



Project „Flexible Assembly Processes for the Car of the Third Millennium (MyCar)“

Problem Description

Consulting & services towards a variant-oriented planning methodology + software

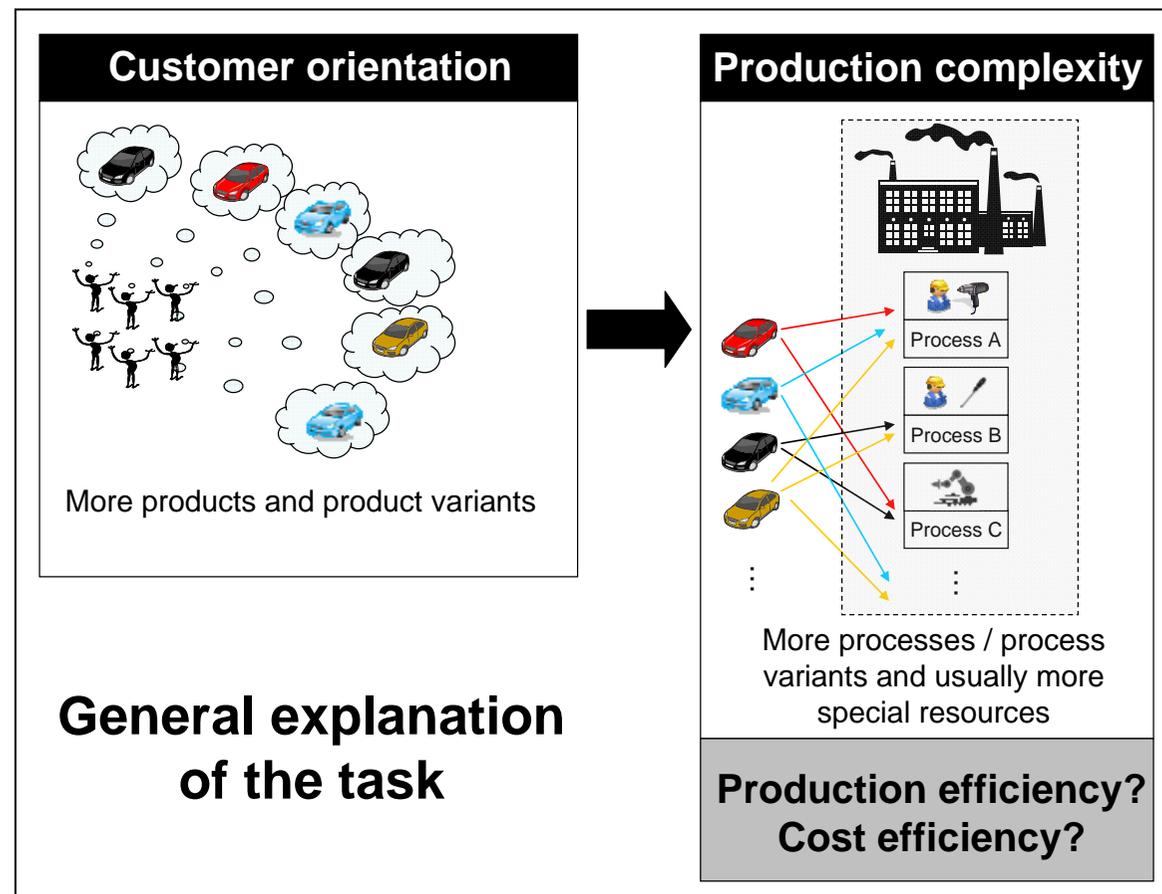


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Problem description

... Why do we need an **improved & innovative** final assembly planning **methodology**?



General explanation of the task

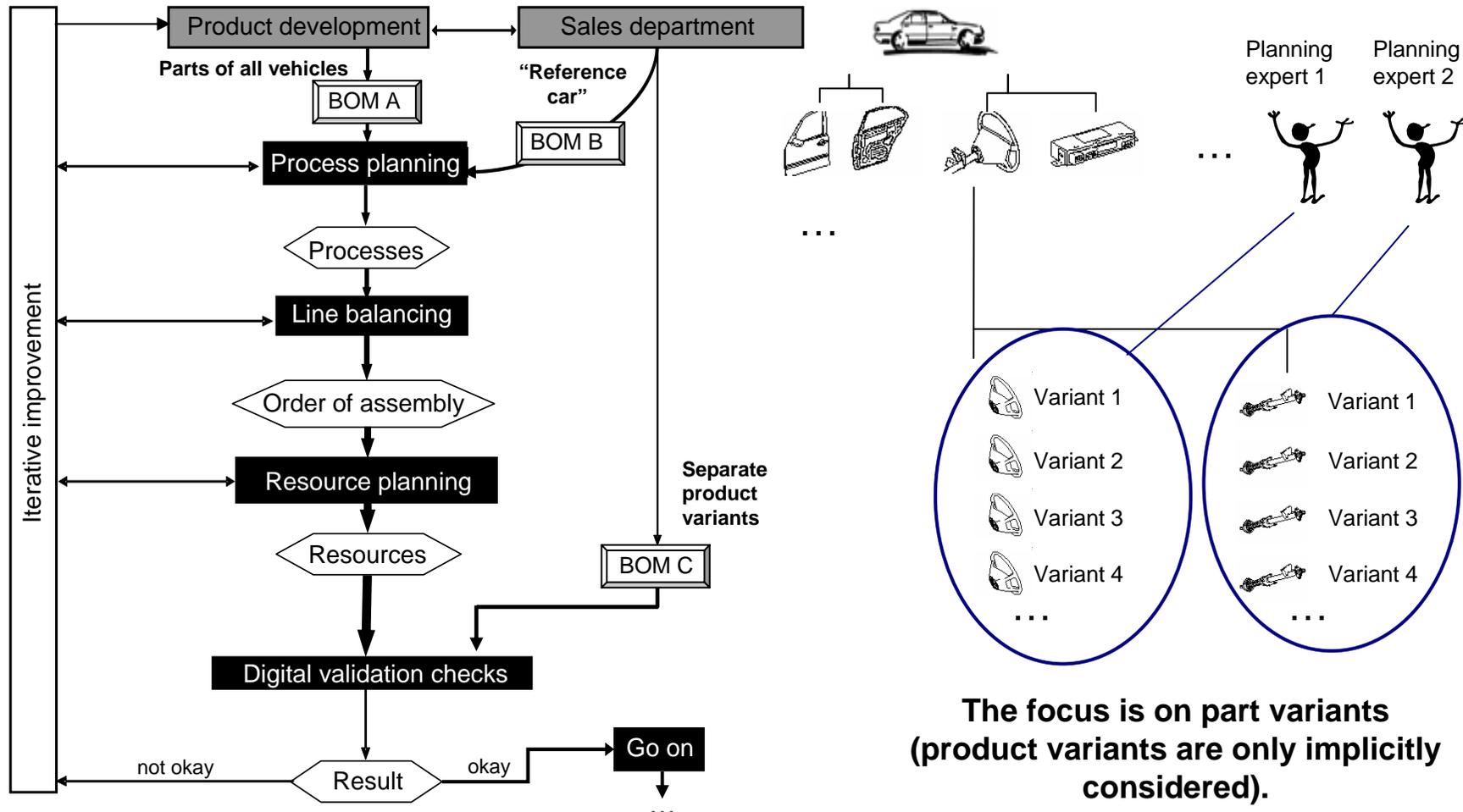
- New planning methods are necessary to be able to check already at the early planning stages how an intense customer orientation can be efficiently handled in the field of production. It has to be avoided that the customer orientation leads to an extreme production variance (too much process and resource variance). A high transparency from a technical as well as from an economic point of view regarding the intended production of product variants is necessary. Variant-specific calculations and early production-oriented comparisons of product variants are necessary.
- Given that an increasing customer orientation usually has a very high impact on the area of final assembly, new methods and tools are equally necessary and have to be developed in the area of final assembly planning so that it can be checked whether the intended customer orientation is reasonable from the point of view of production. An acceptable process and resource variance has to be ensured right from the start of the planning process.
- In general, two scenarios have to be considered:
Final assembly planning for new vehicle projects with a very high product variance starting from scratch (1) & for intended integration scenarios which deal with the topic of integrating further products and product variants in an already existing assembly line (2)



Final assembly planning for new vehicle projects starting from scratch (regarding the early planning stages):

- Often not enough planning transparency; planners usually work with conventional tree structures and average calculations: critical product variants, a critical process/resource variance and critical points regarding economic aspects cannot be easily identified
- Partly insufficient cross-departmental cooperation, e.g. between the fields of process planning and line balancing

The classic planning workflow (the early stages of final assembly planning)

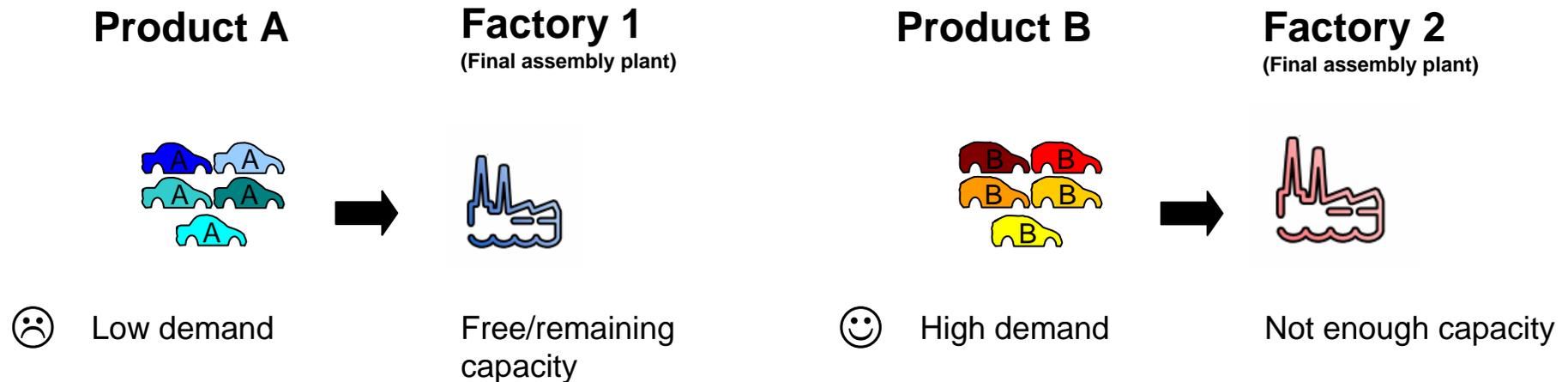




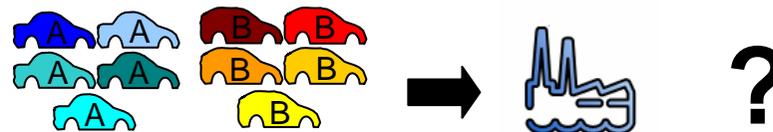
Final assembly planning for intended integration scenarios:

- Methodology for an objective, fast assessment of intended integration scenarios is missing
- So far, also no software which allows a fast assessment of intended integration scenarios in the field of final assembly planning available
- Missing transparency from the point of view of executing planners as well as of decision makers

Situation to be dealt with



Is it possible and reasonable to assemble product B in factory 1?



➔ **Assessment methods/software have to be developed so that this question can be easily answered.**