T-D6

Industrial Training Infrastructure: a preliminary version

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Abstract

This deliverable reports about the prototype REASE (Repository of the European Association for Semantic Web Education) and focuses on the necessary adaptations for a professional audience. In particular, the report gives an overview of the necessary and planned adaptations regarding design and structure of the prototype. In this context, also the kind of content offered in such a portal for professionals and its implications for the portal itself will be addressed. Finally, marketing aspects for the promotion of such a portal and future plans will be given.

Keyword List

Industrial training infrastructure, REASE, online platform, education for professionals

Industrial Training Infrastructure: a preliminary version

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Abstract

This deliverable reports about the prototype REASE (Repository of the European Association for Semantic Web Education) and focuses on the necessary adaptations for a professional audience. In particular, the report gives an overview of the necessary and planned adaptations regarding design and structure of the prototype. In this context, also the kind of content offered in such a portal for professionals and its implications for the portal itself will be addressed. Finally, marketing aspects for the promotion of such a portal and future plans will be given.

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Contents

1 Introduction

The prototype for academic as well as professional education has been developed as a joint activity between "Education and Training" (ET) and "Technology Transfer and Awareness" (TTA). As the prototype is also a cooperation project between REWERSE and Knowledge Web, one is dealing in this context also with a joint activity between two Networks of Excellence. The following chapters will address specific changes regarding the design of the website and structural issues[1] of the portal relevant in particular for a professional audience. The changes discussed are based on the requirements analysis for specific user groups as described in the deliverable E/T-D4. As the content offered in the portal has also a strong influence on the appearance and use of the infrastructure, implications of the content for design and structural aspects will be discussed as well. An important criteria to keep in mind is always what might be of interest for a professional regarding such a portal. In this context, also log files and usage of REASE will be considered. Finally, marketing measures in reference to the educational infrastructure will be addressed, as marketing measures for a professional audience are different from marketing aspects for an academic audience. The last chapter will then provide the reader with a conclusion and an outlook for the future.

Issues which will not be discussed in this deliverable are the technical aspects of the educational infrastructure for learning which have already been elaborated in the deliverable E-D6 submitted by the activity "Education and Training". Nevertheless, these technical details are also a major part of the deliverable. Important aspects to mention are the fact that the platform will be hosted by the European Association for Semantic Web Education (EASE) to ensure that the repository can operate also beyond EU funding. The official name of the repository is REASE, which is an abbreviation for "Repository of EASE for Learning Units".

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[1] Structural issues correspond in particular to the metadata schema used in REASE for describing learning resources

2 Adapting the REASE portal for professionals

In the following chapters, the user group "professionals" will be explained more in detail and requirements for this user group will be given. As said before, the prototype REASE has been developed as a cooperation project between the activities TTA and ET. Consequently, the prototype serves two user groups at the same time – an academic user group and the group of the more practically orientated professionals. The goal of this deliverable lies in demonstrating the specific changes introduced for making the portal also attractive for professionals. The changes are based on the requirements for professionals as defined in E/T-D4 and an evaluation of the current prototype REASE. All chapters on changes (design, content and structure) will be therefore preceded by a short paragraph focusing on the requirements.

The last chapter regarding adaptations will summarize the requirements and introduced changes in the form of a table.

2.1 REASE and the user group "professionals"

An important question which poses itself when adapting a portal is the kind of user group for which one would like to provide material. The acceptance of such a portal depends very much on the issue of usability, and usability is always in reference to the needs and characteristics of a specific user group. As a general guideline, usability implies that a system is easy to use and easy to learn, that it can be used efficiently and satisfies the expectations and needs of the user.

The user group "professionals" is a very general group with common characteristics but also high heterogeneity. In the prior deliverable E/T-D4 the following subgroups regarding professionals were differentiated: technology monitors, executives and managers, programmers, open source community, and professional teachers, which constitute only an excerpt of possible target groups. When looking at this list, it becomes obvious that despite common characteristics we are not dealing with a homogeneous group. In E/D-4 it was concluded that none of these groups require a full-fledged learning system, but nevertheless they have different needs for material and regarding usability. Consequently, a clearer focus on a specific user group helps finding and offering material which is of benefit and interest for this group as well as building up a solid navigation structure. Power Point slides provided in such a portal are themselves "dead material" and an important question are also the people behind the portal (users, providers of material, etc.). Currently, almost all contributions come from academic authors. In the longer term, it will be therefore very important to find authors also from the industry area.

All these issues need to be kept in mind when discussing about adapting the infrastructure. At the same time, it is clear that, first of all, experience needs to be gained with the portal to be able to focus the portal on a more specific user group and make according adaptations. As the infrastructure REASE is still fairly young, such decisions could not have been taken yet, but will influence deliverables in the future. Currently, we will hence focus on the general user group "professionals".

2.2 Changes regarding the design

In the deliverable E/T-D4 it was concluded that special care should be taken regarding the interface design in reference to the target group professionals. It was said that, first, it must be easy for them to find what they are looking for on the platform. Second, they must feel addressed. Additionally, it was expected in the deliverable E/T-D4 that a first set of courses from REWERSE members is available on the infrastructure at that time, as well.

Based on the aspects mentioned above, the following design changes have been made to adapt the EASE repository for a general professional audience. Minor changes regarding the wording have been introduced. The introduction includes the following text "Welcome to REASE, the repository of EASE for learning units in the area of Semantic Web! REASE

supports sharing knowledge for Higher Education as well as for industrial education in the area of Semantic Web and is open to any member of the academic, research or professional community." The word "professional" has been inserted besides the expression "industrial education in the area of Semantic Web" to address specifically a professional audience.

Navigation to material for professionals is possible through the link "industrial education" in the introductory text as well as through browsing the REASE catalogue. Some critical aspects regarding the catalogue came up when looking for an interface design which allows easy navigation for professionals. Originally, the link "outreach to industry" which encompasses all courses/material relevant for professionals could only be found in the "browse catalogue" column on the right hand under "Special topics". From the viewpoint of the activity "Technology Transfer and Awareness" it did not appear as a good solution to hide material relevant for industry under special topics as all material relevant for industry could be categorized under different topical aspects. If material is "industry relevant" then this relevance for industry is not dependent necessarily on the topic or specific technology but to a great part on how the material is presented. Consequently, relevance for industry is an element which could be added to all different categories and hence it is difficult to integrate into the REASE categorization. Furthermore, the term "outreach to industry" is not very appealing. Instead it was decided to use a term like "Material for Professionals from Industry". As "Material for Professionals from Industry" is not a category easily included in the overall categorization, it was settled to put a separate link below the categorization to access material for professionals. Through these means, topics relevant for professionals are more prominent and can more easily be found. Starting from the homepage, there are now three possibilities to access material for professionals: the link "industrial education in the area of Semantic Web", "Material for Professionals from Industry" and the sub-category "outreach to industry" in the general REASE categorization.

As said above, deliverable E/T-D4 stated that a first set of courses from REWERSE members would be available as well around this time. Consequently, the following chapter will look at the material provided by authors contributing to the REASE portal and its implications for the infrastructure itself.

2.3 Material offered in REASE and implications for the infrastructure

Currently, there are 16 learning resources in REASE which have been classified by the authors as suitable for industry. When looking at the list of learning resources and their providers, it becomes obvious that there are currently no industrial courses offered in this portal by REWERSE members.

The material currently provided by REWERSE members is suitable for academic education and comprises 10 course modules:

- Rational Agents in Logic Programming for the Semantic Web by Luis Moniz Pereira

- Semantic Web Lecture - Adaptive Hypermedia Systems by Nicola Henze

- Semantic Web Lecture – Introduction and Overview by Nicola Henze

- Personalization for the Semantic Web, Part I by Nicola Henze

- Personalization for the Semantic Web -Part II by Matteo Baldoni

- Knowledge-base Programming with Frames and Logic by Michael Kifer

- Rules and Ontologies in F-logic by Michael Kifer

- Semantic Web Lecture - Basic building blocks by Nicola Henze

- Web and Semantic Web Query Languages: A Survey by James Bailey, François Bry, Tim Furche and Sebastian Schaffert

- Semantic Web Lecture - Logics by Nicola Henze

The fact that there are currently no industrial modules in REASE provided by REWERSE can be explained by the time frame of REWERSE. REWERSE is focused on a fairly novel new research area and this needs to be taken into account when dealing with the development of digital course material. Networking the community has been more in focus than the provisioning of course material for professionals, in particular as the concrete demands of the user group "professionals" for such material have not been clear right from the beginning. So far, requirements have been evaluated, but concrete demands need to develop over time with the use of the portal. Additionally, the production of material for professionals needs to be motivated by concrete ways to present this material. More information on this issue can be found in the deliverables T-D3, T-D5 and particularly T-D7. An important aspect in this context is also to find out what is missing regarding to material for professionals in REASE which can solely be provided by REWERSE. Information on these issues can also be found in the deliverables mentioned above.

Besides the issue of having no material for professionals from REWERSE`s side, the material which is available for professionals consists solely of Power Point slides and PDF files. This fact also applies in general to all material contained in REASE. At best, this material can be for professionals an incentive to learn more. And to provide full-fledge E-learning material for professionals is by no means a trivial matter and involves many person months and high costs. Consequently, one needs to think how such a portal can be of interest for professionals at the current stage. The idea is to focus on offering a portal on Semantic Web Education including information on face-to-face courses as well as other material relevant for professionals. What this means in detail will be discussed in the following chapters.

2.4 Changes regarding the metadata schema

The motivation for the changes in the metadata schema[2] has been mainly triggered by the kind of material currently available in the online repository. The current content consists to a great part of power point slides of presentations for various events and an industrial audience. As said already, those presentations might be an incentive wanting to learn more, but they can only give a very rough overview and often lack in detail as there is not presenter available explaining the slides. As it is not possible to provide full-fledged learning material for an online platform in a short time frame, the platform currently should be used in a different way as will be explained in the following paragraphs. In this context, one has to keep in mind that a very important aspect is often for professionals to know where more detailed information is available or if a certain course can be offered. As a consequence, a different form of using the REASE platform can lie in using the platform for promoting courses. There are several initiatives in Europe which started in the last years to focus on providing courses for professionals. Providing a general entry point to these initiatives through the REASE portal would make the portal increasingly popular as information resource. At a later point, REWERSE material for professionals can then be added.

The metadata schema used for describing the learning resources depends very much on what will be described in REASE. Currently, the following material is feasible to be included in REASE:

- Web-based course material (which usually consists of PPT or PDF files)
- Information on face-to-face courses for professionals

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[2] A metadata schema establishes and defines data elements and the rules governing the use of data elements to describe a resource.

In the former case (Web-based course material), the material available online itself needs to be described and the current metadata schema would be more or less sufficient for this case. In the latter case (face-to-face courses), it is more important to define and give meta-information about the face-to-face course than information about any material available online (the digital material available might be a short overview of the course content, excerpts of the course etc.). How in both cases, the material on REASE can be described using the existing metadata schema will be demonstrated in the following two chapters.

2.4.1 Material for professionals and the REASE metadata schema

Most important for describing educational material for professionals is the following information which constitutes an excerpt from the current metadata schema in REASE:

Metadata schema element	Description
learning resource provider	The person who provides the material
description language	language used for metadata; in most cases this will be English
Title	The title of the resource provided gives a first impression of the content offered
Learning resource language	Language used in the material
Description	The description can include a short abstract about what can be expected; as this is a fairly general category, many different kinds of information could be included here
Classification	Classification according to the REASE catalogue; it is important to select carefully one or more appropriate topics out of the catalogue to match the expectations of the user
Learning resource type	The learning resource type typically is 'educational material' in this context
Educational material type	Recorded lectures, research papers etc.
Contributor	The author of the material
Additional contributors	Additional authors
digital location	Usually the digital material will be uploaded so that no broken links can occur
format	PDF, Power Point, etc.
Target audience	Audience is described for which the material offered here is suitable

As all the information regarding the digital material for an industrial audience can be described using the above excerpt from the REASE categorization, it can be assumed that

the existing metadata provided by the REASE categorization is fully sufficient. There are also other metadata elements which can be used for describing the material available online such as prerequisites (material necessary to be read before) and most important also information on how the material is made available (for instance, publicly or only to a specific user group).

2.4.2 Information on face-to-face courses and the REASE metadata schema

In the case of an advertisement for a face-to-face course, the available categorization might be problematic as demonstrated below and additional description elements would normally become necessary.

The following description elements are necessary (an example has been added taken from a course module at the Semantic Web School in Vienna; additionally, matching possible Metadata schema elements have been given):

Description element	Example	Metadata schema element
Institution offering course	Semantic Web School	Learning Resource Provider
Language used for describing course	German	Description language
Lecturer	Tassilo Pellegrini	Contributor
Title of course	Grundlagen, Nutzen und Tools des Semantic Web	Title
Language used in the course	German	Learning resource language
Type of Learning Resource	Course	Educational Material Type (this metadata field provides a drop-down menu, currently the element „course" can not be selected, available are elements like „tutorial"
Description of the course	Semantic Web ist Vision, Programm und Konzept der nächsten Generation des Internets. Semantic Web heißt, dass Internettechnologien verstärkt in die Arbeits- und Lebenswelten der Menschen Einzug halten und neue Formen des Arbeitens, Kooperierens und Lernens unterstützen werden. Welche Rolle semantische Technologien dabei spielen, erfahren Sie in diesem Grundlagenmodul.	Description
Part of a series of modules	Modul 1	Prerequisites (this metadata field can be used to show dependencies between resources). Otherwise the information would need to be included as well in the description or on an external website
Target audience	Consultants	Target audience

Location	Vienna	This information would need to be put into the description field! (see above), the metadata field "location" can only be used for the URL of the digital material
Dates	March 17, 2006	This information would need to be put into the description field!
Duration	9:30-18:00	Typical learning time could express the duration, but if a beginning and end time need to be given, this information would need to be put in the description or on an external website which could be linked to the resource
Costs	e.g. 120 Euro (exkl. USt.)	This information would need to be put in the description or on an external website which could be linked to the resource
Link to more information	The information on the course could be linked to information on an external website	Location of additional information
Is the course also available on request?		this information would need to be put in the description or on an external website which could be linked to the resource

When looking at the REASE metadata schema, it becomes obvious that the following elements can not be described easily with the existing metadata elements: Part of a series of modules, Location (City), Dates, Duration, Costs and if the Course is also available on request. Additionally, there are the mandatory fields "location" (giving the URL of the digital material or uploading the material) and "format of the digital material" provided by the Metadata schema which are not necessary for describing a course but would need to be filled out nevertheless.

Furthermore, it could be an issue to have the contact information separate. Again, this would be difficult to implement. Also, the target audience could be more elaborate so that professionals know better whether the material suits their needs. A problematic aspect consists also in the fact that the metadata schema is probably too elaborate in the case of a face-to-face course. All this shows that considerable effort would need to be done to match the metadata schema perfectly for promoting face-to-face courses. As it is not possible to add these elements per se, description elements so far unused could be redefined and adapted to the context of face-to-face courses. It is also clear that these changes will only be introduced when there is a certain amount of courses promoted in the REASE platform so that the changes introduced are based on some experience gained already and clear requirements.

The current solutions proposed is to use the metadata schema as offered, describe the course using the current metadata elements (as will be demonstrated below) and provide a link to the webpage with more information on the course. All additional information can as well be put into the description. Therefore, we start with a small number of courses to be described and would change the metadata schema when it becomes necessary (more can be said in E/T-D9). The following table shows the example of above implemented using the existing metadata elements.

Metadata schema element	Example
Learning Resource Provider	Semantic Web School
Description language	German
Contributor	Tassilo Pellegrini
Title	Grundlagen, Nutzen und Tools des Semantic Web
Learning resource language	German
Educational Material Type (this metadata field provides a drop-down menu, currently the element „course" can not be selected, available are elements like „tutorial"	„Tutorial" or „Other"
Description	Semantic Web ist Vision, Programm und Konzept der nächsten Generation des Internets. Semantic Web heißt, dass Internettechnologien verstärkt in die Arbeits- und Lebenswelten der Menschen Einzug halten und neue Formen des Arbeitens, Kooperierens und Lernens unterstützen werden. Welche Rolle semantische Technologien dabei spielen, erfahren Sie in diesem Grundlagenmodul. Der Kurs (Kursmodul 1) findet in Vienna am 17. März 2006 statt (9:30-18:00). Die Teilnahme kostet 120 Euro (exkl. USt).
Target audience	Berater
Typical learning time	8 hours 30 minutes
Location of Additional Information	http://www.semantic-web.at/5.6.6.module.1-grundlagen-nutzen-und-tools-des-semantic-web.htm
Location	upload some teaser material into REASE
Format	PDF or PPT (format of teaser material)

2.5 Additional changes for professionals

Besides the specific changes discussed in the chapters before, it is important to ask what other more general changes would be interesting for a professional when using such a portal. While the former paragraphs were more concerned with the general structure, the following aspects to discuss touch the issue "what kind of data will or should be available in a portal addressing professionals?"

The following data has been considered as relevant for professionals and could be provided as links on the REASE website in the near future:

a) Resources on the Web (background info, articles, reading suggestions)

Ambient Findability by Peter Mortville, 2005

A Semantic Web Primer by Grigoris Antoniou, Frank van Harmelen, 2004

Spinning the Semantic Web - Bringing the World Wide Web to Its Full Potential by Dieter Fensel, James A. Hendler, Henry Lieberman (Hg.), 2005

The Semantic Web by Michael C. Daconta, Leo J. Obrst, Kevin T. Smith, 2003

Semantics in Business Systems by Dave McComb, 2003

Explorer's Guide to the Semantic Web by Thomas B. Passin, 2004

Towards the Semantic Web: Ontology-Driven Knowledge Management by John Davies; Dieter Fensel; Frank van Harmelen, 2003

Ontological Engineering by Oscar Corcho; Mariano Fernández-López; Asunción Gómez-Pérez, 2004

Visualizing the Semantic Web by Vladimir Geroimenko; Chaomei Chen, 2003

The Semantic Web in Breadth at http://logicerror.com/semanticWeb-long by Aaron Swartz

It is planned to provide a categorization into introductory material and further reading when listing the resources as defined above on the REASE website.

b) Institutions

- Schools for Semantic Web Education for professionals

Semantic Web School http://www.semantic-web.at offers interbranch transfer work in the area of semantic-web technology via courses, inhouse trainings, studies, R&D projects, media, and events for science and business.

The company Cerebra http:// www.cerebra.com is a provider of standards-based adaptive technologies for information integration and dynamic business rules management in the US.

The Semantic Web academy in Karlsruhe (Germany) http://www.daasi.de/info/train-e.html is an advanced training institution that offers decision makers and developers simple and customized access to the latest semantic Web technologies, such as the W3C standards OWL and RDF sized businesses, public authorities, and the research sector.

The Computer Graphics Center (ZGDV) http://www.zgdv.de/ in Darmstadt and Rostock (Germany) in cooperation with the Technische Universität Darmstadt and Fraunhofer Gesellschaft aims to bridge the gap between scientific research and practical application.

- Standardization bodies

W3C, IDEAlliance, IEEE, Internet Content Rating Association (ICRA), ISO - International Standardization Organisation, ISO - TC 37, OASIS, Object Management Group (OMG), OGC - Open Geospatial Consortium, TermNet

c) important research centers and networks/clusters for Semantic Web Education

NoE REWERSE, NoE Knowledge Web (+ link to Cordis website on IST Projects in the area of Semantic-based Knowledge System can be provided), DERI International, DFKI - German Research Center for Artificial Intelligence, Fraunhofer IMK - Institut für Medienkommunikation, Fraunhofer Institut for Computer Architecture and Software Technology (FIRST), Institut AIFB - Universität Karlsruhe (TH), Semantic Web @ Salzburg Research, STAR Lab (Semantics Technology and Applications Research Laboratory), XML-Clearinghouse, RuleML, SWSI - Semantic Web Services Initiative

The links listed above constitute an excerpt of possible links to be added. The links will be added in the near future to the link section (background and additional information) of the portal REASE. It is necessary to point out which of the links listed in the link section are particularly relevant for professionals. As a consequence, a separate page for professionals will be introduced in the near future. When the available number of links and material increases different subcategories will be introduced to facilitate navigation.

An advantage of adding the background information to REASE would lie in filling the portal with more quality and useful information for professionals. As a consequence, REASE would be more frequented by professionals. An advantage for the institutions listed would be that they have an additional channel through which they are promoted. The more popular REASE is, the more relevant this aspect becomes. In fact, by the changes introduced in this section, the educational infrastructure becomes more like a portal (entry point to information about Semantic Web Education for professionals).

2.6 Summary of introduced changes

In the following table, the changes and planned adaptations as explained in the preceding chapters will be listed to provide an overview. In the left column of the table, requirements will be compared to the solutions/changes proposed in the right column.

Requirements	Changes/Adaptations
it must be easy for professionals to find what they are looking for on the platform	there are now three possibilities to access material for professionals: the link "industrial education in the area of Semantic Web", "Material for Professionals from Industry" and the sub-category "outreach to industry" in the general REASE categorization
Professionals must be addressed with the platform	The word "professional" has been inserted besides the expression "industrial education in the area of Semantic Web" to address specifically a professional audience. Another important criteria is the content offered in the portal (-> see below)
Material for professionals provided by REWERSE	Currently, there is no specific material offered by REWERSE members for professionals. More information on this issue is given in the deliverable T-D7.
Material provided are power point slides and PDF used for presentations (-> material is currently not of enough interest for professionals)	Information on face-to-face courses will be added + add-on info will be added (see below). Further information on this issue can also be found in T-D7.
Current content offered in the portal needs to be attractive for professionals	Add-on info on background information, reading suggestions, links to institutions etc. will be added.

3 Marketing and use of portal

The following sections will focus on marketing measures for a professional audience. To evaluate the success of marketing measure of a portal, it is important to look at web statistics of a website as done in chapter 3.1. The next chapter will then provide an overview of possible methods to raise awareness of the portal among professionals.

3.1 Current access statistics for REASE

One important issue of measuring the access to the online platform is the number of registrations and developments over the time. The following graphic is based on statistics taken in Mai 2006 and is an updated version of the figure in chapter 5.2 of KW deliverable D3.1.5.
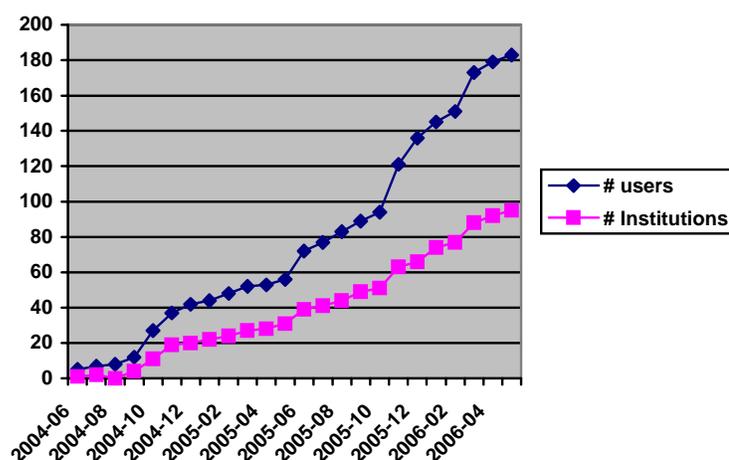
The first public announcement of REASE at the end of 2004 led to the registration of users and institutions from KnowledgeWeb mainly. The second peak in June 2005 can be contributed to the fact that REASE was used to distribute the learning material for the REWERSE summer school. The increase in November 2005, however, was not dominated by KnowledgeWeb or REWERSE activities as only two from the 12 additionally registered institutions were actually directly related to one of these networks.

Currently, only three of the registered institutions which are companies (from USA and Korea) are not members of the involved Networks of Excellence. Altogether there are 95 registered institutions, of which most are universities. There are also about three public institutions among the registered institutions. Two of companies mentioned above have booked the industry course "Semantic Web Tutorial", the industry course "Ontology Engineering Best practices", "Semantic Web Use Cases" and "Towards types for web rule languages".

It is clear that due to the low number of registered companies, hardly anything can be inferred. However, the fact that those companies booked industrial introductory material and best practices and use cases corresponds well with the general expectations one would have regarding this user group. The Knowledge Web deliverable D3.1.5 discusses on page 25 that in the application-oriented categories[3], there is a need to have more material and more examples. Developing the Knowledge Web use cases in the industry area is intended to lead to more educational material about these use cases, which can then be published on REASE in the future. Apart from these measures which are going into the right direction, there are

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[3] Currently there are the application areas Knowledge Management, E-learning, Bioinformatics, Multimedia, ehealth, ebusiness, Law and Engineering provided by the REASE categorization.

also activities on the side of REWERSE. Information on this issue is provided in the deliverable T-D7 on content for education activities for professionals.

The low number of registered companies can be contributed to the fact that the portal has not been running yet for a long time. Besides the issue of not having a lot of relevant material for professionals, one important factor are the limited promotion activities which have been done so far concerning REASE and addressing professionals. The next chapter will provide more information on this issue. In this context, one also needs to keep the remarks at the beginning of chapter two in mind. The focus of the portal and a specific and well-chosen user group including good quality material presented in a good structured way will push the acceptance of the portal also among professionals.

3.2 Marketing strategies

When considering marketing measures, it is important to focus first of all on what is promoted. In reference to REASE, this will be the platform REASE itself as an entry point to information relevant for professionals, digital courses and material as well as the face-to-face courses promoted on the platform.

In the prior deliverable E/T-D4 is has been concluded that the marketing channels which have been built up so far in the "Technology Transfer & Awareness" activity will be used. But it is also important to adapt the marketing measure to the current situation and material available. Consequently, marketing measures will start with the following activities:

- The platform as well as the material available on the platform can be promoted in face-to-face courses as well as workshops and presentations at conferences and events.

- Online platforms and portals can link to REASE and therefore can also be used as promotion platforms

- Selective mailings to contacts of the activity "Technology Transfer & Awareness"

- When something like an RDF tutorial is searched for in Google, it would be good if the REASE platform is among the results lists. Certain adaptations could be made to improve Google ranking of REASE material regarding certain search criteria.

Promotion in magazines, newsletters, press releases, online banner and mass mailings would be introduced when there is enough good quality content. Most important, of course, is that all measures have the effect that the access of professionals to REASE increases. Such an increase itself will push the promotion of the portal in the most efficient way.

4 Conclusion and Future Plans

The current digital educational infrastructure for academics as well as professionals has been developed as a joint activity between ET and TTA. The deliverable listed a number of adaptations which make the portal more attractive for professionals and easier regarding navigation issues. It has also been concluded that it is important to populate the infrastructure with relevant material fairly quickly. The following measures have been proposed: add information on face-to-face courses, add links to resources on the Web, reading material and relevant institutions.

When looking at the current use of the portal by companies, introductory material for professionals and use cases as well as business scenarios seem to be of interest. As a consequence, more material in this respect needs to be added in the future. The deliverable T-D7 contains information on available and necessary contents to be provided for professionals. Self-learning material for professionals will be in the focus of future content production including adaptations made of existing material, all of which can be easily integrated into the current REASE infrastructure.

Regarding registrations and access to REASE by professionals, it has been concluded that it is important to fill the portal with relevant material as described in this deliverable and to market the portal in face-to-face events as well as online. Another important issue will be to give the portal a focus on a more specific user group regarding professionals. The coming months will provide experience and feedback in this respect.

Acknowledgement