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## **AquaRing, Accessible and Qualified Use of Available Digital Resources about Aquatic World In National Gatherings: a new semantic search engine for the web.**

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**A**quaRing is a European project to set up an innovative semantic demonstration portal for digital contents on the aquatic world. Its content is provided by European aquaria, natural history museums and science centers. The goal of this demonstration online resource, co-funded by the European Commission in the eContentPlus programme, is to allow access to a wealth of multimedia digital material and documents, with a particular focus on the sustainable use of the world's aquatic resources. The portal will make use of innovative, multilingual semantic web technology to facilitate intuitive access.

The AquaRing portal will allow access to information on the aquatic world in the form of:

- images, videos, audio files
- interactive software and e-books
- digital collections
- databases
- articles, theses, papers, documents and dissertations.

AquaRing will be available to anyone looking for information on the aquatic world. Its wide range of images, videos, articles and interactive material will make it a great resource for the general public. Parents of young children in particular will find lots of dedicated pictures, videos and activities to satisfy their youngsters' curiosity. The resource will also lead teachers and lecturers to a large amount of academic material, useful to help them planning their lessons. The media will be able to use the data for background information on aquatic environments, but also access essential contact information to get them in touch with experts on the aquatic world. AquaRing will also allow access to a host of communication tools and exhibit information of interest to managers and staff of aquaria, natural history museums and science centers.

The project will set up a global digital collection space with a number of important benefits: adding value to the individual collections by integration of distributed contents, encouraging the development of a global view of and a unified access to the European heritage in the domain; strengthening the cultural and scientific offer of European aquaria, science centers and natural history museums thanks to the networked contents and the capability of offering combined experiences to visitors; allowing visitors to explore a virtual global knowledge space according to their interests and needs, to plan and combine investigations and learning routes across the different participating centers; supporting improved education and informal learning experiences; increasing communications to and awareness of the public at large on aquatic environment conservation and sustainable management of aquatic resources.

AquaRing will breathe new life into archives of digital documents and collections. Many institutions are sitting on a wealth of valuable and fascinating digital content, which is currently not available to the general public. The portal is an opportunity to open up these resources, making them easily searchable to people from across the globe interested in the world's aquatic environments. The portal makes contributions from scientists more easily accessible to the enlightened amateur, for example, or allows aquariums, science centers and museums to reuse interactive materials initially created for temporary exhibitions.

For its multilanguage search engine, AquaRing will make use of semantic web technology, an emerging standard for the current generation of Internet users approaching a Web 2.0 paradigm. This technology puts the user's interests at the heart of the process through a conceptual search method. The digital contents (pictures, videos, documents, etc) are annotated with metadata based on the most reliable ontologies on the aquatic world. This allows the search engine to retrieve content based on conceptual associations. In other words, AquaRing will provide not only what the user is looking for, but also brings up other related content which may be of interest. As a result, contents made available through AquaRing semantic portal have a much wider potential audience.

The project initially involves 6 countries, Italy, Belgium, France, Lithuania, Spain and Netherlands, and different structures

which have developed a high level know-how along with scientific dissemination and technical expertise all scientific experts and content suppliers, or specialists in electronic infrastructures. The AquaRing Consortium, thanks to the ECSITE network and the World Ocean Network is actually able to reach about 30,000,000 visitors per year.

A broader participation of external partners (including scientific institutions and international networks) and the enlargement of the actual scientific expertise are the next objective of AquaRing which will become soon part of the European Library.