**Considerations and first steps towards the implementation of Concurrent Engineering in later project phases**

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The benefits of Concurrent Engineering (CE) in early space project phases (0/A) have been demonstrated for decades. Many organizations have developed their own processes and tools, with different objectives and levels of integration into their product design cycles, and managed to execute studies in a systematic and efficient way. All of this, however, has not yet been made possible for later phases (B/C/D), of a space technology project.

For CE to be successfully applied in later phases a significant number of obstacles must be overcome, e.g. the high level of complexity of the systems involved, the distribution of industrial partners, or the increasingly large sizes of the teams involved. New tools need to be developed, new work processes will have to be established, and new ways of working will need to be enacted in organizations before CE can support these later activities. The CE team at DLR is focusing at present on the development of an internal process that could integrate the use of CE in combination with the application of Collaborative Engineering into phase B.

A generic process, can only be considered useful to a limited degree if implemented as originally defined. Any such process needs to be adapted to the specific work environment where it is to be executed and, therefore, when contemplating the development and application of a new work process in an organization, a number of different aspects need to be analyzed. The particular characteristics of the organization will affect the process, but also need to adapt to the new process. The methodology the process is aiming to follow will also impact its definition. The tools (i.e. software) that are used or need to be developed will impose its own restrictions to the process, and be influenced by it. These aspects and any number of other project traits will impact the process, and be affected by it.

As part of DLR’s current efforts to develop a working process for the use of CE in Phase B, an analysis of the factors that may influence the development of such a process has been undertaken. The paper will present this analysis, identifying the issues that need to be considered, as well as introducing the specific resulting CE process at DLR.

One concrete first result for this proposed process is the identification of several CE benefitting activity types which shall be organized in a generic sequence from Phase 0 to end of Phase B. This paper presents the defined activity prototypes and a generic overall sequence flow of those activities. Finally, one possible specific implementation for an example project is sketched for clarification and comparison with a classical work approach.