETP). These are intended to gather stakeholders together in industry-led initiatives to define Strategic Research Agendas (SRA) for technological fields. ETPs have in turn given rise in some cases to the establishment of 'national' technology platforms which bring together national stakeholders and develop SRAs in line with the aims of the overarching ETP[3]
- The reform of the European Research Advisory Board (EURAB) in order to enhance the role it plays in the realisation of a European Research Area. Part of its mandate should be to help the European Commission convene a regular 'assembly' of all stakeholders in European Research.[4]

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[1] For more information on the process setting up the European Research Area, see:
http://ec.europa.eu/research/era/index_en.html

[2] http://cordis.europa.eu/search/index.cfm?fuseaction=news.simpledocument&N_RCN=26684

[3] See the Green paper of the European Commission "The European Research Area: new perspectives",
Brussels, 4-4-2007 http://ec.europa.eu/research/era/pdf/era_gp_final_en.pdf

[4] Reference as above

- The establishment of Networks of Excellence, and other instruments funded by the European Commission such as integrated projects, linking universities, businesses, foundations and other public and private research bodies

1.3 The concept of stakeholders in KP-LAB

According to the Oxford Dictionary, stakeholder is : (1) One who holds the stake or stakes of a wager, etc.; (2) One who has a stake in something, esp. a business. (3) A person, company, etc., with a concern or (esp. financial) interest in ensuring the success of an organization, business, system, etc. This definition of stakeholders is in line with the use of the concept Stakeholders in several EC documents
.Some citations to exemplify:
From a document entitled "FP6 in Brief" from December 2002: "…stakeholders e.g. industry, healthcare providers and physicians, policy makers, regulatory authorities, patient associations and experts on ethical matters"
From the IST's "2005-06 Work Programme" document: "…involvement of all stakeholders, such as road operators, road authorities, service providers, automotive industry, original equipments suppliers, systems integrators, and communications providers."

Therefore, Stakeholders in KP-Lab are seen as any interested individual or organisation, who may contribute to the co-design or use of the tools and practices. In essence, this concept is the consistent with the one used by the EC in its documents (see above).

However, a more specific definition of stakeholders has been provided by WP 11 dissemination and exploitation. This can be explained by the fact that WP 11 refers to stakeholders who plays a role in the exploitation of the project.

From D11.2: "Stakeholders are partners that are actively involved in the development of the results in case or otherwise proved to be essential for future exploitation success"
Therefore, in WP11, stakeholders are KP-Lab partners developing a result or involved in the development (technical and pedagogical - e.g., in pilots, by being a members of the corresponding WK, by providing other pedagogical input or specification, etc.), who are directly interested in the exploitation and its success. The stakeholders groups may also include other players that prove to be essential for exploitation (either internal or external, non-partners, individuals or entities that may promote the exploitation goals – e.g., organizations that may eventually market the result).
According to this meaning of the word, WP11 stakeholders are not only interested in a given project's result but also, and especially, are involved in its development and are committed to (and/or can strategically contribute to) its exploitation.

When referring to "Stakeholders" as meant in WP11, it is therefore suggested to use an alternative name: "Exploitation Stakeholders Groups", or its shorter acronym: "ESG" (and in plural, "ESGs"). They correspond to what has been labelled in the past "stockholders"[5] and they are a sub-group of the wider conceptual category of stakeholders

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[5] For the history of the concept of stakeholders, see Patton 1997, Utilization-Focused Evaluation, p.41

1.4 The role of stakeholders in KP-Lab

The KP-Lab project attributes a high importance to stakeholders in its research and operational activities. Stakeholders are at the very core of KP-Lab approach, since the knowledge practices to be developed in the framework of KP-Lab foresee users and other stakeholders' involvement in the co-design. This argument is clearly presented in the Deliverable 3.1 "Recommendations for Design Principles of Trialogical Technologies", which affirms that "As the use of an artefact in a given activity system cannot be specified in advance or anticipated in detail, requirements inevitably have to be constructed in collaboration between practitioners (domain-expert users) and developers during the design process (e.g. Floyd, 2002, Rönkkö, 2002, Miettinen & Hasu, 2002). An implication of this is that requirements should include questions, opinions and judgments based on the available knowledge of the stakeholders (as a kind of design rationale) and hence has to be regularly revised as the process(es) unfolds."

In addition to that, the KP-Lab priority areas of investigation, as formulated in the Description of Work 2, address in various ways stakeholders and the way they interact in the project co-design process, as follows:

1. *Managing collaborative design in higher education* involving efforts of co-designing of various artifacts by educational and professional communities;

2. *Retooling boundary crossing between education and work* in terms of providing collaborative and mobile tools for students engaged in field work;

3. *'Knotworking' in complex learning environments* by providing tools for systematic reflection and semantic annotation of authentic work situations;

4. *Creating teacher networks that foster professional transformation*;

5. *Developing capabilities of transformative learning and knowledge management in work places* by reflective tools and practices;

6. *Ontology-based collaborative modelling*;

7. *Developing technology-enhanced practices for scientific writing* by providing tools that scaffold collaborative production of knowledge as prototypical trialogical activity;

8. *Contextual investigation of knowledge practices in personal use of students*.

Hovever, it should be pinpointed that the main "direct" stakeholders involved in the investigation are teachers and students in higher education, teachers in other schools, and practitioners in workplaces.

As mentioned above, Stakeholders (of which "Exploitation Stakeholders Groups" are a sub-group) are expected to play a fundamental role also with regards to dissemination and exploitation of research results and artifacts. The WP 11 deliverable D11.2 - "Exploitation strategy" - affirms in this respect that "The main challenge in defining the exploitation strategy of KP-Lab is the diversity of the project, which results from its nature as an integrated project. This diversity is manifested in the variety of the project's results (tools/products, practices/services, etc.) and the variety of its partners, their interests and expectations.... In order to overcome the challenge, the KP-Lab consortium was proposed to take a decentralized approach: The exploitation of the project's results will be planned and eventually carried out by corresponding groups of "exploitation stakeholders". Exploitation Stakeholders [in this context] are partners that are actively involved in the development of the results in case or otherwise proved to be essential for future exploitation success. A

project-wide exploitation coordination function will monitor and assist the partners and the process in order to ensure a smooth advance toward the general goals."[6].

Which stakeholders and/or stakeholders groups are taken into consideration? The above mentioned deliverable defines stakeholders groups as project partners that are actively involved in the design or development of the exploitable result, and/or otherwise committed to its exploitation. It has to be noted, however, that the involvement of non-partner, external players, collaborating with the relevant partners, has not been ruled out in principle: both internal and external persons and entities can be stakeholders from the D11.2 perspective as long as they are involved in and committed to some result's development and exploitation. Those collaborating external players will be called, henceforth, the "partners' networks". They comprise collaborating developers, collaborating researchers as well as practitioners, students and teachers taking part in the field trials. They are involved in and committed to some result's development and exploitation".

So we can think of an "inner layer" of stakeholders, i.e., partners (and partners' networks) that are active, within "exploitation stakeholders groups", in the development and exploitation planning of a given result of the project. However, in order to multiply its potential impact, KP-Lab aims also to reach what can be called the "outer layer" of stakeholders, i.e., players that have or may have interest in the project's results and potentially contribute valuable feedback for the development work, such as the research community, policy makers, industry, other final users of KP-Lab artifacts, etc.

The KP-Lab approach towards the outer layer of stakeholders should rely on intermediate levels of communication and iterative feedback between categories of stakeholders.

The students, teachers and practitioners in the workplace involved in KP-Lab pilots , training activities and trials represent what can be called the intermediate layer of stakeholders. They play a fundamental role, since they elicitate and validate end-user requirements but they can represent a leverage element to reach the outer layer of stakeholders. Teachers for instance might influence the investment decisions of their institutions, and the same applies to professional. Of Course the KP-Lab partners have also to endeavour directly to interface the outer layer.

The KP-Lab consortium should build sustainability and exploitation of its results by involving directly the outer layer and also relying on the multiplier effect of the intermediate layer of stakeholders.

The following scheme illustrates the connections between the inner, the intermediate and the outer layer of KP-Lab stakeholders.

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[6] D11.2, where the concept of stakeholders and the initial institution steps of the groups are mentioned can be downloaded from
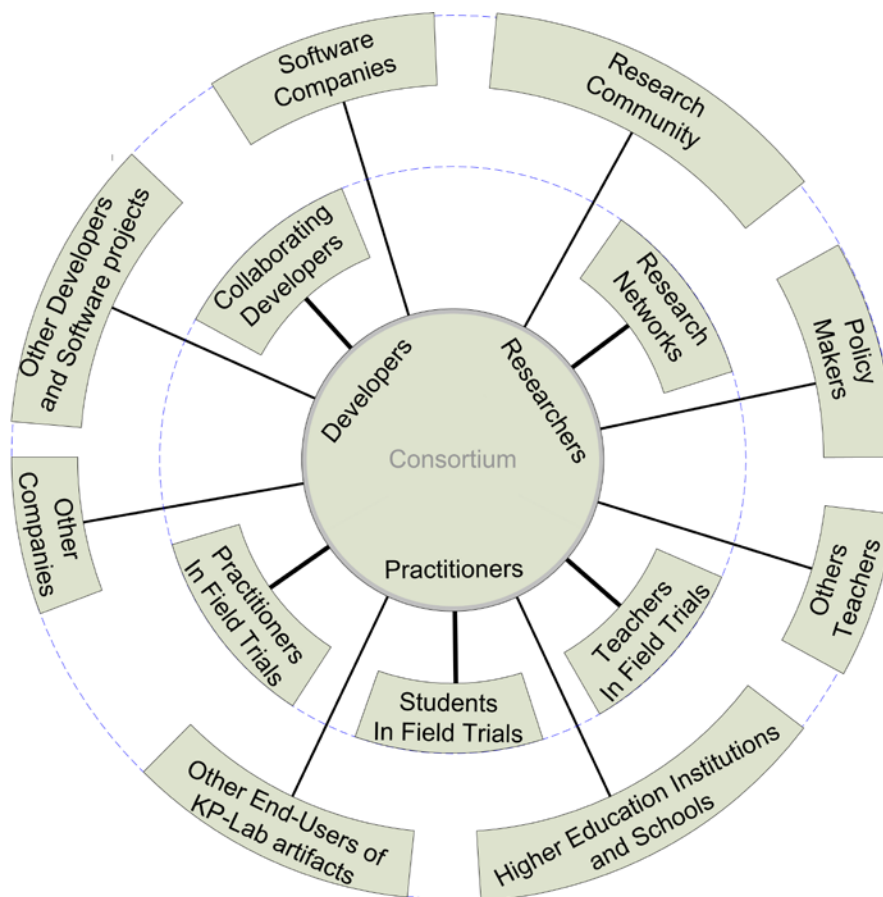http://www.kplab.org/intranet/workpackages/WP11/result/D11.2%20Exploitation%20strategy%20final.doc/view.
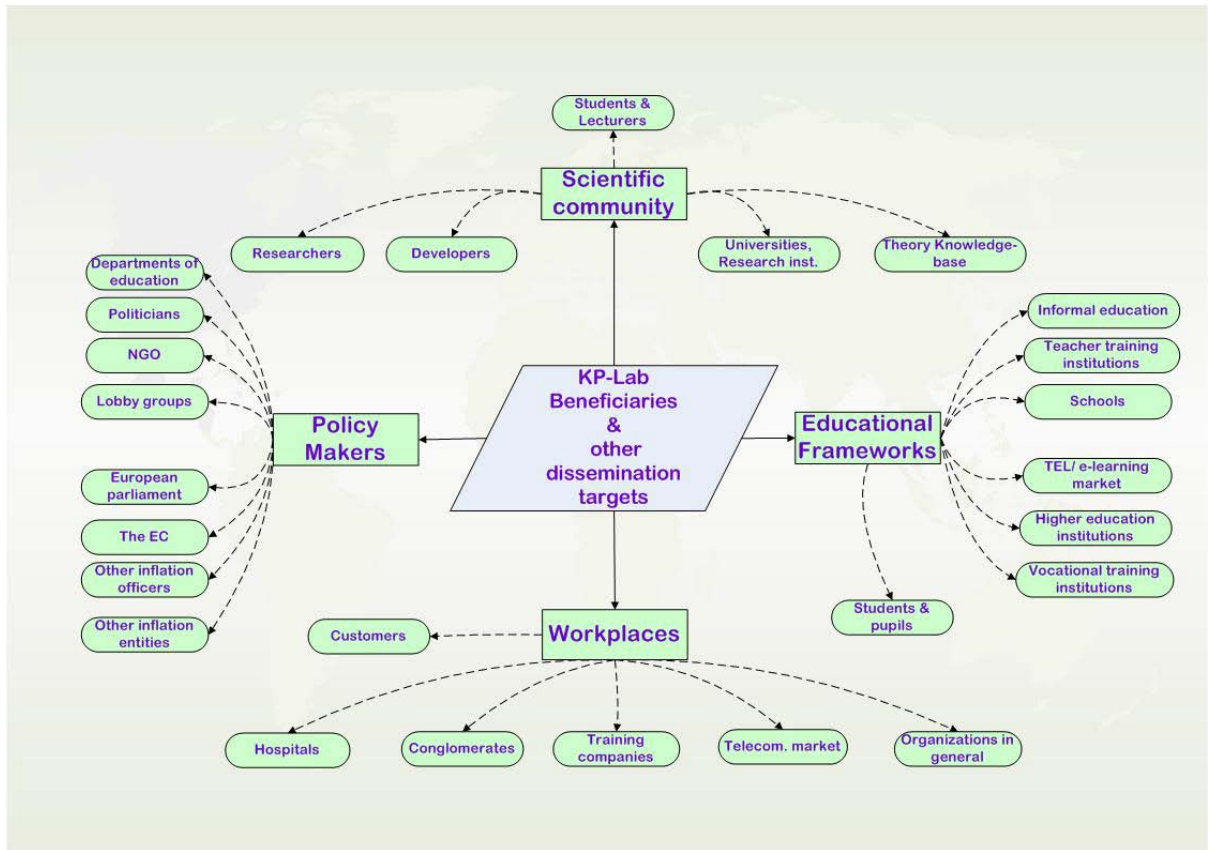
Fig. 1 KP-Lab Stakeholders Layers.

1.5 The segmentation of stakeholders for dissemination and exploitation purpose

As mentioned above, stakeholders play a key role with regards to dissemination and exploitation. The KP-Lab strategy towards stakeholders should address different categories of stakeholders in different ways with the marketing concept of segmentation.

In this respect, the Deliverable 11.1 - "Dissemination plan"[7] argues that "The diversity of cultures and prospective end-users is a challenge that needs to be identified and properly addressed in order to maximise the dissemination efforts of the KP-Lab project. The diversity of the project and its focuses require a clear understanding of who the potential beneficiaries of the project are, as well as where we are targeting our dissemination efforts at. Identifying the potential beneficiaries and defining our dissemination targets accordingly would advance us in tailoring our dissemination efforts and material appropriately."

The following chart illustrates which stakeholders' categories – beneficiaries and other target groups - and contexts are to be taken into consideration for dissemination and exploitation purposes.

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[7] http://www.kp-lab.org/intranet/work-packages/WP11/d11-1-dissemination-plan-2013-first-release/kp-lab-d-11-1-v0-2-210207.doc/view

1.6 KP-Lab strategy to address stakeholders' needs

Once different categories of stakeholders are defined, it is fundamental to identify their main concerns, needs and expectations and how the KP-Lab project intends to address them.

The following scheme therefore lists different categories of users and stakeholders addressed by KP-Lab and explains how KP-Lab intends to tackle their needs. It partially relies on the segmentation of stakeholders presented above, but attempts to provide a more synthetic view of the stakeholders groups.

It is not intended to be exhaustive, neither to be comprehensive. It is rather an attempt to provide a synthetic overview of the KP-Lab strategy to address stakeholders' needs.

Category of stakeholders	Main needs and concern	How KP-LAB intends to address this concern
Practitioners in the work place	Can we expect KP-Lab to improve collaboration and relevance to working practice?	KP-Lab pilots involve professionals in co-designing of various artifacts, such as tools for systematic reflection and semantic annotation of authentic work situations. Moreover, KP-Lab serve professionals by developing capabilities and tools for transformative learning, knowledge management, collaborative production of knowledge as trialogical activity in work places and in educational settings
Students in educational framework	Can KP-Lab results help and support our studies?	KP-Lab Pilots will involve thousands of students so to ensure relevance to their activities. Moreover KP-Lab aims at providing collaborative and mobile tools for students engaged in field work, as well as investigating students' knowledge practices.
Teachers in educational framework	Can KP-Lab results improve our teaching?	The KP-Lab project highly values teachers as potential end-users for the tools and practices designed and developed within the framework of this project. KP-Lab Pilots will involve hundreds of teachers so to ensure relevance to teachers activities. KP-Lab will directly activate four local communities of teachers in four European countries.
Policy makers	Is KP-Lab facilitating the transition towards a European Knowledge society, in accordance with the Lisbon agenda?	The research priorities and the development work addressed with KP-Lab are all consistent with the Lisbon agenda
Research Community	Are the outcomes of KP-Lab methodologically sound and able to nurture further research?	The high research profile of projects partners in the field , and the set up of a scientific board will ensure the scientific soundness of KP-LAB desk research and field activities. Moreover, all research priorities of investigation proposed by KP-Lab are at the forefront of innovation
Industry	Can we have exploitable KP-Lab results a) to improve our efficiency b) to be sold on the market?	The KP-Lab partners will address the industry needs by formulating an exploitation strategy; Undertaking an economic and market analysis; Planning and executing a patenting policy or other appropriate IP protection; Planning an institutional approach (separate (individual/joint exploitation of the result, etc.); and Determining a specific licensing policy.

2 Examples of stakeholders' involvement in KP-Lab

2.1 The trialogical learning approach and stakeholders (Practitioners, Students and Teachers)

KP-Lab approach is under constructions, as always theoretical ideas are. However, one pillar of this approach is the co-design of tools and practices, which needs to involve stakeholders for being effective. The KP-Lab co-design framework[8] foresees users to be involved throughout various stages of the design and evaluation of KP-Lab tools and practices bringing together KP-Lab inner and intermediate layers of stakeholders.

In order ensure the utility of KP-Lab tools and services respective high-level requirements are based on pedagogical and professional scenarios, developed in close cooperation with teachers and professionals in the field as well as on the outcomes of field trials and cases studies. In the subsequent design phases these high-level requirements are transformed into usage scenarios and use cases by multidisciplinary working knots. Within the working knots pedagogical partners systematically check the design decision against the high-level requirements as well as KP-Lab design principles. Also in this stage end-users might be involved to assess certain design options or evaluate mock-ups.

In addition users are involved in the different phases of evaluation accompanying the design process. Practitioners, students and teachers are involved in various forms of usability testing, including cognitive walkthroughs but also contextual usability tests as part of field trials. Finally users take part in design experiments and case studies in order to assess the utility of tools and services provided.

In general the multi-professional disciplinary working knots set up by the KP-Lab consortium play a crucial role in creating a shared understanding about the needs and the fulfilment of the digital tools and pedagogical models among users, researchers and developers.[9]

2.2 Virtual thematic communities (Teachers)

The KP-Lab project highly values teachers as potential end-users for the tools and practices designed and developed within the framework of this project. Educational workers witness deep pedagogical as well as structural transformations in schools.. Simultaneously, they represent a decisive agency in promoting trialogical learning. Teaching professionals have a long tradition of individual work and they tend to develop their profession through individual performances taking place within their own classrooms. The available educational technology does not automatically change this tradition without deliberate building of teachers' innovative knowledge communities.

The KP-Lab project foresees the creation of four local communities of teachers from four European countries. These communities will be multi-cultural, interdisciplinary and locally integrated in nature.[10]

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[8] D2.2, Guidelines and models on implementing design principles of KP-Lab, application scenarios and best practices, v.2

9 More on the KP-Lab approach of involving scientific and academic stakeholders can be found in in KP-Lab Wiki-pages: http://kplab.evtek.fi:8080/wiki/

[10] More information about the KP-Lab community of teachers, including the structure of the local and international levels of the community as well as the on-going efforts in establishing and running the mentioned

2.3 *The collective case library (teachers & researchers)*

The collective case library is a virtual repository of case studies, particular experiences of users of KP-Lab tools, application scenarios as well as training activities. It can be consulted at the following url: http://www.KP-Lab.org/case-library

Not only it is easily accessible by stakeholders, since all the resources of the case library will be freely available on-line but it is also the result of stakeholders involvement, since each of the resources available on line focuses on a certain application scenario and brings together users, developers, and researchers.

2.4 *The KP-Lab quality framework*

The KP-Lab consortium has been involved in a collective process aimed at gathering viewpoints and suggestions in order to define a quality approach for KP-Lab. This is a mean to ensure and assess stakeholder centricity, not an example of stakeholders' involvement as such. And yet it deserves to be mentioned because it plays a significant role in the overall Kp-Lab strategy towards stakeholders. The quality principles and criteria have been developed on the basis of the key outcomes of the first evaluation round (the results of which have been presented in D13.2 "Evaluation Report"), on the reflections that have emerged during the elaboration of the new Description of Work, the last general Assembly and on the requirements of the Project officer after the review. This exercise is ongoing. However, one of the quality principles considered important by KP-Lab partners is stakeholders centricity. The following definition of this principle is proposed –" stakeholders centricity means that KP-Lab outputs are focused on all stakeholders' expectations, concerns, needs, preferences and characteristics

2.5 *End-users applications (partners)*

The end user applications which are being developed by KP-Lab partners are expected to have an impact on stakeholders in different areas, such as: Application Project and Content Management, Semantic Tagging and Search, Document Centered Collaboration, Collaborative Semantic Modeling, Multimedia Annotation, Change Laboratory, Meeting support, Mobile interaction

The table in Annex 1 specifies which are the tools to be developed and provides also a short description of each tool. [11]

From KP-Lab's organizational point of view, it is up to the exploitation stakeholders groups (ESGs) to identify who their potential users are and what is the potential market of their result. The process started with the self-allocation of many of the partners into ESGs, and these are deemed to the "expert" on the result that they are developing, and, consequently, the best positioned to assess their market potential and other strakeholders-related data.

2.6 *The KP-Lab pilot activities and the involvement of stakeholders (Practitioners, Students, and Teachers)*

KP-Lab partners have carried out extensive pilot activities involving stakeholders.

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community at both levels, can be found in the KP-Lab website at www.kp-lab.org/community-of-teachers-folder.

[11] http://www.kp-lab.org/intranet/consortium-issues/official-documents/description-of-works/

Pilots are a unique characteristic of the KP-Lab project as they are not only part of the research agenda, but also serve as dissemination activities in which they naturally expose the research programme and the developed tools to a variety of prospective users and marketers. It is estimated that hundreds of teachers and thousands of students will, eventually, take part in the expanded piloting across Europe during the project as well as several hundreds of professionals working in SMEs or other organizations.

Pilots have taken place within the framework of "Knowledge Practices in Education" (WP8), "Knowledge Practices in Teachers Training" (WP9) and "Knowledge Practices in Professional Networks" (WP10). and in which stakeholders have been involved.

KP-Lab on-going pilot activities involve both potential end-users and other stakeholders (such as teachers, educational personnel, companies, etc.) to a large extent. Special attention is given in the pilots to the feedback retrieved from these stakeholders, which not only assist the development of our tools and practices, but can also serve as an evaluation platform. [12]
The tables in annex 2 provide a synthetic overview of KP-Lab on-going pilots activities.

2.7 The KP-Lab dissemination and exploitation activities

All disseminations and exploitation activities carried out or planned by the KP-Lab consortium are expected to have an impact on stakeholders and meet their needs and expectations. As mentioned above, Pilot will involve massively stakeholders and are also expected to have a strong dissemination and exploitation component. However, there are several other dissemination and exploitation activities foreseen by the KP-Lab consortitum. A comprehensive review of KP-Lab dissemination activities is provided in deliverable D11.1 Dissemination Plan[13] . However, some examples as follows:

- The official website for the KP-Lab project plays a major role in the dissemination of the emerging tools, models, and practices. In addition to the official website, a KP-Lab Wiki was established under EVTEK's portal and is accessible from the KP-Lab official portal.
- Work-in-progress and findings of KP-Lab's research and development efforts are and will be presented at European and international scientific conferences. KP-Lab partners will endeavour to present KP-Lab at as many scientific conferences and events as possible, such as the KP-Lab Open Days. These are local dissemination activities aimed at both raising the awareness of KP-Lab tools and practices at the domestic level and retrieving feedback from prospective users that would contribute to ensuring that the user requirements and needs are adequately met throughout the R&D. The ultimate objective of the Open Days is also to promote and find out about new networks of enterprises wishing to take advantage of the tools and practices provided by KP-Lab. WP11 task in this regard is to inform the partners about the Open Days initiative, instruct them on ways to conduct them and encourage them to engage in these efforts. [14]
- In order to ensure maximum impact of the present initiative, a series of high-quality scientific publications will be produced, so that the foundations, methodological approaches, and empirical findings of KP-Lab are accessible to European audience. Participants of KP-Lab will present papers at various national, regional or European

[12] http://www.kp-lab.org/intranet/work-packages/WP11/pilots-from-a-dissemination-point-of-view/
[13] http://www.kp-lab.org/intranet/work-packages/WP11/d11-1-dissemination-plan-2013-first-release/kp-lab-d-11-1-v0-2-210207.doc/view
[14] Additional information about the open days can be found in the D11.1Disseminaion plan – first release (see page 39; D11.1 can be downloaded from http://www.kp-lab.org/intranet/work-packages/WP11/result/KP-Lab%20D.11.1%20V0.2%20Final%20%28070307%29.doc/view).

conferences, workshops, symposia and fairs to disseminate and demonstrate the KP-Lab approach and tools.

- Other dissemination activities of the KP-Lab project include research training (such as several masters theses and doctoral dissertations), press releases, pedagogical dissemination networks, small scale dissemination efforts (including, amongst others, numerous lectures and presentations, participation in small workshops and meetings with key individuals) will mostly be done at a local level, open days and other designed dissemination activities.
- Dissemination materials of KP-Lab project include various brochures, newsletters, PowerPoint presentations and posters.
- On going scientific dissemination by almost all the partners

3   A tool for self-assessing stakeholders' awareness

The so-called tool for self-diagnosis of users and stakeholders awareness is a qualitative questionnaire that can be answered individually by KP-Lab researchers or can be the basis for a workshop/focus groups among researchers involved in this project. It could be either partners' based or WP based. It represents a proposition for enquiring with WP and WK leaders, and possibly with other members of the project, about the way in which users - and stakeholders in general- are taken into account along the various work stages.

It allows achieving a fair overview on the extent to which users and stakeholders are involved in R&D work. It is also a reminder to the researchers and developers of their commitment to involve users and stakeholders as much as, and as effectively as possible.

This questionnaire focuses on and is structured around four main research areas, i.e.:

- research agenda (what was planned, why, what has been achieved)
- knowing (do research teams know their users? Which tools do they utilize to know them and extract their needs and expectations?)
- involving
- benefits

The questionnaire is presented below. In case the majority of questions is not applicable or remain unanswered, the respondent should devote more attention to users and stakeholders involvement.

Research Agenda

- How does your research contribute to your vision of a future knowledge society?
- What can be done with your research that isn't already being done?
- What is the main objective of your research?
- How can your research best be presented to potential users in order to show ways in which it can be used?

Knowing

- How do you define and describe your users groups?
- Do you target a specific users category in your research?
- Are you differentiating the different types of users and are they having different roles?

Involving

- Which rationale do you see, if any, in involving users?
- Do you involve users in your research? If yes, how? At what stage?
- If you involved users, what have you learnt?
- Are you working with users since the beginning of research activities? Are their needs taken into consideration before choosing an area of research?

- Do you have plans or experience of testing your theory or products with different types of users, and what methods do you use for the analysis of these tests?

- How would you exemplify the maximum level of user involvement in your research activities?

- Do you have different roles provided in your theory or product, and how do they differ from each other?

- Which obstacles have you found in involving users?

- Have you, as a research group, attributed the tasks related to the users involvement to one specific person/organization?

- How have you evaluated the interface features of your research with potential users?

- Which incentives are you giving to final users in order to get their feedback from your research activities?

Benefits

- If a final user of your research result was given a results you produced, would s/he understand it? Would s/he be able to put your results into practice?

- What is the impact of your research on users?

- Which obstacles to usability do you identify?

4 Conclusion and recommendations

On the basis of the presentation of KP-Lab activities towards stakeholders the following conclusions can be formulated:

- The concept of "stakeholders" appears in KP-Lab in different meanings, and depending on context they may comprised internal and/or external persons and institutions.
- The importance of dialogue between KP-Lab researchers and stakeholders is at the very core of KP-Lab approach, since the Knowledge practices to be developed in the framework of KP-Lab foresee users and stakeholders involvement in their co-design. Along these lines, collaboration between KP-Lab researchers and stakeholders is taking place and it is nurturing further research and development.
- Several KP-Lab actions foresee the direct or indirect involvement of stakeholders, e.g. the task force on usability, the KP-Lab open days, the advisory committee, the collective case library.
- The KP-Lab exploitation strategy has started a process that tackles both the "inner layer" of stakeholders (namely, letting the partners group around the exploitation of each project's result in the framework of ESGs) and the "outer layer" (i.e., letting each ESG identify the corresponding stakeholders – in this case, potential users and other interested players - and engage in a preliminary market analysis or other assessment of the use potential of the result in case).

What is recommended, therefore, is the following:

- KP-Lab should tackle the following issues in view of enhancing the dialogue among researchers and stakeholders: improved communication, better consideration of different time scales between researchers and stakeholders, who wish immediate results, improved understanding of stakeholders' needs, implementation of actions intended to tackle cultural and institutional resistance to innovation, as well as cultural differences between researchers and different stakeholders groups.
- Enhance and improve collaboration, virtual and face-to-face, among KP-Lab researchers and stakeholders within and outside KP-Lab, thanks to an increased awareness of different expectations.
- Focus effort on what works, and further analyse practices and case studies of successful collaboration among researchers and end users.
- Disseminate and reward successful practices, not only of researchers and end users but also policy makers and other stakeholders involved in technology enhanced learning.
- The advisory board (Expert Panel) has to be "institutionalized" instead of representing persons and has to represent a broader stakeholder spectrum (Computer Science, Dissemination and Exploitation).
- Stakeholders play a key role in ensuring KP-Lab sustainability. There is a need to formulate targeted proposals in view of sustainability that involve stakeholders. In particular, the KP-Lab consortium should build sustainability and exploitation of its results by involving systematically, and not occasionally, the intermediate layer of stakeholders (e.g., students, teachers and practitioners, involving them in pilots, training activities and trials under the project's initiative).
- KP-Lab activity should be in line with wide-ranging international initiatives in the field of the dialogue between researchers and end users, such as the European network of living labs or the MIT living labs. Members of KP-Lab should attempt to establish contacts with the organisers of the European network of living labs, in order to foster exchange of practices, mutual learning and possibly organise joint events.

ANNEX 1 tools to be co-developed with users

Application	Tool	Functionality	Short description
Project and Content Management	Core Shared Space	Visualization of „knowledge objects" and their relationships through different views	Creating and saving personal (or hybrid) views. End user tailoring of the shared space (e.g. enabling/disabling of views).
		Semantic model based organization of knowledge objects	Arranging knowledge objects according to ontology-based visual model (produced by the collaborative semantic modeling tool).
		Commenting knowledge objects	Improvements to the commenting functionality available in the M12 release, on the basis of feed-back from first field trials
		Configurability (pluggability) of tools	User can configure (plug) into the shared space only those tools needed for task at hand.
	Process	Process planning	Improvement and extensions to the current prototype based on the evaluation in the trials.
	To-Do List	Proactive ToDo list	Provides generic service to which different tools could send their todo items and view, modify and delete existing items. It provides synthesized list of todo items (e.g. shared, personal). Todo list "module" for shared space, which will allow users to view, add, modify and delete todo items.
	Awareness	Real-time workspace awareness	Provides information of presence and current activities of users by e.g. by indicating who is on-line in the portal or in a shared space, what activities users are involved at the moment (e.g. who is working on which artifacts and processes). The functionality is based on real-time awareness services that have a client component that listens to the user actions and sends messages to push–server, which spreads out user actions to all other on-line users. The application server keeps the record what the users have done and based on those will send messages via push–server to all users.
		Participation awareness & History (log) based awareness	Generic log storage and query service to which tools will send various high-level events. This service will be queried to produce answers to e.g. the following basic questions: When each member has logged in lastly? Recent changes: Knowing who made what changes to which objects, when? What kinds of resources students have used and read (www-pages, research articles), length of the materials, suggest related readings A list of all activities that the members have done. In cooperation with services developed in WP5, following advanced awareness will be provided: Suggest related readings for users What were the topics that has been talked about. Where is the discussions actually going on, how they are interrelated? A possibility to present graphical view (maps) that show how the participants are related to the shared artifacts as well as to each other (something like a combination of a Social Network Analysis map and a Concept Map; MDS-graphs). Users can publish simple announcements of their intended (learning, work or social) activities to the colleagues and then see who else around would like to do the same.

Semantic Tagging and Search	Semantic Search	Semantic search	Searching knowledge objects available in shared spaces based on the semantic annotations of objects. Supports refining and relaxation of queries based on the underlying ontologies. (For M27 prototype it is expected that ontologies will be available in a form of simple controlled vocabulary.)
		Free term search	A: Fulltext search Searching knowledge objects available in shared spaces based on text mining of the textual content and on textual metadata. The search results can be used by the semantic tagging tool to amend the tag ontology and to annotate the search results (mashing of the two tools). B: Support for annotations The fulltext search results, together with text mining services (T5.3 – clustering and classification), can be used by the semantic tagging tool to amend the tag ontology and to annotate the search results (mashing of the two tools).
	Semantic Tagging	Annotating knowledge objects with semantic tags	The knowledge annotator component of KP-Lab M12 release is extended by an API that allows the functionality to be invoked from other tools/components, such as the shared space views and the semantic search. Supports multiple ontologies for multi-dimensional tagging (using multiple domain/tag ontologies in parallel).
		Editing of semantic tags	Semantic tags are modeled in light weight domain ontologies (e.g. vocabularies or taxonomies) stored and managed in the SWKM. Semantic tag editor displays the ontology as a tree structure and allows user to edit it (insert, modify, delete concepts in the tree structure), as well as attach (documenting) notes to entries. Versioning of the tag ontologies will be supported.
Document Centered Collaboration	Note editor	Tightly integrated simple text editor for shared space.	An editor that enables writing of a simple text objects without a need for external application. Notes are like post-it stickers, which user can place in the shared space (or on a background image of it). Notes are knowledge objects with their own metadata and can be used, linked, moved etc. as any other object in shared space.
	(Semantic) Wiki	Collaborative asynchronous editing of content.	Integration improvements according to the feedback from field trials.
	Chat	Synchronous text based communication.	Chat sessions are stored. Metadata about a chat session is stored in SWKM.
	Collaborative Doc. Editing	Collaborative editing of scientific paper	An existing Web 2.0 collaborative writing tool/service (e.g. Google Docs)
Collaborative Semantic Modeling	Collaborative Visual Language & Models editing	Browsing the set of available Visual Modeling Languages	Users are retrieving the available Visual Modeling Languages already stored in the system.
		Introducing a new Visual Modeling Language	Users are collaboratively creating a new Visual Modeling Language (a new schema or ontology)
		Using/Retrieving a Visual Modeling Language	Users are retrieving and visualizing an already stored Visual Modeling Language.
		Creating a new version of an existing Visual Modeling Language	Users are retrieving, changing and subsequently storing an already existing in the system Visual Modeling Language as a new version.
		Copying/Editing/Deleting a Visual Modeling Language element	Users are changing the Visual Modeling Language.
		Commenting/Describing a Visual Modeling Language and/or its elements	Users are adding comments or descriptions for the Visual Modeling Language as a whole or its elements.

		Updating a Visual Model according to the changes in the Visual Modeling Language	When users change elements of a Visual Modeling Language then these changes are propagated to the Visual Model specified with the Visual Modeling Language.
		Comparing visual modeling languages	Users should be able to compare two Visual Modeling Languages and visualize their differences (usually it has a meaning when we are comparing two versions of the same language).
		Browsing (existing) Visual Models	Users are retrieving the available Visual Models already stored in the system.
		Creating a Visual Model	Users are collaboratively creating a new Visual Model (a new schema or ontology)
		Creating a Copy of a Visual Models	A new Visual Model is stored in the system as a copy of an already existing one.
		Creating/Updating/Deleting a typed node/arc or assigning property values to a property of a Visual Model	Users can add/delete/update node or arcs of the Visual Model using a GUI.
		Commenting/Describing a Visual Model	Users are adding comments or descriptions for the Visual Model as a whole or its elements.
		Creating a Visual Model with Multiple Visual Modeling Languages	Users can use multiple Visual Modeling Languages to create a Visual Model.Elements of the Visual Model can be specified by one or more Visual Modeling Languages.
		Comparing Visual Models	Support for comparing visual models made of different visual modeling languages. The functionality includes: semiautomatic specifying of "equal" elements (system highlights common elements), merging "equal" elements, and specifying elements to be integrated in the new visual model
Multimedia Annotation	Multimedia Content Annotation	Creating annotation scenarii	Instructors create annotation scenarii by defining the contents to be annotated, the users and their roles, and the ontologies to be used
		Adding semantic annotations	Creating formal (ontology based) or informal semantic annotations and associating them to fragments Synchronous, multi-session, group annotation with real time vidualization of users' activity Creating informal annotations by linking multimedia content to a fragment (e.g. adding sound/voice annotations to a video)
		Visualizing/analysing group annotations	Visualizing group annotations when authorized Vizualizing a variety of statistics about annotations for a class or a group Navigating the multimedia content using existing annotations
		Annotation authors profiling	Comparing authors based on their formal annotation activities Profiling authors based on the frequency of their utilisation of concepts during annotation activities Searching annotation authors based on their activity
	Multimedia Content Structuring	Multimedia content structuring	Structure spatio-temporally multimedia content (especially video) into fragments based on a specified schema (MPEG7-like)
		Ontology-based indexing and retrieval of content	Ontology based retrieval of content fragments (e.g. searching video clips featuring erroreous surgical operations to counter-exemplify a lesson).
	Ontology Discovery	Ontology discovery	Mining text informal annotations to dynamically build ontologies
Change Laboratory	Planning CL Process	Structuring/planning Change Laboratory process	Planning Change Laboratory sessions, activity between sessions as well as themes to discuss and material to use.
	CL Session	CL Sessions	Carrying out synchronous local and virtual sessions

	Semantic Annotation of CL Session Content	Semantic annotation of session content	Creating / modifying semantic links between data (e.g. material, notes, models) produced / used in sessions (or between sessions). Adapting to allow for semantic annotation of material with the Semantic Multimedia annotation tool in a well-integrated manner
Meeting support	Map-It	Agenda for Meetings and Agenda models management	Meeting Agenda edition utility and formatting allowing for exchanges with other (KP-Lab and non-KP-Lab) tools (Shared-Space, Google agenda, Plone, "Details" parts of Google Calendar events)
		Scheduling	Define scheduling/planning information for both synchronous and asynchronous collaborative meeting activities Export in other tools and formats (vCal / iCal, Google calendar…) Get Meetings from Shared Space Portal: whole .mpi files or parts of, prepared with SSP contextual information about participants, roles, processes etc. Exchanges with other (KP-Lab and non-KP-Lab) tools (Shared Shared-Space, Google agenda, Plone..)
		Conversational moves (contribution to discussion) editor.	Allowing for both preparative and live elaboration of conversational moves Further developments for new types of resources usable: audio records, KWS artefacts) Editor in both synchronous and asynchronous modes. Further work on, e.g. categorization of moves as Knowledge artifacts.
		Concept Maps recording conversational moves and shared resources (highlight-type annotations of text, files, links...)	Enable the collaborative creation of such records, to make what is essentially a constant flow of activity (a conversation, something dialogical) into a shared object – which is created collaboratively, face-to-face or at distance, in real-time or in time-shifted mode, with or without moderation and which can be used for individual or shared inquiry Further work and Inclusion of new shared resources types (e.g. audio-records)
		Minutes Generation and Minutes models management	Documents generation in Office tool formats (MSWord, PDF, OpenOffice Writer) or existing web-based document tools (e.g.Google Docs) To-do / Action lists, actors and milestones. Other medias (e.g. augmented video/audio for individual or groups replays, using a synchronized presentation of both discussion and multimedia layers (e.g. in in slides presentations…) - exchanges with other (KP-Lab and non-KP-Lab) tools (Shared-Space, OpenOffice...)
		Inquiry, Reflective activities support	Used as a mediating tool in processes of collaborative knowledge creation and management for browsing / comparing agendas, discussion maps using, e.g. mining services of the SWKM (MatchMaker) for retrieving and analysis "similar" meetings. Replaying using marked key time-stamps and highlights, combining knowledge artefacts and multimedia material Argumentation analysis through smart contribution patterns analysers. Potential mapping to Argumentation and Negotiation services of the SWKM (conversation excerpts as pieces of negotiation).
Mobile Tools	CASS Query	A mobile application for collecting process- and context-sensitive data	Improvements based on the feed-back from trials. Adding two new features: previewing pictures taken, video questions. Data analysis application
	CASS Memo	A mobile application for accessing	Prototype of mobile client to KP-Lab

		core services of shared space.	applications that supports: visual browsing of shared space upload of notes and audio/video clips into a shared space Research on automatic attaching of location information to data will be done.

ANNEX 2 KP-Lab pilots activities 30-9-2007

Pilots of Knowledge Practices in Education

Title of the Pilot	Purpose(s) of the pilot(s)	Target organisation(s) & people	Partner / unit	Stakeholders involvements
Web-based Learning Environments	• Gain insight into the concept of epistemic agency and its development; • Operationalize and capture the development of epistemic agency of students; • Support the development of epistemic agency by pedagogical and technological means; • Gain insight in the role of teachers in students' agency development.	Educational Sciences students at the Universiteit Utrecht.	UU	The pilot involves15 to 20 students.
Distributed project coordination	• Teaching students to manage virtual project management process aimed at creating, in expert teams, innovative problem solutions for a genuine client.	Undergraduate students from the Department of Psychology (UH), Helsinki School of Economics (HSE) and Helsinki University of Technology (HUT)	UH	The pilot involves two institutions outside of the consortium and 50 students.
Individual lectures about KP-Lab in several teacher training courses and workshops	• Progressive inquiry pedagogy course • A course titled Distance learning for comprehensive school level students. • A course about Modern web-based technologies and school teaching.	Teachers of SAVONIA University of applied sciences, Finnish in-service comprehensive and high school teachers,	UH	Introduce KP-Lab design principles, tools and scenarios as examples of best practices of advanced web-based learning for Finnish teachers.
Mobilia pilot in Life at stake real TV production	• Applying CASS methodology and technology in supporting peoples' life control	Producers of Tarinatalo production house; audience of the program in national broadcasting company	UH	Disseminating the developed research methodology and technology to practical fields; showing the possibilities to a large audience.
Initial training in research on professional activities		CIFOM (Centre interregional de formation des montagnes neuchâteloises)	UniNE	The pilot involves between 15 and 20 professionals from different working contexts (industries, high schools, health care…) follow courses in a 2-years program.

Title of the Pilot	Purpose(s) of the pilot(s)	Target organisation(s) & people	Partner / unit	Stakeholders involvements
Educational and instructional design	- Gain insight into the conceptual foundations of trialogical learning processes; - Capture the developments in educational practices as a result of the implementation of KP-Lab learning principles and technology; - Develop useful analysis tools that allow monitoring of trialogical learning on the basis of written artefacts; - Collect information about how the trialogical tools support the knowledge advancement process; - Identify the impact of the implementation of trialogical learning principles at pedagogical and organizational level.	Educational and instructional design, Utrecht University, Faculty of Social Sciences, Department of Educational Sciences	UU	The pilots involve 20 students in autumn 2006, approx. 80 students in spring 2007.
Epistemic agency in a BA organizational behaviour course	Investigating aspects of: - Epistemic agency - Knowledge construction - Explicating tacit knowledge - Cross-boundary processes	BA students in an organizational behaviour course	HUJI	The pilot involves 60 BA students from the business management school at the Hebrew university.
Epistemic agency in a MA organizational behaviour course	Investigating aspects of: - Epistemic agency - Knowledge construction - Explicating tacit knowledge - Cross-boundary processes.	MA students in an organizational behaviour course	HUJI	The pilot involves 35 students from the business management school at the Hebrew University.

Pilots of Knowledge Practices in Teachers training

Title of the Pilot	Purpose(s) of the pilot(s)	Target organisation(s) & people	Partner / unit	Stakeholders involvements
ELTE Case 1: Visualization in Art and Science	To relate the students experiences in design to the role of a teacher as a designer and creator of digital teaching aids.	Pre-service secondary school teachers of Art and Science	ELTE	The pilot will involve the Laszlo Moholy-Nagy University of Industrial Arts, Viola-Soft Ltd., I-Edu Ltd., Edison Software ltd., National Geographic Journal and TV Channel

Title of the Pilot	Purpose(s) of the pilot(s)	Target organisation(s) & people	Partner / unit	Stakeholders involvements
ELTE Case 2: Communication Skills and Practices in Multigrade Schools	• Promotion of communication skills and abilities of both teachers and pupils through ICT visual and text based media • Investigating ICT Enriched Methodology in Mathematics, Art and Mother tongue for Socially Handicapped Village Schools	In-service teachers in small village primary schools	ELTE	The pilots will involve: • 2006/2007, Fall: 127 primary school teachers from small village schools (Hungary and Transylvania) • 2006/2007, Spring: 46 primary school teachers from 23 multigrade schools (Hungary) – longitudinal study • 2007/2008, Fall and Spring: 46 primary school teachers from 23 multigrade schools (Hungary) – longitudinal study
ELTE Case 3: From Pedagogical Theory to Teaching Practice in English Language Teaching Characterization of Teacher Training Courses for Pilots, ELTE Case 4: Assessment, standards, social expectations and communication in English teacher education	Follows up on the learning and teaching processes within two courses in WP 9's virtual English Teaching Workshop. Course 1, on assessment in EFL, and on the use of email as a method of authentic discourse in EFL teaching and learning. Course 2 will be based upon experiences with Course 1 and target the transition from theory to practice in EFL.	Teacher trainers and pre- and in-service teachers of EFL	ELTE	The pilots involve collaborative work between EFL pre- and in-service teachers and teacher trainers from various European countries, beginning with 10-15 participants per semester
HUJI Case 1: Cross-boundary contexts and practices in EFL	• To follow up on pre-service and in-service teachers' theory-practice connections in a boundary-crossing context	Pre-service secondary school teachers at a teacher's training college and a school English teacher and her class of junior high school pupils	HUJI	Each pilot involves 20 participants from the college (teacher trainers and the pre-service teachers) and a class of pupils with their teacher
HUJI Case 2: Professional Development Schools – PDS	• To follow up on pre-service and in-service teachers' theory-practice connections in a boundary-crossing context	Pre-service secondary school teachers at a teacher's training college, classes of school pupils and their teachers	HUJI	The pilot will involve pre-service middle/high school teachers, college tutors, in-service teachers in the PDS network
HUJI Case 3: Argumentation in Science	• Examining concept formation in a cross-boundary setting, and for processes connected to the building of knowledge artifacts	Pre-service science teachers and a class of elementary school pupils	HUJI	The pilot involves 13 students from the David Yellin Teachers' College of Education

Title of the Pilot	Purpose(s) of the pilot(s)	Target organisation(s) & people	Partner / unit	Stakeholders involvements
SKERIA Case 1: Self-administered training	• Observing teacher preparations for a course that builds on discussions, and connecting that to participants' reflections	In-service teachers (Advanced Vocational Education)	Skería	The pilot involves Second year students in the Advanced Vocational Education (AVE)
UiO/Intermedia Case 1: Wiki in EFL (English as a Foreign Language).	Examination and elaborating of knowledge practices in in-service teacher training with a collaborative ICT tool.	In-service secondary school teachers in the discipline of EFL.	UiO/ Intermedia	The pilot involves 1 English teacher and a class of upper secondary school learners (approx. 30) from a Norwegian secondary school.
UNINE Case 1: Argumentation in Science	Observing the experiences and practices of students (training to become researchers and teachers) during the design and testing of argumentative scenarios for science education	UniNE's Students of Psychology (3rd and 4th year)	UniNE	The pilot involves 15-20 Psychology students from UniNE
UNINE Case 2: Music Education	Explicate and reflect upon tacit knowledge embedded within pedagogical practices	Primary schools; schools of education for primary school teachers, etc.	UniNE	The pilot involves 8 to 20 students from primary schools; schools of education for primary school teachers, etc.
UNINE Case 3: Bilingual Education	Examining the training in this specific bilingual context to gain information about the specificity of the knowledge practices in teacher training	pre-service teachers for pre-school and primary school at the HEP Fribourg, Switzerland	UniNE	The pilot will involve the HEP (University of Applied Sciences in Pedagogy), Fribourg, Switzerland and its students
UU Case 1: Web-based Learning Environments	Establishes conditions for fostering trialogical learning and developing epistemic agency among the students (potential pre-service teachers).	Advanced students in Educational Sciences studying Pedagogy, Didactics and Teaching Methodology, who are (potential) college teachers	UU	The pilot involves current students in Educational Sciences who are (potential) pre-service college teachers.
UU Case 2: Innovative Knowledge Communities – IKCs at UniC secondary school	Investigating the creation of knowledge and development of epistemic agency among the high-school students. Examining the ways in which the IKC team collaborates in establishing conditions for trialogical learning.	The IKC at the UniC secondary school and the pupils.	UU	The pilot involves 11 project partners and approximately 30 students (13-15 years)

Pilots of Knowledge Practices in Professional networks

Title of the Pilot	Purpose(s) of the pilot(s)	Target organisation(s) & people	Partner / unit	Stakeholders involvement
ChronICT	Explore and refine user requirements, usefulness, scenario development, security vs. access to the information and the site (Since this is personal and possibly sensitive health related information)	In Norway; in collaboration with the National hospital and a patient organization	UIO	The pilot involves 40 participants including patients, parents, and Health providers. The pilots will also include workshops; design ideas for net-based resources.

Title of the Pilot	Purpose(s) of the pilot(s)	Target organisation(s) & people	Partner / unit	Stakeholders involvement
Project Way	Pilot will be conducted for modeling Trialogical knowledge practices, exploring the user-centered R&D. Pilot uses existing technology, which is close to KP-Lab tools objectives, and the experiences using tools will be used for further requirements of KP-Lab tools.	Application services Finland	POYRY	The pilot will involve 35 professional personnel, application engineers.
Change Laboratory	Testing the feasibility of virtual Change-Laboratory Tools in developing the implementation of the new business concepts across the units of the Pöyry Forest Industry network.	Pöyry Forest Industry. First pilot will target the units of Forest Industry and Forest Engineering in Finland	POYRY	The pilot will involve various participant from the Pöyry Forest Industry.
KIKK	Explore internal communication and customer relations ships in a company expanding to new market segments Analysis will inform design of a web-portal.	Oslo, Norway	UIO	The pilot involves 20-30 professional personnel in a company and their customers.
Ahus – competency	A large professional organization (i.e. a university hospital) is re-locating and re-organizing their work. They plan to become highly technology dependant, and introduce the new technologies to the professional. The pilot will explore how tools and practices co-evolve, and professionals maintain and develop their knowledge.	Hospitals	UIO	The pilot will involve MDs, RNs, allied health workers and technicians.