G.EN.ESI NEWSLETTER

July 2014

Integrated Software Platform for Green Engineering Design and Product Sustainability

Trialling the G.EN.ESI Methodology at Design 14

The G.EN.ESI team held a workshop at DESIGN'14 in Croatia. The workshop presented the G.EN.ESI methodology, through an interactive game undertaken within teams. The game simulates the strategic decision making needed in eco-design. The teams have to select actions to maximise environmental improvements to the product whilst taking into account the company resources required.

Feedback from the participants was very positive, and all teams recognised that it is beneficial to link environmental impacts, life cycle models and company departments during the eco-design process. The participants were also able to identify the challenges of the eco-design process, including dealing with multiple departments, collecting information from the supply chain and consolidating the diverse values and properties.

The workshop was attended by 30 participants from industry and academia, hosted by Maud Dufrene from INPG Grenoble, along with Mendy Mombeshora and Elies Dekoninck from the University of Bath.

Industrial Technologies 2014

Molly Buckingham from the University of Bath and Marco Mengarelli from ENEA presented the G.EN.ESI project in the Poster Event at the Industrial Technologies conference in Athens from the 9th-11th of April.

The conference, which focusses on the industrialisation of research, was attended by over 1300 delegates, and included keynote sessions, technical sessions, and over 50 stands from industry, academia and public institutions.
The G.EN.ESI stand generated interest, and Molly and Marco were able to answer questions, provide an introduction to the project, and distribute the project brochure to interested parties.

Read more about the event here:
www.industrialtechnologies2014.eu/

At the Sustainable Design and Manufacturing Conference SDM14

The first conference on Sustainable Design and Manufacturing (SDM14) was held in Cardiff, Wales from the 28th to the 30th of April. Molly Buckingham and Mendy Mombeshora from the University of Bath attended, and presented papers on the business context of Eco-design, and Environmental New Product Development. Despite relatively few papers on environmental sustainability issues, the conference went a long way towards realising its aim of raising the profile of sustainability in design and manufacturing and uniting academia, government and industry in finding solutions to complex problems. For its first year, the conference showed a very promising start and hopefully it will only grow with years to come, helping to spread sustainable thinking.

Latest News in Brief

→ The G.EN.ESI project will have a stand at the CARE going green conference in Vienna, 17th-20th November 2014. The G.EN.ESI stand will showcase the whole project and provide software demonstrations of some of the tools. The project partners will also present the results of the research in three academic papers

→ Project partner **Faber** attended EUROCUCINA 2014 from the 8th – 13th April in Milan. Faber demonstrated 16 new cooker hood models and concepts, including unique prototypes in terms of application, technology and design. Of particular note was the eMotion concept, a hood made from krion material that is totally recyclable and control free. Its Move Sensor technology means the cooker hood is operated by hand movements.

→ **Vectron** have begun installation and testing of the software, including the new eVerdEE tool for Life Cycle Assessment within Small and Medium sized Enterprises, which supports the assessment of the environmental performance throughout the whole product life cycle.

This project is co-financed by the European Commission and made possible within the VII Framework Programme

SEVENTH FRAMEWORK PROGRAMME

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 The Italian National Agency for New Technologies, Energy and Sustainable Economic Development, or ENEA, and our industrial partner Bonfiglioli Vectron.

The Italian National Agency for New Technologies, Energy and Sustainable Economic Development

Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile




Sara Cortesi | Patrizia Buttol | Alessandra Zamagni | Marco Mengarelli

The Italian National Agency for New Technologies, Energy and Sustainable Economic Development, or ENEA, specialise in applying research and technological innovations within industry. Specifically, the Agency's activities are devoted to:

- basic, *mission-oriented*, and industrial research exploiting wide-ranging expertise as well as experimental facilities, specialized laboratories, advanced equipment;
- new technologies and advanced applications;
- dissemination and transfer of research results, thus promoting their exploitation for production purposes;
- providing public and private bodies with high-tech services, studies, measurements, tests and assessments;
- training and information activities aimed at broadening sector expertise and public knowledge and awareness.

Within the G.EN.ESI project the team provide Life Cycle Assessment and software development skills, focussing on the definition of a simplified LCA method and a dedicated tool for SLCA analysis. The team has expertise in the development of specialised tools for SMEs. developed in research projects in co-operation with Industries Consortia, Regional Agencies and Public Authorities.

Bonfiglioli Vectron

Power and Control Solutions


Andre Au | Oscar Ferreira | Ivano Furlan

Bonfiglioli Vectron were founded in 1986 as a manufacturing unit of a textile machine manufacturer, developing specialised drive solutions for individual needs. Since then the company have applied their in-depth knowledge to various applications and have become specialists in electrical drive engineering and electrical motors. They now offer highly advanced drive solutions characterised by small device dimensions, high efficiency ratings and highly-dynamic standard procedures.

Within the G.EN.ESI project Bonfiglioli Vectron are contributing to both the specification and testing of the software tools. This contribution ensures that the tools have been industrially tested and refined for commercial application. Bonfiglioli Vectron will use the G.EN.ESI platform for design and development. The business model is predominantly business-to-business and as such the drivers for eco-design differ from those of the other industrial partners. The testing within Bonfiglioli Vectron will evaluate the robustness of the platform and the ability to achieve sustainability throughout the whole product life cycle.

Recent Publications

The G.EN.ESI project the team have now produced 21 conference papers for 15 different conferences. The following four have been presented recently:

→ **Exploring Environmental New Product Development through the Three Dimensional Concurrent Engineering Approach.** Mendy Mombeshora, Dr. Elies Dekoninck and Dr. Steve Cayzer (2014), SDM'2014 International Conference on Sustainable Design and Manufacturing.

→ **Supporting eco-design implementation within small and large companies.** M. Buckingham, D.C.A. Pigosso, E.A. Dekoninck, T.C. McAloone (2014), DESIGN'14, Croatia

→ **Simplification Strategies for Mechatronic Products: The Case Study of a Cooker Hood.** M. Mengarelli, A. Zamagni, P. Buttol, S. Cortesi (2014), 8 SAM (Society and materials) Conference, Liege, Belgium

→ **An approach to analytically evaluate the product disassembleability during the design process**, M.Germani, M.Mandolini, M.Marconi, M.Rossi (2014), 24° CIRP Design Conference, Milano, Italy

Please visit the project website for a full list of publications and links to the papers http://www.genesi-fp7.eu/

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