

## Use Case 1

Consider the case of a pharmacist that needs to find the appropriate medicine suitable for a particular patient. The pharmacist may need to search various Web databases to find a medicine with certain ingredients, special characteristics, costing less than O, and one that can be delivered at time N. The information on the web about the medicines, its use, availability, costs etc, is continuously updated by a wide range of actors (pharmaceutical companies, different kind of governments, pharmaceutics and associations). For instance an organization such as the Council of Pharmacists has to annually deal with large amounts of *heterogeneous*, diverse and unformatted pieces of information where each of these actors describe medicine and related properties in their own syntax and semantic style. The effort required to provide a useful source of valid information to the pharmacists in its broker-wise role between the pharmaceutical labs and the pharmacist is enormous.

By locating and combining the relevant semantic tags describing a particular medicine, a solution based on NeOn technology will make it possible to automate the process of collecting and integrating the information provided by different suppliers.

## Use Case 2

NeOn solutions will also be applied to international governance scenarios by providing decision making support to foster sustainable fisheries management. The Food and Agriculture Organization of the United Nations will use the NeOn technology to implement a new fishery alert mechanism for international fish stocks, which will integrate and monitor megabytes of textual and numeric data generated by the existing distributed databases, repositories and geographic information systems.

## PARTNERS



The Open University

The Open University



AIFB - Universität Karlsruhe



Software AG



Universidad Politécnica de Madrid



Intelligent Software Components S.A.



Institut Jožef Stefan



Institut National de Recherche en Informatique et Automatique



University of Sheffield



Universität Koblenz-Landau



Consiglio Nazionale delle Ricerche



know how to use Know-how

Ontoprise



ASOCIACION ESPAÑOLA DE COMERCIO ELECTRONICO Y MARKETING RELACIONAL

Asociación Española de Comercio Electrónico



Food and Agriculture Organization of the United Nations



Atos Origin

For more information: [www.neon-project.org](http://www.neon-project.org)

Or contact: Aljosa Pasic ([aljosa.pasic@atosorigin.com](mailto:aljosa.pasic@atosorigin.com))

Johannes Keizer ([Johannes.keizer@fao.org](mailto:Johannes.keizer@fao.org))

Martin Dzbor ([M.Dzbor@open.ac.uk](mailto:M.Dzbor@open.ac.uk))



## Lifecycle Support for Networked Ontologies



Starting date: 1<sup>st</sup> March 2006

Duration: 48 months

Coordinator: Prof. Enrico Motta

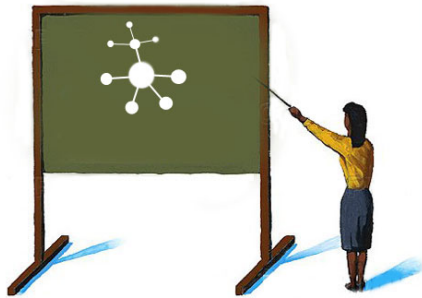
Funded by: European Commission 6<sup>th</sup> Framework (IST)

EU-IST-2005-027595



Information Society  
Technologies

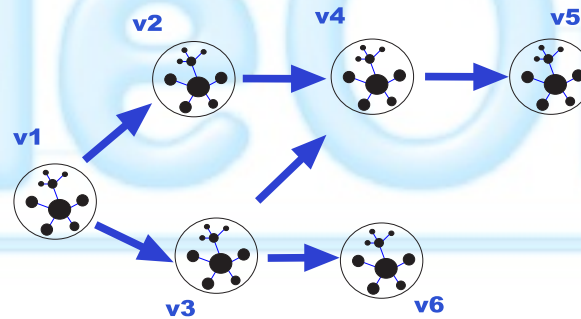
*Ontologies* provide the semantic underpinning enabling intelligent access, integration, sharing and use of data and indeed this technology has now become so strategic to companies, that the Gartner market research firm now ranks taxonomies/ontologies third in their list of the top 10 technologies for 2005.



As ontologies are produced in larger numbers and exhibit greater complexity and scale, we now have an *opportunity* to build a new generation of complex systems, which can make the most of the unprecedented availability of both large volumes of data and large, reusable semantic resources. These systems will provide new functionalities in the emerging semantic web, in the automation of business to business relationships, and also in company intranets.



The Web of the future will be characterized by a large number of ontologies developed with respect to various *contextual* factors, which may reflect the developers' skills, their application needs, their cultural and social 'biases' and the tools they prefer to use. As the complexity of semantic applications increases, more and more knowledge will be drawn from a wide variety of sources to be embedded in applications. These new applications need to reflect the fact (i) that new ontologies are embedded in a network of already existing ones and (ii) that ontologies and metadata have to be kept up-to-date within changing application environments.



What is then needed is a large-scale effort to tackle the problem of effectively integrating technologies and methods. This effort would make it cost-effective for organizations to tackle the acquisition, design, development and maintenance of the large, heterogenous semantic-based applications, which are now, in principle, feasible thanks to the increased sophistication of semantic technologies. NeOn aims to achieve the move from feasibility in principle to concrete cost-effectiveness.



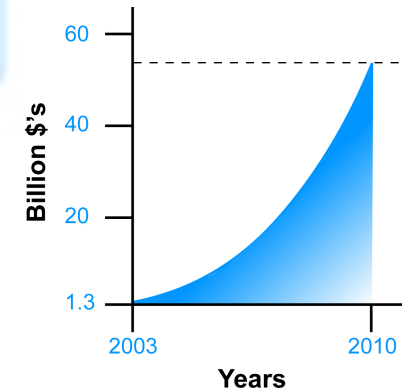
**NeOn results:**

1. Methods and tools for:

- managing the dynamics of contextualized networked ontologies
- collaborative development of contextualized networked ontologies
- reasoning with contextualized networks of ontologies

2. An open, robust, scalable and service-centered reference architecture for the Ontology Engineering Lifecycle

3. The NeOn toolkit - a developer oriented implementation of the NeOn reference architecture.



Predicted Growth in the Ontologies Market (Source: TopQuadrant)

NeOn's primary aim is to create the first ever service-oriented, open infrastructure, and associated methodology, to support the development life-cycle of such a new generation of semantic applications, with the overall goal of extending the state of the art with economically viable solutions. These applications will rely on a *network* of *contextualized ontologies*, exhibiting local but not necessarily global consistency.