

# Sustainable knowledge development across cultural boundaries

*Experiences from the EU-project SILMAS  
(sample: Toolbox for conflict solving instruments in Alpine lake management)*

## Challenge: Multicultural Cooperation

*Kulturenübergreifende Arbeitsgruppen stehen vor besonderen Herausforderungen*

### Why multilingual knowledge communication is needed

Increasingly people have to communicate knowledge across cultural and language boundaries. Even though recent technologies offer powerful communication facilities people often feel confronted with barriers which clearly reduce their chances of making their interaction a success. Concrete evidence concerning such problems derives from a number of projects, where generated knowledge often results in dead-end products.

In the Alpine Space-project SILMAS (Sustainable Instruments for Lake Management in Alpine Space), a special approach (syneris®) was taken to avoid this problem and to manage project knowledge in sustainable form. Under this approach knowledge input and output are handled interactively: Relevant knowledge can be developed continuously and users can always access the latest state of expertise. Resort to the respective tools and procedures can also assist in closing knowledge gaps and in developing innovative responses to familiar or novel problems.



### (1) How can we learn from regional experiences - in regional languages?

Wie kann man das Wissen der Betroffenen erheben – in authentischen Sprachen?

### (2) How can we overcome the cross-cultural barriers - and understand?

Wie können wir über Sprachgrenzen und kulturell unterschiedliche Gewohnheiten hinweg zu gemeinsamen Standards und anerkannten Unterscheidungen kommen? Wie kann man erkennen, wo gemeinsame Standards wichtig und wo sie hinderlich sind?

### (3) How can we make cross-cultural knowledge accessible - for local application?

Wie macht man Wissen den Betroffenen – in authentischer Sprache – zugänglich? Wozu die gemeinsame Vermittlersprache? Wie geht man mit unterschiedlichen Benennungen ein- und desselben Sachverhalts um?

## Procedure: Knowledge Refinement

*Die Methodik des Vorgehens für die Wissenskommunikation mehrsprachiger Gruppen*

### 1. step: Concept anchors

Find conceptual anchors for non-experts by definition of topics as categories.

Alpine lake areas

Problems

Utilizations

Instruments

Toolbox

Describe the categories briefly and in all needed languages.

## 2. step: Build conceptual structures

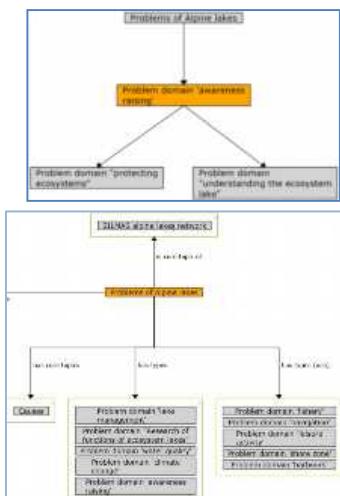
Specify subordinate topics (hierarchical structures)

Festgelegte Basisbegriffe untergliedern, (nur) die erforderlichen Hierarchien bilden

Specify criteria for subordination of topics, find appropriate terms

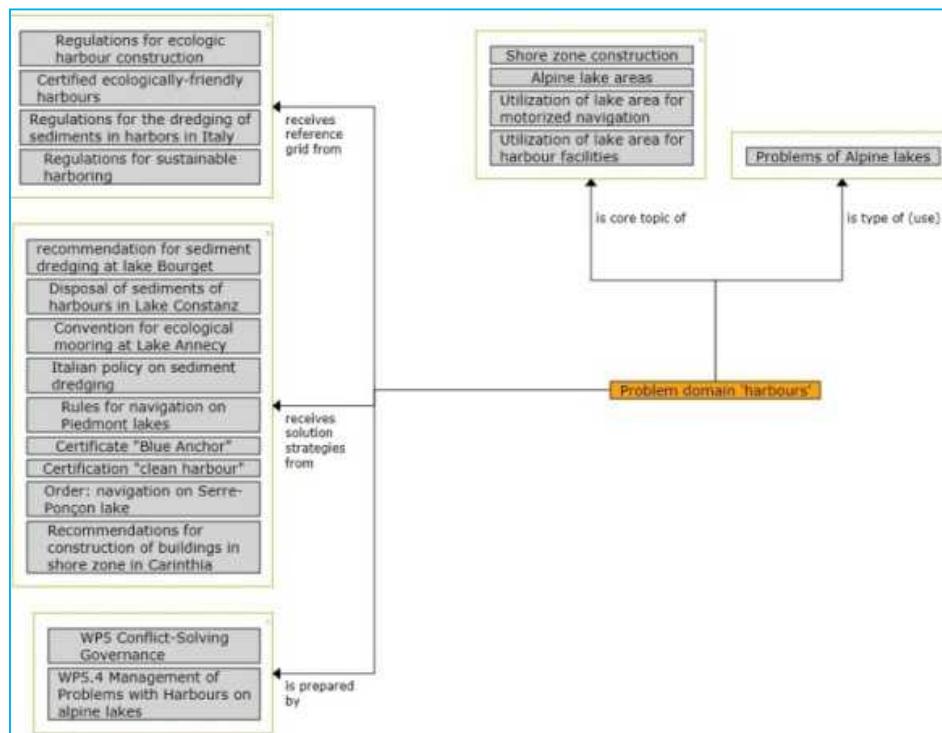
Ordne nach bestimmten Kriterien

(homogen, konsistent, ausschließend), ordne Terme zu..



## 3. step: Create relevant conceptual associations

Associate topics with semantic relations



## Results: Interactive Knowledge Base

Die Ergebnisse sind durch die interaktive Wissensbasis sofort für die Partner verfügbar.

### syneris® - knowledge communication platform

Web-based multilingual platform with semantic navigation or keyword-based search facilities; with login-controlled access for public as well as internal documents, knowledge-based communication via weblog - in any of the specified languages.

Expert comment: "I am not an expert in language but in limnology; if I can contribute in my language I will do it, if I can find information in English, I can use them."



## Smart Knowledge Documents

Smart documents for easy access to knowledge

From a large variety of layouts and structures of documents the expert group created a standardized document layout for Tool Profiles (best practice), Reports, e.a. The Tool profiles in a specific layout are easy to read and understand also for non-experts.



## Multilingual Knowledge Map

Management of Languages – Multilingual Glossary of Terms

## Efficient Tools

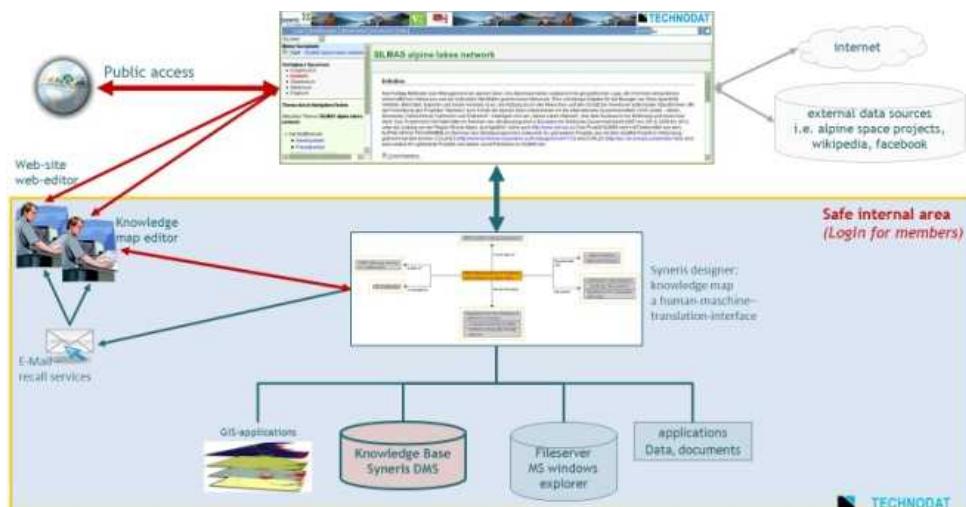
*Effizienz in kulturenübergreifenden Projekten durch Anwendung der Werkzeuge.*

### Operated Internet Platform

syneris® - internet-based operation model for cross-cultural projects

Initial project workshop to define the standards and the demands for the web-based interaction model for multilingual project communication – as an all-inclusive-solution (hardware, software, support) - transparency in calculation

Using a sustainable solution during the whole project - and after projects ending



## Additional Services

Weitere Leistungsangebote

syneris® - knowledge communication experts

The objective of our interdisciplinary network of experts is to provide an adequate working environment for efficient and specialised knowledge refinement and knowledge transfer.

Take profit from our condensed findings after more than 15 years of basic research (multilingual knowledge acquisition & representation), exploit our long-term practical knowledge in developing and performing knowledge communication programs in industry and European projects, in the form of

1. *Workshops in the beginning of projects – to commit participants to standardized knowledge communication*

2. One-stop-service – professional support in organizing and performing cross-cultural and multilingual knowledge communication
3. Supply of infrastructure and software for multilingual knowledge communication in projects (additional interpreter service on demand)
4. Managing an operated internet platform for the dissemination and capitalization process after projects ending.

Apply our software tools which have been widely put to practice – at university as well as in industry

5. Software – licensing of syneris® for your enterprise or for your projects

## Efforts - Added Values

### Shared Knowledge with syneris® - methods and tool box

The emergence of a common understanding of essential knowledge is facilitated across cultural boundaries.



### Sustainability - an alternative to a dead-end project report

Knowledge-generating projects often result in dead-end products. SILMAS is using a special solution to avoid this problem and to manage project knowledge. It organizes knowledge, and supports interactive input and output. Therefore relevant knowledge will be developed continuously and users can always access the latest state of expertise.

### Explicitness is not a self-evident quality of knowledge.

Much of human knowledge is typically implicit, for example experiences with the application of strategies to overcome problems. However, explicitness is necessary to assure quality of knowledge. The knowledge map helps to make knowledge explicit

### Knowledge retrieval - explicit access to the knowledge that you need

Experience shows that successful knowledge transfer is not only a matter of confidence but also one of mutual understanding; especially if knowledge transfer is needed for speakers of different languages, from different cultures and organizations. Inconsistent use of terminology, for example, may impede not only successful knowledge communication, but also reliable knowledge retrieval.

### Accessibility to knowledge

A key issue of successful knowledge transfer is explicitness: expert descriptions or explanation must be made clear and understandable for experts of other domains, other languages and other language levels as well as to non-experts.

The syneris® knowledge map helps to reduce barriers in multilingual knowledge communication settings .

## Contact and Copyright:

Michael Fegerl, Wilfried Wieden

syneris® - the knowledge company - 5020 Salzburg, Ainringweg 11 A / Austria

syneris® Software:

Technodat GmbH - 5020 Salzburg, Jakob Haringer Strasse 6 - [www.technodat.at](http://www.technodat.at)

Sample of the knowledg platform silmas: <http://silmas.sbg.ac.at>

# Sustainable knowledge development across cultural boundaries

Experiences from the EU-project SILMAS and application in industry  
(sample: Toolbox for conflict solving instruments in Alpine lake management)

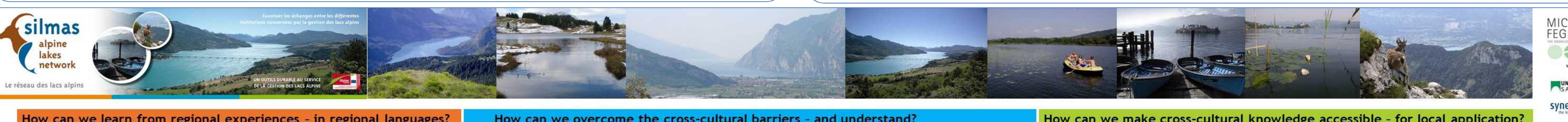
## Challenge:

### Multicultural Cooperation

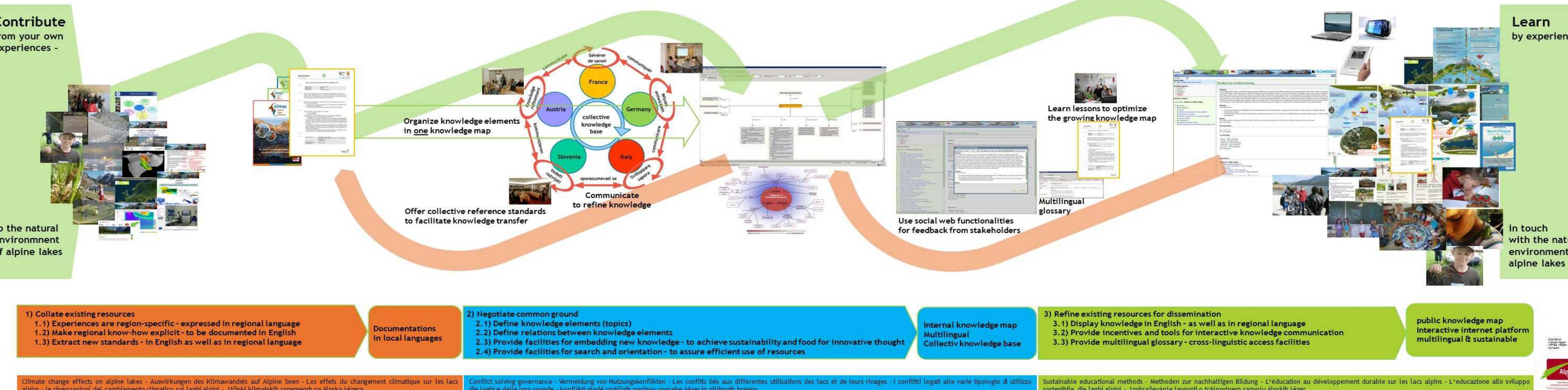
**Why multilingual knowledge communication is needed?**  
Increasingly people have to communicate knowledge across cultural and language boundaries. Even though recent technologies offer powerful communication facilities people often feel confronted with barriers which clearly reduce their chances of making their interaction a success. Concrete evidence concerning such problems derives from a number of projects, where generated knowledge often results in dead-end products.

In the Alpine Space-project SILMAS (Sustainable Instruments for Lake Management in Alpine Space), in which both authors were involved, a special approach (syneris®) was taken to avoid this problem and to manage project knowledge in sustainable form. Under this approach knowledge input and output are handled interactively: Relevant knowledge can be developed continuously and users can always access the latest state of expertise. Resort to the respective tools and procedures can also assist in closing knowledge gaps and in developing innovative responses to familiar or novel problems.

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Wie kann man das Wissen der Betroffenen erheben - in authentischen Sprachen?
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Wie können wir über Sprachgrenzen und kulturell unterschiedliche Gewohnheiten hinweg zu gemeinsamen Standards und anerkannten Verschiedenheiten kommen? Wie kann man erkennen, wo gemeinsame Standards wichtig und wo sie hinderlich sind?
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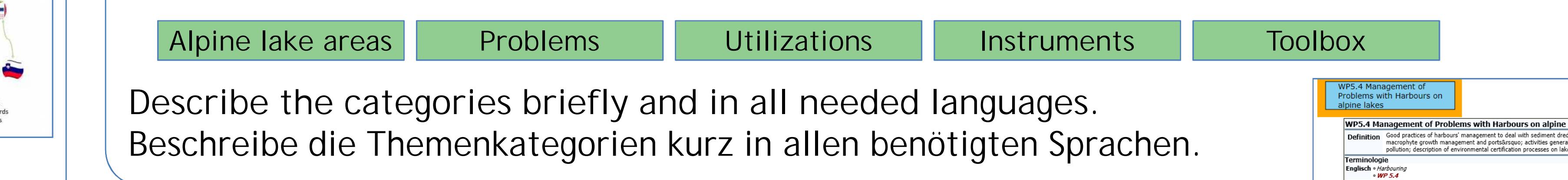


## Procedure:

### Knowledge Refinement

#### 1. step: Concept anchors

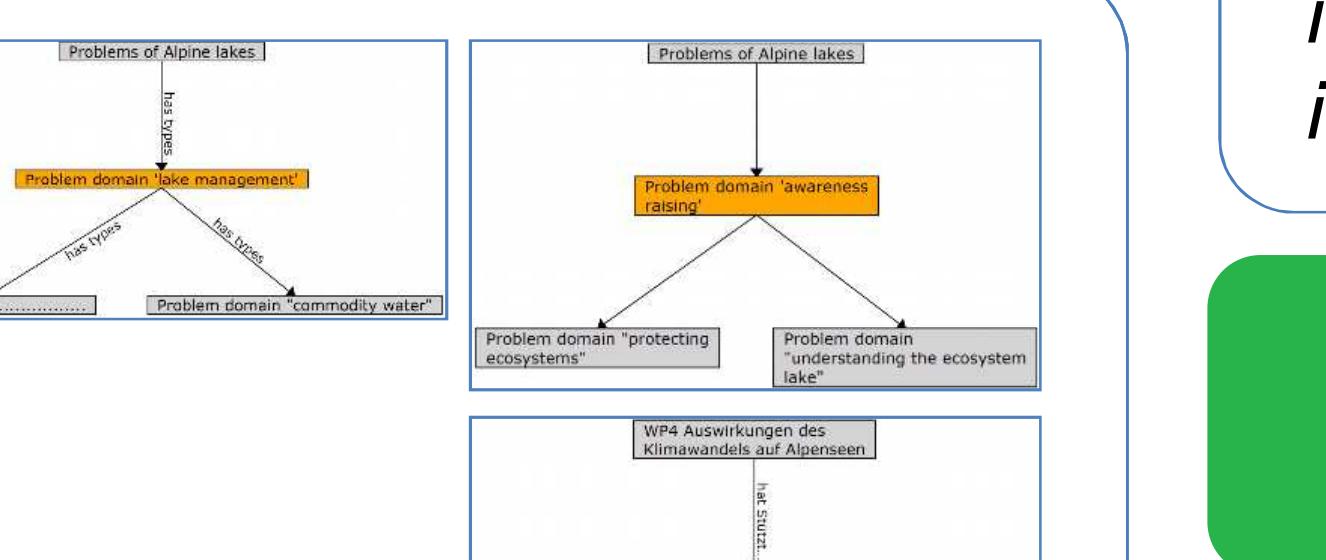
Find conceptual anchors for non-experts by definition of topics as categories. Schaffe begriffliche Ankerplätze für Nicht-Experten mit der Auswahl von Themen (Kategorien), z.B.:



Describe the categories briefly and in all needed languages.  
Beschreibe die Themenkategorien kurz in allen benötigten Sprachen.

#### 2. step: Build conceptual structures

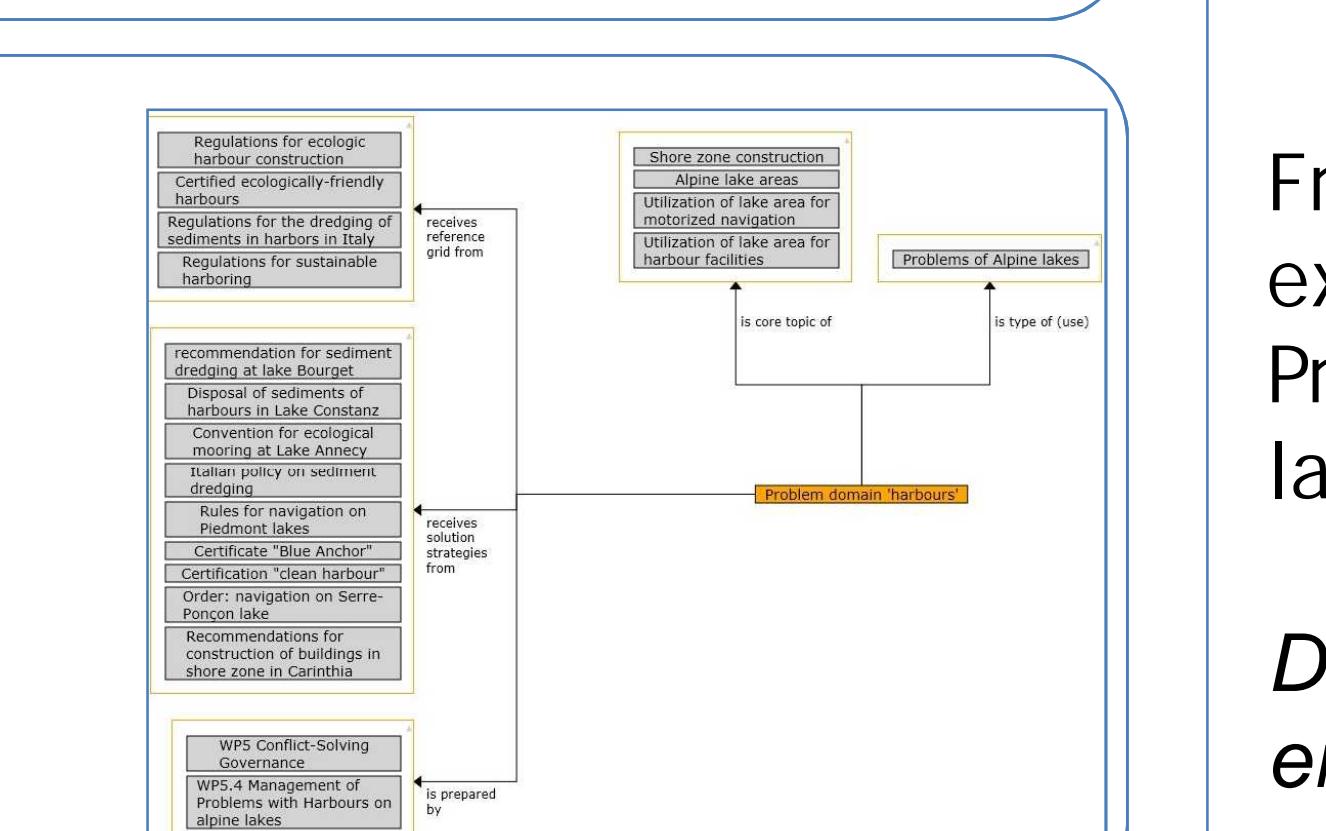
Specify subordinate topics (hierarchical structures). Festgelegte Basisbegriffe untergliedern, Hierarchien bilden,



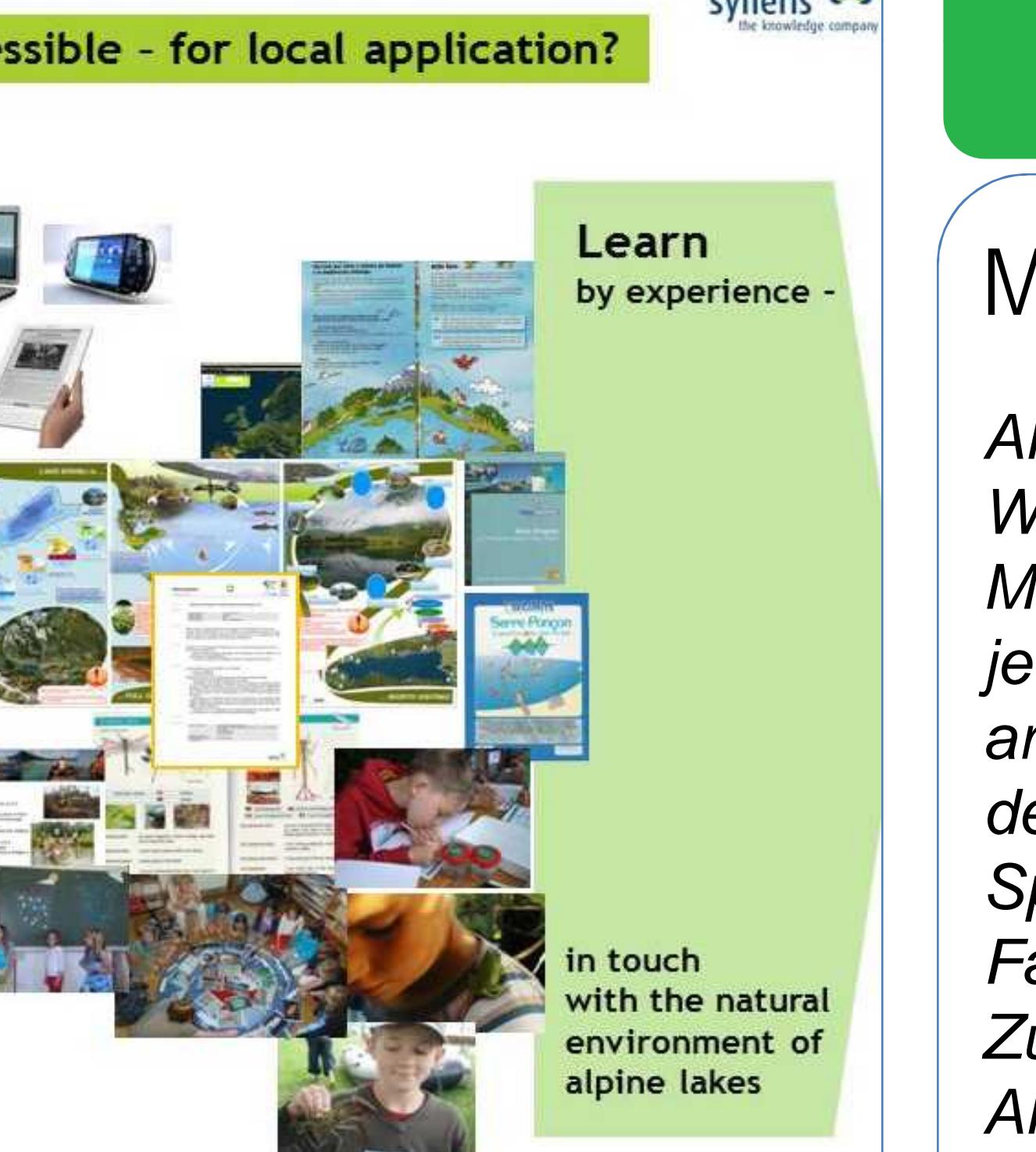
Specify criteria for subordination, find appropriate terms. Ordne nach bestimmten Kriterien, ordne Terme zu.

#### 3. step: Create relevant associations

Associate topics with semantic relations. Spezifizierte Begriffe vernetzen, indem von einem Begriff zu einem oder mehreren anderen funktionale Beziehungen hergestellt und dazu Fragen, Kommentare, Erfahrungen usw.



In den benötigten Sprachen formuliert werden.



## Results:

### Interactive Knowledge Base

#### syneris® - knowledge communication platform

Web-based multilingual platform with semantic navigation or keyword-based search facilities; with login-controlled access for public as well as internal documents, knowledge-based communication via weblog - in any of the specified languages.

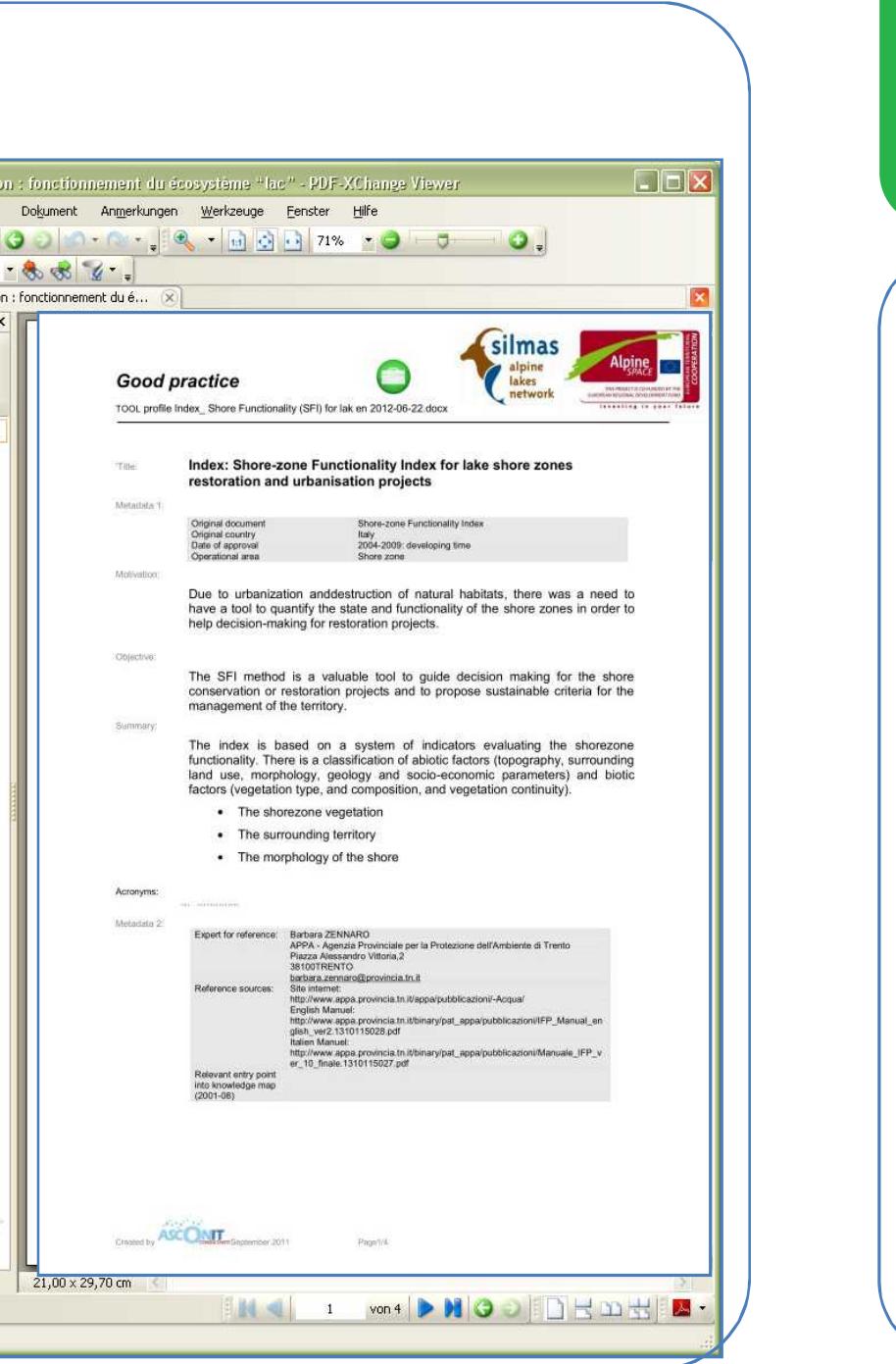


**Expert comment:** "I am not an expert in language but in limnology; if I can contribute in my language I will do it, if I can find information in English, I can use them."

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#### Smart documents for easy access to knowledge

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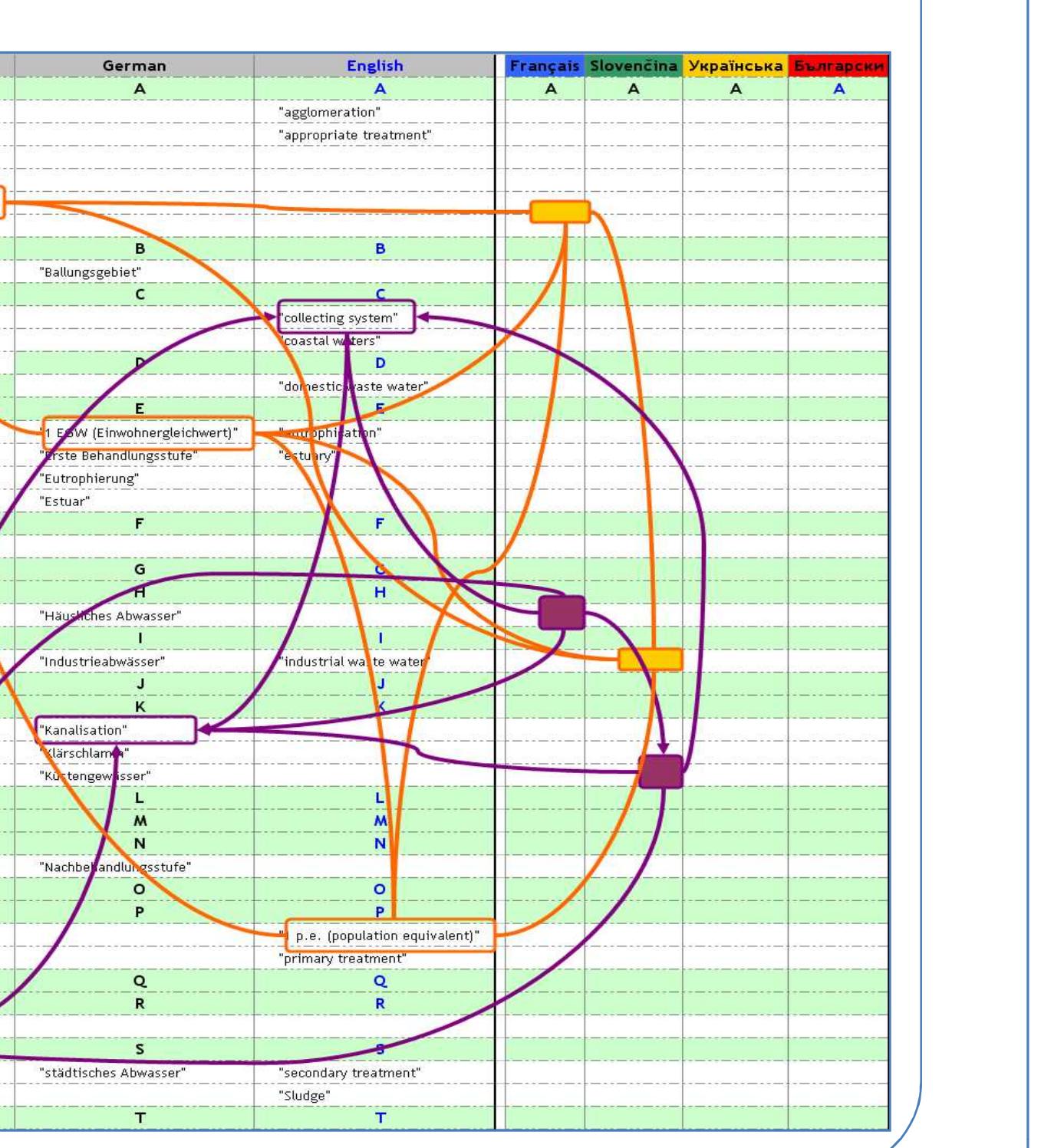


Dokumente sollen es dem Leser erleichtern, Wissen aufzunehmen, erst dadurch wird Dokumentieren auch für den Experten als Autor effizient. Das wirkt sich auf Layout, Struktur und inhaltliche Anforderungen an diese wichtigen Dokumente. Das erleichtert das Wiederfinden, gerade bei mehrsprachigen Kooperationen.

### Multilingual Knowledge Map

#### Management of Languages - Multilingual Glossary of Terms

Als Vermittler zwischen Sprach-Kulturen dient die Wissenslandkarte. Im Gegensatz zu Matrixdarstellungen macht das semantische Netz in jeder Sprache die Bedeutung von Strukturen klar, arbeitet bewusst mit Beziehungswissen statt dem aus dem Internet üblichen Punktwissen. Nicht in jeder Sprache existieren für ein Konzept auch Fachausdrücke, dennoch sind Bedeutung und Zusammenhang klar.  
Als Nebenprodukt ist ein dynamisches Glossar nutzbar - in mehreren Sprachen und auch auf beliebige Fachbereiche eingeschränkt. Erkenntbarer Handlungsbedarf bei Lücken lässt sich so rasch zu Vorschlägen für F&E, Politik, Wirtschaft oder Bildung formulieren.



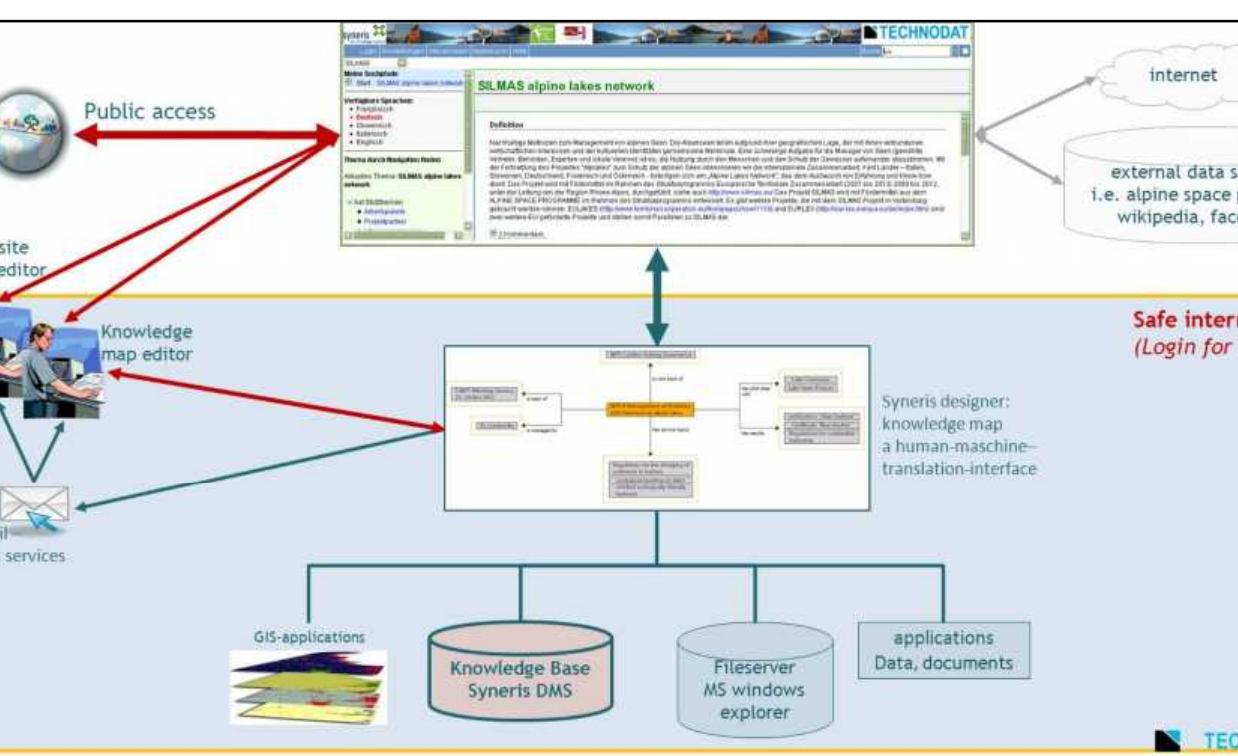
## Efficient Tools

### Operated Internet Platform

#### syneris® - internet-based operation model

**Web-based interaction model for multilingual project communication**  
Interaktionsmodell auf Web-Basis

**All inclusive solution (hardware, software, support)**  
Betreuung der Teilnehmer/Mitglieder



**Transparency in calculation**  
Klare Aufwands-Kostenzuweisung, Budget-Planung

**Option for Sustainable solution – after projects ending**  
Jederzeit erweiterbar, vielfältig einsetzbar

### Additional Services

#### syneris® - knowledge communication experts

1. Workshops - zur gemeinsamen Entwicklung und Anwendung
2. Service als externe Experten - Profi-Dienstleistungen aus einer Hand
3. Projektorientierte Bereitstellung der Infrastruktur und Software inkl. mehrsprachige Betreuung und Support
4. Betreibermodell für die Weiternutzung nach Projektende, Übergabe an Betreiber oder Managen des Betriebes über ein Rechenzentrum
5. Software - Lizenz mit Anwendertraining und Support

### Efforts - Added Values

#### The added values of Syneris® - methods and tool box

Wir bündeln Ihre Kompetenzen! Und finden den gemeinsamen Blick für das Wesentliche!



**Shared Knowledge:**

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**Sustainability** - an alternative to a dead-end project report

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