



SUCCESSFUL USE OF UMBERTO IN A PRINTING PLANT

THE TASK

The objective was to create a corporate environmental balance on a regular basis. The company searched for a software capable to transparently calculate and display the data of the annual corporate environmental balance to all interested stakeholders. In addition to this complex requirement, the software had to allow a year-on-year comparison of the environmental inventories.

Management of the data in spreadsheets had turned out to be too time-consuming and inefficient. Umberto was chosen as an alternative, because it is a tool that allows better understanding and analysis of the data. It improves



the comprehensiveness of the balance, and it enables a more efficient workflow when setting up the inventory, since it can use all environmentally relevant data available in the other IT systems of Mohn media.

THE CUSTOMER

Mohn media Mohndruck GmbH, headquartered in Gütersloh/Germany, is Europe's largest offset printing plant. Its customers include renowned publishers, companies from the industrial and service sectors, mail order firms, and advertising agencies. Mohn media offers a full service print production and provides comprehensive services for all printing stages, including pre- and post printing. Environmental protection activities are an essential element of the corporate culture.

STRATEGY AND IMPLEMENTATION

Mohn media GmbH commissioned ifu Hamburg to build a corporate material flow model that includes all environmentally relevant equipments down to the level of the individual machine. An analysis of the data requirements of all departments in the company led to a hierarchical Umberto model with approximately 450 processes. These were characterized by:

- process orientation on the topmost level with the main sectors, such as pre-press, print and finishing, as well as infrastructure
- department structure on the subsequent levels of the model, e.g. in administration, workshops, cafeteria, and other Mohn media departments
- cost center structure on the most detailed level, e.g. for the individual printing machine, and grouping of cost centers
- emission orientation for supply and support departments such as energy center, vehicle fleet, or the use of natural gas

All material and energy flows within the printing plant are collected in Umberto. They are grouped by raw and auxiliary materials, energy forms such as steam, electrical energy, heat, cooling, and energy sources such as natural gas and fuels. All material flows that are leaving the plant are also accounted for. This includes the actual print products, waste materials, as well as emissions to air and water. Altogether 40 groups with more than 6.000 material master datasets have been included.

The Umberto Integrator reads approximately 100.000 operational datasets from the IT system of the purchasing department (an Enterprise Resource Planning system), and from other data sources. The data is imported into Umberto from these sources through different available interfaces. The information is processed according to a number of rules, which allows an integration of all the required and environmentally relevant data into the calculations.

MAIN UMBERTO FEATURES USED

- Umberto Integrator to link-up with existing IT-systems
- Generation of efficiency key indicators
- Continuous data updates
- Sankey diagrams
- Adaptable interfaces

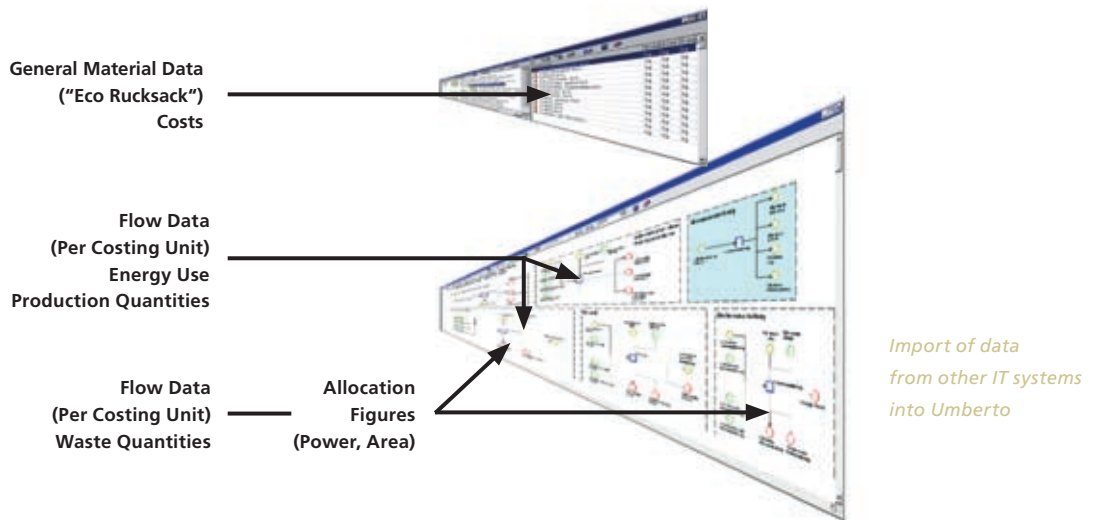
CUSTOMER TESTIMONIAL

“By using Umberto, we not only succeeded in representing the company as a whole. Rather the white-box approach also gives us the possibility to identify in a well directed way the weak spots down to the level of an individual machine, and to improve them. This advantage has already had positive effects, both in environmental as well as in economic respects.”

Andreas Henrichs,
Mohn media Environmental Manager,
2006

The results of this are the information and model calculations that are necessary for the corporate environmental balance. The data also serves to support decisions regarding environmental protection and resource use. With Umberto, all material and energy flow data of the company can now be accessed, analyzed, and assessed

on different levels of detail, as required by the individual needs of the user: from the aggregated company level to departments, to processes, and down to the individual machine level. The next steps are to calculate environmental performance indicators and to develop improvement measures based on these.



RESULTS AND BENEFITS

The annual corporate environmental balance of Mohn media, including an overview of all material and energy flows, has been created and presented to the public since 1992. Since 2000 the creation of the balance has been done with the software Umberto. The improvement in

comprehensiveness has been considerable. The extended possibilities for data analysis are used for scenario comparisons. The results are directly fed into the decision making process, and allow for quick and efficient responses to customer inquiries regarding environmental issues.

CONTINUOUSLY IN USE

Definition of “Eco Rucksacks”

The “Eco Rucksack” is a set of indicators for each material procured by Mohn media. It shows how the material is used, and what its physical properties and packaging are. Additionally, it contains information whether the material is considered hazardous according to the relevant regulations. The Mohn media eco number gives a clear indication whether the material is used as a raw or as an auxiliary material, and it allows the grouping of similar materials in Umberto and in the inventory.

Fast Response to Customer Inquiries

Since all environmentally relevant material and energy flows of the production system are managed in Umberto, it is possible to quickly respond to inquiries of potential customers about energy and output efficiency indicators. This leads to a substantiated information policy and also indirectly improves customer loyalty.

umberto® is developed in cooperation with ifeu (Institute for Energy and Environmental Research Heidelberg). Photo with kind permission of Mohn media Mohndruck GmbH.