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Joint Research Centre
Institute for Environment and Sustainability

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# Table of Contents

1. **INTRODUCTION AND BACKGROUND** ........................................................................... 6

2. **FINAL REPORT** ........................................................................................................... 7
   1.1 *PROJECT MANAGEMENT* .......................................................................................... 7
   1.2 *TECHNICAL REPORT* .................................................................................................. 11
       1.2.1 *User Profile* ........................................................................................................... 11
       1.2.2 *Community/User Rights Management* ................................................................. 11
       1.2.3 *Group calendars* ................................................................................................... 11
       1.2.4 *Event Planner/Manager* ........................................................................................ 12
       1.2.5 *Sharing/Federating resources* ............................................................................... 12
       1.2.6 *Sharing/Federating resources to and from other sites* ........................................... 12
       1.2.7 *Rating* .................................................................................................................. 13
       1.2.8 *Commenting tools/Collaborative Drafting* ............................................................ 13
       1.2.9 *Alerts* .................................................................................................................... 14
       1.2.10 *Discussion Forums* .............................................................................................. 14
       1.2.11 *News / Working Group Blog / What’s New* ............................................................. 14
       1.2.12 *RSS Feeds* ........................................................................................................... 15
       1.2.13 *FAQ / Tips and Tricks* ........................................................................................... 15
       1.2.14 *Multimedia player / File reader* ............................................................................ 15
       1.2.15 *Geo Location –and Google Maps Mash-ups, Data navigation tools* .................... 15
       1.2.16 *Export Function* ................................................................................................... 16
       1.2.17 *Login / Registration* ............................................................................................. 16
       1.2.18 *Graphic Design, User Interface, Ergonomics* ......................................................... 16
       1.2.19 *Content Quality Control* ....................................................................................... 16
       1.2.20 *Access rights and content* ..................................................................................... 18
       1.2.21 *Statistics* .............................................................................................................. 18
       1.2.22 *Search* .................................................................................................................. 18
       1.2.23 *Multiple languages* ............................................................................................... 19
       1.2.24 *Security / Trust / Confidentiality* ............................................................................ 19
       1.2.25 *Disclaimers* ........................................................................................................... 19

3. **CONCLUSION AND PERSPECTIVES** ......................................................................... 20

ANNEX 1. **WEBSITE STRUCTURE** ...................................................................................... 21
   1. *HOME PAGE* ................................................................................................................ 21
   2. *COMMUNITY PAGE* .................................................................................................... 22
   3. *WORKING GROUPS PAGE* .......................................................................................... 23
   4. *NEWS PAGE* ............................................................................................................... 24
   5. *EVENTS PAGE* ............................................................................................................ 25
   6. *LIBRARY PAGE* ........................................................................................................... 26
   7. *EU WATER GUIDELINES PAGE* .................................................................................. 27
## Acronyms and Definitions

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>DG</td>
<td>Directorate General</td>
</tr>
<tr>
<td>AA</td>
<td>Administrative Arrangement</td>
</tr>
<tr>
<td>AIDCO</td>
<td>International Cooperation</td>
</tr>
<tr>
<td>CIS</td>
<td>Communication and Information System</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>GEIS</td>
<td>Global Environment Information System</td>
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<tr>
<td>GEM</td>
<td>Global Environment Monitoring unit</td>
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<tr>
<td>IES</td>
<td>Institute for Environment and Sustainability.</td>
</tr>
<tr>
<td>IWRM</td>
<td>Integrated Water Resources Management</td>
</tr>
<tr>
<td>JRC</td>
<td>Joint Research Centre</td>
</tr>
<tr>
<td>MS</td>
<td>European Union Member States</td>
</tr>
<tr>
<td>ToR</td>
<td>Terms of Reference</td>
</tr>
<tr>
<td>WATERkNOW</td>
<td>Water KNOWledge Network</td>
</tr>
<tr>
<td>WKMP</td>
<td>Water Knowledge Management Platform</td>
</tr>
</tbody>
</table>
1. INTRODUCTION AND BACKGROUND


The concept of Integrated Water Resources Management (IWRM) was firmly put into relationship with the approach of Sustainable Development in major international environmental conferences of the early 1990s (RIO 1992; Dublin 1992). Consequently, the European Union began addressing the concern that sound management of freshwater resources and their use is essential for man’s social, economic and political well-being. The guidelines entitled “Towards sustainable water resources management: a strategic approach” (hereinafter “the guidelines”) were an important conceptual application of these concepts.

Environmental and economic sustainability of water resources are the key issues to address in every kind of water programmes. Therefore, the guidelines focus on these two aspects in order to have a strong impact on development policies.

Although the guidelines are still applicable and a useful support during each different phases of the project cycle management, they need to be updated with new concepts and issues regarding development and cooperation and the water sector (as for water sector we intend water supply, sanitation and hygiene, integrated water resources management, basin management and transboundary waters, agricultural water resources, hydropower and multipurpose dams). Moreover according to a study recently carried out by DG AIDCO, the format of the guidelines does not help their dissemination neither their impact on the design and the implementation approaches of the EC and other partners. Hence, an interactive publication format is needed, oriented to users needs, with support of a possible set of tools promoting dissemination and the continuous guidelines updating.

JRC-IES-GEM unit has been in charge of the implementation and development of the Water Knowledge Management System that will be a web-based tool for improving the communication and
exchanges of information among the international community on Water issues in developing countries. This web-based system (http://wkmp.net/new) integrates a dynamic virtual space for facilitating communication between the different working groups and a specific one for exchanging information, updating and commenting on the EC Guidelines entitled “Towards sustainable water resources management: a strategic approach”.

The first part of this report deals with a brief presentation of the project management aspects; and, the second one deals with the technical aspects where the activities of the JRC-IES-GEM unit and the results obtained are presented.

2. FINAL REPORT

1.1 Project Management

During this year, the JRC has implemented the Water Knowledge Management Platform – Communication Information System in support to the AIDCO/E7 water sector activities as specified in the Terms of Reference (ToRs) of the Administrative Arrangement (AA) EuropeAid/ENV/2007/147693/TPS. This communication and information system is being hosted by the JRC at the JRC premises in Italy where it is available through an internet connexion (http://www.wkmp.net/new).

During this period, at the beginning of the year (28 January 2008) it was organized a meeting with international and MS donors in order to agree on the necessity of implementing a new web-base system for updating the European Commission guidelines “Toward a sustainable water resources management” (EU Guidelines for Water Management). During this meeting, it was convened an e-conference of the international and MS donors on the specifications of this new tool and user needs in the domain. The necessity of a specific Communication and Information System for the Water Sector was identified. This new system would have an internal component for giving support to the donors and project implementation institutions but also an external component for promoting the system to the general public.

Ms. Celine DONDEYNAZ was hired with an auxiliary contract from 1st May to 31st December 2009. She was in charge of the definition and management of the content of the new system to be developed and the implementation of the EU Guidelines for Water Management. Mr. Paolo MAINARDI was hired with an external contract through the Framework Contract No DI/05710, specific contract No 566. He was in charge of the development (coding) of the WATERkNOW-CIS.
From the beginning, it was clearly identified that project managers in the water sector need to have access to the following information:

1. GIS OpenSource software to assist project managers on the field. These tools are useful for geolocating information on the field and to make some cross spatial analysis of the collected data.

2. A State of the art on Data and Information related to the water management in developing countries.

For this purpose, we launched two invitations to tender in the framework of the EC Tendering Process (administrative procedure for request to orders <25000 Euros). For both studies, the University of Liverpool (UK) and the University of Montpellier – Maison des Sciences de l’Eau (FR) were respectively retained. Some data produced by the University of Valencia were also developed in order to check the possibility of the information system to upload and download actual Remote Sensing data on the field.

Final reports were received in early November and payment procedures were launched. Studies are being integrated in the WATERkNOW – Communication and Information System where they will be free consulted and downloaded by the general public and specialised community.

International publications based on the results of both studies are being considered in cooperation with the JRC and AIDCO. The studies developed with the University of Liverpool and the University of Montpellier will be also published under the format of an European Union Report (EUR report). All these publications will contribute to the international dissemination of the WATERkNOW website in the water community at scientific and technical levels.

The navigation inside the WATERkNOW information system is done through: 1) a research tool (by keywords); 2) indexed content (vertical navigation); and, 3) thematic paths identified according to previous requested service.

The Communication and Information functionalities implemented (full described in the Technical part of this Final Report) on the Water Knowledge Network Information System are:

1. The content of the guidelines is available in an interactive way as digital and interactive content
2. The whole content of the guidelines is structured in the [http://wkmp.net](http://wkmp.net)
3. The WKMP website is based on DRUPAL , an open source Content Management System
4. The new system is easy to use and updated by users with average internet navigation skills
5. The system allows all possible kind of multimedia contents (video, audio, power point presentation, …)
6. The navigability is easy and intuitive
7. Every webpage contains different navigation menus according to its content and to the Thematic navigation path related with the content
8. The system gives additional rights to different kind of users (administrator, editor, registered user, guest user)
9. The whole system is exportable off-line and the back-up is working at the JRC – Ispra premises
10. The system is easily transportable to different servers with the minimum hardware-software
requirements.

11. The system is hosted at the JRC-Ispra premises.

12. The following functionalities has been successfully implemented:
   a. User Profile Module
   b. On demand networking
   c. Group calendar
   d. Tagging / tag-cloud
   e. Share internal resources with other online platforms (Digg, Facebook, Blogger, Wordpress,
twitter, …)
   f. Rating system / Sort by rating
   g. Mail / Web alerts
   h. Discussion forum
   i. Latest News/ Announcements
   j. Latest members and contributions
   k. Web to mail integration
   l. RSS feeds
   m. Question form
   n. Multimedia player
   o. Login / Registration
   p. Content Editing / Publishing Tool
   q. Usage statistics
   r. Implement Simple Search
   s. Implement Advanced Search
   t. Legal Disclaimers

During this project, following a specific request coming from AIDCO, we put in place a preliminary version of
the WATERkNOW system at the beginning of June under the domain name WKMP (the former name of the
Water Knowledge Network). This preliminary version allowed the JLP SWAp’s community of users to
establish a working group where they could work on-line sharing documents and mails. The e-conference of the
WKMP working group was also put on-line at that moment. This preliminary system was based on the former
EUWI website.

Following our development program, the testing WKMP system was put online on the 8th of October 2008 for
detecting bugs and issues with functionalities. The first release of the WKMP website was delivered and duly
on-line on 7th November and opened to AIDCO and general user comments until the 31st December 2008.
In conclusion, we can say that, from a point of view of project management, the costs and delays have been well managed and the technical objectives, as foreseen in the framework of this Administrative Arrangement with AIDCO, are duly achieved.

Water Knowledge Management Development Project - Gantt Chart

<table>
<thead>
<tr>
<th>Number</th>
<th>Task</th>
<th>Resource</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>JRC Project Manager (F)</td>
<td>Cesar CARMONA</td>
<td>1/1/2008</td>
<td>31/12/2008</td>
</tr>
<tr>
<td>2</td>
<td>WKMP-CIS Content Manager (AC)</td>
<td>Celina DONDEYNADZ</td>
<td>1/5/2008</td>
<td>31/12/2008</td>
</tr>
<tr>
<td>3</td>
<td>Web CHS Developer (Evi)</td>
<td>Pablo MAINARDI</td>
<td>15/5/2008</td>
<td>31/12/2008</td>
</tr>
<tr>
<td>4</td>
<td>&quot;State of the Art in GIS/OS for Water Management&quot; Study</td>
<td>University of Liverpool</td>
<td>1/7/2008</td>
<td>30/11/2008</td>
</tr>
<tr>
<td>5</td>
<td>&quot;State of the Art in Data &amp; Information for Water Management&quot; Study</td>
<td>University of Montpellier</td>
<td>1/6/2008</td>
<td>30/10/2008</td>
</tr>
<tr>
<td>6</td>
<td>WKMP-CIS Intermediary version</td>
<td>WKMP development team</td>
<td>2/6/2008</td>
<td>3/6/2008</td>
</tr>
<tr>
<td>7</td>
<td>WKMP-CIS Testing version</td>
<td>WKMP development team</td>
<td>8/10/2008</td>
<td>9/10/2008</td>
</tr>
<tr>
<td>8</td>
<td>WKMP-CIS Operational version</td>
<td>WKMP development team</td>
<td>15/12/2008</td>
<td>16/12/2008</td>
</tr>
<tr>
<td>10</td>
<td>Final Report on GIS Open Source for Water Management</td>
<td>WKMP development team + AIDCO/ECF + University of Liverpool</td>
<td>29/10/2008</td>
<td>30/10/2008</td>
</tr>
</tbody>
</table>
1.2 Technical Report

The Global Environment Management Unit (GEM) at the Institut of Environment and Sustainability (IES) of the JRC has been working on the development of the Water Knowledge Management Platform (WATERkNOW) – Communication and Information System. No graphical design was foreseen to be implemented in the new system; therefore, standard layouts were used for the graphical presentation. This system consists on the following functionalities:

1.2.1 User Profile

The user profile module includes: personal information such as picture, professional details (institution and organisation), or address (shown through a map graphical interface), network facilities with colleagues and friends and links to events. A presence indicator shows if you are logged in the platform at one time allowing other users to interact with you through mail or internal mailbox. The user profile is initially built through the registration form (with a minimum of compulsory fields to complete the registration) and is further elaborated by the user himself and during the usage of the platform where her/his preferences are recorded (new groups joined, documents shared with his/her working groups, etc). All this information can be public or private depending on the user decision or accessible only for a specific user group (i.e. visible to the specific group I belong to, but not to the rest of the users of the platform).

1.2.2 Community/User Rights Management

There is an easy function to view and manage users membership status, set their rights and privileges (what they can see, where they can contribute etc) accept / deny membership requests, send invites, send messages to all or selected members, etc. These features are only available for the administrator team or the Working group manager inside the Working group space.

The standard user has access to the full user list of the WATERkNOW platform but has access to a limited information through the profile (institution where the users are working and geographical location). To contact another member, he can only use the internal mailbox and can follow her/his posting activity on the platform.

1.2.3 Group calendars
There is an easy function to create and manage Group calendars based on events submitted in the group by the users or group administrators, but moderated. Allow for various types / categories of entries and allow calendar views of specific type of entries at a time:

- Your internal meetings or seminars
- Your public events (conferences or other)
- Events by other organizations on issues of interest to the Group

1.2.4 Event Planner/Manager

There is an easy to use module allowing creation of new events with full description, location on a map and directions to the venue (i.e. google maps), and attached documents or files. Each event has permissions restrictions to a specific working group, specific user…The owner of the event as well as the administrator team can in, an easy way, create a list of invitees, send invitations with sign up options and track RSVP, and so, publicizing, and sharing / making the event known (through the platform, by email etc). All events are indexed and searchable, browsable against theme, keywords, location, date range, participants etc.

1.2.5 Sharing/Federating resources

This functionality allows the user to share/federate resources such as documents, files, links, pictures gallery, online videos etc. All shared items have the possibility to be tagged both by the author/submitter and any other allowed users (suggested tags too). The keywords identified by users as most accurate for the specific resource, are kept to create relevant results in searches on keywords. All text based files are indexed and full-text searchable. Usage of resources is tracked allowing statistics and top 10 lists to be generated (what are the resources most used, what was latest addition, who are adding most of the stuff, etc).In addition, a tag-cloud assists the navigation by keywords through the content while showing the importance and weight of these various themes / keys.

1.2.6 Sharing/Federating resources to and from other sites

This functionality allows the user to share any content, according to its set permissions (comments and cross referencing allowed), with external social networks or people through sending links. They can be tagged using the model of delicious.com. (It would be interesting as well to think of easy ways users can share external resources they find valuable without adding too much burden on them. An idea
would be a browser plug-in that would allow to share automatically a specific online resource directly to the Platform through a simple dialogue without having to log-in on the platform and add a new resource by copy pasting the link. This is already possible for web applications such as Facebook or Delicious. To go further in this way, it would also be interesting, instead of creating a poor replication of existing services (such as the web links sharing system of delicious), to examine to what extend these services can be used as such, since they are offered online for free. This idea of browser plugin could be extended to a full browser tool-bar enabling users to be updated on the fly (and without having to browse constantly the platform) about latest news, personal messages, alerts, chats, and even interact with other users or share resources directly from the toolbar.

Sharing information from this WATERkNOW Platform to other external thematic sites, blogs is also important as it helps publicise it by bringing even more visitors. Easy buttons to export links to other platforms should be made available (13ig, facebook, blogger, wordpress, twitter etc).

### 1.2.7 Rating

It is exclusively applied to resources and not to persons and follow a simple principle: a resource identified as valid or interesting can be promoted (rating from 1 to 5 stars), a non valid or low quality resource can be demoted or even notify the Administrator/ Group Moderator on it. The top rated resources also appear in top 10 list. Every content type can be rated and sorted by ratings.

### 1.2.8 Commenting tools/Collaborative Drafting

Commenting tool include tool collecting comments on a whole document (like blog comments at the bottom of the document) This tools can serve multiple purposes. One of these is the collaborative drafting of documents with contributions from multiple stakeholders. Another is to collect and share comments and opinions from stakeholders on a policy document (without modifying them) helping a lot the drafting exercise of a document that realistically expresses consensus in an organisation.

It is checked if such modules are already developed by the WATERkNOW platform online Communities that could be used. Other Open-Source platforms such as different wiki variants or certain Blog System plug-ins (wordpress) have been closely examined as well to see if their functionalities can be integrated into the platform. It should be verified as well if existing
implementations of such systems by commercial applications can provide an alternative in terms of functionality and Security/privacy requirement, to be used if none of the above is satisfactory to avoid developing complex tools from scratch. Applications such as Windows Live, Adobe Buzzword, Zoho suite, Google Docs (formerly writely) are all dealing with the same issues of offering user-friendly collaborative drafting and document/file sharing environments. (In terms of user interface the Adobe solution is clearly more advanced). The advantage of opting for existing and successful products (commercial or open source) is that we will benefit from their evolution over time without having to bear the cost of developing them ourselves.

1.2.9 Alerts

Alerts or Notifications are very short messages sent either through the regular SMTP mail of users either internal messaging through the platform to notify users of things they asked to be notified on (op-in exclusively- no spam). They can be requested about:

- Events they have registered for and asked to be reminded of
- New entries, pages or other content according to the criteria they subscribe and be notified on such as specific theme, content type, author, or working group
- Comments received on content they provided (Documents, blog posts, pictures etc)

A new user that joined a group can be notify on members who are located in the same city, have worked in the same institution, share the same interests or will participate in same events etc… (This joins the Community building feature mentioned in 2.a.).

The Alert frequency and modality is up to the user (we should have available either alerts as things happen or Alert Digests with variable time frequencies).

1.2.10 Discussion Forums

Working groups have access to discussion tools to facilitate deliberation on specific issues in structured and timely manner. The software should allow for threaded discussion. The discussions should have a clear objective to achieve, a deadline a moderator/reporter that summarizes the discussion and publicizes it, either for the specific group or for all the users to see.

1.2.11 News / Working Group Blog / What's New
The general functionality “What’s new” is available on every sub-spaces; meaning for example that there is the possibility on the home page of each group to display the latest news on issues related to the WG interest in the form of a short text with links to attached pieces (text, video, pictures, maps etc) or even to other sites of interest. Commenting facilities are available on news (see part 1.2.8). There could also be a section where latest contributions are shown, grouping latest internet links shared, latest documents uploaded, latest members joined, latest groups formed, upcoming events … providing an extra view of “What is new” on the platform.

1.2.12 RSS Feeds

On one hand, RSS feeds should be made available on the most dynamic parts of the site and users (ref. 21 Alerts) in combination with alerts they help delivering content on issues the user has decided to follow, directly to him without having to look for it across the different sections of platform.

On the other hand, RSS feeds allow any people on the web to follow the activity of parts of the platform, via a RSS feed reader (my yahoo, google, live bookmark..).

1.2.13 FAQ / Tips and Tricks

There is a tool for helping the users to find the Frequently Asked Questions, on pre-defined categories sections with Questions/Answers, giving the users the possibility to comments on answers and increase the quality of the contents.

1.2.14 Multimedia player / File reader

All kinds of rich multimedia contents, ranging from video (flash video, Windows format, Real media format, QuickTime etc including streamed feeds), to PowerPoint presentations, Visio and Excel files, word Documents, can be displayed through the platform / web browser as well as equivalent open source formats without the need to possess the Microsoft Office professional suite or all the specific players and codecs installed on the end – user PC. (Flash technology)

1.2.15 Geo Location –and Google Maps Mash-ups, Data navigation tools
Maps are used to represent the geographical distribution of projects, users, or to locate activities, organisations etc. Any development of geographical information has taken into account existing tools (Google Maps).

1.2.16 Export Function

All online pages and text based contents existing on the platform can be printed or exported in various formats (PDF, Printer Friendly format), mailed or shared with inside or outside users (if the resource is public of course).

1.2.17 Login / Registration

The login scheme combines robustness with ease of use (allowing for example users to save their ID settings on their browser). A mechanism protecting the platform from machine registrations (Gotcha using either non machine readable set of characters or simple questions such as how much is 1+5, or other less invasive strategy like CSS fields hiding) and a mail verification and administrator approval has been implemented.

The registration form incorporates the data presented in point 1, fields available in the user profile as well as subscription to newsletters, alerts etc.

Here again it is best to adopt a multiple step approach, with a minimum of data required at first to allow the registration to take place, and then, incentives for users to fill in the missing data along the way.

1.2.18 Graphic Design, User Interface, Ergonomics

The platform is user friendly, use intuitive interfaces and ease to use / ergonomics. In terms of graphic design (images, buttons, colours, menus, transitions etc) even if only graphic default layouts were implemented, the platform is enjoyable to use and an attractive thus powerful work tool.

1.2.19 Content Quality Control
With an open shared and a user contributed system the important point is to have a strong mechanism to ensure that the requirements on the quality of contents are met.

Therefore, there is the possibility for the editor / moderator / administrator of different Groups or specific pages of the Platform to decide on its publishing / content management policy, adopting either:

- **An Open System**: All registered user (only identified and logged-in users – see hereafter in “Access rights” paragraph) input is accepted by default but is moderated ex-post; meaning the moderator can remove or relocate entries he considers not appropriate with a message to the Author, or even ban the abusive author from writing on the site.

- **A filtered system**: where all input is approved both in terms of contents and position on the site by the moderator before it is published (the amended documents or proposed relocation –for example in another section of the site- are discussed and agreed with the Author prior to publishing).

The editor role is very important to ensure overall quality and relevance of the information provided. He would be responsible for regularly updating the platform with cutting edge and interesting information, either by giving his own writings or bringing in interesting contributions and contributors from outside. He also points out the information he believes is interesting ("editors choice" label) throughout the platform bringing to the surface some interesting ideas or contributions of members on the platform.

A powerful tool for managing moderate contents is available to Editors and Administrators, either in public and group sections in order to approve or deny submitted contents from the communities.
1.2.20 Access rights and content

Multiple levels of access rights have been set, including super administrators (full rights awarded they can see and delete everything, award or remove access rights to anyone), group managers (having all administrator rights but only inside their own group, limited to their own content and members), registered users (able to see internal and public content as well as content of groups they belong to), external users (able to see public content). Other user group denominations can be used as needed. As requested, all content items (text, video, etc) can be labelled as public (visible to all) and restrained / limited (visible only to members of a specific user group). The users depending on their credentials can have access to more resources than the general public, and to a variable extent depending on which group they belong.

1.2.21 Statistics

A module takes in charge the log track by providing statistics to have a regular and accurate information on the usage of the Platform revealing issues or patterns that were unexpected, facilitating thus the fine-tuning of the platform to achieve maximum results.

This produces relevant lists of content for users to access, like top 10 lists (what are the resources most used, what keywords are used more often (tag-clouds) etc), or present the overview of the Platform to newcomers (e.g. we have 1000 registered users, 25 groups, 500 blog posts, 200 documents uploaded, 49 videos etc…)

Google analytics is one good example with an even more sophisticated system that creates heat maps of your pages depending on the number of clicks specific areas get, helping to reorganise content in pages to match usage patterns for best results and information accessibility.

1.2.22 Search

The search feature is of crucial importance to the functioning of the platforms as an efficient and effective knowledge sharing system. In concrete, it includes both simple search (one empty box) and more advanced searches allowing searching for specific type of resources, date ranges, submitted by
specific authors etc. A combination between the simple and advanced search from Drupal and a custom search engine from Google and Yahoo BOSS API has been implemented to allow an accurate search inside the platform as well as among external pre-selected relevant websites.

The specific search feature for "people search" has been developed (like in www.linkedin.com) to allow for users that look for people regarding various criteria: specific skills, organisations or working locations, … The results are based on the profiles filled in by the users themselves.

1.2.23 Multiple languages

The User Interface is available in various versions to cover, up to now, essential working languages (EN, FR, ES). The system keeps open the possibility to easily add more languages if necessary.

1.2.24 Security / Trust / Confidentiality

The platform robustness need to be secured, preventing to the maximum hacking, unauthorised access to information and data, identity theft etc, without compromising its ease of use and user friendliness. In case of such an event, measures have been taken so that the service is restored in very short time and back-ups are kept to avoid data loss. As the platform can become a central information and communication tool for groups and projects/actions it is needed that uptime and security are optimal to build trust in the platform. Confidentiality is also be secured as sensitive documents may be posted online, or confidential information exchanged among members. Furthermore, the system traces any security/confidentiality breach though a security report allowing a rapid fixing. The security will be managed both in the application platform and in the operating system layer with the appropriate security rules.

1.2.25 Disclaimers

Following the standards of the European Commission, legal disclaimers are provided where necessary making clear that opinions expressed engage only the individuals and not the Commission, unless stated otherwise.
3. CONCLUSION AND PERSPECTIVES

The Water Knowledge Management Platform (WATERkNOW) has been developed by the JRC in the framework of an Administrative Arrangement with the DG AIDCO (EuropeAid/ENV/2007/147693/TPS). This is in fact a core system developed in a modular way that could be easily up-dated and up-graded for future developments. The use of this system allows in a general way a specialised community to work in a virtual network. Expert users can share information, data, documents, news, special events, meetings, establish e-conferences in a dynamic manner in order to improve the communication in the thematic community. This is particularly true, for the Water Management in Developing Countries Community.

One of the main objectives of this project was the implementation of the EU Guidelines on Water Management: “Towards sustainable water resources management”. These guidelines were implemented in a specific section of this dynamic web-based information system. The expert users in the water management thematic are allowed to dynamically comment and improve these EU guidelines. In such a way, guidelines will be up-dated and up-graded using the collective effort of the thematic community.

Because of the JRC conception efforts, the WATERkNOW core system was designed in a modular way, this web-based information system can easily be up-graded and up-dated at a minor cost. The system can also be re-used for other similar thematic platforms where the interaction between an expert community is requested.

Even if users can easily introduce comments to documents and an other data online, particular efforts should be done on the development of interactive shared comment tools of draft documents in a dynamic way. On another side, the intervention of an administrator of the web-based information system is particularly requested in order to up-date in a dynamic way the webpages with fresh information and stimulate the interaction between user members and working groups.
ANNEX1. WEBSITE STRUCTURE

The WATERkNOW website is composed of:

1.- HOME PAGE
2.- COMMUNITY PAGE
3.- WORKING GROUPS PAGE

**Groups directory**

<table>
<thead>
<tr>
<th>Group</th>
<th>Manager</th>
<th>Members</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADOO-TEST</td>
<td>christoforo</td>
<td>13</td>
<td>This group is interested in the development of a new knowledge management platform for ADOO</td>
</tr>
<tr>
<td>EUWIS-TEST</td>
<td>maria.ink</td>
<td>42</td>
<td>This group works on the updating of the new EUWIS-CIS</td>
</tr>
<tr>
<td>JLP-Working group</td>
<td>andrealeone</td>
<td>36</td>
<td>This WG interest is the Sector Wide Approach in the water sector</td>
</tr>
<tr>
<td>WKMP-Tools and Data</td>
<td>costar.carmela</td>
<td>6</td>
<td>People dealing with the development of Tools and Water data</td>
</tr>
</tbody>
</table>

**Search for a group by name**

- Groups
- Group activity

**Tag cloud**

- Africa
- Building capacity
- Communication
- EUWIS
- Meetings
- Harmonisation
- Ideas
- India
- International conference
- Knowledge
- Lesson
- Learning
- Module
- Monitoring
- Partnership
- Project
- Sector policy
- Test
- Water
- Water crisis
- Water knowledge
- WKMP
4. NEWS PAGE

OEC Global Forum on sustainable development on WSS
Submitted by Celene.JRC on Thu, 13/11/2008 - 16:51.
The upcoming OECD Global Forum on Sustainable Development (GFSD) on Financing and Pricing Water: the roles of government policies, the private sector and civil society, will be held 1-2 December.

Strasbourg/Journees Européennes du Developpement
Submitted by Celene.JRC on Wed, 12/11/2008 - 16:32.
The event is organized by the French Ministry of Foreign and European Affairs from the 15 to 17th November in Strasbourg. Please register free of charge to European Development Days.

EUWI/AWG Meeting
The Africa Working Group will have its 3rd meeting in 2008 on the 3-4 December in London, UK, probably starting around 12:30 hours on 3 December and end the meeting at around 15:30 hours on 4 December.

Eau et serres dans le désert
Submitted by Celene.JRC on Tue, 11/11/2008 - 13:44.
by Hervé Fanum, Article para le 27/09/08 dans le MONDE

EUWI leaflets/documents
Submitted by Celene.JRC on Fri, 10/10/2008 - 16:31.

Tag cloud:
africa  building  communication  crisis  design  energy  events  EUWI  harmonisation  knowledge  lesson  modules  monitoring  partnership  sector  podcast  test  water  water  knowledge  wkm
5.- EVENTS PAGE

Upcoming events
- The Global Forum on Sustainable Development on Water and Sanitation (6 days)
- ERUW ARMS meeting in London (7 days)
- 3rd International Ons Toilet Conference (32P-Ianus)

Tag cloud
africa - briefing - capacity
building - communication - eu
EU - EUA meetings - harmonisation
knowledge - lesson - learning - module
monitoring - partnership - podcast - sector
policy - west - water - water - water - water
water - water - water - water - water

more tags
### 6.- LIBRARY PAGE

#### Library

<table>
<thead>
<tr>
<th>Title</th>
<th>Thematic</th>
<th>Category</th>
<th>Uploaded by</th>
<th>Working Group</th>
<th>Type</th>
<th>Created</th>
<th>Last updated</th>
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</thead>
<tbody>
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<td>WWFP Final report</td>
<td>Communication</td>
<td>Oscar camacho</td>
<td>Platform developer</td>
<td>application/pdf</td>
<td>2 days 2 hours ago</td>
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<td></td>
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<td>Platform developer</td>
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<tr>
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<td>Communication</td>
<td>Geographical data</td>
<td>BM/GTW</td>
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<td>BM/GTW</td>
<td>application/pdf</td>
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<tr>
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<td>Presentation</td>
<td>BM/GTW</td>
<td>application/vnd.ms-powerpoint</td>
<td>6 weeks 2 hours ago</td>
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<td>application/vnd.ms-powerpoint</td>
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<td>BM/GTW</td>
<td>application/vnd.ms-powerpoint</td>
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<tr>
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<td>SWMP</td>
<td>Presentation</td>
<td>BM/GTW</td>
<td>application/vnd.ms-powerpoint</td>
<td>6 weeks 2 hours ago</td>
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</tr>
</tbody>
</table>

#### Tag cloud

- africa
- harmonisation
- knowledge
- partnership
- sector
- training
- crisis
- water
- knowledge
- monitoring
- pilot
- project
- evaluated
- partnership
- global
- network
- water
- knowledge
- training
- capacity
7. EU WATER GUIDELINES PAGE

Water Guidelines

Table of contents
- Introduction
  - Part 1 - Rationale and Key Concepts
    - Water resources management: the challenges
    - Managing water resources equitably, efficiently and sustainably: guiding principles
    - Managing water resources equitably, efficiently and sustainably: Programmatic contents
    - Priority themes for action
  - Part 2 - Application
    - Introduction
    - Focus Areas
    - Project Cycle Management
  - Part 3 - Additional Tools
    - Glossary
    - Programmes and Project Acts
    - EC Funding sources for the application of the strategic approach
    - Standard formats for terms of reference
    - Bibliography
    - Acknowledgements

Guidelines Tags
- analysis
  - Assessing needs complementarily economic value of water
  - Financial funding
  - Measuring institutional and management principles
  - Partnership principles
  - social content
  - social objectives
  - stakeholders
  - water demand

Abstract

This report deals with the final JRC-IES « Project Reporting » (for the period 01.2008 to 12.2008) of the Water Knowledge Management Platform: support tool and interactive publication of the European Commission Guidelines "Towards a Sustainable Water Resources Management" project in the framework of the Administrative Arrangement num. JRC Ref. 30841-2007-12 NFP ISP signed between DG AIDCO (AIDCO) and DG JRC (JRC).

JRC-IES-GEM unit has been in charge of the implementation and development of the Water Knowledge Management System that will be a web-based tool for improving the communication and exchanges of information among the international community on Water issues in developing countries. This web-based system (http://aquaknow.net) integrates a dynamic virtual space for facilitating communication between the different working groups and a specific one for exchanging information, updating and commenting on the EC Guidelines entitled "Towards sustainable water resources management: a strategic approach".

The first part of this report deals with a brief presentation of the project management aspects; and, the second one deals with the technical aspects where the activities of the JRC-IES-GEM unit and the results obtained are presented.
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