

# Boosting Life Cycle Assessment Use in European Small and Medium-sized Enterprises

Serving Needs of Innovative Key Sectors with Smart Methods and Tools

## the challenge

Life Cycle Assessment (LCA) is considered as the most advanced tool for improving the environmental performance of products. There are however barriers that reduce its implementation, especially in small and medium-sized enterprises (SMEs), such as data intensity, costs, and expertise required to run the LCA studies. Sector-specific eco-design approaches, that do not require the designer to have LCA knowledge, are a way forward.

Despite the enormous efforts by the scientific community in advancing the methodology LCAs are rarely performed or used by SMEs. A breakthrough is needed in terms of complexity reduction and applicability.

## project objectives

LCA to go" develops sectoral methods and tools for bio-based plastics, industrial machinery, electronics (including printed circuit boards, semiconductors and passive components), renewable energy, sensors and smart textiles. These sectors have been chosen, as the manufacturers show a high interest in making clear the environmental benefits of their products to customers ("Green industries") and in prioritizing so they can reduce their environmental impacts. Carbon Footprints are a perfect entry point for SMEs to LCA strategies. Thus, implementation of an SME-compatible PCF methodology is a key element of the project. The project has to bridge the "language gap" between the environmental terminology used in LCAs and the engineering language of product developers.

## key objectives

1.

Boosting LCA use in SMEs

2.

Development of simplified operative methods and tools

3.

Development of sector-specific eco-design and LCA approaches

4.

Development of a webbased, open source toolbox

## expected results

impact sectors of 500,000+ SMEs

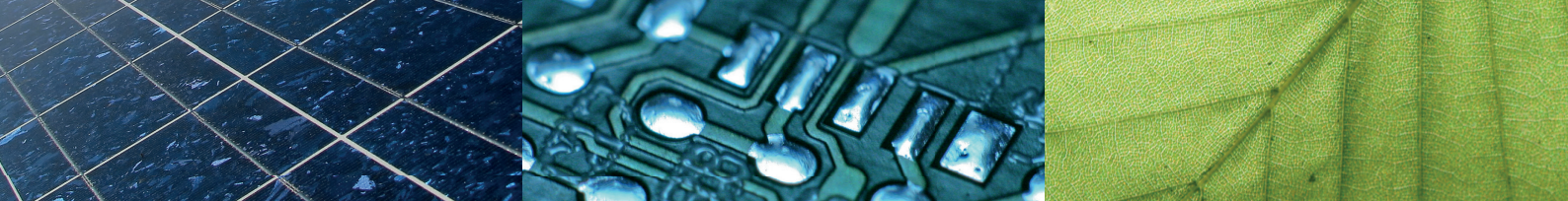
100 SMEs mentored

100 new or improved products

new LCA web tools

harmonised standards

policy recommendations



## methodology

As every sector is characterised by very specific needs regarding environmental assessments and data, a thorough dialogue with the SMEs on their particular interests comes first. Free webtools ("apps") will serve dedicated needs of the target sectors, addressing the specifics of the technologies and implementing parameterised models, such as calculators for energy-break-even-point of photovoltaics, Product Carbon Footprints (PCF) based on technology parameters of printed circuit boards, energy profiles for passive

electronic components based on the umbrella specification approach already implemented for material data, and Key Environmental Performance Indicators (KEPIs) for smart textiles. Selected Product Category Rules will be developed to provide a robust guidance for SMEs. The web-tools will be made available as open source software, to be adapted to other sectors. The approaches will be tested in 7 sectoral case studies, involving suppliers, end-product manufacturers and engineering companies.

## partners

Fraunhofer IZM (Germany)  
ITR Tele and Radio Research Institute (Poland)  
Technische Universität Wien (Austria)  
Technische Universiteit Delft (The Netherlands)  
Simplle (Spain)  
Ecodesign Centre Wales (United Kingdom)  
Instituto Tecnológico del Embalaje, Transporte y Logística (Spain)  
SIRRIS ASBL (Belgium)  
Multimedia Computer System Ltd. (Ireland)

Asociacion Cluster de Telecomunicaciones / Euskal Herriko Elektronika eta Informazio (Spain)  
Futureshape (Germany)  
ELDOS Sp. z o.o. (Poland)  
TAIPRO Engineering S.A. (Belgium)  
Trama Tecno Ambiental (Spain)  
VALSAY S.L. (Spain)  
Carl Diver Advanced Manufacturing Consulting (Ireland)  
Industrial Technology Research Institute (Taiwan)  
United Microelectronics Corporation (Taiwan)

## at a glance

Total Cost: 5.09 million Euro  
EC Contribution: 3.5 million Euro  
Start Date: 2011-01-01  
Duration: 48 months  
Instrument: FP7, Small or medium-scale focused research project  
Consortium: 18 partners from 9 countries  
Project Coordinator: Fraunhofer-Gesellschaft



## key words

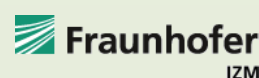
open source tools, KEPIs, LCA, ecodesign, ecological profiles, Environmental Product Declarations

## sectors

bio-based plastics, industrial machinery, electronics, renewable energy, sensors, smart textiles

## project co-ordinator

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