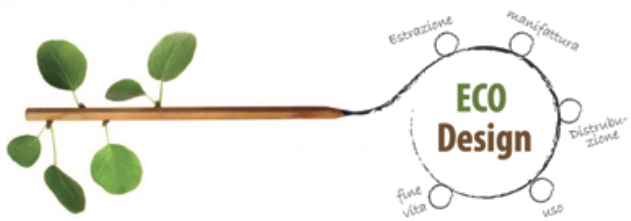
NACE CODE C10 TO C18, C22, FROM C25 TO C33

ECO-DESIGN OF PRODUCTS AND SERVICES

Innovations and Benefits - Eco-design (also known as Design for sustainability - D4S or Life cycle design) is a design methodology that integrates environmental sustainability ideas with the aesthetic-functional principles typical of design. The eco-design strategies (e.g. designing for disassembly, minimization of materials and energy, durability and updating, reuse) represent a strategic lever for the eco-innovation of production and consumption patterns of products and services with a view to enhancing / optimizing resources (materials, water and energy) and the costs connected to them; all that needs a global re-thinking of the constructive and productive principles, and also, in a more radical way, of the needs themselves that the products intend to meet.
Based on the life cycle approach, eco-design takes into consideration all the environmental interactions that a product has in each phase (pre-manufacturing, manufacturing, packaging and distribution, use and consumption, end of life), in order to integrate design choices capable of bringing economic, environmental and social benefits along the entire value chain connected to it.

Use - The Laboratory offers support to companies, in particular Small and Medium-sized Enterprises (SMEs), which want to undertake eco-innovation paths and integrate sustainability requirements into their design processes.
The Laboratory also develops and makes available simplified tools that allow companies to identify their critical issues and the greatest potential for improvement. Among the analysis methods used to support eco-design, the integration of the Life Cycle Assessment (LCA) is highly synergetic together with the related tools that allow to quantify the environmental hotspots in detail and to compare alternative design solutions.
Within the framework of the subject matter, the Laboratory has been carrying out for years dissemination, consultancy and training activities, in favor of Companies and Public Administrations, tailored to the peculiarities and needs of the various sectors.

Applications and ongoing Activities - TESPI (Tool for Environmental Sound Product Innovation), free access web tool to support the environmentally aware re-design of an existing product, which takes into consideration the product life cycle, the customer needs and competitors' products, in order to identify eco-design strategies for the environmental improvement of the product analyzed (www.ecosmes.net).
Within the **G.EN.ESI** project, funded under the 7th European Framework Program (February 2012 - January 2015), the Laboratory collaborated in the development of a methodology and a software platform for the eco-design, dedicated in particular to SMEs in the mechatronic sector (www.genesi-fp7.eu).
PRESOURCE project, funded under the Central Europe Program (June 2012 - November 2014), which the Laboratory collaborated to, together with international partners, in line with the objectives of the Europe 2020 "RE-Resource Efficiency" flagship initiative. Among the particularly significant project results the development of EDIT Value (Eco-innovation Diagnosis and Implementation Tool for Increasing the Enterprise Value) is worth mentioning: it is a tool that allows companies to screen their critical issues and potential in relation to the efficient use of resources, considering various aspects of the company, from its relationship with the stakeholders to the management systems, from processes to products. The tool was tested in various companies in the partner countries of the project (Italy, Austria, Germany, Poland, Czech Republic) and is available in multiple languages.



Characteristics:
The Life Cycle Thinking service can be flexibly adapted to different needs and contexts

Italian National agency for new technologies,
Energy and sustainable economic development
www.enea.it

Department for Sustainability
Division Resource Efficiency
Laboratory Resources valorization
Contact: Laura Cutaia laura.cutaia@enea.it