

Value Engineering in different branches

Dr. Manfred Ninaus 24.10.2018

- VMN – Valuemanager Ninaus GmbH
- Project VAINNO
- The Value Engineering / Value Management job plan
- Value Engineering in different branches
 - Purchasing
 - Product development
 - Construction
 - 3D metal printing
 - IT
- Conclusion

- **Optimisation**
 - Product Improvement & Value Engineering
 - Process Improvement & Value Stream Mapping
- **Engineering and Manufacturing**
 - Technical Engineering
 - Prototyping & 3D metal printing
- **Innovation**
 - Innovation Management
 - Service Design
 - Trend research
- **Digitalisation**
 - Digital transformation
 - Digital business models

→ sites in Graz (HQ), Vienna, Ilz, Villach



Valuemanager Ninaus

Business Fields



Automotive



Aerospace



Railway



Medical



Consumer



Plant



New technologies





Naložba v vašo prihodnost
Operacijo delno financira Evropska unija
Evropski sklad za regionalni razvoj



Investition in Ihre Zukunft
Operation teilweise finanziert von der Europäischen Union
Europäischer Fonds für regionale Entwicklung



VAINNO

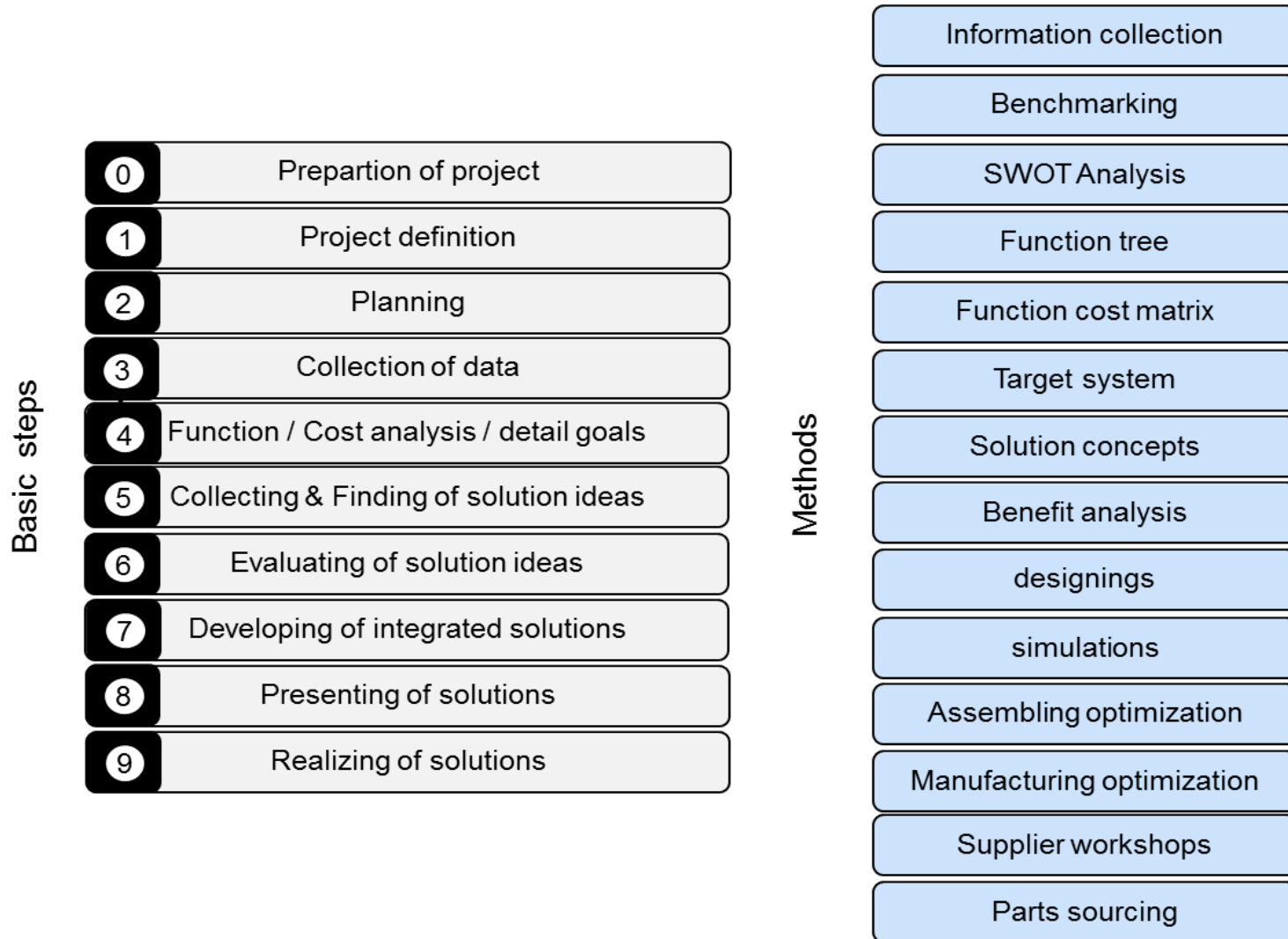
WERTANALYSE - LÄNDERÜBERGREIFENDES INNOVATIONS-NETZWERK FÜR DEN EINSATZ DER WERTANALYSE ALS INNOVATIONSWERKZEUG ZUR STEIGERUNG DES ERFOLGES SLOWENISCHER UND ÖSTERREICHISCHER UNTERNEHMEN

Hauptziel des vorgeschlagenen Projekts durch den Europäischen Fond für regionale Entwicklung im Rahmen des OP AT-SI 2007-2013 ist der Aufbau eines grenzüberschreitenden Netzwerkes in dem die vernetzten Forschungseinrichtungen, Support-Organisationen und KMUs eine Nachhaltigkeit der Zusammenarbeit sicherstellen. Dabei sollen mit Aktivitäten wie die kontinuierlichen Weiterentwicklung der Innovationsmethodik Wertanalyse, die Weiterbildung der Arbeitskräfte und die Erhöhung der Kompetenzen in Einklang mit dem Programm Erkenntnisse erfolgreich in die Praxis vermittelt werden und so zu einer höheren Wettbewerbsfähigkeit und nachhaltigeren Entwicklung der Regionen beitragen.

- Download handbook under www.valuemanager.at
- The aim to provide practical users in small and medium-sized Companies (SMEs) a simple and straightforward guide to implement a value management.
- based on
 - 13 pilot projects in SMEs in Austria
 - and 12 pilot projects in SMEs in Slovenia verified and refined



The Value Engineering / Value Management job plan and methods



Value Engineering in different branches

Purchasing



- 0 Preparation of project
- 1 Project definition
- 2 Planning
- 3 Collection of data
- 4 Function / Cost analysis / detail goals
- 5 Collecting & Finding of solution ideas
- 6 Evaluating of solution ideas
- 7 Developing of integrated solutions
- 8 Presenting of solutions
- 9 Realizing of solutions

Scope of VM



<https://www.mbaknol.com>

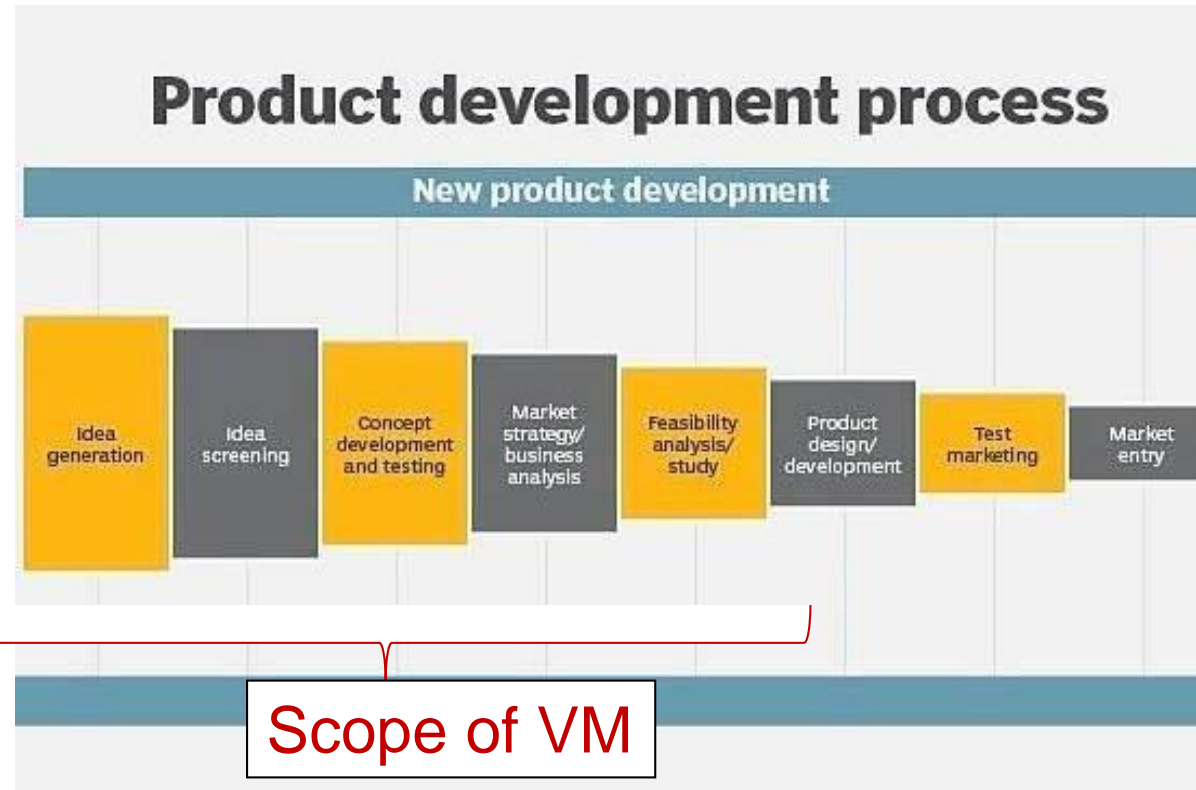
- Classification of requirements in functional and non functional requirements of purchasing product
- Definition of needed degrees of requirements
- Preselection of potential suppliers
- Evaluation of needed degrees of requirements with supplier products
- Identification of best value products

Value Engineering in different branches

Product development



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<https://searchcio.techtarget.com>

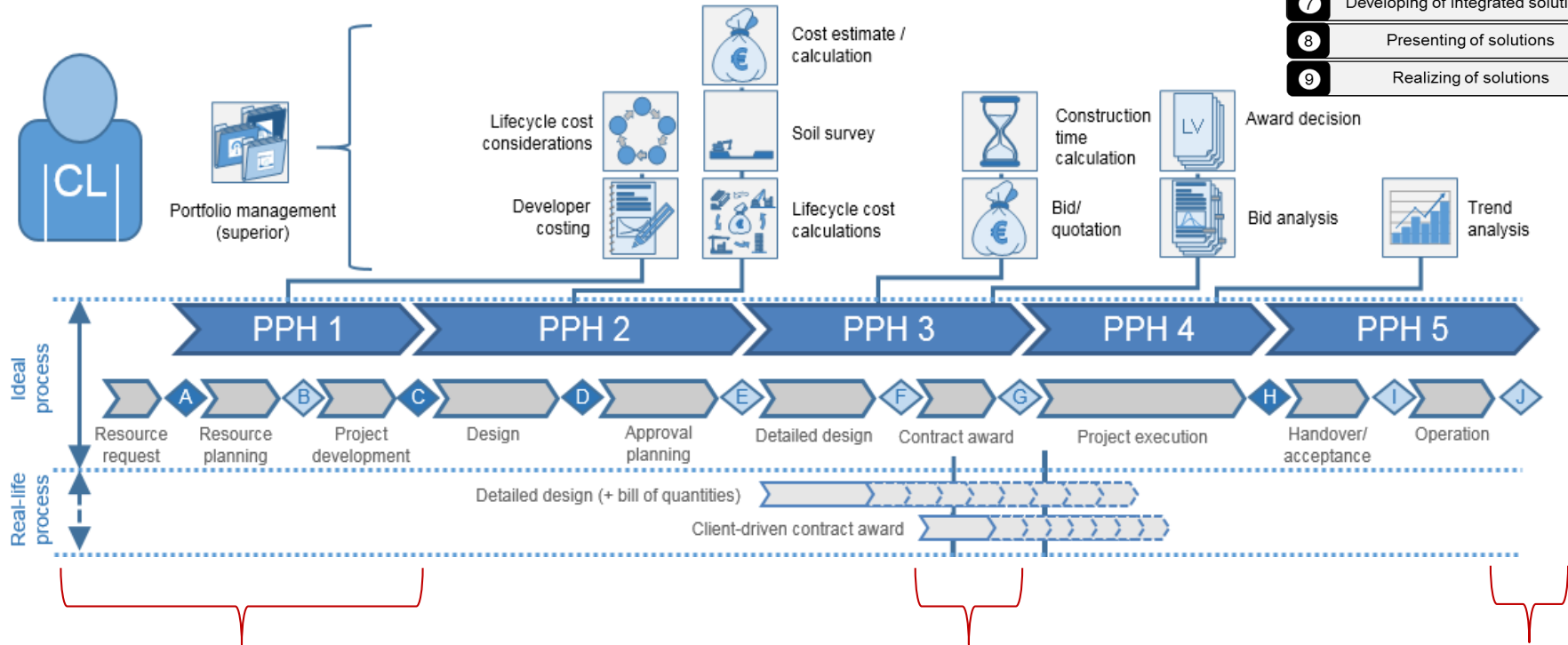
- Better specification of targets for the product development
- Introduction of functional thinking for a brider understanding of needed product features
- Establishing of a target system as a guideline for the product development
- Incorporating of as-is and target costs in the development process (cost-oriented development) to ensure economic results

Value Engineering in different branches

Construction



- | | |
|---|---|
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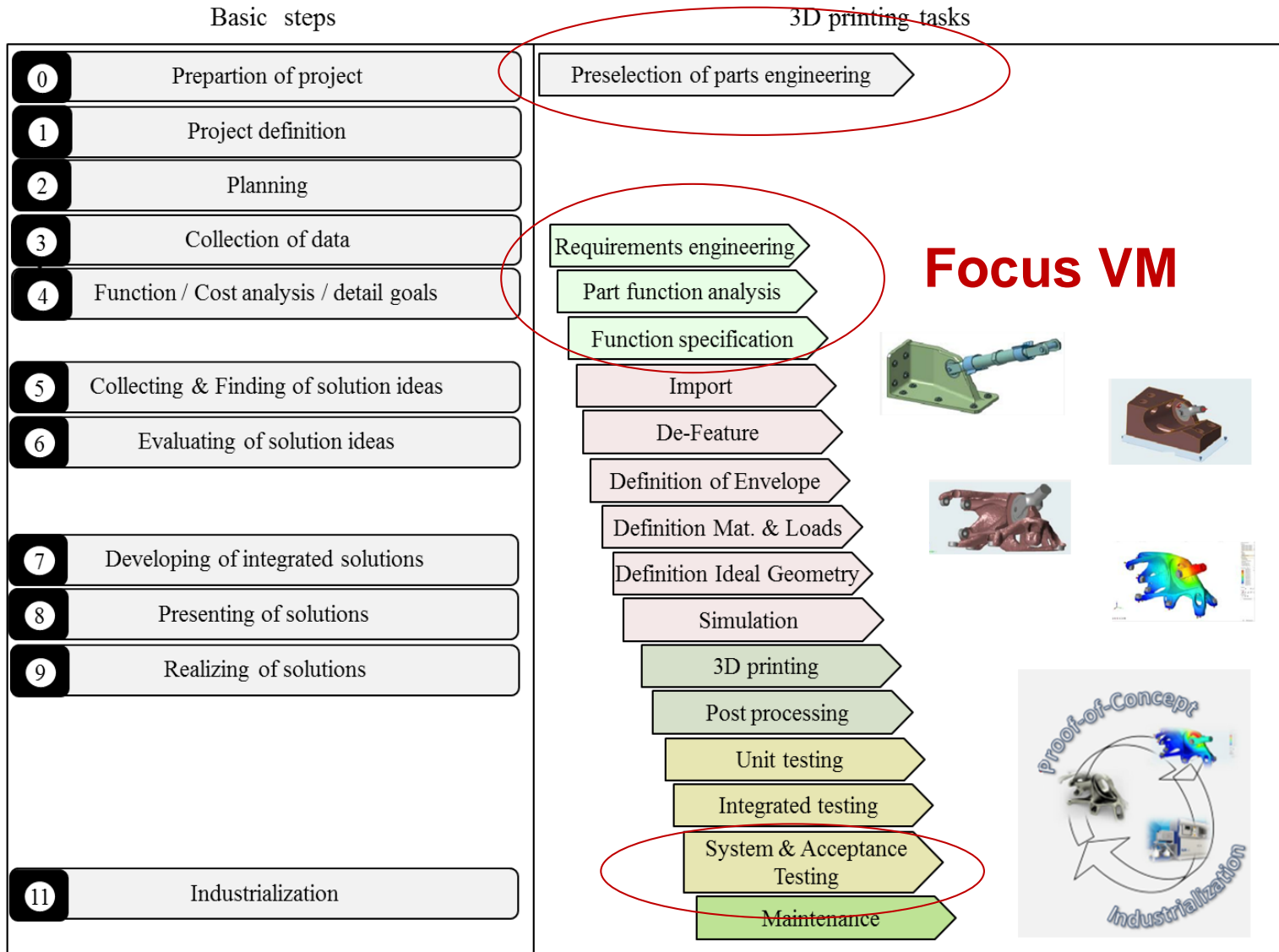
Focus VM

C. Hofstadler: Insitut für Baubetrieb und Bauwirtschaft

- Better involvement of all relevant stakeholders in the early phase
- Function oriented target system – not focussing on existing solutions only – ensures a wider degree of freedom for suppliers
- Cooperate working in the building process increases motivation for best value results
- Supplier and customer both benefit from cost saving measures
- Procurement is easier carried out by a detailed requirements engineering
- Value engineering can be used for material costs optimisation as well as for the building process steps

Value Engineering in different branches

3D metal printing



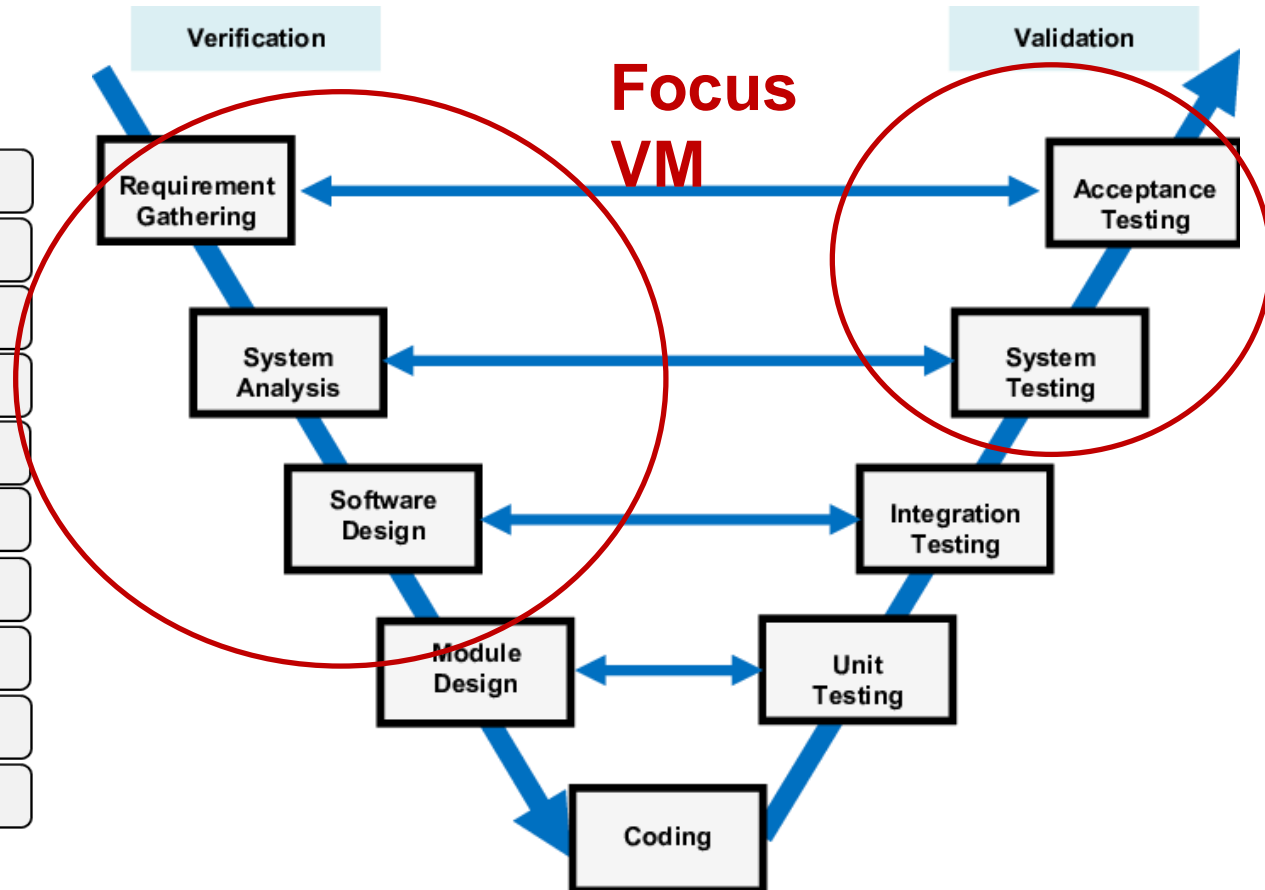
- Requirements engineering in the beginning defines the degree of freedom for the shape of the 3D printed parts
- Functional thinking opens the engineers minds for new development results
- The value engineering approach stimulates thinking in variants and can so ensure different product solutions
- An integrated topology optimisation of 3D printing parts creates lighter, more efficient parts

Value Engineering in different branches

Software development



- 0 Preparation of project
- 1 Project definition
- 2 Planning
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<https://www.researchgate.net>

- Value engineering helps best in the early stages and the evaluation of the software development and in the end for evaluation of results
- The requirement gathering shall be carried out within a functional analysis to ensure a greater distance to strict software feature thinking
- Value engineering addresses also the cost topic – either for the cost of software development or in combination of software and hardware total costs analysis

- Value Engineering can be used in different branches with success

- In this speech the branches
 - Purchasing
 - Product development
 - Construction
 - 3D metal printing
 - ITwere successfully adressed

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