Predictive Lifecycle Assessment

by Dr.-Ing. Hans Sippel and Dr.-Ing. Martin Küssner

This booklet is a wake-up call rather than a new invention. Tools, processes and procedures that are in daily use in product development are not always used to their full capability. The authors´ intention is to sharpen the mindset in terms of the evaluation of the environmental, economic and social impact of product development from a holistic perspective view and to encourage the reader to assess these impacts in a predictive way upfront to the broadest extent possible.

Predictive in this context - based on current knowledge - means that the right conclusions are drawn for the performance of a product under changing scenarios. Predictive Lifecycle Assessment acknowledges that most parameters in a product's lifecycle assessment are being derived from hard facts and are not in themselves hard facts. Material data, simulation models, milestones or even processes are based on assumptions, simplifications or knowledge that might be a moving target. Therefore, these data are always context dependent and might change under future scenarios or assessments. Predictive Lifecycle Assessment focuses on capturing changing scenarios and tracing the context dependency of parameters while keeping a holistic view.