

Cost Efficiency Accounting

- Key elements of the idea:
Cause-and-Effect oriented documentation of cost inefficiencies and thus optimization potential of value chains by comparing actual status to a theoretical ideal status
- Expected synergies and complementarities:
High TRL technologies ($\approx 6-7$) can be introduced with a higher cost efficiency due to a detailed and differentiated analysis of inefficiencies in production systems and processes with decentralized management structures and therefore lead to a higher success and diffusion of new technologies in a firm or the industry
- Outcomes:
Documentation of any wastage and inefficiency in a technical process followed by a modification of consecutive processes in order to increase efficiency and thus profitability of processes, companies, and supply chains
- Market & Business opportunities:
Applicable to all industrial and service companies; cost efficiency as a single performance indicator accessible for SMEs and technical employees
- Partners already identified:
RWTH Aachen University
- Wanted additional partners:
Partners from any side of the knowledge triangle who have a new technical process or process sequence or an existing process which may offer opportunities for higher efficiency

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- Cost Efficiency:

$$CE_P = \frac{C_P^{Ideal}}{C_P^{Actual}}$$

Where: CE Cost Efficiency
 C_P^{Ideal} (Theoretical) Ideal Costs of Process P
 C_P^{Actual} Actual Costs of Process P

- Cost Inefficiency:

$$CI_P = 1 - CEP = \frac{C_P^{Actual} - C_P^{Ideal}}{C_P^{Actual}}$$

- Cost Inefficiency of Individual Wastage Areas W Within Process P:

$$CI_W = \frac{C_W^{Actual} - C_W^{Ideal}}{C_P^{Actual}}$$

with: $CI_P = \sum_{W=1}^W CI_W$