



MATERIAL FLOW COST ACCOUNTING (MFCA) WITH UMBERTO NXT MFCA

Calculate the total costs for material losses in your production

INTRO

Many manufacturing companies are not always clear about their real production costs. Often, costs for material losses are only associated with the direct disposal costs. However, further costs need to be assigned to rejected or disposed materials to obtain the total financial impact of material losses. There are the material direct costs on the one hand and further costs in upstream processes caused

by transportation, energy, auxiliaries, etc. on the other hand which all need to be taken into account. Against this background material flow cost accounting aims at calculating hidden costs as they can highly influence the economic relevance of material losses. After all, this concept is used to improve the efficient use of material and energy.

MFCA assists you to identify improvement potentials and hidden costs.

ISO 14051

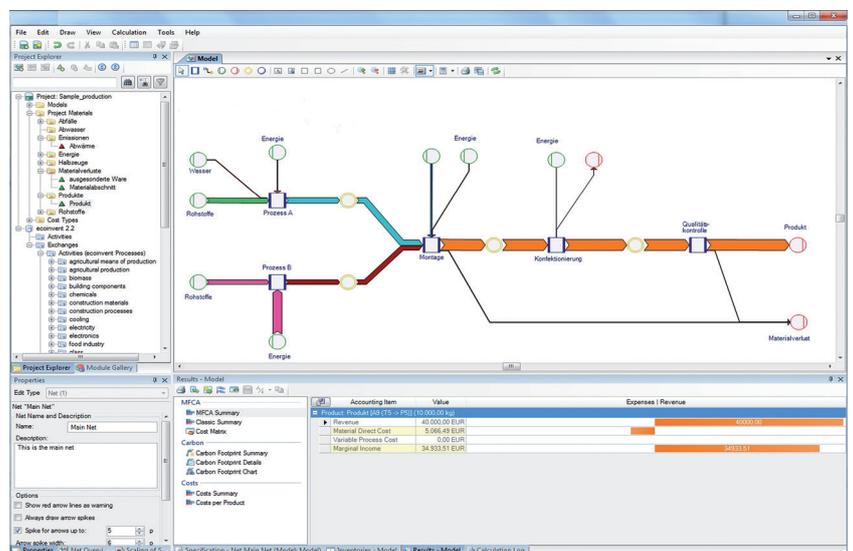
The International Organization for Standardization (ISO) published the DIN/ISO 14051:2011 to offer a general framework for Material Flow Cost Accounting (MFCA). The standard assists companies with the implementation steps of MFCA including the

development of a material and energy flow model for the quantification of material, energy, system and waste management costs, the communication of the MFCA results and the identification of improvement opportunities.

Umberto NXT MFCA complies with the ISO 14051

MFCA IN UMBERTO NXT

The environmental software tools of the Umberto NXT product family have successfully been used by companies and consultants for many years to perform material and energy flow analysis with integrated cost accounting as well as for the assessment of environmental impacts. The user can integrate conventional cost accounting (with cost center, type of cost and cost unit accounting) into the model. Now, all additional features necessary for performing an MFCA have been implemented in Umberto NXT MFCA.



Umberto NXT MFCA contains functions for Material Flow Cost Accounting

The material losses within the different processes ("quantity center" according to ISO 14051) are visualized as Sankey diagram. Additionally, there are further options for evaluation such as an assessment per quantity center or the overall assessment

per material flow cost matrix. Therefore, Umberto NXT MFCA offers great software based assistance for material flow cost accounting and the identification of the total costs in compliance with the official ISO 14051.

EXAMPLES

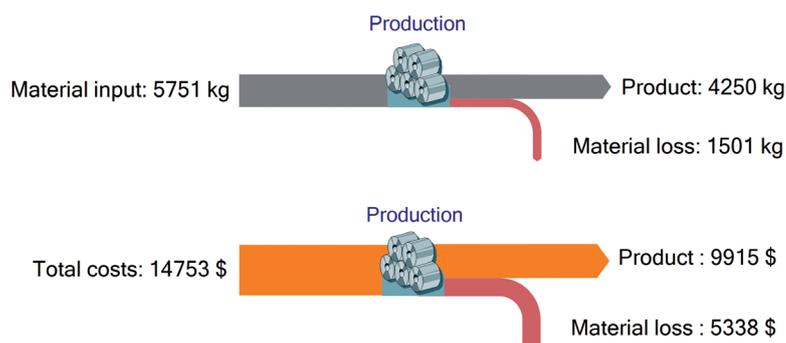
Internationally the material flow cost accounting has primarily been disseminated in Japan where more than 300 manufacturing companies already applied the concept, though the method was originally developed in Germany. Here, especially small and medium sized enterprises have started using the material flow cost accounting to assess their product systems and to render them more efficient.

The following examples are from three different countries:

A small furniture manufacturing company in the Czech Republic has been producing furniture mainly made out of chipboards for over 10 years. The production model for the MFCA comprises five main process steps. All of these processes have material losses that sum up to 9.22 % of input raw material and nearly 11 % of the total production costs. The accumulated material losses cost the company 25793 CZK (1377 USD) per month.

A large metal processing company in Germany produces flexible metal components and had sales of more than 500 million Euros in 2013. An MFCA revealed that in total they have 36 % material losses compared to the input material. The entire production consists of eight process steps. The second

Physical material losses may be well known but how about their total costs?



process step has material losses of more than 75 kg whereas the sixth process step has the second highest amount of material loss with about 35 kg. Surprisingly, the total cost for the loss of the sixth process step is twice as much as the total cost for the material loss of the second process. This clearly shows the importance to consider the embedded cost due to additional system and waste management costs.

The Mitsubishi Tanabe Pharma Corporation manufactures medical products in Japan. The MFCA identified total material losses worth 1,372 billion JPY (12,7 billion USD) annually, nearly 50% of the total production costs.



FREE TRIAL

Material flow cost accounting can be a great tool for your company to identify efficiency potentials in your production. Do you want to get a complete picture of your total costs? Then try out Umberto NXT MFCA! A free trial version can be downloaded from www.umberto.de/en.

Please contact us if you have any questions or need assistance with your MFCA project. We would be happy to help you!

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