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Deliverable D3.1
Website hosting the knowledge repository database

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Version 1

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1. Introduction

The CGS Europe project is focussed on knowledge management (repository, development, dissemination), in line with the Lisbon Special European Council (March 2000): 'Towards a Europe of Innovation and Knowledge to support the transition to a knowledge economy'.
Being a Coordination and support action, CGS Europe will mainly use and give value to results achieved by other projects and activities, brought into the project by consortium participants and through links and liaison activities with other projects, networks and entities, both international and national. The forthcoming large-scale CCS demonstrations will also bring valuable new knowledge that will enrich the content of the knowledge repository and will be made available to a large series of stakeholders thanks to the activities envisaged in the project dissemination plan.

2. Aims and structure of WP3 – Knowledge Repository

The objective of this WP is to produce relevant, concise, complete and ultimately helpful CO2-storage-related information aimed at all the stakeholders involved in R&D, small- and large-scale pilot and demonstration projects, regulatory work related to the implementation of the European Directive on the geological storage of CO_2 in a uniform and standardised way.
In order to achieve this objective, it is necessary to identify and analyse results and practices/experiences from past research projects, past and current CO_2 storage sites in operation (both industrial sites and field pilots) and add value to the available scientific materials and reports, that are currently patchy, isolated and disconnected. The aim of this WP is to compile and add value to such information and prepare documents in a format appropriate for wide EU-scale dissemination in WP5.

The planned activities are:
- define the structure of the knowledge repository database;
- prioritise topics for key reports that the partners will prepare;
- collect and analyse the available scientific materials, choose and refer those that will be referenced in the key reports;
- develop of the knowledge repository database and implement the project website to give proper access to a variety of stakeholders to the database contents.

The aim of the deliverable D3.1 is the definition and the implementation of the repository database and the access to it through the project website.

3. Content of the knowledge repository database

The knowledge repository database will organise and make available through the project website:
- knowledge gathered by project participants within previous and ongoing research and coordination projects, both international (e.g. FP6 projects, CO2GeoNet, CO2NET EAST, EU GeoCapacity …) and national;
- knowledge and information derived through links and liaison with other parallel activities in the field of geological storage of CO_2 such as projects (e.g. EC and national research projects), and networking- and knowledge-sharing entities (e.g. ETP ZEP, CO2NET, IEAGHG, CSLF, Global CCS Institute…);
- validated scientific literature.

It will contain the following materials:

- relevant open publications;
- public reports in national, European and international projects (actual copies or links if applicable);
- the key reports to be produced;
- a glossary of terminology.

The identified key reports are:
- monitoring methods to evaluate storage system performance;
- storage site selection criteria / methodologies and requirements for granting the CO_2 storage site permit;
- directive and regulatory regimes related to operational and safety risks.

4. Profiles of potential users

Anticipated groups:
- superficial visitors;
- superficial visitors with particular concerns;
- policy makers;
- scientists with basic understanding of CO_2 geological storage;
- scientists with advanced understanding of CO_2 geological storage.

Superficial visitors

Definition:
- one-time visitors of the CGS Europe website;
- looking for short, clear and reliable information;
- no specific concerns or expectations regarding geological storage;
- immediate cause for visit: article in newspaper or magazine, homework assignment, etc.

Expectations of knowledge repository:
- **references**: not interested in background reading;
- **glossary**: expectation that texts are self explaining;
- **key reports**: reading of summaries, or using the TOC (Table Of Contents) as a guide to jump between sub-topics.

Superficial visitors with particular concerns

Definition:
- visitors looking for specific information on CO_2 storage;
- may be 'selective readers': reading summaries or partial articles;
- interest often related to general or specific concerns;
- immediate cause for visit: project planning nearby, research activities by journalists, etc.

Expectations of knowledge repository:
- **references**: look up background information on specific topics;
- **glossary**: interested in explanation of basic, but also advanced terminology;
- **key reports**: interested if they relate to the topic they are looking for.

Policy makers

Definition:

- people working within the administration (often advisors to regulators);
- looking for both general and specific information;
- people do not have a proper scientific background in natural sciences or engineering to be at ease with scientific literature (if they are: see next sections);
- looking for reliable information;
- professional interest;
- immediate cause for visit: regulatory work, review of proposals/permit applications/reporting, reply to political questions...

Expectations of knowledge repository:

- **references**: one stop portal to reference documents on general and specific topics;
- **glossary**: complete and comprehensible;
- **key reports**: will be considered as reference documents.

Scientists with basic understanding of CO2 geological storage

Definition:

- people with a proper scientific background in natural sciences or engineering, and with basic understanding of CO_2 geological storage;
- people from administrations (e.g. environmental administrations, cabinet employees, administrative parts of the competent authority), technical people working on CCS, but on capture or transport related topics, or NGO employees.

Expectations of knowledge repository:

- **references**: one stop portal to reference documents on general and specific topics;
- **glossary**: complete and comprehensible;
- **key reports**: essential summaries to update their knowledge.

Scientists with advanced understanding of CO_2 geological storage

Definition:

- people with a proper scientific background in natural sciences or engineering, often geology related, and with more than basic understanding of CO2 geological storage;
- ad-hoc experts within the competent authorities, scientific community working on CCS (either as full-time or part-time topic), consultants.

Expectations of knowledge repository:

- **references**: point of departure for reference documents on general and specific topics;
- **glossary**: complete and comprehensible;
- **key reports**: critical summaries with an evaluation of the state-of-the-art and necessary or expected advances.

5. Outline of data

References

Type of references:

- international, peer reviewed publications;
- reports related to European and national projects;
- references may or may not relate to key reports.

Information:

- typical scientific format (author, year, title, publication), actual format or standard to be decided;
- include link. Discriminate between:
  - public document available on internet: internet link (may or may not require payment for access to full paper);
  - public document not available on internet: link to document in database (if digitally available);
  - confidential document: no link;
- include actual copy of publication in database where possible and allowed (to limit distance between reference and publication, and avoid problems of broken links);
- distinction between grey and white literature not relevant, as user will be able to link to the key reports where an appreciation and context of the reference is given.

Glossary

Information:

- list of specific terminology;
- multiple explanations may be given:
  - where difference needs to be made between juridical (e.g. from CCS directive) and technical definitions. It should in those instances be clear which definition is adopted by CGS Europe;
  - potentially also non-technical and technical definition (to avoid that non-technical person needs to look up several terms used in the explanation);
- explanations of specific terminology may include a reference;
- several glossaries are available. Practical rules for setting up of glossary to be determined (proposed: the key reports authors highlight words and/or propose definitions, central copy-paste work from existing glossaries...).

Key reports

The key reports will contain also links to the references and to the glossary.

6. Working program

The working program for the development of the knowledge repository database consists in the following phases:

1. definition of the database contents;
2. definition of the users profile;
3. realization of the interface to have an easy and efficient access to the database through the project website;
4. first layout of the graphic interface in the project website. This layout has to be revised by a group of potential users;
5. internal data structure for References;
6. internal data structure for Glossary;
7. internal data structure for Key Reports;
8. uploading of a first group of items under References;

9. uploading of a first group of items under Glossary;
10. uploading of a first group of chapters for the first Key Report;
11. development and functionality tests of the website interfaces and query tools;
12. uploading of all the available References;
13. uploading of the first Key Report. It will be followed by the second and third one.

As the date of May 2011, the above points 1, 2, 3, 4 and 5 have been completed.
Point 8 has been initiated and a first series of Reference items uploaded.
Point 6 and 7 are underway.

7. Data structure for References

The minimal data for each Reference entry are the following fields:

- refID (automatic – needed for unique identification);
- type of reference (article, presentation, manual, etc...);
- authors (names and initials in one field);
- year;
- title;
- bibliographic references (series, volume, pages, editors...);
- abstract (free text);
- file name (automatic - for uploading the publication/report);
- URL (to a site where the entry may be eventually downloaded/ purchased).

The Reference data are complemented by tag fields for the following data:

- Reference keywords (multiple option – check-box list):
  - to be decided: actual list of keywords;
  - flat structure;
- Reference importance (single option – radio button list):
  - Major;
  - Minor;
- Reference audience (multiple option – check-box list):
  - Superficial;
  - Non-specialist;
  - Scientific;
  - Policy makers;
- Reference topic/key report (multiple option – check-box list)
- Reference chapter (multiple option – check-box list)
- Reference validation:
  - FALSE;
  - TRUE;
- Entry id:
  - acronym of the partner originally having entered the reference;
- Validation id:
  - acronym of the partner originally being responsible for the reference validation.

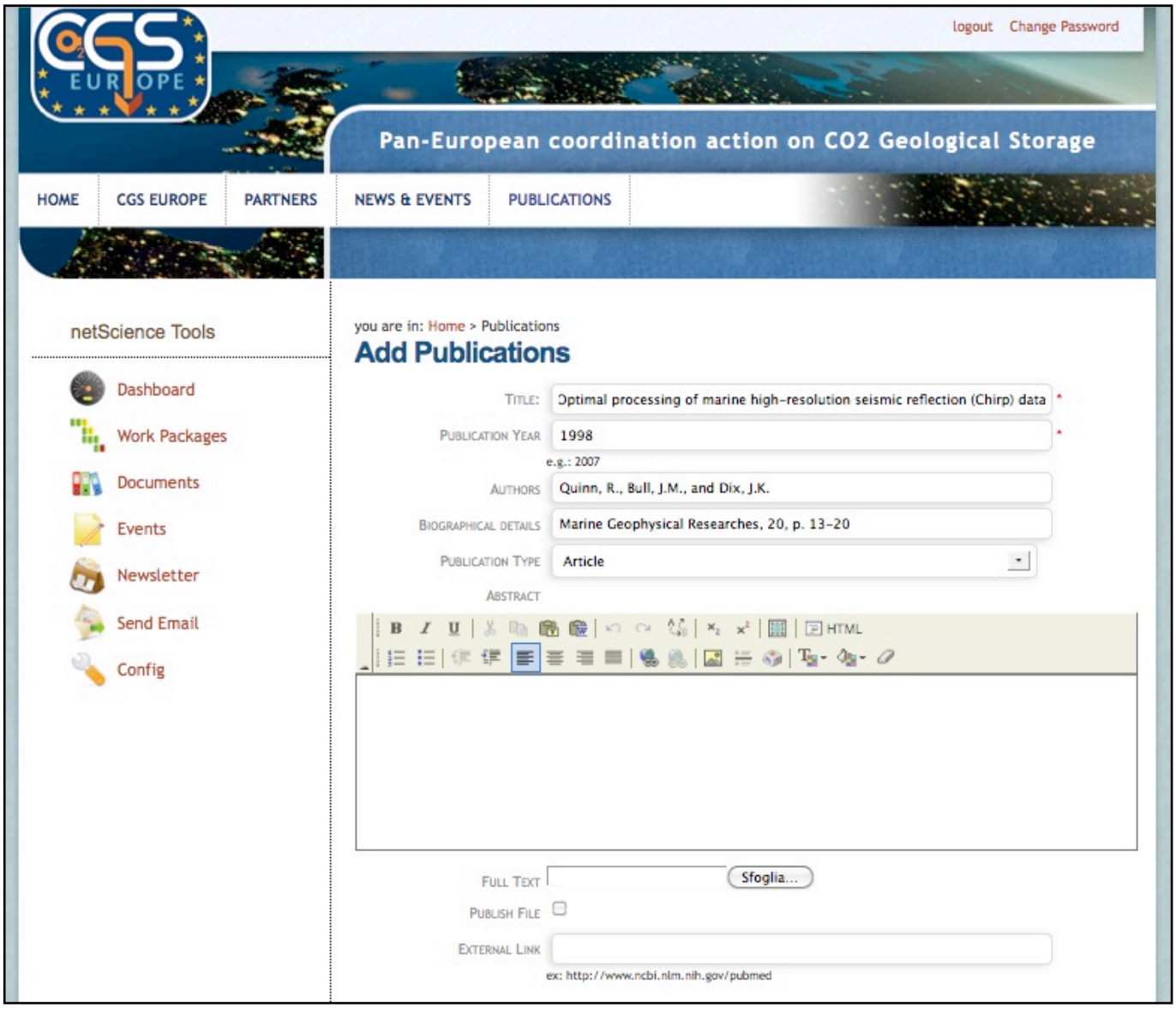

Figure 1 – input form for Publications. See below the window for including the Abstract (free text), for uploading the publication (a file), for qualifying this file as visible only in the part of the website accessible to the project participants, to include an external link.

Figure 2 – example of the results of a simple search by year. The fourth item is used as an example in the following figures.

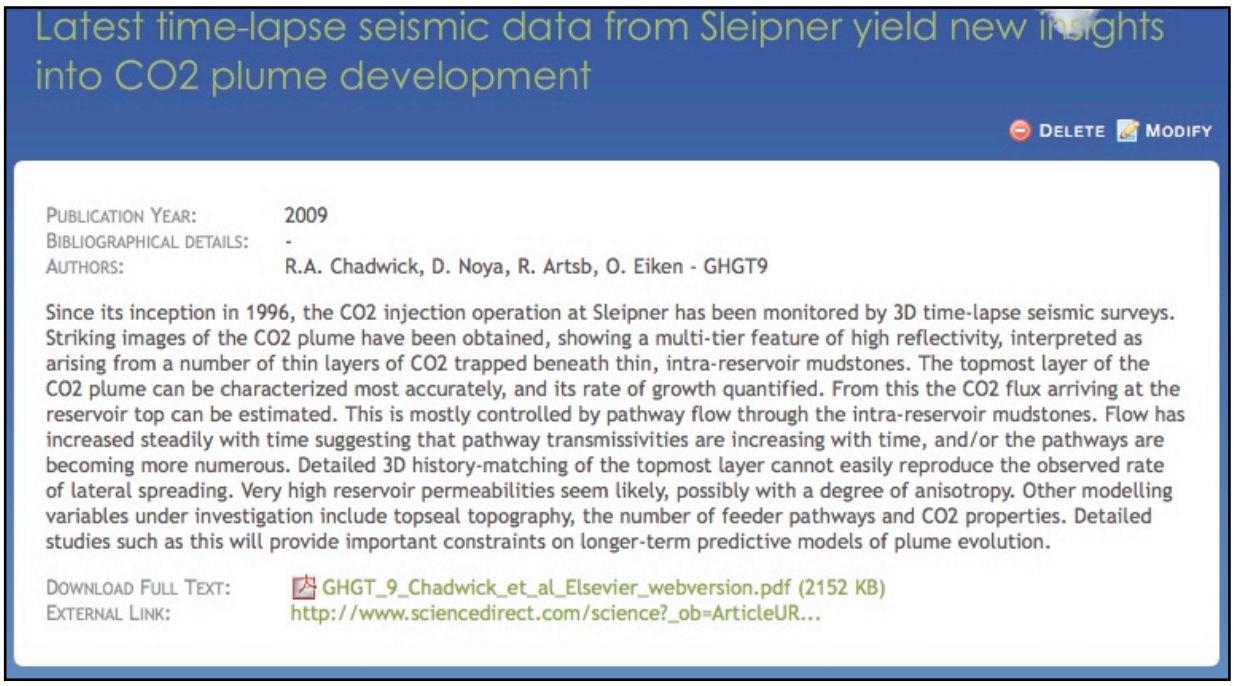

Figure 3 – by clicking on the title of the publication in the list of Figure 2, the data are shown.

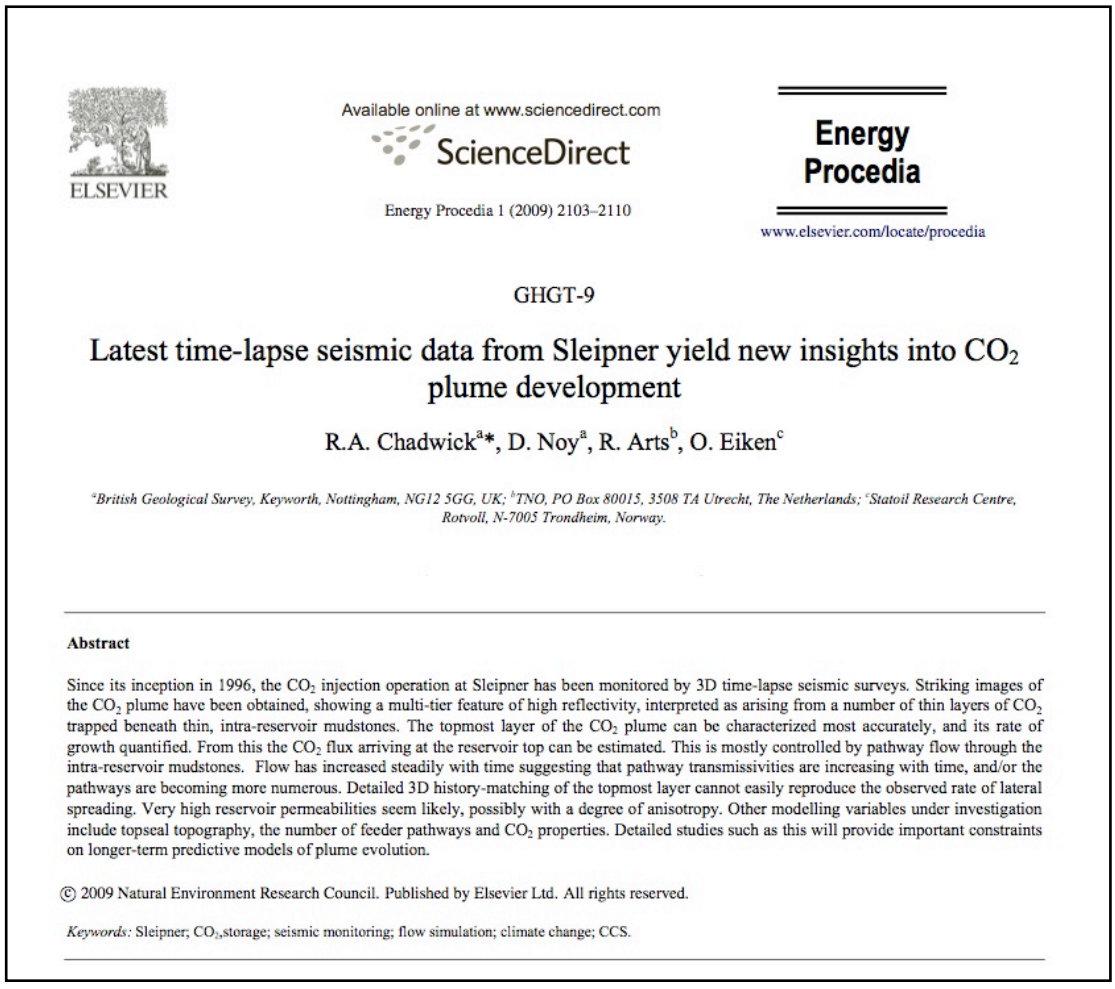

Figure 4 – this entry has the full text available for downloading. Here is the result.

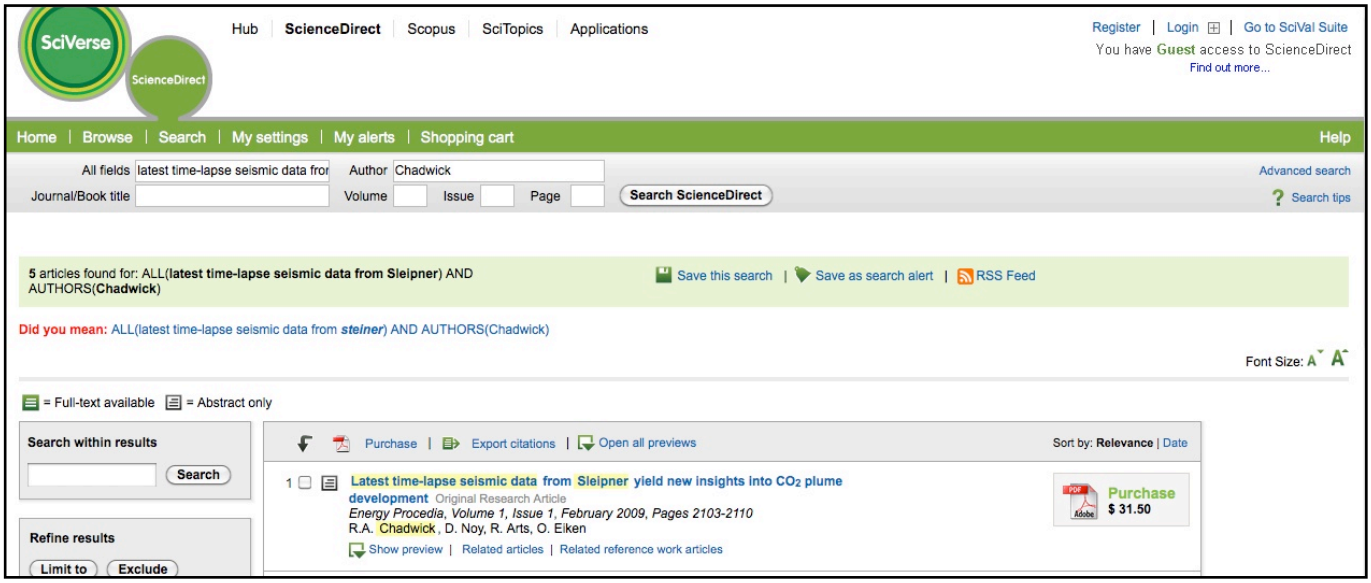

Figure 5 – the same entry has a reference for an external link. Here, it may be purchased. This link will be visible also in the "public part" of the website.

Figure 6 – example of possible website layout during the consultation of the knowledge repository "by topic".

Figure 7 – example of possible website layout during the consultation of the knowledge repository "by audience". To the right part, two short-cut buttons appear, for a quick access to the Glossary and to the References. Specific References and Glossary entries may be retrieved also by clicking directly on the highlighted words in the text.