Cost Calculator for Resource Efficiency

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VDI Zentrum Ressourceneffizienz GmbH

PRESOURCE Workshop
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www.vdi-zre.de

Im Auftrag des:

Bundesministerium für Umwelt, Naturschutz, Bau und Reaktorsicherheit

NATIONALE KLIMASCHUTZ INITIATIVE

PRESOURCE
PROMOTION OF RESOURCE EFFICIENCY IN SMES IN CENTRAL EUROPE

CENTRAL EUROPE COOPERATING FOR SUCCESS.

EUROPEAN UNION EUROPEAN REGIONAL DEVELOPMENT FUND

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Zentrum Ressourceneffizienz

VDI Centre for Resource Efficiency

- Project cooperation of VDI and BMUB, financed by the National Climate Fund

- Focus on resource efficiency in companies

- Competence Centre to utilise existing technical RE know-how for SME

- Development of standards through VDI guidelines for RE in cooperation with VDI

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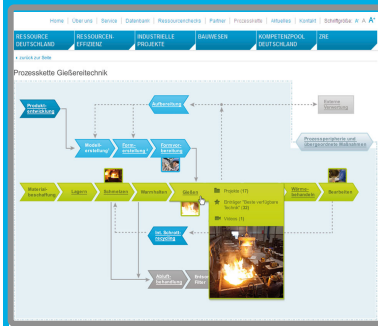© VDI/Thomas Ernsting

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VDI ZRE Support Tools

Process chains

Resource Checks

Innovation Radar

Database

Efficiency Map

Movies

Qualification

VDI-Handbook Resource Efficiency

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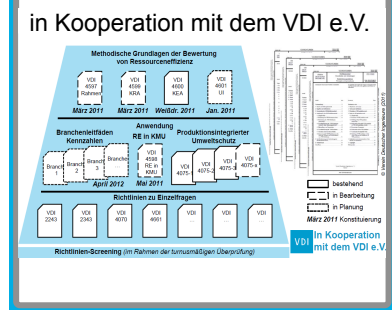
Cost Structure Processing Trade

Material is the largest part
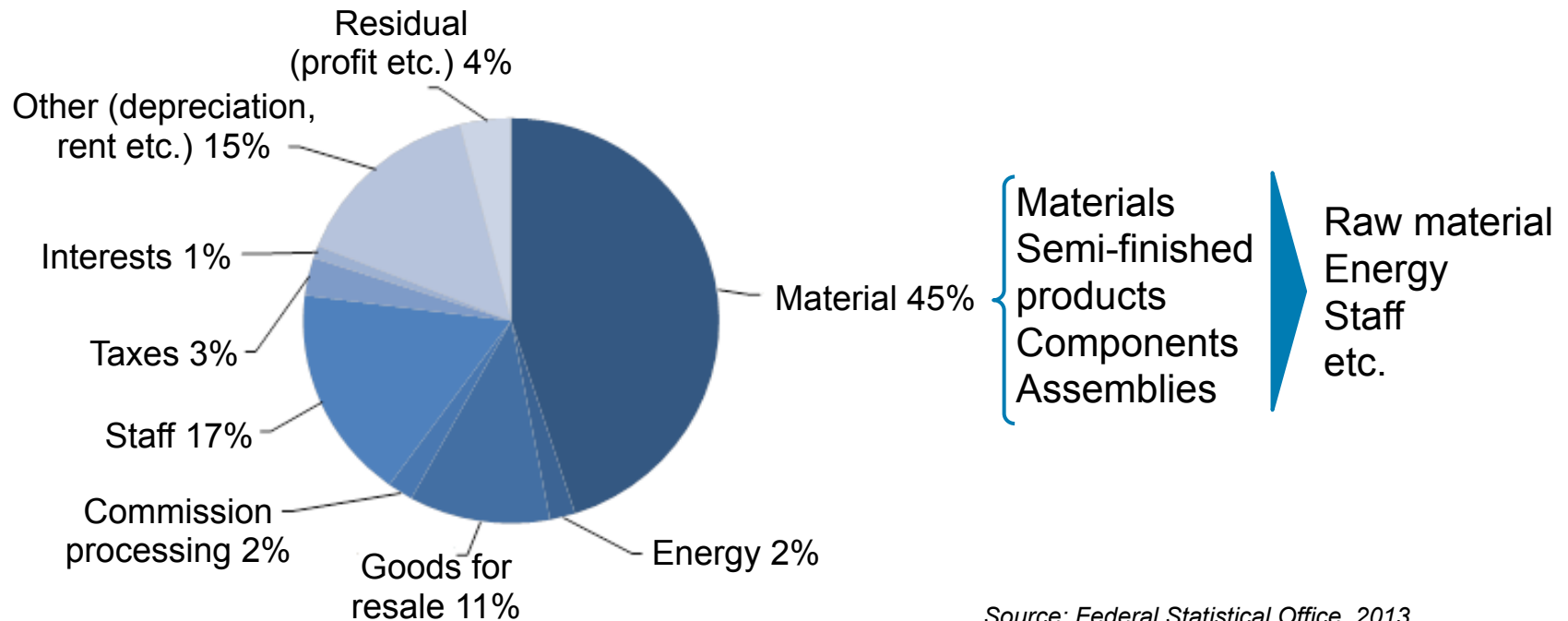
Source: Federal Statistical Office, 2013
(data base 2011)

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Cost Calculator

- Practical introduction to the resource-based costing

- 3 modules for cost analysis in SMEs

    - Cost structure calculator with analysis of the cost structure and comparison with industry values

    - Material Flow Cost calculator for material and energy flows within the company and calculation of material flow costs (acc. ISO 14051)

    - Investment calculator including life cycle costs

- English version is planned

www.kostenrechner.ressource-deutschland.de

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Cost Calculator

Cost structure Calculator

- Presentation of operating cost structure based on annual data

- Bench marking to the corresponding industry and company size according to the Federal Statistical Office

- Deviations from the industry average are illustrated
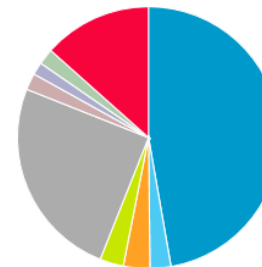
- Material costs
- Energy costs
- Cost of goods for resale
- Costs of commission processing
- Labour costs
- Depreciation
- Maintenance and repair
- Rent
- Other

Material costs	3.6%
Energy costs	1.7%
Cost of goods for resale	1.6%
Costs of commission processing	-1.4%
Labour costs	-2.9%
Depreciation	-0.4%
Maintenance and repair	0.4%
Rent	-0.1%
Other	1.7%
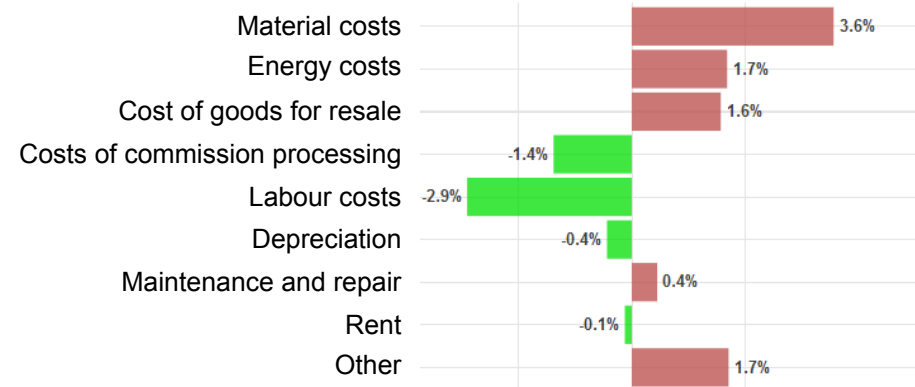
Source: VDI ZRE GmbH

Cost Calculator

Material Flow Cost Accounting (MFCA)
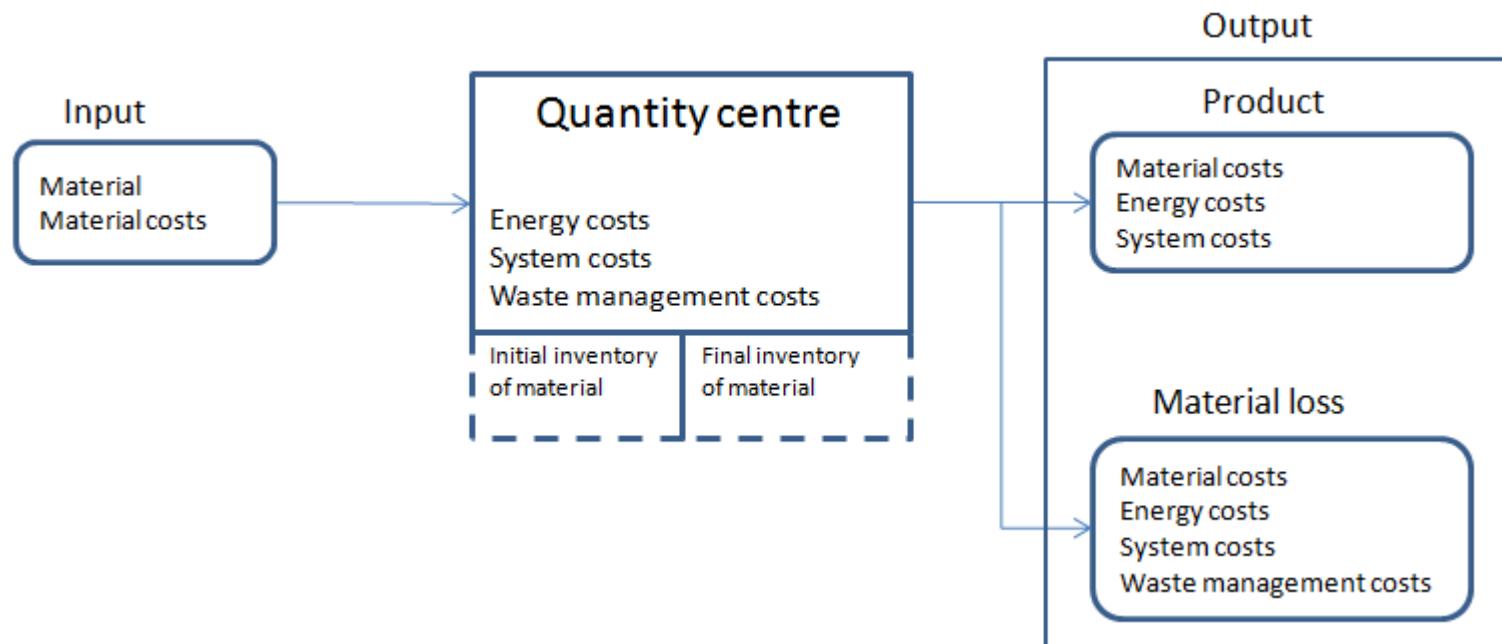
Source: according to ISO 14051

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Cost Calculator

Analysing the production process

- Material composition of products

- Material consumption

- Defining separate quantity centres
  - Input of materials
  - Planned loss of material
  - Waste

- Allocating costs to quantity centres
  - Energy costs
  - System costs
  - Waste management costs

Source: VDI ZRE GmbH

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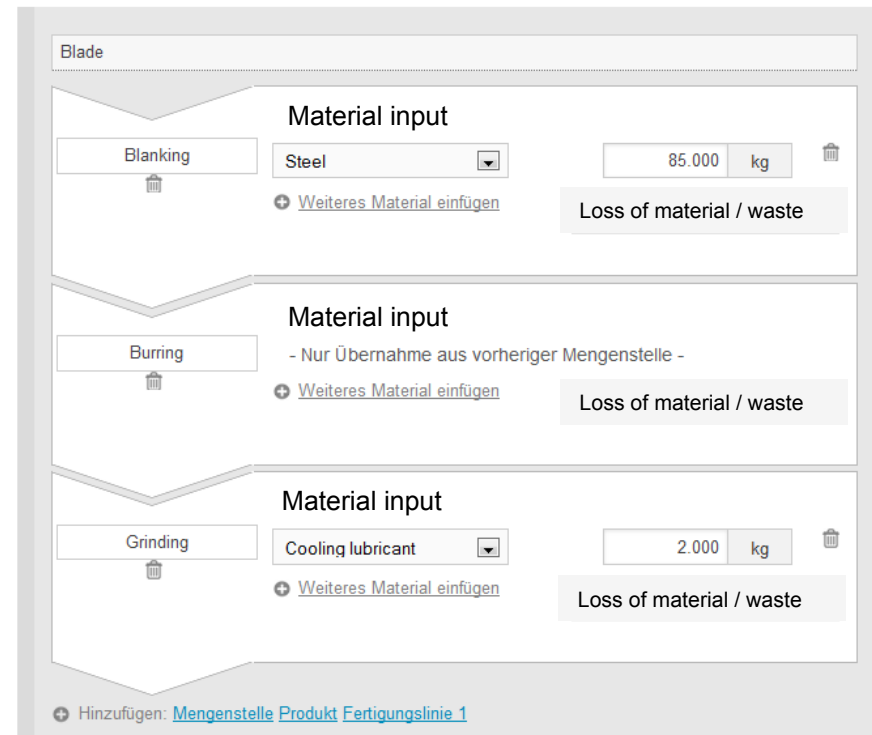IN SMES IN CENTRAL EUROPE

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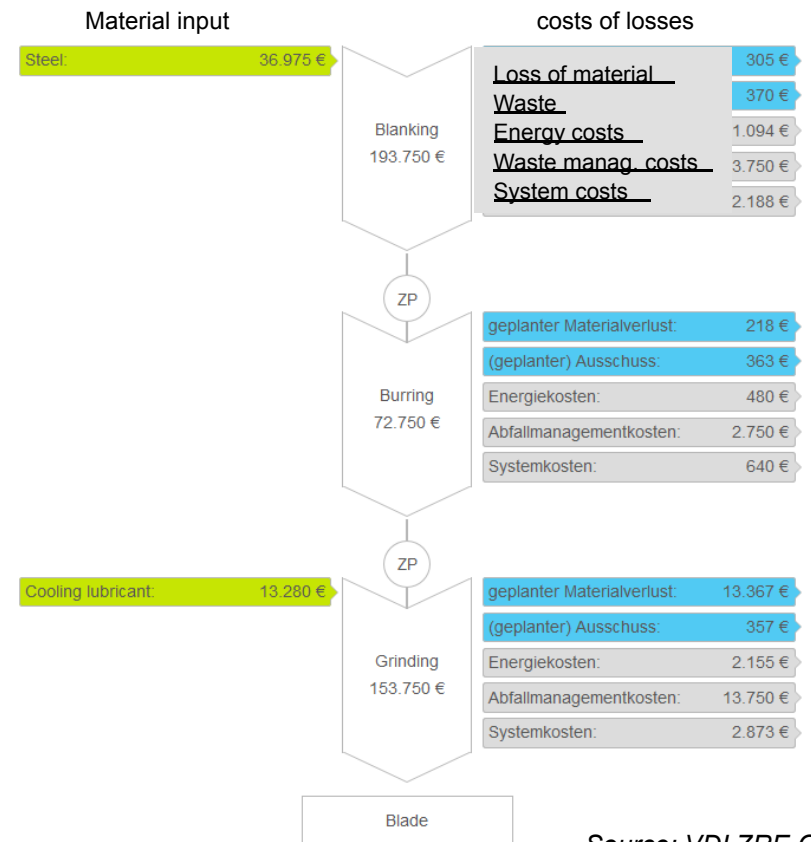
Cost Calculator

Results

- Clear presentation of material costs and costs of losses within the quantity centres

- Identification of abnormal costs of losses in processes

- Detection of efficiency potentials

- Verification of the production costs and costs for semi-finished products

Blade

Material input		costs of losses	
Steel:	36.975 €		

Blanking 193.750 €

Loss of material	305 €
Waste	370 €
Energy costs	1.094 €
Waste manag. costs	3.750 €
System costs	2.188 €

ZP

Burring 72.750 €

geplanter Materialverlust:	218 €
(geplanter) Ausschuss:	363 €
Energiekosten:	480 €
Abfallmanagementkosten:	2.750 €
Systemkosten:	640 €

ZP

| Cooling lubricant: | 13.280 € |

Grinding 153.750 €

geplanter Materialverlust:	13.367 €
(geplanter) Ausschuss:	357 €
Energiekosten:	2.155 €
Abfallmanagementkosten:	13.750 €
Systemkosten:	2.873 €

Blade

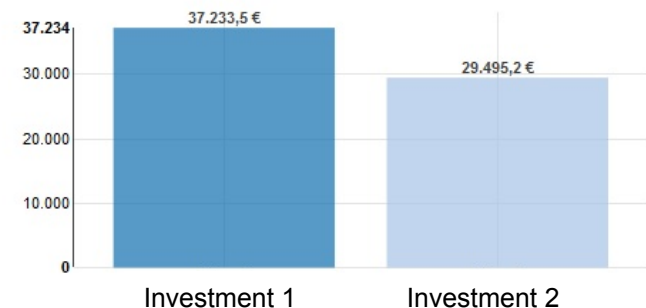*Source: VDI ZRE GmbH*

Investment Calculator

- Input boxes are based on life cycle costs according to VDMA standard sheet 34160

    - Preparatory phase

    - Operation phase

    - Further utilization phase

- Comparison of payback periods and capital values

- Support for investment decision for resource efficient technologies

Payback period (years)
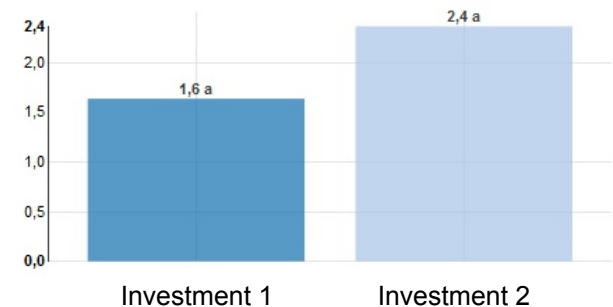
Capital values (€)

Source: VDI ZRE GmbH

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