

Integrated Software Platform for Green Engineering Design and Product Sustainability

Welcome to the G.EN.ESI Project

The G.EN.ESI project is an EU funded research and development project that aims to produce a software platform and methodological approach for the improved environmental design of electro-mechanical household appliances.

The G.EN.ESI software platform and eco-design methodology aims to support design engineers, design managers and suppliers seeking to reduce the environmental performance of their products.

The project outcomes will make eco-design more effective, practical, efficient, and easier to implement.

To ensure industrial applicability and provide a supply chain perspective, the team includes Faber, a cooker hood manufacturer, and Vectron, who design and manufacture motors. Both are looking to integrate the software and methodology into their business practices. Additional industrial input is also sought throughout project development.



New Website!

The project website has been re-launched. The site includes information about the G.EN.ESI project, the team, objectives, latest news and publications.

This site also includes the G.EN.ESI Education Centre. This centre contains materials that will help increase your understanding of eco-design, whether you are new to the topic, or more experienced. This is a continuously developing resource so please do check back regularly.

www.genesi-fp7.eu

The G.EN.ESI Project Team



The G.EN.ESI project aims at better integration of environmental information and design considerations into the design and development process of and

electro-mechanical appliances. To address these aims a multidisciplinary team of researchers and industrial partners have been gathered, offering expertise in Eco-design, material science, design and manufacturing, software development, Life Cycle Assessment, waste treatment and recycling.



To find out more about the team please see the Partners page on the project website.

Latest News in Brief

- The G.EN.ESI methodology and software platform architecture were completed in February 2013. To read more about these outputs please visit the project website.
- The G.EN.ESI LinkedIn group goes live. The Green Engineering Design and Product Sustainability Group is an easy way to access the latest G.EN.ESI news and discuss varied eco-issues, so please, come and join the debate!
- Faber conducted the companies first streamlined LCA on their top selling cooker hood. The company are now looking at how to incorporate these results into their design development with support from the G.EN.ESI team.
- The first G.EN.ESI Eco-design teaching and training materials are uploaded to the website. These resources will help with learning, teaching and training for industrial and academic eco-design.

Meet the Team

In each newsletter we will include a brief introduction to two members of the G.EN.ESI team; one academic and one industrial. In this instalment we introduce Work Package 1 leaders Grenoble INP and our software development partners Granta Design.

Grenoble INP

The G-Scop Laboratory Grenoble Institute of Technology



Daniel Brissaud

Peggy Zwolinski

Emmanuelle Cor

Maud Dufrene

The G-Scop laboratory from Grenoble Institute of Technology (Grenoble INP) is recognised as a multidisciplinary laboratory, expert, among other disciplines, in integrated design. The Product-Process Design team works in particular for the integration of environmental aspects into traditional design processes.

As an expert in sustainable design, G-Scop brings a wealth of knowledge and experience to the G.EN.ESI team, particularly on in areas of eco-design within industrial practice.

The contribution of Grenoble INP to the G.EN.ESI project will help define a clear methodology for the integration of environmental parameters into the traditional design process of electronic and mechatronic products. This team also managed the first work package and the Scientific Coordination of the project.

For more information please visit the 'About Us' section on the G.EN.ESI website or G-Scop's website at:

www.g-scop.grenoble-inp.fr

Granta Design

The Material Information and Technology Experts



Donna Dykeman

James Goddin

Manuelle Clavel

Philippe Radlovic

Granta Design is the world leader in materials information technology providing software tools, materials data, and materials database solutions to support engineering design decisions.

In recent years Granta has been involved in the development of design stage environmental assessment tools, dynamically integrating in-house material information with energy and CO₂ data as well as restricted substance legislation.

Within the G.EN.ESI project Granta's software platform will demonstrate the G.EN.ESI eco-design methodology by enabling life cycle assessment in CAD/PLM/Web interfaces during product conceptualization. In particular, Granta are leading the second and third work packages, which focus on the software tools and platform development and their integration within the design process.

For more information please visit the 'About Us' section on the G.EN.ESI website or Granta's website at:

www.grantadesign.com

Recent Publications

The G.EN.ESI project the team has produced 11 conference papers for 8 different conferences. The following four have been published. Please visit the project website for a full list of publications, links to the papers and the calendar of attended and upcoming conferences:

- **An Engineering Platform to Support a Practical Integrated Eco-design Methodology.** M. Dufrene, P. Zwolinski, D. Brissaud (2013). CIRP Annals - Manufacturing Technology. Copenhagen, Elsevier Ltd.
- **How the Integration of Environmental Concerns Modifies the Integrated Design Process.** M. Dufrene, P. Zwolinski, D. Brissaud (2013). Smart Product Engineering. Berlin Heidelberg, Springer, pg 845-854.
- **Integrated Software Platform for Green Engineering Design and Product Sustainability.** M. Germani, M. Dufrene, M. Mandolini, M. Marconi, P. Zwolinski (2013). Re-engineering Manufacturing for Sustainability. Singapore, Springer, pg 87-92.
- **A Case-Based Reasoning Approach to Support the Application of the Eco-Design Guidelines.** M. Germani, M. Mandolini, M. Marconi, A. Morbidoni, M. Rossi (2013). Re-engineering Manufacturing for Sustainability. Singapore, Springer, pg 81-86.