Cooperation and standards for life cycle assessment data in Europe – CASCADE

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Abstract

Cascade is thematic network of the growth program and it main objective is to achieve accessibility, comparability and quality assurance of data used in Life Cycle Assessment (LCA) of products and the integration of LCA in the design process. Life Cycle Assessment (LCA) is a method for assessing the environmental impact of a product through all of its life-cycle stages. This methodology needs many data that are generated with electronic means by the users which hardly use any standard. The application of new International Standards for the computerised representation of product data, such as ISO 10303, ISO 15926 and ISO 13584, will assure that LCA data will be reusable in another system and will have stability and longevity.

The objective of the CASCADE Network is to establish the necessary standards for LCA data, to create an initial reference database, to test it and to develop a repository of terminology. The network includes all the relevant stakeholders: academia, industry, LCA software developers and database providers, LCA analysts and IT experts.

A collaborative work between research organisations and other partners will develop the structure of the database, the access methods, some initial content for the database and further procedures. During the project, training packages will be developed on the life cycle assessment methodology and the use of the database.

The activities will include:

- Definition of users' requirements (LCA software developers, product designers, environmental agencies): system requirements, the scope and sources for reference LCA data libraries (RDL).
- Information model design: modality of how the information related to LCA has to be structured in order to meet the requirements of interoperability among different software/hardware platforms; definition of quality assessment criteria for LCA data; development of RDL content.
- Contribution to the definition of a standard for the representation of LCA data (using the technology of STEP, P-Lib, XML and EPISTLE)
- Development of software demo, for the management and integration of reference data and the management of LCA data of a product.

- Training and education: training packages developed for different target groups aim at a better understanding and using of the standard and LCA.
- Development of a web repository for terminology: definition of types of data required for LCA, usability and testing with a trial population of data.
- Validation and use of models. A round robin test will be set up among all the interested parties in the VAMAS framework.
- Network management. The co-ordination among the partners will be done through meetings, workshops and using the networking facilities such as ftp repository, NetMeeting, long distance training for developers, etc. Participation to the meetings of the ISO TC184/SC4 and ISO TC207/SC5 will assure.

Exploitation, dissemination and IPR. The training tools and software demo developed for the project will have a commercial use after the end of the project.

The organization and the elaboration of all technical information is difficult, but CASCADE will take advantage of the relevant knowledge already developed by the partners throughout activities funded by other sources, beside this project.

The project is started on January 2002 and will be a success if the database continues as a principal working tool for LCA after the end of the project, on December 2004 . The use of the database as a working tool will involve a continual enhancement of the database content by research organisations. The creation of a self funded organisation that can make the content of the database available to industry, including SMEs, at low cost and the development on a commercial basis of further LCA training materials and tools will help industry, including SMEs, to use the database in the achievement of environmental certification.

EU project: Contract No. G7RT-CT-2000-05045