

e-DEA – ecodesign for everybody

Idea

Design for Environment (DfE) exists as a term since several years already. It is very clear that the environmental impacts of any product are largely determined during the design phase. It is also clear that too-simple rules (as "not-this material"; "more recycling") may even increase the environmental burden along the life cycle. And yet, product designers cannot be expected to study detailed LCA reports. Simple and intuitive tools are needed to convey the complex information related to the design decision in a way that fits into the design process. And as a first step, the complex life cycle depending on the design decision needs to be put together based on often vague information available.

This is the starting point for the tool e-DEA - Everybody can Design with Environmental Awareness. GreenDeltaTC created a web based application that works "on top" of SimaPro, the world leading LCA software. Data, calculation power, and analysis features of SimaPro are made available through the internet, in an easy to use, intuitive user interface. The user interface is tailored to meet specific needs of designers, and that may even be fine-tuned to match specifically the requirements of individual clients and companies.

A first version of e-DEA was developed in a case study for BIC, the French consumer goods company, from 2009/2010. The project was performed in cooperation with our French partner evea, the SimaPro reseller for France. Implementation of e-DEA was completely in our hands, while evea established the contact to the French client. Meanwhile, BIC uses the software successfully for its design offices in France, Greece, and Mexico.

Core Functionality

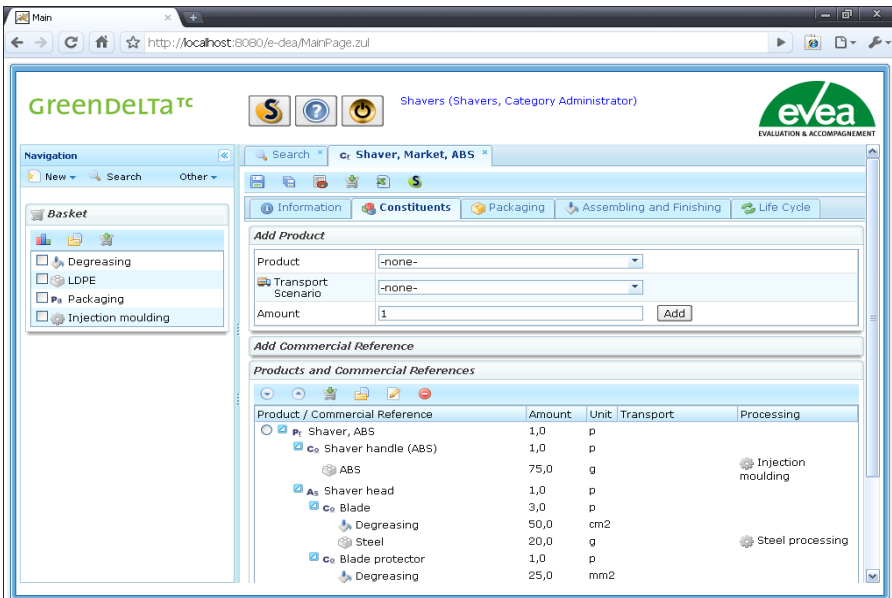
e-DEA interacts with SimaPro that is installed on a central server, where also a larger LCA database is located. The LCA database and the SimaPro installation on the central server is maintained by the IT department; the database content is updated by an LCA expert. A user management is also in place, ensuring that data may not be seen or modified by unauthorized persons. This user management is also maintained on the central server.

Users simply start a web browser, login to the application and to SimaPro, and adapt or recreate models to reflect and analyse design decisions. Results can be exported in reports in xls, pdf or doc formats.

An intuitive, rich user interface that allows modeling the interesting, non trivial questions while at the same time being as simple as possible was one of the core goals in our development. Based on the feedback received so far, we seem to have managed to create a tool that really makes a difference.

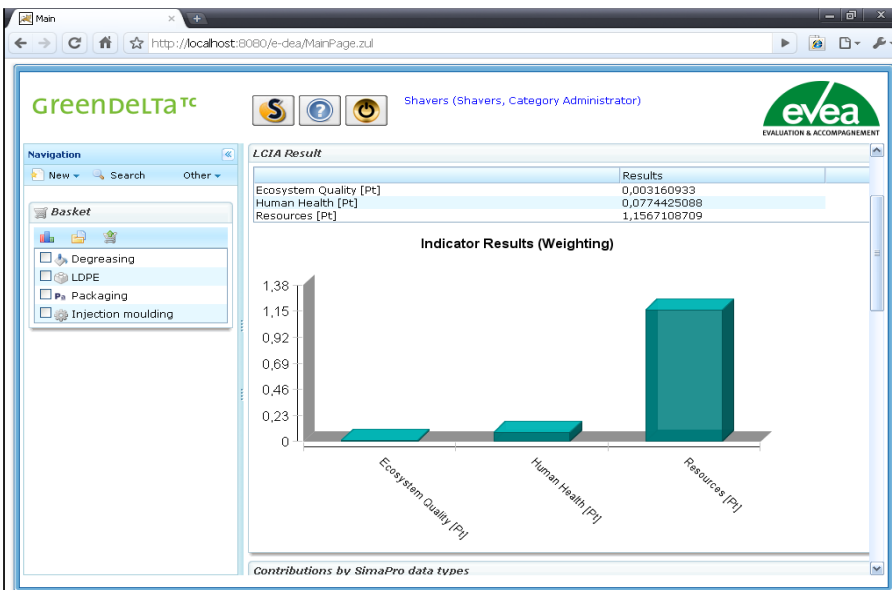


A glance at the application – example BIC



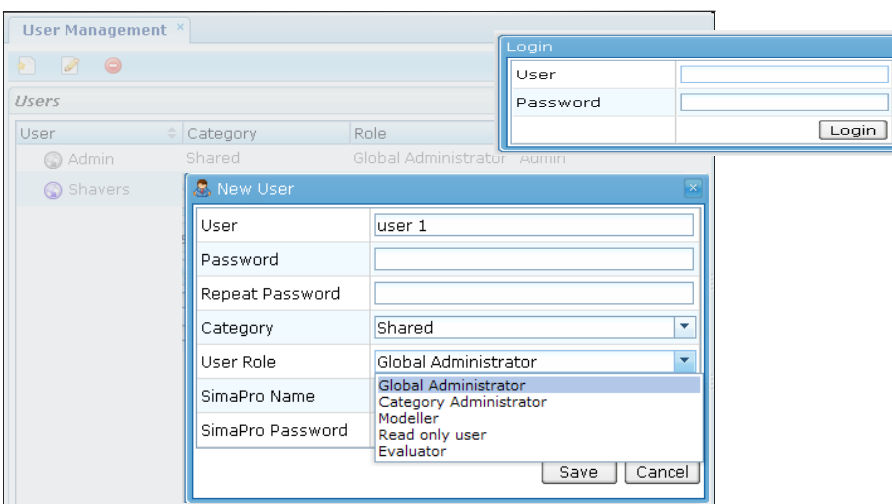
User interface in the web browser

An intuitive user interface allows easy and quick life cycle modelling.



Result view

Results are shown in clear diagrams and can be exported as Excel, Word, or PDF file.



User management

The user management allows creation and management of different user types with different levels of read and write access.

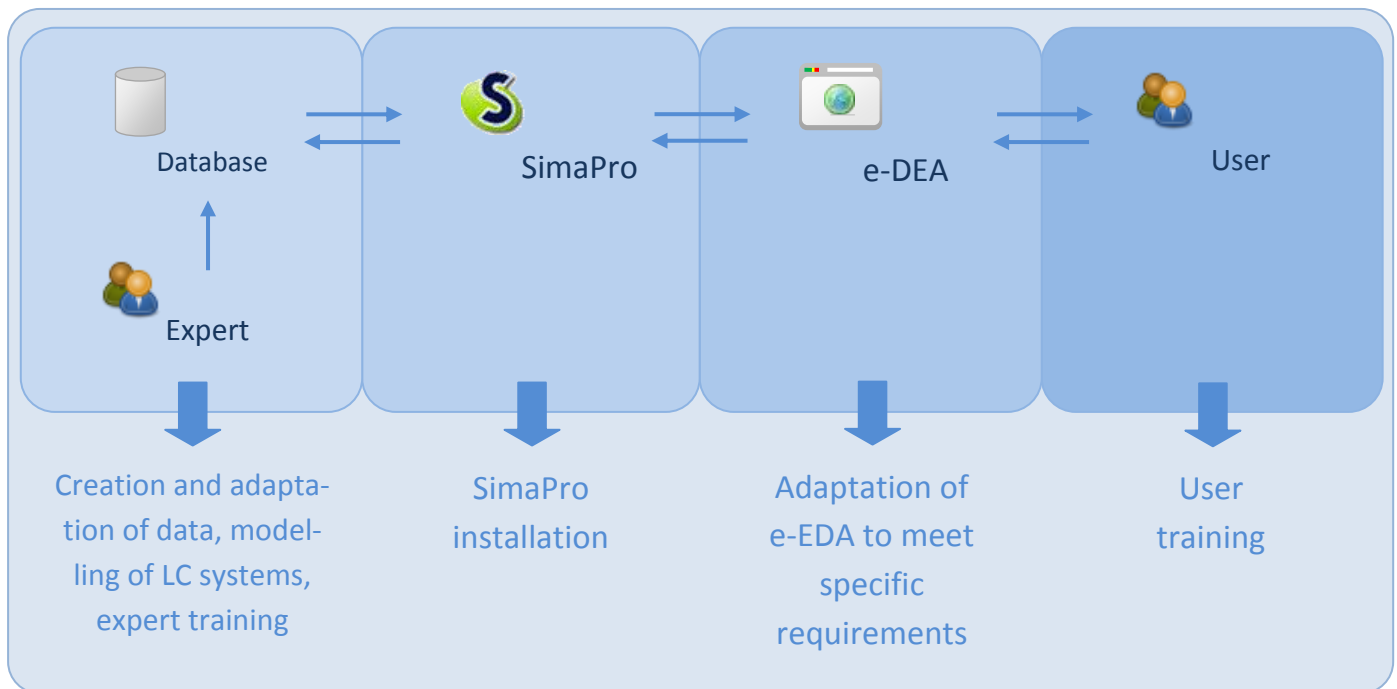
Advantages of e-DEA

- Life cycle assessments (LCAs) can be conducted easily and in a short time span without expert knowledge
- Global access to the same projects
- Detailed user management and user rights system protects sensitive information
- Central database that is maintained by experts, containing rich life cycle data and complex LCA models
- Combined consideration of costs and environment possible

Our Services

GreenDeltaTC offers services that cover all aspects related to e-DEA, including:

- Requirement analysis in relation to LCA and DfE, providing you a clear understanding of what you really need
- Customizing e-DEA to meet specific demands and requirements
- Data compilation: Compilation of a background database with life cycle assessment data and appropriate impact assessment methods
- User training regarding the application of the software
- Expert training regarding creation of complex LCA models
- Support regarding the interpretation of results, specifically in the design process



CONSULTING

About GreenDeltaTC

GreenDeltaTC is an independent sustainability consulting and software company located in Berlin, Germany, founded in 2004 as a capital company.

GreenDeltaTC provides internationally-leading services that cover all aspects of software and consulting in sustainability.

Expertise provided comprises

- Life Cycle Analyses studies (Life Cycle Assessment, Life Cycle Costing, social Life Cycle Assessment)
- Critical review and quality assurance for Life Cycle models, also according to ISO 14040 and 14044
- Product carbon footprint studies (PAS 2050, other)
- Strategic sustainability consulting
- Customised software development for life cycle analyses
- Sale, support, and training for SimaPro in Germany, as SimaPro regional competence centre for Germany
- Worldwide support and training for openLCA, a free, open source Life Cycle Analysis software created by GreenDeltaTC since 2007

Some current projects

- PROSUITE: Development and application of a standardized methodology for the PROspective SUstainability assessment of Technologies, EU large scale project, 11/2009-11/2013 (work package lead: WP7, software development)
- Establishment and maintenance of a worldwide life cycle inventory database registry, project within the UNEP/SETAC Life Cycle Initiative, since 2008
- Development of openLCA, a free open source software for life cycle analyses and sustainability assessment, since 2007
- Format converter version 2, adaptation and extension of the format converter to the new ILCD and EcoSpold 2 format, commissioned by UNEP, ecoinvent centre et al., 2009/2010
- Life Cycle Assessment case study and capacity building for a German Multinational company, since 3/2009
- “ProBas Tremod”, modelling, quality assurance and transfer of transport data sets from the European TREMOD model to the ProBas database of the German Umweltbundesamt, including adaptation of the ProBas website, with ifeu, Öko-Institut, kommzept (project lead: GreenDeltaTC), 3/2008-12/2009

Some past projects

- Adaptation of a web tool based on Java for BIC, France, for Life Cycle Assessment calculation based on the SimaPro COM interface, 7/2009-2/2010

- Validation of renewable energy data sets in the German GEMIS database, transfer to openLCA, including training, commissioned by Umweltbundesamt, 10/2008-8/2009
- Social LCA case study of cut roses, comparison between Netherlands and Ecuador, 7/2009-10/2009
- Open source SimaPro Connectors to demonstrate the potential of the SimaPro COM interface, commissioned by PRé Consultants, 2/2009-4/2009
- Mathematical analysis of the complete ecoinvent database, commissioned by ecoinvent centre, 9/2008-2/2009
- Creating an interface between earthster and openLCA, commissioned by TheGreenStandard, 2/2008-6/2008
- Comparative Life Cycle Assessment for steel making, study according to ISO 14040, 14044, commissioned by Siemens, 5/2008-9/2008
- Format converter, version 1, open source software to convert between the major LCA data exchange formats (EcoSpold, ELCD, ISO14048/IMI), commissioned by PRé Consultants, PE International, UNEP, 1/2007-7/2007

Clients (selection)

BASF, DLR, ecoinvent centre, EPFL Lausanne, evea conseil, Forschungszentrum Karlsruhe, German ministry of research and education, ifeu, Joint Research Centre of the European Commission, Natureworks, Nordenia Technologies, Océ, PE International, PRé Consultants, Siemens, Sylvatica, TheGreenStandard, Umweltbundesamt, UN Environmental Programme, University Pforzheim, University Stuttgart.

Contact us!

Contact us! Via phone, email, or fax. We'd be happy to answer any question you might have, and offer to discuss with you the possibilities of e-DEA in your company, e.g. during an online meeting where we also show the software live.

GreenDeltaTC

Dr.- Ing. Andreas Ciroth

Raumerstrasse 7

D-10437 Berlin

Fon: +49 030 48496030

Fax: +49 030 48496991

Email: gdtc@greendeltatc.com

www.greendeltatc.com