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Vortragstitel	Implementation of a Heterogeneous, Variable-Fidelity Framework for Flight Mechanics Analysis in Preliminary Aircraft Design
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Abstract	<p>This paper presents the implementation of a framework for flight mechanical analysis with adaptable aerodynamics methods in the preliminary stage of aircraft design. Basis to the framework are software modules for the disciplines conceptual design, flight mechanics and aerodynamics which have been developed within different design frameworks and which contain heterogeneous interfaces. The focus is placed on the technique for the integration of the different analysis components and the realization of the variable-fidelity capability. Backbone of the framework is the XML-based 'Common Parametric Aircraft Configuration Schema' (CPACS) which was extended in course of this study. The paper introduces the utilized analysis codes and software modules, presents their integration into the framework and discusses the faced challenges and developed solutions. Exemplary results are shown as illustrative use cases. Analogies of linked design systems lead to a standardized integration process. In a next step the homogenization of different design systems by a unified parameterization appears to be feasible.</p>