Life-Cycle Assessment, or LCA, is a method of quantifying the environmental impact of products. Underpinned by ISO 14040–44 certification, LCA can be used to inform decision making, identify and develop low-impact procedures, and enhance the design and environmental profile of future products and packaging.

LCA studies take into account all environmental impacts associated with a specific product, encompassing raw material extraction, manufacturing, transport, shopping and use, plus end-of-life disposal. The data these studies generate provide a comprehensive picture of a product’s environmental footprint, including resource consumption, waste and emissions to air, water and soil. This information can then be used to influence ‘ecodesign’, which aims to minimize the impacts and maximize the efficiencies of new products while maintaining their quality and esthetic appeal.

Until recently, this approach to environmentally-responsible product development was led by external agencies and consultants. In 2011, we decided to take ownership of this process internally. To do this, we brought in an expert to work with the reader Research & Development (R&D) team, focusing the analysis on Gemalto’s two most popular e-banking card readers. The results confirmed that the new reader design has less impact than its predecessor, and showed that strategies for product transportation are critical. Moving from air to sea-based transportation, for example, led to a 38% impact reduction (from 40% to 2%) in the product Life-Cycle Assessment. We also organized LCA awareness sessions for R&D and marketing staff working on reader products, and created an eco-design best practice guide covering basic principles and technical perspectives.

We then decided to broaden the scope of the ecodesign program to encompass all products (readers, cards, and packaging), and to transfer ecodesign knowledge to local teams, R&D teams and packaging personnel. To do this, we acquired LCA software with a view to carrying out assessments for all main products and incorporating LCA into current and future product development.

These measures enabled comparative LCA studies between old products and new in terms of impacts on human health, ecosystems (water, soil and air pollution), climate change, non-renewable resource depletion and water consumption.

Environmentally-responsible product design is critical for an industry leader like Gemalto. We’ve been working to train our teams on LCA and eco-design so we are in a good position to do this work ourselves. From developing smaller products, using more sustainable materials, through to how we transport these goods and communicate their benefits externally, we are committed to enhancing our expertise in all areas.”

Céline Lugbull
Corporate HSE and CSR Projects