Enabling multidisciplinary-analysis of SysML models in a heterogeneous tool landscape using Parametric Analysis Models

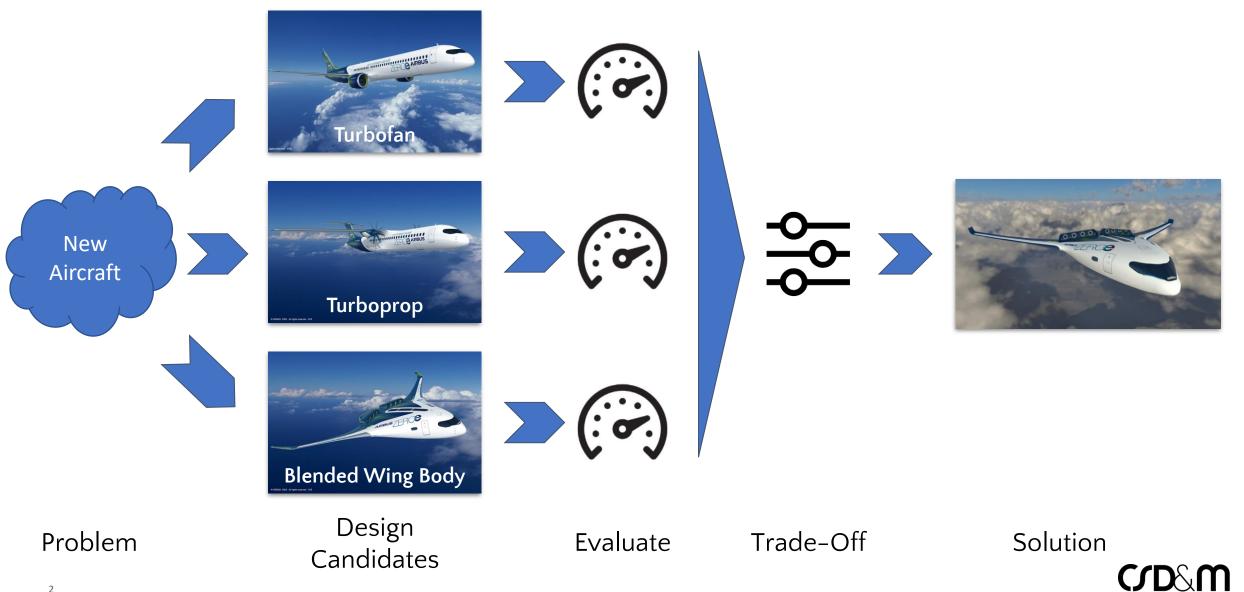
Philipp Helle, Gerrit Schramm, Sönke Klostermann, Sergio Feo-Arenis

Airbus Central R&T – Virtual Product Engineering



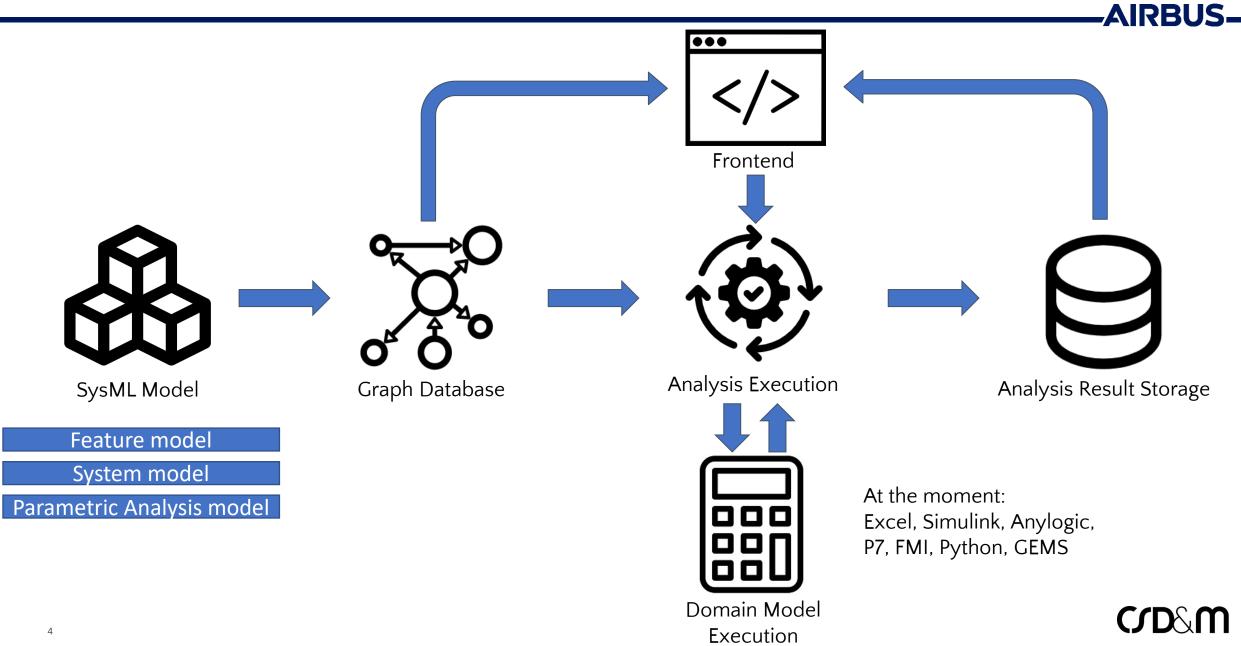


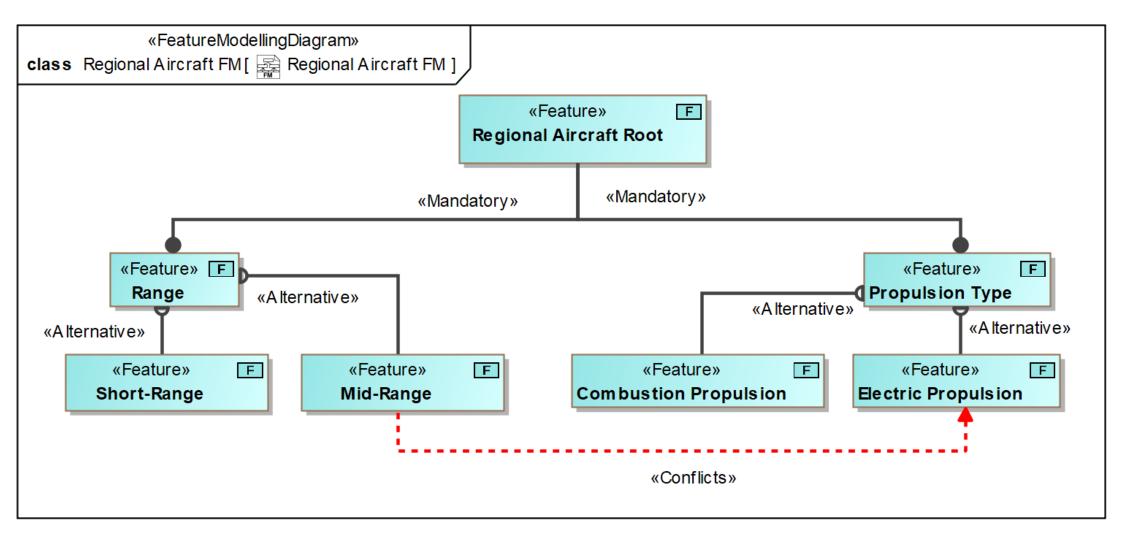
Systems Engineering Process



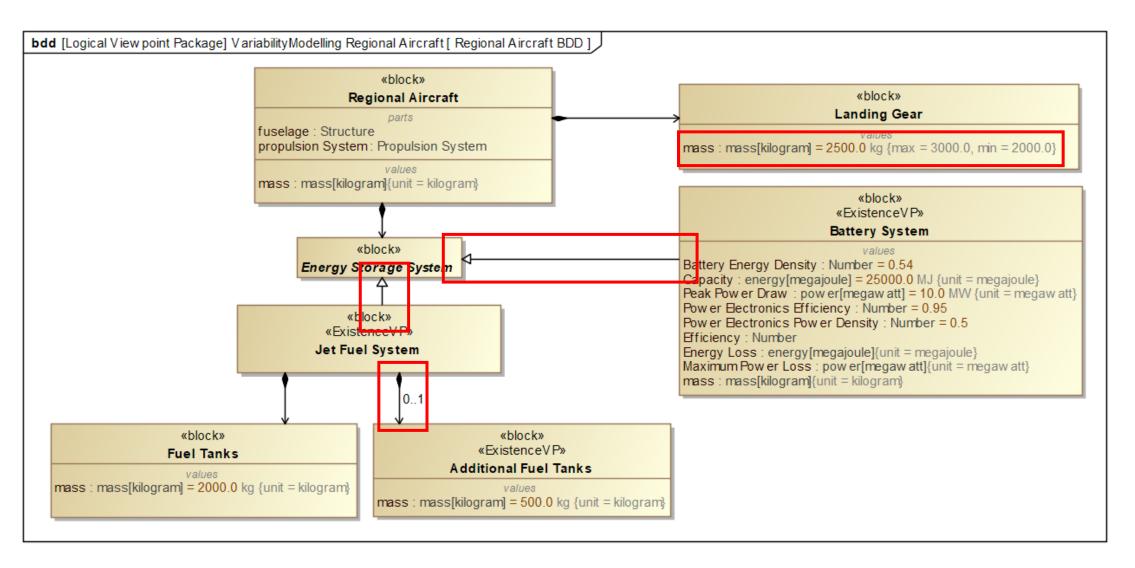
- Model the system, its variability and the analysis process using SysML
- Integrate calculation results from models from different disciplines in different tool formats
- Automate the analysis in a scalable asynchronous execution environment

Overview

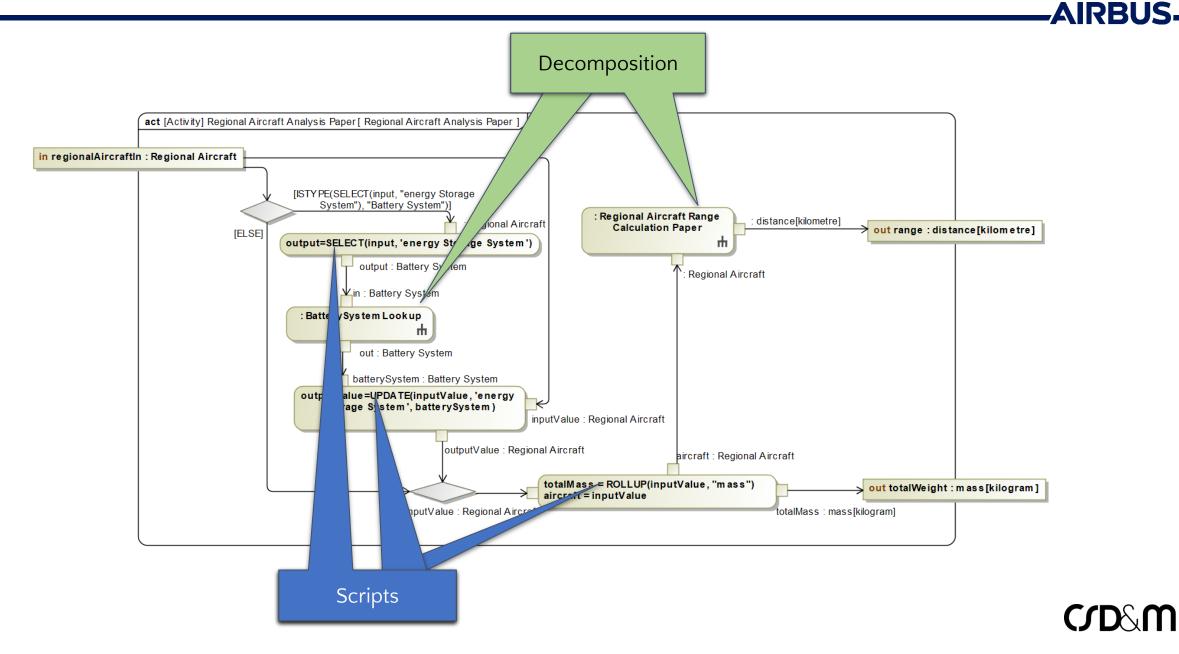




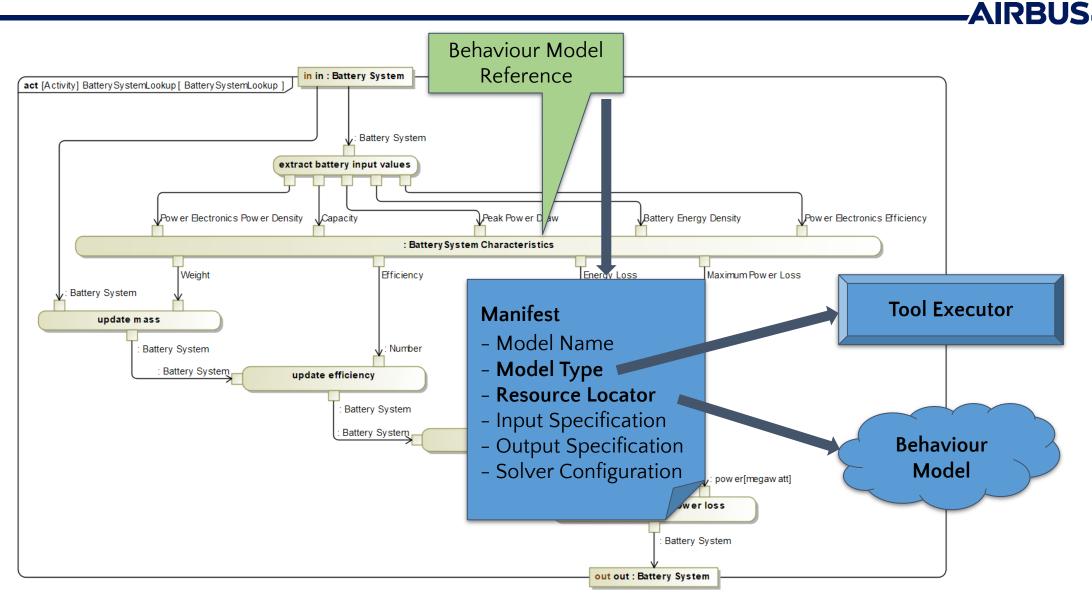




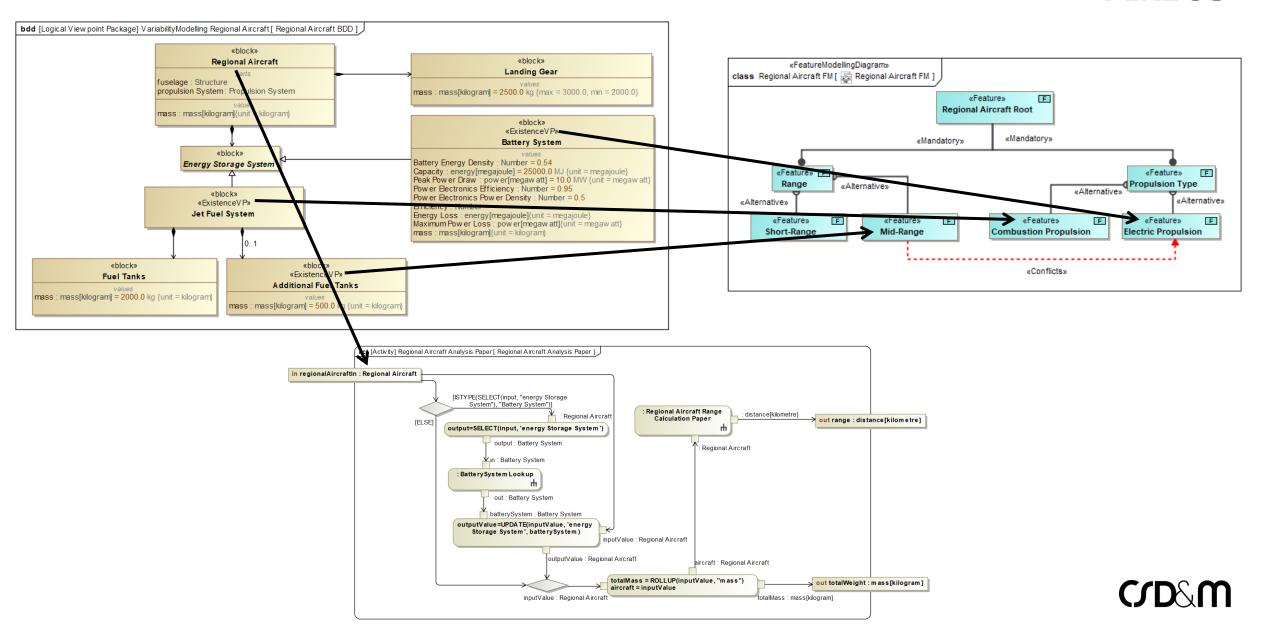
Parametric Analysis model



Parametric Analysis model



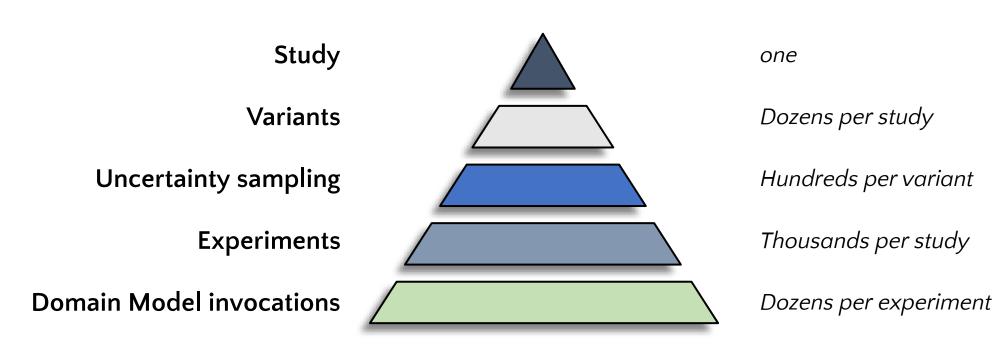
Model relations



Workflow

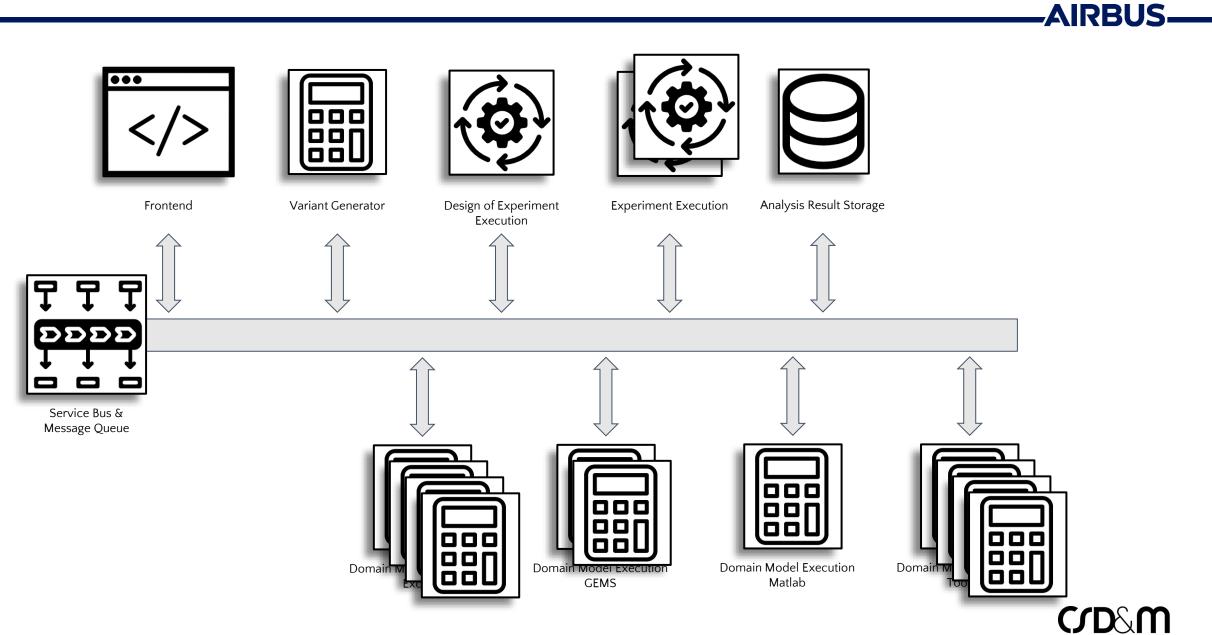
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Software architecture



 Using the same tool and language for modelling a system, its variability and the analysis ensures consistency

- Meaningful analysis requires integration of data from different disciplines
- Scalability needs to be built into the execution environment from the beginning
- SysML v2 will have Analysis case and Trade-off analysis as explicit classes rooted in the metamodel

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