

**ORAGO**<sup>®</sup>  
Empowering Engineers

## **Cost & Value Engineering**

Cost and value based product development.

Increasing profitability in the value chain.

Creating innovation for competitive advantage.

## Value making or cost reduction? Choose both!

### Cost & Value Engineering: the path to creating high-margin products

ORAGO supports you with Cost & Value Engineering in reducing product cost, and at the same time increasing product value and margin

- during the product development process.
- in the procurement process.
- in the production phase.

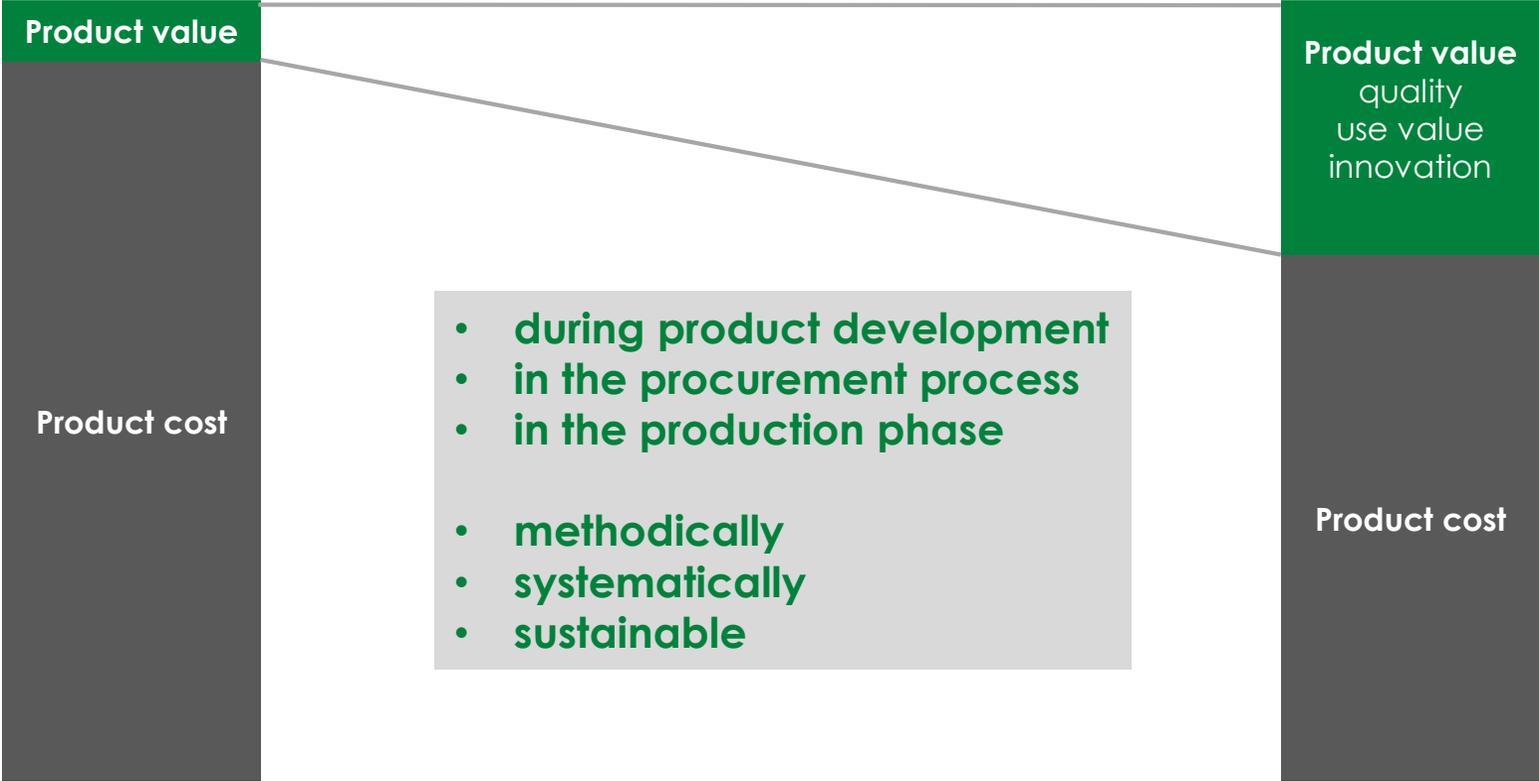


### The added value that Cost & Value Engineering generates consists of

- products with competitive costs and a reasonable cost-benefit ratio
- market oriented innovations and values
- reduced engineering-effort and -costs
- efficient production launches through robust design and stable manufacturing processes

**Read more on the following pages**

**ORAGO Cost & Value Engineering  
reduces product costs and increases product values**



A process to systematically reduce product cost and increase product value

## Analysis



Identification of cost and value drivers

## Evaluation



Data analysis

## Presentation of Opportunities



Presentation of cost-reduction and product value improvement opportunities

## Optimization Measures Planning



Build a cross-functional team. Determine target costs and values

## Implementation of Measures



Implement optimization measures systematically

## Establish Measures



Establish the measures sustainably, meet the targets

Short term presentation of opportunities

Market-oriented

## Reducing product cost and increasing product value during product development

### Increase of product value by

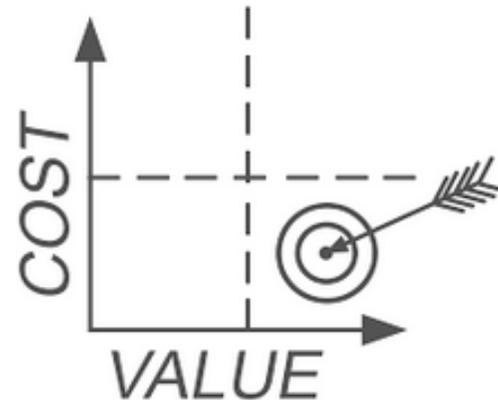
- Market research and analysis
- Benchmarking
- Value Analysis
- Value Engineering
- Target Costing (Market into Company)

### Reduction of product cost by

- Concurrent costing
- Cost Structure Analysis
- Complexity Management
- Design to Cost
- Design for Manufacturability & Assembly

### Benefit

- Achievement of product cost & value targets
- Avoidance of over-engineering
- Reduced development time and effort
- More turnover, sales and profit



## Procurement cost reduction @ increased quality

### Benefit from know how and innovative strength of suppliers by

- Potential assessment for raising productivity and cutting costs in the supply chain
- Product cost calculations and analyses with benchmark cost rates
- Tooling cost calculation, tooling concept & design optimization
- Process analysis and optimization (REFA)
- Make or Buy Analysis
- Value stream mapping and design
- Working capital analysis and optimization
- Development and implementation of cost optimization measures



### Your benefit

- Know How transfer from supplier to customer
- Reduction of procurement costs

### Supplier Benefit

- Process improvements
- Additional capacity
- More profit
- Reduction of
  - material cost
  - manufacturing cost
  - tooling cost
  - working capital
  - cost of quality

## Manufacturing cost reduction and increased productivity

### Identifying cost drivers and constraints on productivity

- Process analysis
- Value stream analysis
- Time studies
- Work-sampling studies
- Cost analysis
- Dynamic investment calculations

### Productivity increase – Cost reduction

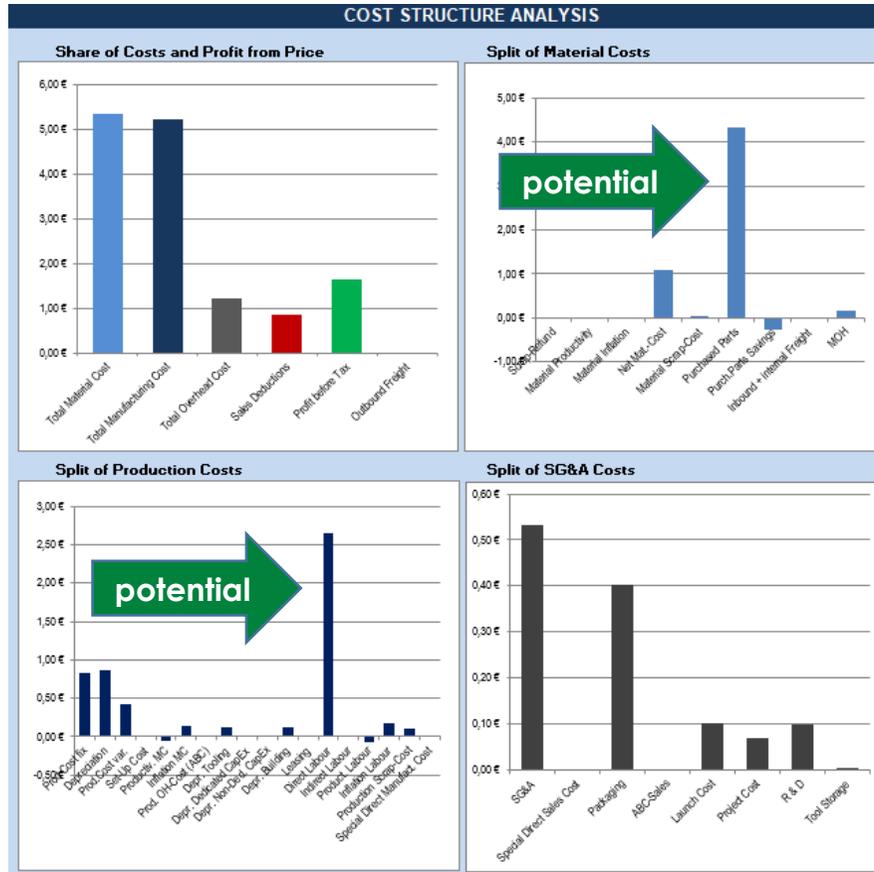
- Root cause analysis
- Process-planning and -optimization
- Value stream design
- Total Quality Management
- Operations controlling



### Benefit

- Increase of productivity
- Scrap reduction
- COGS reduction
- More Cash Flow
- More Return on Investment

## Creating cost transparency with Cost Engineering software ORAGO CC 3.0



Product cost analysis

### CC 3.0 functions:

- Product Life Cycle Costing (TCO)
- Concurrent costing
- Product Data Management
- Costing with benchmark cost rates
- Cost structure analysis
- Profitability analysis
- Productivity analysis
- Business case calculation
- Project Accounting
- Plausibility checks

### Benefits:

- Precise cost calculations and analyses
- Identification of cost-cutting potentials
- Plausible target cost calculations



## Factors for success in developing and producing profitable products

### 1 Customer focus

What needs to be clarified is:  
What is the market segment?  
Who are the customers and what do they expect of the product?  
How much are they willing to pay?  
And what are they prepared to forgo?

### 2 Cost transparency

Effective cost management requires transparency of the project costs at all times. To this end they are calculated and analyzed early on in the development phase and subsequently consistently monitored.

### 3 Cost optimization

Cost-cutting potential must be identified and rigorously exploited from the design phase onwards. Cost targets and deviations have to be measured and adjusted on a continual basis.

### 4 Application of methods

A structured and systematic cost management process is vital in developing high-value, profitable products. Reliable and accepted methods, staff training and continual process development help to improve the efficiency of the product cost management.

### 5 Interdisciplinary cooperation

The R&D, Marketing, Production, Purchasing and Management Accounting divisions have to be involved in the CVE process. Consensus building and conformity of objectives in the interdisciplinary team are indispensable when it comes to developing and producing competitive and profitable products.

### 6 Willingness to change

What is decisive is acting on what the customer wants – not the company's own vision of the product. Change management creates the willingness to change.

## Example: Development of an instrument panel with C&VE

**Initial situation:** The manufacturer of an instrument panel invites tenders for a concept for construction and manufacturing of a multi-part instrument panel reinforcement comprising metal and plastic parts. On account of the small quantity, as many components as possible are to be used in both the right and left hand drive versions. The concepts offered by the bidders in accordance with the specifications differ considerably in terms of construction and price.

**Task:** To create transparency of the cost-benefit ratio. Selection of the most cost-efficient supplier concept taking account of the lifecycle costs.

**Solution:** Software-based evaluation of the costs by calculating with component and tool figures typical of the sector. Analysis of the tooling costs as one of the main cost drivers. Establishment of the most economic concept by means of targeted relaxation of manufacturing tolerances and optimal component design from the manufacturing point of view.

**Achievement:** **30% reduction in tooling costs** through adjustment of the method plan and the tool construction in cooperation with the tool manufacturer. **12% reduction in product costs** through material and process optimization.

## Benefit from our Cost & Value Engineering expertise

### Implementation competence

- You get a solid return on consulting which we document for you in an economic efficiency calculation prior to the start of the project.
- Before the project kick-off we agree a project schedule with you detailing the content and timing of all services, and, throughout the course of the project, report on their as-is and to-be status on an ongoing basis .
- We accompany you every step of the way, from implementation of the processes through to successful establishment in your organization.
- Performance-based remuneration of our services.

### Industry competence

- Automotive
- Electrical Engineering
- Electronic Industry
- Forming technology
- Furniture Industry
- Home Appliances
- Mechanical Engineering
- Medical Engineering
- Metals Industry

# References

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## Your contact for Cost & Value Engineering



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