

Network of Excellence in Professional Learning



PROLEARN

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Deliverable 7.5 Draft version of Recommendations and Guidelines for KWM in Business, Research and Politics

After discussion with the other WPs and amendments, the results will be included in a report and distributed via virtual competence centre and academy.

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Abstract:

This draft deliverable provides recommendations for future activities and developments in the field of knowledge work management. First it provides a support in structuring the research field and gives overall recommendations for the focus of work in the field of knowledge work management and set up a recommendation framework for the next recommended activities in this work package. Organization patterns for knowledge exchange and a framework for process-oriented learning and knowledge work. In the ANNEX of this deliverable some tools for structuring the research field can be found and in future also other tools for the next activities.

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EXECUTIVE SUMMARY

This draft deliverable contains the recommendations for research, business and politics. Especially the recommendations and guidelines for business and politics will be strengthened after the next activity periods. This document includes as an interim result a recommendation to structure the research field knowledge work management with a model including six different key issue areas:

- Organisational Learning,
- New Work Organisation,
- Competence Development,
- Knowledge Product Management,
- Performance/Productivity,
- Performance Management,

This is a recommendation to structure this upcoming research field. It must be considered that the KWM model is an auxiliary construction to structure this field.

The recommendations for the next activity periods beside the structuring support are:

- Take out research activities on organization patterns for knowledge exchange
- Take out research activities to develop a framework for process-oriented learning and knowledge work

The overall recommendations for the focus of the research activities in knowledge work management in future are included in this document. The activities should focus on:

- Executive Education as one major field of using professional learning within industries.
- Process-oriented Learning as one up-coming field where professional learning technologies will be linked to business management solutions and applications in order to integrate learning technologies with workplace processes.
- Strengthen the link between knowledge work management and learning management as well as new and innovative learning technologies, especially the combination of informal and formal learning processes using Web 2.0 technologies.
- Strengthen the collaboration with other research areas especially the connection between process orientation and knowledge work
- Increase the focus on PC Desktop specific research, one of the most recent and popular areas, which strongly influences the learning process.

1 Editorial Introduction / Motivation

Knowledge Work is an upcoming and ongoing “hot topic” in research and industry. Many activities and developments in recent years have been done to gain a better understanding of this research field. There were research activities on technological aspects as well as on management aspects. This was done under the perspective of the employees, of the organisations, of different branches / markets and of the political actors. Unfortunately, there are still huge gaps in:

- different understanding of knowledge work that can be seen, e.g., in different labels, sub-themes in other thematic areas,
- lack of tools to support the learning activities of knowledge workers,
- shortage of generally accepted theoretical frameworks in this research field and
- lack of learning strategies in knowledge work.

As a result, the research field knowledge work and its relation to learning activities is still unstructured and general accepted.

The objective of PROLEARN or other TEL supporting initiatives is to support the implementation of Technology Enhanced Learning (TEL) within the professional education and continuing training in the companies to become more successful. The perspective of knowledge work management requires the connection, combination and integration of findings in the field of educational, management and work related research. Especially the volatility and the intensive continuous change of conditions and requirements at work and the demands and possibilities for learning@the workplace have to be considered. In the research area of knowledge work management and Learning Arrangements is the aim to generate the fundament for considerations illustrated above. The specific focus is directed to the knowledge based work, which essential for the competitiveness of the companies but not enough is known on behalf of its implications for management and formation / composition.

Knowledge Work Management (KWM) should be understood as a cluster of balanced activities that intent to create optimal circumstances in a company for effective, efficient and human adequate conditions for knowledge based work and performance. In the ideal case the Knowledge Work Management will be a holistic approach of management, which starts with the conscious decision on a strategic level about the question, which kind of knowledge based work will be realised internal and which should be outsourced. It should end with concrete activities on the operational level that supports the individual realised work / efforts by organisational, technical and qualification-related procedures / services.

Learning Arrangements are intentional initiated constellations that enable options to make the process of learning transparent and configurative and to address the development of competence for action. Characteristic for Learning Arrangements is that the learning takes place in non-formal contexts directly connected with the work itself and that the process of learning is steered by the learner himself or herself (cf. Ballin & Brater 1996; Wilke-Schnauer et al. 1998; Schiersmann & Remmler, 2002). We see that especially Web 2.0 environments have a large potential to support learning activities of knowledge workers by creating communities of interest and of specific learning demand. The guidelines should therefore also look on the activities in this upcoming field.

2 Overall recommendations for future work in KWM

For the knowledge work management and learning arrangements (KWM) work package the most successful part in 2005 was the development of a clear structure in this research field by focussing on the triangle: employee, management and technical solution (see ANNEX 8). Based on this model it was possible to attract experts from research and industry and to structure the discussion about issues and gaps in KWM in a formalised and transparent way.

Nevertheless, specific results in the research work package came up with a need to re-focus it in future. A problem obtained was that the work package was only driven by a small "specialist"

circle. The major joint activities were on a conceptual level to develop a common understanding of a KWM framework by experts from research and industry. For a IST program funded project the technical solutions were underrated. So, it was difficult for some technical – oriented research institutes to contribute to these joint activities. There was a too low integration of other major topics into KWM activities. But these activities are monitored in the past and can be addressed.

To solve this problems and take up the challenge to implement KWM successful as research field in the area of IST related research the KWM activities must be re-adjusted and re-focussed in future according to the useful discussions and comments in joint activities and the review process. The feedback given by the NoE partners and the www.PROLEARN-online.com community members in 2005 will be the basis for the recommendations for future work in the KWM research field.

At his state of the activities in KWM a major recommendation is that the industry focus needs to be further strengthened. This recommendation is followed in the way that the consortium decided to have the new industry partner imc take on the lead of the KWM research work package. This leadership change will enable a stronger focus on industrial needs in KWM as imc will contribute with its more than 100 strong industrial partnerships and their long-standing expertise in Professional Learning.

The recommendation for the future work in KWM is to enhance the awareness about the concepts of knowledge work management and to inform about challenges, developments, and research results with a focus on industry. Effort should be brought in to activities which shows, which relations there are between concepts and resolving approaches of knowledge work management on the one hand and of professional learning and learning technologies on the other hand. The work package should follow the hypothesis that knowledge workers need instant access to knowledge, information and learning material based on their – most of the time – self-identified competency gaps. Therefore technologies such as mobile learning, collaborative learning and social software come into place. There should be development activities for new learning processes and scenarios that will be needed to support knowledge workers at their workplace. To come follow this it is recommended to focus on two subjects in a next activity phase:

- **Executive Education** as one major field of using professional learning within industries.
- **Process-oriented Learning** as one up-coming field where professional learning technologies will be linked to business management solutions and applications in order to integrate learning technologies with workplace processes.

Both activities make it necessary to check how formal and informal learning activities can be combined as this is specifically important for knowledge workers¹.

For the industry focus it is recommended to look after companies that at are especially industry with high skilled people, such as service industries in banking or consulting companies as well as engineering industry. These specific issues should be included under respect of the already developed KWM model.

¹ An Example from the private sector is www.ehow.com an, or www.43things.com.

To broaden the focus of the solutions useful in the both defined field and attract a greater subgroup to the work package, other terms and research approaches should be included. The refocus to other research approaches can be seen by the integration of partners working on technical solutions in these areas. This makes the access to a conceptualized and specified approach in knowledge work management easier. The work package is could be enlarged with themes like, learning management at the workplace, business frameworks, procedural reference models etc.. The work package “Knowledge Work Management” should:

- Strengthen the integration of results within KWM by linking stronger between knowledge work management and learning management as well as new and innovative learning technologies.
- Strengthen the collaboration with other work packages especially the connection between process orientation and knowledge work
- Increase the focus on PC Desktop specific research, one of the most recent and popular areas, which strongly influences the learning process.

3 Recommendations for structuring the KWM research field

In the research activities of knowledge work management six Key Issue Areas (KIA) have been identified, which are directly connected to questions of learning. A description of the KIAs can be found in the ANNEX 8. To find out about activities linked to this research field other activities and developments should be monitored. With this result gaps in the KWM activities and developments can be identified.

3.1 Guideline for Monitoring activities and developments

The six key issue areas (KIA) of knowledge work management address central questions in the thematic area of KWM on different levels. Every thematic area (KIA) in the KWM model is a substantial research area on its own. Extensive knowledge is available in some areas. But in most cases there is a lack of information. To close this gap activities and developments of the PROLEARN network are monitored. The outcome of this process is a structured collection of current activities and developments in specific areas of this research field. This could help to understand the nature of knowledge work in Europe.

To monitor the developments concerning to their relevance and importance in the key issue areas of the KWM model a monitoring instrument is developed. In the following it is described how to use this monitoring instrument to identify “content” relevant to the KWM model and eventually to readjust the model.

The developments of the KWM model and the monitoring instrument were done during the past runtime of the PROLEARN work package knowledge work management activities. The methods for the development are described in the former deliverables².

² In D7.1 the requirements were analysed. In D7.3 the KWM model with its actual interim status is described. In D7.2 the development and the monitoring instrument it self is described.

3.1.1 Instrument

The activities and the development are monitored concerning their relevance and importance in view of each key issue area. Each KIA in the integrated KWM model (see ANNEX 8) is operationalised by a set of items. These items are transformed into a monitoring instrument (see ANNEX 9 and 10) to be used for monitoring activities and developments in the area of KWM.

The rules for what is inside a category were simplified. For the monitoring an activity or development is relevant for a key issue area if one term in the question set fits it.

3.1.2 Monitoring of activities and developments

According to the measurement rules defined an activity or development is relevant for the research area of knowledge work management if a term in the instrument questions fits it. By this rule the activities and developments are structured into each key issue area. The activities and developments are categorised.

How important an activity or development is for the area of knowledge work management depends on the frequency of occurrence in the different key issue areas. An activity or development is most important if it is relevant for all KIAs and it is lowest important if only one KIA is relevant.

The activities and developments monitored could, e.g. come from desk research for web resources. Or the PROLEARN virtual competence centre (VCC) as a central PROLEARN activity to which all partners should contribute. Beside the VCC other online communities and portals should also be in the focus of the monitoring process. (See also 4.1.4 below)

3.1.3 Evaluation after the monitoring process

In the analysis phase the monitoring of the activities and developments is at present status also an empirical test for the knowledge work management monitoring model. After the project runtime the instrument should be finalised according the knowledge status. The hypothesis for the adoption is:

- If a key issue has no relevant activities or developments, then it is not part of the PROLEARN knowledge work management model.

It is possible that additional themes applicable for the KWM model are received during the monitoring processes. These themes could be taken as an extension of the KWM model.

3.1.4 Framework for the identification of resources and good practices

The following framework was developed during the research activities in PROLEARN (see deliverable 7.2) to guide the search for good practices concerning user-driven design of TEL solutions. It comprises four steps that will reveal data on different levels of aggregation (Figure 1):

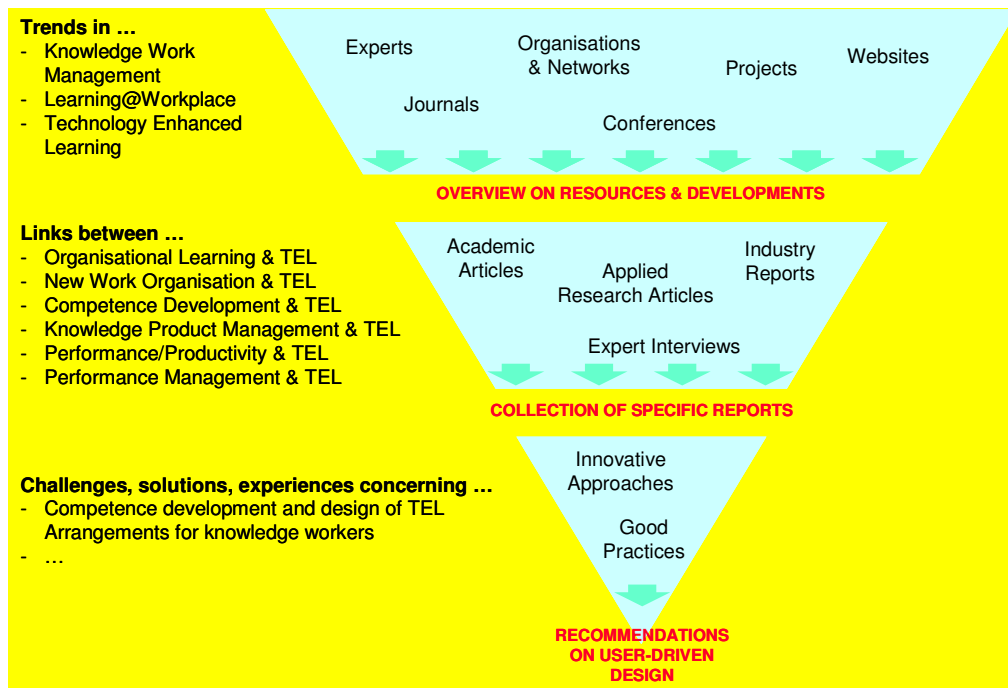


Figure 1: Focus of Search

The first step is a rough screening, which is performed on experts, journals, projects, etc. This screening will provide information on key players and resources related to knowledge work management and technology enhanced learning. Over time it is also possible to get an impression of the amount of attention given to these fields by representatives of business and research.

The second step will go a bit more into detail. Here the focus is set on the links between the knowledge work management key issue areas (KIA) and technology enhanced learning. Relevant reports from academics, applied research and industry are analysed and documented according to defined schemes and using the provided forms (see ANNEX). This information will be supplemented by expert interviews. These interviews also will give some more hints on further experts, projects, websites etc. and such helps to extend the screening in step one.

The structuring of the KWM research field is mainly interested in good practices from “real world” settings. In the focus there should be projects where business partners play an active role to sharpen the focus of the search.

The collected case studies will then be rated by experts for

- Innovativeness of approach / solution
- Quality of solution
- Time and effort needed for design and implementation
- Transferability to other industries, other types of companies (especially to KMUs), other contexts
- Presumed market for the solution developed
- Success factors (project management, competences of partners, etc.)

This work could be done in joint workshops. There should be brainstorming and discussions about possible alternative approaches and enhancements that could be provided on the basis

of the results of most actual research activities. This contributes to sharing of knowledge between different interest groups. In these workshops the participants come up with some recommendations regarding the design of projects. Good practices concerning transfer will be identified. It must be taken into account that there might be conflicting goals and “hidden agendas” of cooperate partners and research partners in a joint research project and therefore different opinions on what good / best practices of transfer are.

Form sheets are provided for the documentation of various kind of information in the ANNEX 9 and 10.

3.2 Future work recommendations for structuring the KWM research field

The future work recommendations in this draft version have a main focus on research carried out in the PROLEARN framework. But they are also relevant for other research activities in this upcoming field. Business and politics can use these recommendations also for their planning of own activities, programs, etc. at this status. For a wider field of business and politics specific recommendations it requires the results from the next joint research activities in PROLEARN. The recommendations for the next steps, activities and developments in the research field of knowledge work management are:

- One objective for the next research activities should be a output with a highly relevant impact on the further development of the individual work packages and on the overall integration of PROLEARN (and vice versa). With the main focus that knowledge work management themes and learning@workplace research should be intimately related.
- In the next research activities a review of the issue of tacit knowledge and the way the existence of this sort of knowledge should be made and the need for its development and integration with explicit knowledge.
- Research activities on the issue of communities of practice should be deepened in the next joint program of activities.
- The issue of future user needs for workplace learning technology should be integrated as a task in the KWM research work package in PROLEARN. It is recommended that activities are implemented, which enables the “technology developers” to use the research results for their activities.
- It is important that also a solid review of successful projects and best practices in this area are systematically identified, described, analysed and reported.
- It is recommended that an analysis of workplace learning, knowledge work management and organisational development would be undertaken in future research activities to identify gaps which require which type of support from research to industry or business.
- It is recommended while addressing the key research issues, to deliver a in-depth explanation of the key themes which are included in each KIA.
- A recommended aim for the next activity period is to enhance the awareness of knowledge work management (KWM) subjects with business representatives, politicians as well as researchers and to inform them about respective questions, developments and research results.
- Results of the next activity period should point out what learning@workplace means to knowledge workers and how learning technologies could facilitate learning@workplace.

- It is recommended that the KIAs should be regarded as an interim result which has to be substantially revised and adopted by future activities in order to capture the re-focusing (e.g., towards business processes) and to include the perspectives found in other research activities related to professional learning.

4 Recommendations for organization patterns for knowledge exchange

The result in this part of the recommendations will be: Concepts and tools for common resource usage and organization patterns on the PC desktop, which also proposes new solutions to enhance the exchange of these resources between different users.

4.1 Guidelines for organization patterns for knowledge exchange

Their will be guidelines to analyze the distribution and organization of learning materials, as well as on the exchange of these materials between learners at the PC desktop level. There will be a PROLEARN report on common learning resource usage and organisation patterns which propose new solutions to enhance the exchange of these resources between different users.

4.2 Future work recommendations for organization patterns for knowledge exchange

Future work recommendations will be derived from the results of this recommended future work activities.

5 Recommendations for a framework for process-oriented learning and knowledge work

The result in this part of the recommendations will be: A PROLEARN framework for process-oriented learning and knowledge work. The framework will be based on an empirical study of workplace learning based on the SECI process framework combined with results from user-clinics on how companies use process-oriented learning technologies for knowledge workers.

5.1 Guideline for a framework for process-oriented learning and knowledge work

Their will be guidelines how to perform an empirical studies and user clinics on workplace learning and process-oriented learning. There will be a recommendation how to analyze on how companies did operationalise their process-oriented learning strategy for knowledge workers based on their business goals and in combination with new learning technologies. The SECI process framework will be mapped with other activities. Overall objective is a commonly agreed framework for process-oriented learning and knowledge work as a guideline and tool for ongoing activities in this sector.

Their will be recommendations how to execute solutions on how companies did operationalise their learning strategy for knowledge workers based on their business goals and in combination with new learning technologies.

5.2 Future work recommendations for a framework for process-oriented learning and knowledge work

Future work recommendations will be derived from the results of this recommended future work activities.

ANNEX

6 Literature

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7 The interim integrated PROLEARN KWM model

In the research activities of knowledge work management six Key Issue Areas (KIA) have been identified, which are directly connected to questions of learning. Figure 1 shows an overview upon those six KIA and visualises the recommendation how to embed other research areas in the area of professional learning to KWM. At the current status the recommendation targets the PROLEARN research areas and it is a interim result presented in this draft.

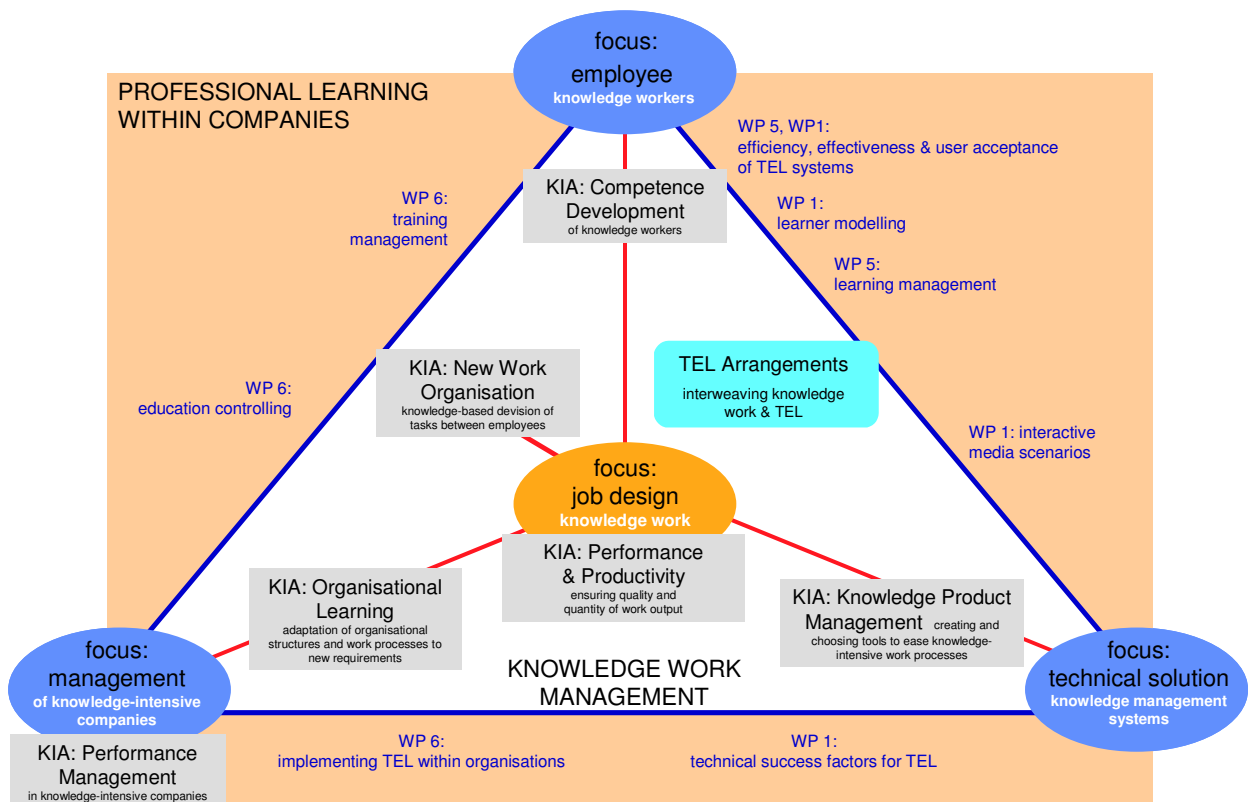


Figure 1: Embedding of KIAs in PROLEARN

The integrated model

It is recommended to use at current status of the project the integrated model with its key issue areas as an interim result to structure the next activities. The six key issue areas (KIA) of knowledge work management address central questions in the thematic area of knowledge work management on different levels. These levels could be sorted in a logical sequence (see figure 2). The “KIA flow” starts on the strategic level, passes the operative and technical levels and reaches at the end the strategic evaluation level.

Example: Companies react to changing business environments (new competitors, competitive products, new technological developments, changing laws, etc.) with new competitive strategies. Therefore they develop new products, but one strategy is also to change their company structure and processes (KIA Organisational Learning, New Work Organisation). The way they act influences the condition how the employees can and must learn for their work (KIA competence development). On the technical level there is support for this training and working activities with concepts and tools (KIA learning management, knowledge product management). These concepts and tools didn't work for themselves, they have a concrete goal. They must increase the quality and productivity of the working tasks handled by the employee (KIA performance and productivity). To close the circle to the strategic level, the performance management system gives information if a chosen competitive strategy was implemented successfully and if this strategy increases the competitiveness of the company. The six KIAs have not a clear cut to each other but for the activities in the research field of knowledge work management in PROLEARN it is separated in this way for a clearer working structure.

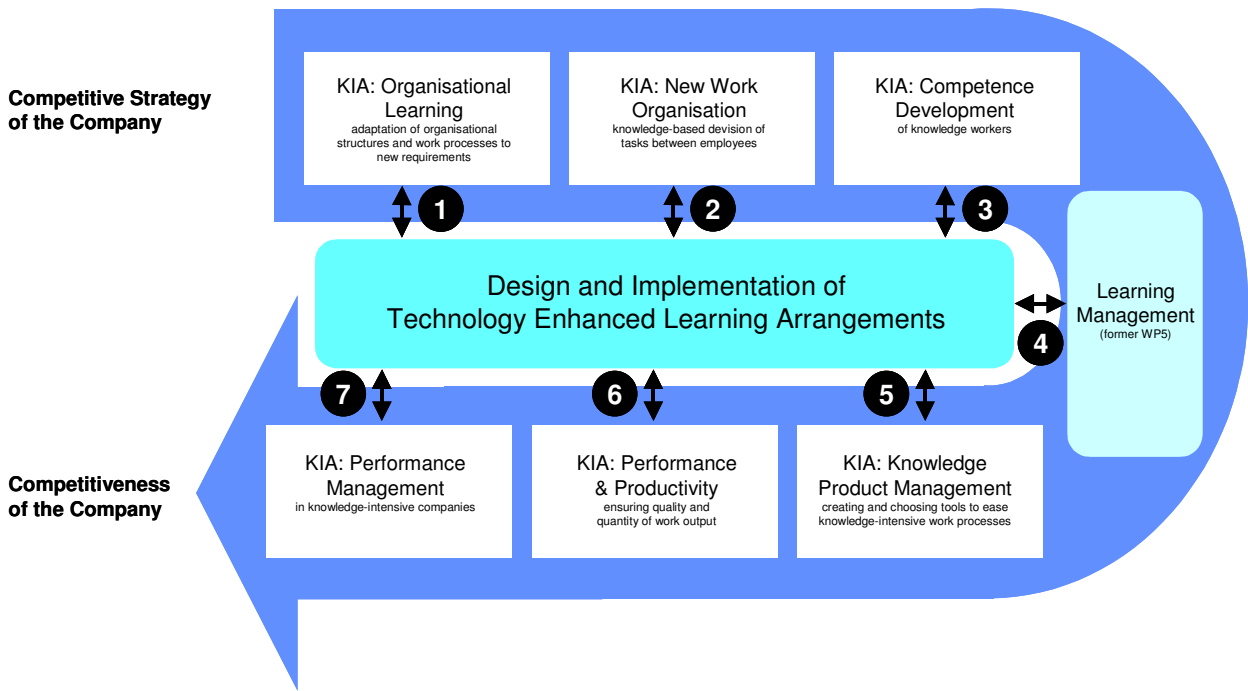


Figure 2: Integrated model knowledge work management and learning arrangements

Every thematic area (KIA) in the model should be seen as a substantial research area for its own. In some areas extensive knowledge is available. But in most cases there is a lack of information according to knowledge intensive companies, knowledge intensive work and knowledge workers in these thematic areas. To close this gap it is recommended to monitor the activities and development in the area of professional learning according to the integrated model with the different KIAs.

8 Monitoring instrument for activities and developments concerning their relevance and importance in the key issue areas of the KWM model

Organisational Learning

How to develop TEL Arrangements for fast learning organisations?

How to design TEL Arrangements for knowledge-intensive work settings?

How to predict where knowledge work will occur in a company?

How to enhance flexibility and adaptability of TEL Arrangements?

New work organisation

How to extend TEL Arrangements to distributed work processes?

How to include learners from different companies?

How to design TEL Arrangements for knowledge work in changing locations?

New technical solutions to support knowledge work in changing locations?

7Competence Development

To which extent knowledge workers do need support in acquiring new knowledge?

How TEL Arrangements can enable employees to become knowledge workers?

How to measure changes in competence level of knowledge workers?

What is the relevance of formal qualifications and informally acquired competencies to knowledge work and knowledge workers?

What are the challenges and solutions of TEL Arrangements for aging personnel?

Knowledge Product Management

Knowledge transfer tasks typical for different types of company or industries?

The kind and quality of knowledge usually acquired at the workplace?

How to measure the quality of knowledge acquired?

How to distribute and integrate highly specialised knowledge through the use of TEL Arrangements?

How to distribute and integrate experience based (tacit) knowledge through TEL Arrangements?

How to implement engineering processes for the development of knowledge products?

How to combine reorganisation measures and the implementation of processes to develop marketable knowledge products?

Performance & Productivity

How to best measure quality and productivity of knowledge work?

How to measure the impact of new training concepts for creativity, flexibility and productivity of knowledge workers?
How to bring human resource development and organisational development closer together?

Performance Management
How to measure competitiveness, innovations, flexibility and company value after implementing new professional training concepts in knowledge-intensive work settings?
How to ensure that learning@workplace is reflected by performance measurement systems?
How to ensure that results of performance measurement are used for redesign TEL Arrangements, if necessary?

9 Framework for the identification of resources and good practices:

To build a sustainable and extending network of people and organisations that are experts in knowledge work management (labour) research as well as in learning research. Therefore, there should be a look at the players in the main research fields (knowledge management, management of knowledge workers, learning@workplace etc.).

This will give a hint on where to find answers to the open questions concerning the links between the KWM KIA and learning arrangement issues. It also will reveal, if the two fields strands of research are growing together.

Expert Profiles	
Title / Name	
Organisation	
Type of organisation	<input type="checkbox"/> Industry <input type="checkbox"/> Research <input type="checkbox"/> Other: _____
Main fields of expertise	
(Assumed) Expertise in the field of	
Knowledge Management	rather low <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> very high
Knowledge Work Alignment	rather low <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> very high
Management of Knowledge Workers	rather low <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> very high
Management of knowledge-intensive companies	rather low <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> very high
Technology Enhanced Learning	rather low <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> very high
Learning@Workplace	rather low <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> very high
Design of Learning Arrangements	rather low <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> very high
Country / Language(s)	
Address	
Website (if available)	
PROLEARN contact person	

Table 1 Form sheet to used for the documentation of expert profiles

Similar form sheets are provided for the documentation of screening results on other resources such as projects, journals, conferences etc. that might provide further information on the links between the KIAs and learning issues (see Table 2 to 5)

Project / Network / Organisation Profile	
Title / Name	
Type	<input type="checkbox"/> Project <input type="checkbox"/> Network <input type="checkbox"/> Organisation <input type="checkbox"/> Other: _____
Country / Countries involved	
Objectives	
(Known) Contributions to the field of	
Knowledge Management	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> many
Knowledge Work Alignment	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> many
Management of Knowledge Workers	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> many
Management of knowledge-intensive companies	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> many
Technology Enhanced Learning	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> many
Learning@Workplace	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> many
Design of Learning Arrangements	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> many
Type of Output	<input type="checkbox"/> Statistical evidence <input type="checkbox"/> Theories, Models, Concepts <input type="checkbox"/> Methods & Tools <input type="checkbox"/> Good Practices <input type="checkbox"/> Other: _____
Website (if available)	
Contact / address	
PROLEARN contact person	

Table 2: Form sheet to be used for the documentation of relevant projects, networks or organisations

Journal Profile	
Title	
Type of content	<input type="checkbox"/> Academic <input type="checkbox"/> Applied research <input type="checkbox"/> Industry reports <input type="checkbox"/> Other: _____
Authors	<input type="checkbox"/> National <input type="checkbox"/> EU <input type="checkbox"/> International
Language	
Objectives / target group	
Number of published articles in the field of	1995 2000 2004 2005 →
Knowledge Management	___ ___ ___ ___
Knowledge Work Alignment	___ ___ ___ ___
Management of Knowledge Workers	___ ___ ___ ___
Management of knowledge-intensive companies	___ ___ ___ ___
Technology Enhanced Learning	___ ___ ___ ___
Learning@Workplace	___ ___ ___ ___

Design of Learning Arrangements	_____
Type of contributions	<input type="checkbox"/> Statistical evidence <input type="checkbox"/> Theories, Models, Concepts <input type="checkbox"/> Methods & Tools <input type="checkbox"/> Good Practices <input type="checkbox"/> Other: _____
URL of website (if available)	
Publisher	
Editor (s)	
PROLEARN contact person	

Table 3: Form sheet to be used for the documentation of relevant journals

Conference Profile					
Title / Name, Date & Location					
Type	<input type="checkbox"/> Academic <input type="checkbox"/> Applied research <input type="checkbox"/> Industry-related <input type="checkbox"/> Other: _____				
Objectives	<input type="checkbox"/> Single <input type="checkbox"/> Annual <input type="checkbox"/> Two-annual <input type="checkbox"/> Other _____				
Country / Countries involved	<input type="checkbox"/> National <input type="checkbox"/> EU <input type="checkbox"/> International				
Objectives / target group					
Number of presentations concerning	1995	2000	2004	2005	→
Knowledge Management	_____	_____	_____	_____	
Knowledge Work Alignment	_____	_____	_____	_____	
Management of Knowledge Workers	_____	_____	_____	_____	
Management of knowledge-intensive companies	_____	_____	_____	_____	
Technology Enhanced Learning	_____	_____	_____	_____	
Learning@Workplace	_____	_____	_____	_____	
Design of Learning Arrangements	_____	_____	_____	_____	
Type of contributions	<input type="checkbox"/> Statistical evidence <input type="checkbox"/> Theories, Models, Concepts <input type="checkbox"/> Methods & Tools <input type="checkbox"/> Good Practices <input type="checkbox"/> Other: _____				
URL of website (if available)					
Proceedings (full citation)					
Members of board					
PROLEARN contact person					

Table 4: Form sheet to be used for the documentation of relevant conferences

Web Portal Profile	
Title / Name	
URL of website (if available)	
Type	<input type="checkbox"/> Academic <input type="checkbox"/> Applied research <input type="checkbox"/> Industry-related <input type="checkbox"/> Other: _____
Objectives	

Target groups	
Country / Countries involved	<input type="checkbox"/> National <input type="checkbox"/> EU <input type="checkbox"/> International
Publicly available information on	
Knowledge Management	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> main topic of website
Knowledge Work Alignment	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> main topic of website
Management of Knowledge Workers	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> main topic of website
Management of knowledge-intensive companies	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> main topic of website
Technology Enhanced Learning	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> main topic of website
Learning@Workplace	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> main topic of website
Design of Learning Arrangements	none <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> --- <input type="checkbox"/> main topic of website
Kind of available information	<input type="checkbox"/> Statistical evidence <input type="checkbox"/> Theories, Models, Concepts <input type="checkbox"/> Methods & Tools <input type="checkbox"/> Good Practices <input type="checkbox"/> Other: _____
Contact	
PROLEARN contact person	

Table 5: Form sheet to be used for the documentation of relevant web portals

Search for more specific reports

In the second step there should be a closer look at the information the first screening has brought up and identify all resources that give insights into the great challenges and possible solutions to the challenges. This could be done by the application of the following checklist.

Documentation Sheet for articles / books / reports / presentations	
Title	
Type	<input type="checkbox"/> Academic <input type="checkbox"/> Applied research <input type="checkbox"/> Industry-related <input type="checkbox"/> Other: _____
Language	
Abstract	
Kind of information	<input type="checkbox"/> Statistical evidence <input type="checkbox"/> Theories, Models, Concepts <input type="checkbox"/> Methods & Tools <input type="checkbox"/> Good Practices <input type="checkbox"/> Other: _____
Based on	<input type="checkbox"/> National data <input type="checkbox"/> European / international data
Contribution is tackling the link between <input type="checkbox"/> Organisational Learning & TEL	Provides information about <input type="checkbox"/> How to develop TEL Arrangements for fast learning organisations <input type="checkbox"/> How to design TEL Arrangements for knowledge-intensive work settings <input type="checkbox"/> How to predict where knowledge work will appear in a company <input type="checkbox"/> How to accelerate the development of TEL Arrangements <input type="checkbox"/> How enhance flexibility and adaptability of TEL Arrangements <input type="checkbox"/> How to get hold of the costs of designing TEL Arrangements <input type="checkbox"/> _____
Contribution is tackling the link between <input type="checkbox"/> New Work Organisation & TEL	Provides information about <input type="checkbox"/> How to extend TEL Arrangements to distributed work processes <input type="checkbox"/> How to include learners from different companies <input type="checkbox"/> How to design TEL Arrangements for knowledge work in changing locations <input type="checkbox"/> New technical solutions to support knowledge work in changing locations

<p>Contribution is tackling the link between</p> <p><input type="checkbox"/> Competence Development & TEL</p>	<p><input type="checkbox"/> _____</p> <p>Provides information about</p> <ul style="list-style-type: none"> <input type="checkbox"/> To which extend knowledge workers do need support in acquiring new knowledge <input type="checkbox"/> How TEL Arrangements can enable employees to become knowledge workers <input type="checkbox"/> How to measure changes in competence level of knowledge workers <input type="checkbox"/> The relevance of formal qualifications and informally acquired competencies to knowledge work and knowledge workers <input type="checkbox"/> Challenges and solutions of TEL Arrangements for aging personnel <p><input type="checkbox"/> _____</p>
<p>Contribution is tackling the link between</p> <p><input type="checkbox"/> Knowledge Product Management & TEL</p>	<p>Provides information about</p> <ul style="list-style-type: none"> <input type="checkbox"/> Knowledge transfer tasks typical for different types of company or industries <input type="checkbox"/> Kind and quality of knowledge usually acquired at the workplace <input type="checkbox"/> How to measure quality of knowledge acquired <input type="checkbox"/> How to distribute and integrate highly specialised knowledge through the use of TEL Arrangements <input type="checkbox"/> How to distribute and integrate experience based (tacit) knowledge through TEL Arrangements <input type="checkbox"/> How to implement engineering processes for the development of knowledge products <input type="checkbox"/> How to combine reorganisation measures and the implementation of processes to develop marketable knowledge products <p><input type="checkbox"/> _____</p>
<p>Contribution is tackling the link between</p> <p><input type="checkbox"/> Performance and Productivity & TEL</p>	<p>Provides information about</p> <ul style="list-style-type: none"> <input type="checkbox"/> New reasons for human resource management especially in knowledge-intensive companies <input type="checkbox"/> How to best measure quality and productivity of knowledge work <input type="checkbox"/> How to measure the impact of new training concepts to creativity, flexibility and productivity of knowledge workers <input type="checkbox"/> How to bring human resource development and organisational development closer together <p><input type="checkbox"/> _____</p>
<p>Contribution is tackling the link between</p> <p><input type="checkbox"/> Performance Management & TEL</p>	<p>Provides information about</p> <ul style="list-style-type: none"> <input type="checkbox"/> How to measure competitiveness, innovations, flexibility and company value after implementing new professional training concepts in knowledge-intensive work settings <input type="checkbox"/> How to ensure that learning@workplace is reflected by performance measurement systems <input type="checkbox"/> How to ensure that results of performance measurement are used for redesign of TEL Arrangements if necessary <p><input type="checkbox"/> _____</p>
<p>Main statements on these topics</p>	
<p>Citation</p>	
<p>PROLEARN contact person</p>	

Table 6: Form sheet to be used for the documentation of any kind of papers containing information about the links between KWM KIAs and TEL

At the end some of the experts identified in the screening should be documented and categorised according to a similar scheme as the papers (Table 7).

Interview Documentation Sheet	
Interviewee	insert data from expert profile sheet
Date of interview	
Interview is tackling the issue of <input type="checkbox"/> Organisational Learning & TEL	Questions discussed: <input type="checkbox"/> How to develop TEL Arrangements for fast learning organisations <input type="checkbox"/> How to design TEL Arrangements for knowledge-intensive work settings <input type="checkbox"/> How to predict where knowledge work will appear in a company <input type="checkbox"/> How to accelerate the development of TEL Arrangements <input type="checkbox"/> How enhance flexibility and adaptability of TEL Arrangements <input type="checkbox"/> How to get hold of the costs in designing TEL Arrangements <input type="checkbox"/> _____
Interview is tackling the issue of <input type="checkbox"/> New Work Organisation & TEL	Questions discussed: <input type="checkbox"/> How to extend TEL Arrangements to distributed work processes <input type="checkbox"/> How to include learners from different companies <input type="checkbox"/> How to design TEL Arrangements for knowledge work in changing locations <input type="checkbox"/> New technical solutions to support knowledge work in changing locations <input type="checkbox"/> _____
Interview is tackling the issue of <input type="checkbox"/> Competence Development & TEL	Questions discussed: <input type="checkbox"/> To which extend knowledge workers do need support in acquiring new knowledge <input type="checkbox"/> How TEL Arrangements can enable employees to become knowledge workers <input type="checkbox"/> How to measure changes in competence level of knowledge workers <input type="checkbox"/> The relevance of formal qualifications and informally acquired competencies to knowledge work and knowledge workers <input type="checkbox"/> Challenges and solutions of TEL Arrangements for aging personnel <input type="checkbox"/> _____
Interview is tackling the issue of <input type="checkbox"/> Knowledge Product Management & TEL	Questions discussed: <input type="checkbox"/> Knowledge transfer tasks typical for different types of company or industries <input type="checkbox"/> Kind and quality of knowledge usually acquired at the workplace <input type="checkbox"/> How to measure quality of knowledge acquired <input type="checkbox"/> How to distribute and integrate highly specialised knowledge through the use of TEL Arrangements <input type="checkbox"/> How to distribute and integrate experience based (tacit) knowledge through TEL Arrangements <input type="checkbox"/> How to implement engineering processes for the development of knowledge products <input type="checkbox"/> How to combine reorganisation measures and the implementation of processes to develop marketable knowledge products <input type="checkbox"/> _____
Interview is tackling the issue of <input type="checkbox"/> Performance and Productivity & TEL	Questions discussed: <input type="checkbox"/> New reasons for human resource management especially in knowledge-intensive companies <input type="checkbox"/> How to best measure quality and productivity of knowledge work <input type="checkbox"/> How to measure the impact of new training concepts to creativity, flexibility and productivity of knowledge workers <input type="checkbox"/> How to bring human resource development and organisational development closer together <input type="checkbox"/> _____
Interview is tackling the issue of	Questions discussed:

<input type="checkbox"/> Performance Management & TEL	<input type="checkbox"/> How to measure competitiveness, innovations, flexibility and company value after implementing new professional training concepts in knowledge-intensive work settings <input type="checkbox"/> How to ensure that learning@workplace is reflected by performance measurement systems <input type="checkbox"/> How to ensure that results of performance measurement are used for redesign of TEL Arrangements if necessary <input type="checkbox"/> _____
Main statements	
PROLEARN contact person	

Table 7: Form sheet to be used for the documentation of expert interviews on the links between KWM KIAs and TEL

Search for innovative approaches and good practices

This filtering process will finally bring the point where we hopefully some solutions to the challenges of user-driven design of TEL Arrangements for knowledge workers could be found. The following form sheet (Table 8) should be used to provide standardised descriptions of relevant use cases / case studies for the discussions within the knowledge work research field.

Case Study/Use Case Documentation Sheet	
Focus: Competence development and design of TEL Arrangements for knowledge workers	
Solutions are suggested on	<input type="checkbox"/> How to develop TEL Arrangements for fast learning organisations <input type="checkbox"/> How to design TEL Arrangements for knowledge-intensive work settings <input type="checkbox"/> How to predict where knowledge work will appear in a company <input type="checkbox"/> How to accelerate the development of TEL Arrangements <input type="checkbox"/> How enhance flexibility and adaptability of TEL Arrangements <input type="checkbox"/> How to get hold of the costs in designing TEL Arrangements <input type="checkbox"/> _____
Project carried out by	<input type="checkbox"/> a company on its own <input type="checkbox"/> a company with partner(s) from research <input type="checkbox"/> a consortium of companies <input type="checkbox"/> a consortium of companies and research partner(s)
Size of (end-user) companies	
Industry of (end-user) companies	
Country of (end-user) companies	
Reason and objectives of the project	
Methodological approach	
Description of solution	
Main Challenges of design and implementation	
Acceptance, efficiency and effectiveness of solution	
Lessons learned	
Open questions	
PROLEARN contact person	

Table 8: Form sheet to be used for the documentation of case studies that might be good / best practices