



UMBERTO – FOR LCA AND BEYOND...

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Umberto – currently available in version 5 – has been used to support Life Cycle Assessment (LCA) studies for more than 10 years. It is developed and maintained by ifu hamburg in cooperation with ifeu - Institute for Energy and Environmental Research Heidelberg. More than 650 licenses

of Umberto have been sold worldwide. Users can be found in producing industries (e.g. automotive, chemical, pharmaceutical, semiconductor, food, pulp and paper, etc.), consultancies and research institutions.

MATERIAL FLOW NETWORKS FOR LIFE CYCLE MANAGEMENT

The life cycle management approach calls for additional requirements regarding software support: high flexibility concerning system boundaries, interfaces to allow for integration of EMS, DfE or IPP aspects, cost accounting features as well as more flexible assessment instruments. Relying on the concept of material flow networks, Umberto proves to be a software tool that can provide such extended functionality for the various aspects of material and energy flow analysis.

provide all flow data with full transparency and that can be analyzed and assessed from different perspectives. Allocations can be taken into account in each process both for material flows and costs.

Cost Accounting

The cost accounting feature of Umberto allows to consider flow and process costs of the system under study and to analyze and assess expenses per cost unit (product). Financial key indicators can be incorporated, when analyzing eco-efficiency or doing Life Cycle Costing studies.

Process Library with LCI Data

Umberto is shipped with a process data library that contains some 600 generic process datasets. Process data collected on site can be easily incorporated in the library. Besides the standard import/export possibilities, Umberto also features an EcoSpold interface to conveniently use other LCI data sources, such as the ecoinvent database or data from the US NREL database.

Interfaces

Umberto provides various interfaces to connect to other applications. This ensures that further aspects of a life cycle oriented management can be supported using the same data. It is, for example, possible to link to ERP systems (such as SAP R/3®), operations research tools or simulation software.

For more information on Umberto please visit the web site www.umberto.de or send an e-mail to info@ifu.com.

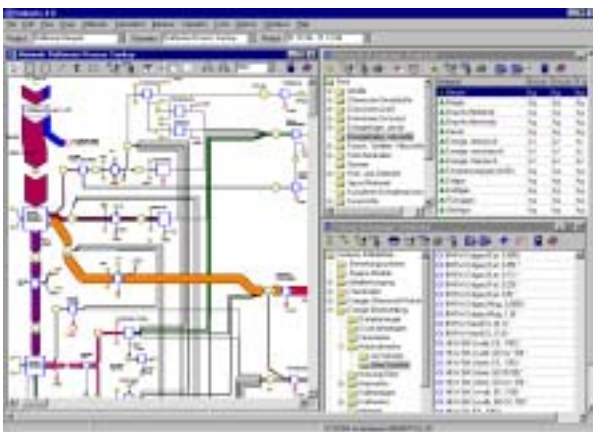


Figure 1: Model of a refinery – a multi product system delivering LCI data for all refinery products (source: ifeu)

User Interface

The graphical user interface of Umberto allows to create models for any type of production systems. Within such a model, the system boundaries can be defined individually, thus allowing a process, product or site perspective. Instead of focusing on the life cycle of one product, the material flow networks may represent multi-product systems, that