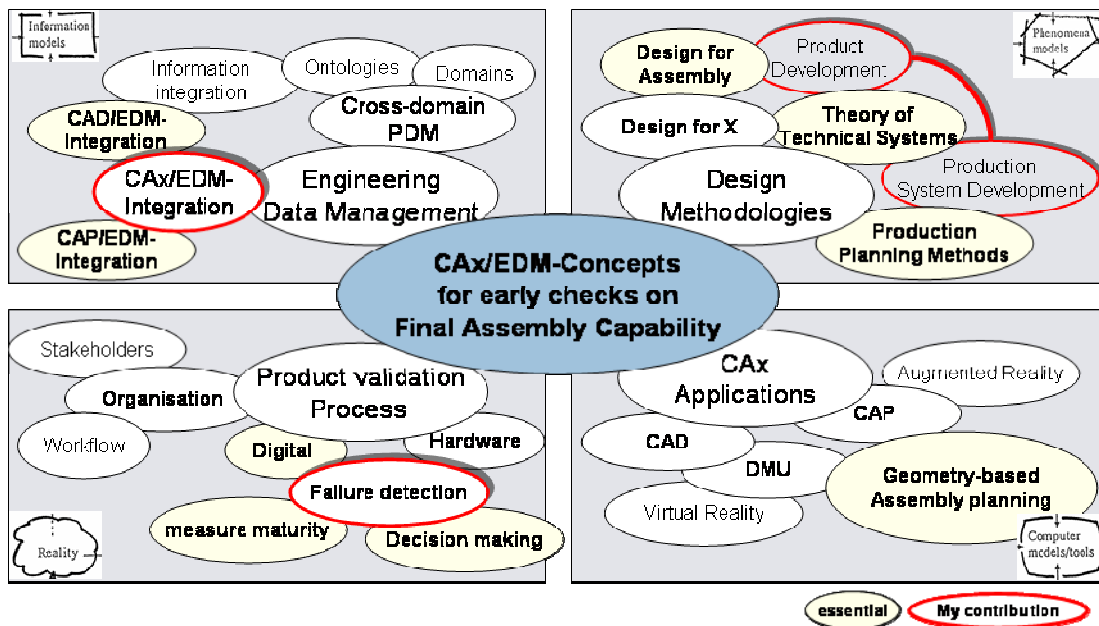




CAx/EDM-Concepts for early checks on Final Assembly Capability

Theoretical Foundation and Concept:



Background:

- Late recognition of product failures leads to **exploding costs**
- Digital methods are in general able to **detect failures in early phases**
- Today's Digital Methods are very strongly **focused on the detection of functional problems**
- In **automotive final assembly**, different **stake-holders and domains, unharmonized systems, tools, data and information** as well as isolated processes have to interact

Problem statement:

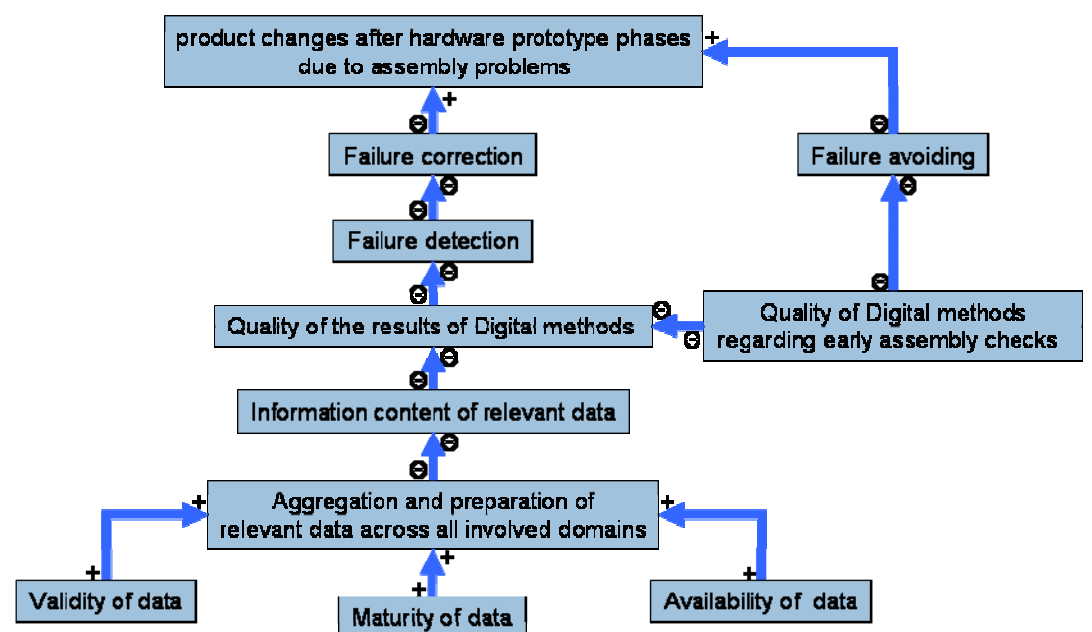
There are/is

- No digital methods in order to detect and judge assembly problems in earliest stages available
- No suitable IT-infrastructure which integrates involved stakeholders and domains
- A need for balancing and controlling the interaction in downstream processes in order to continuously increase the degree of maturity

Goal and main contribution is to...

... avoid late product changes due to assembly problems by increasing the final assembly capability within integrated digital methods and data management in automotive industry

Reference Model:



Research Questions:

- Which **informations** are necessary and available relating to **different stages and stakeholders** of the product development process?
- Which methods or tools are available to **measure and judge final assembly capability**?
- **How to merge** cross domain **information** into a environment, **which allows early controlling and decision-making**?
- Which **requirements** have to be fulfilled **by this environment**, regarding the complexity in automotive final assembly?
- How have these **methods and tools to interact**?

Hypotheses:

- The usage of **digital methods in early phases** allows to **proof and judge final assembly capability** in a reasonable and objective way in order to **constantly increase the maturity** of a product .
- **EDM-systems** are able to deal with very dynamic and complex data and are therefore **predestined to merge data of different domains** serving for earliest investigations regarding **final assembly capability**.