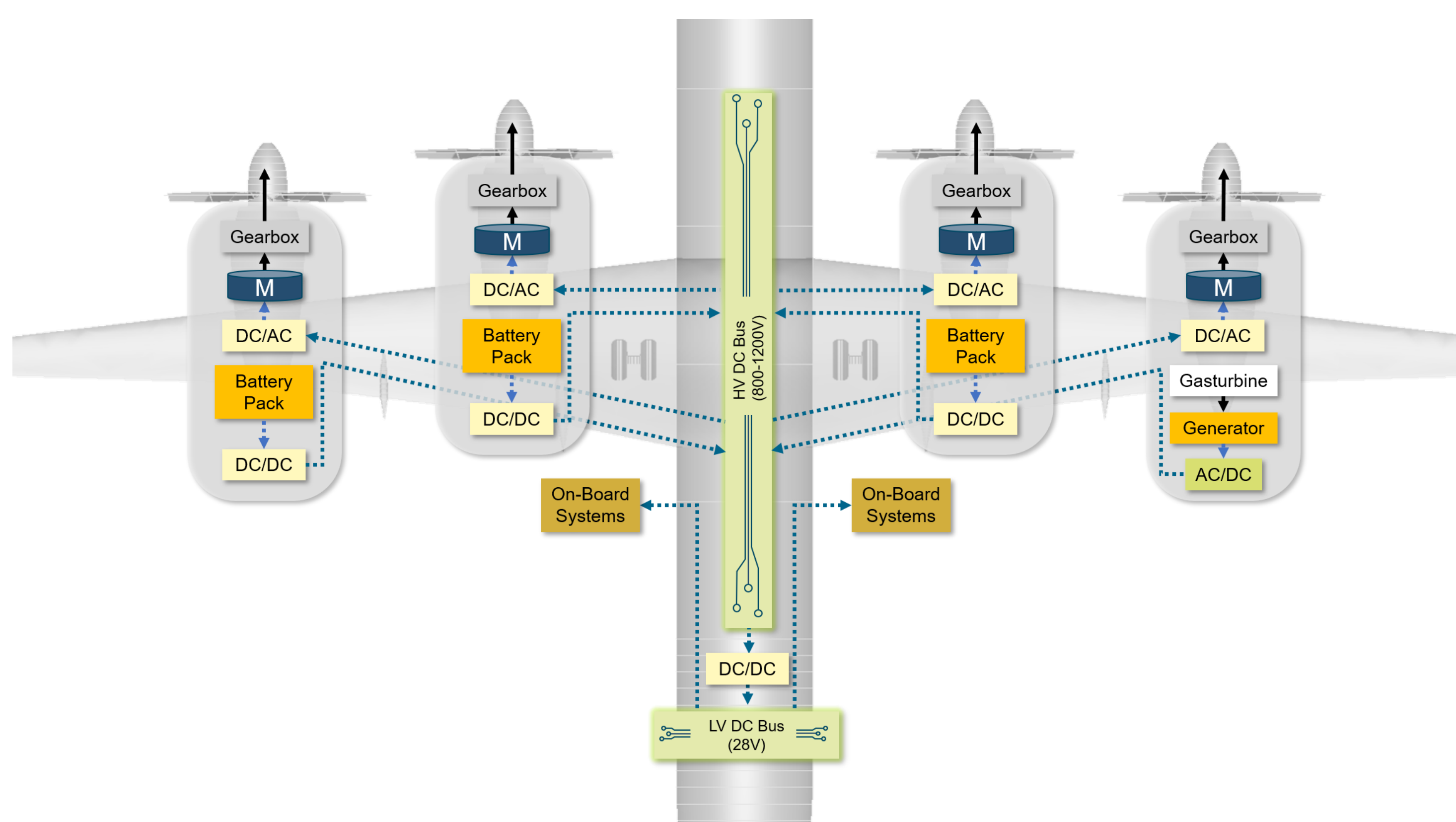


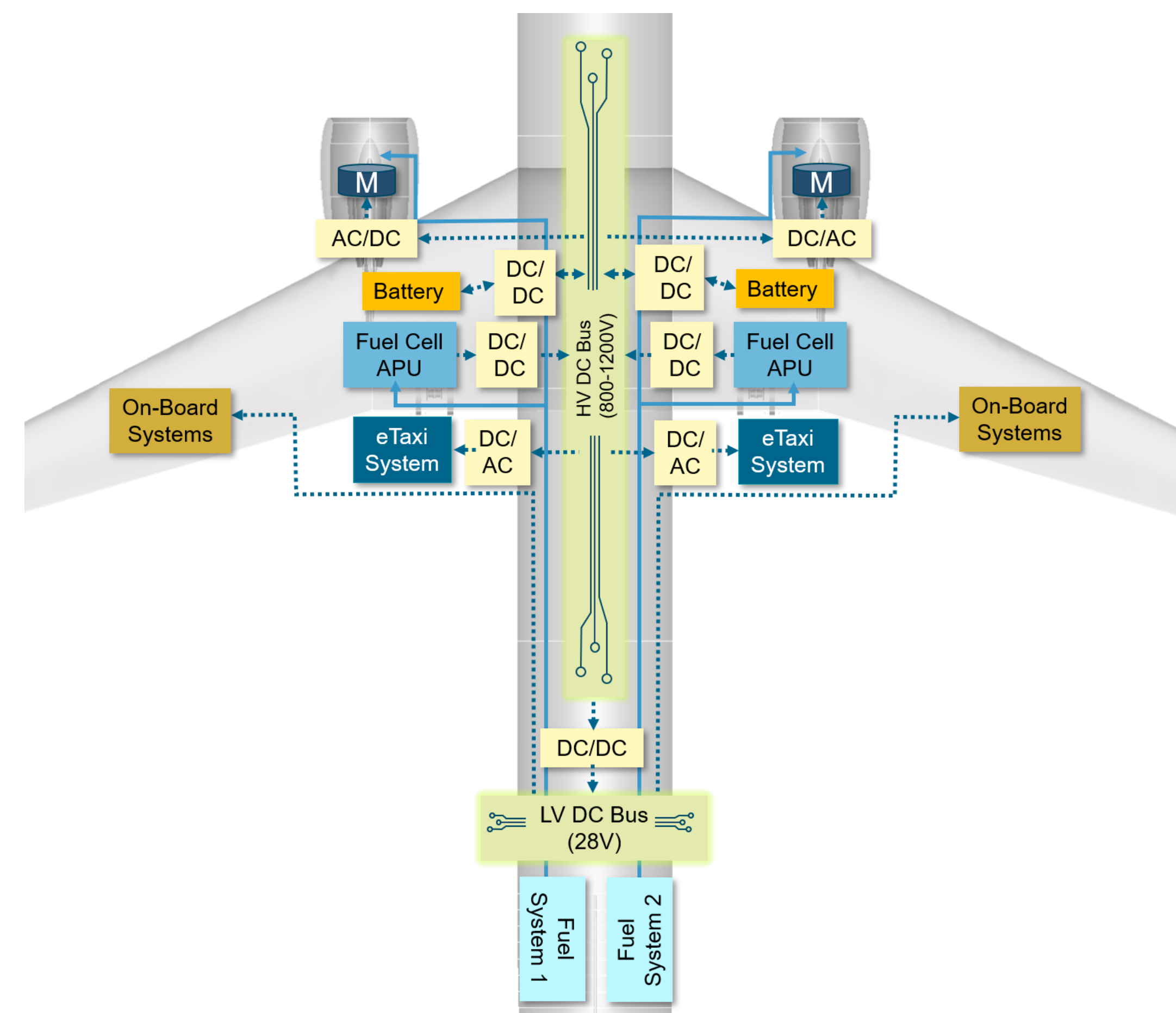
PROPULSION AND ON-BOARD SYSTEMS

ARCHITECTURE DESIGN, SYSTEM INTEGRATION AND SIZING WORKFLOW

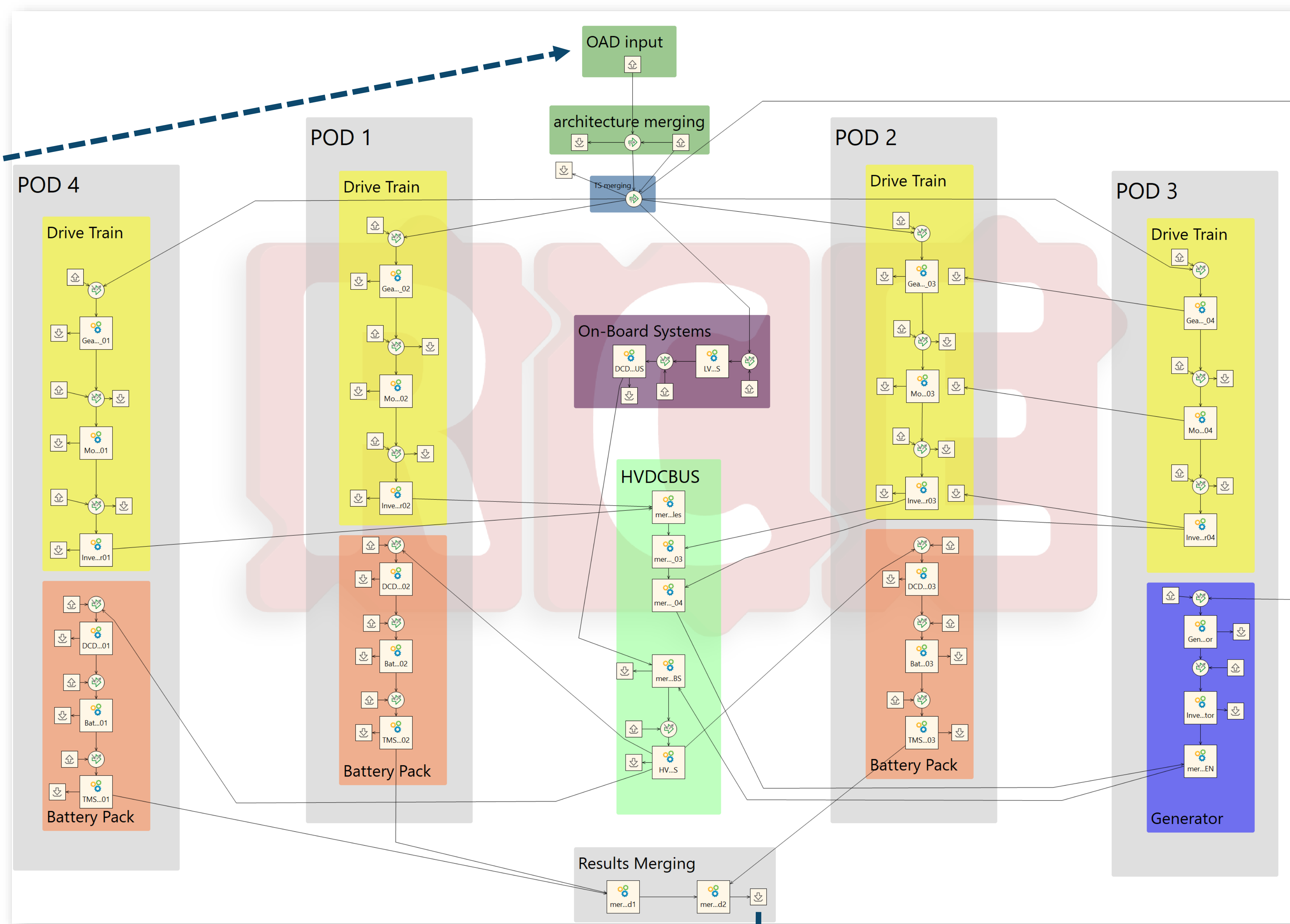
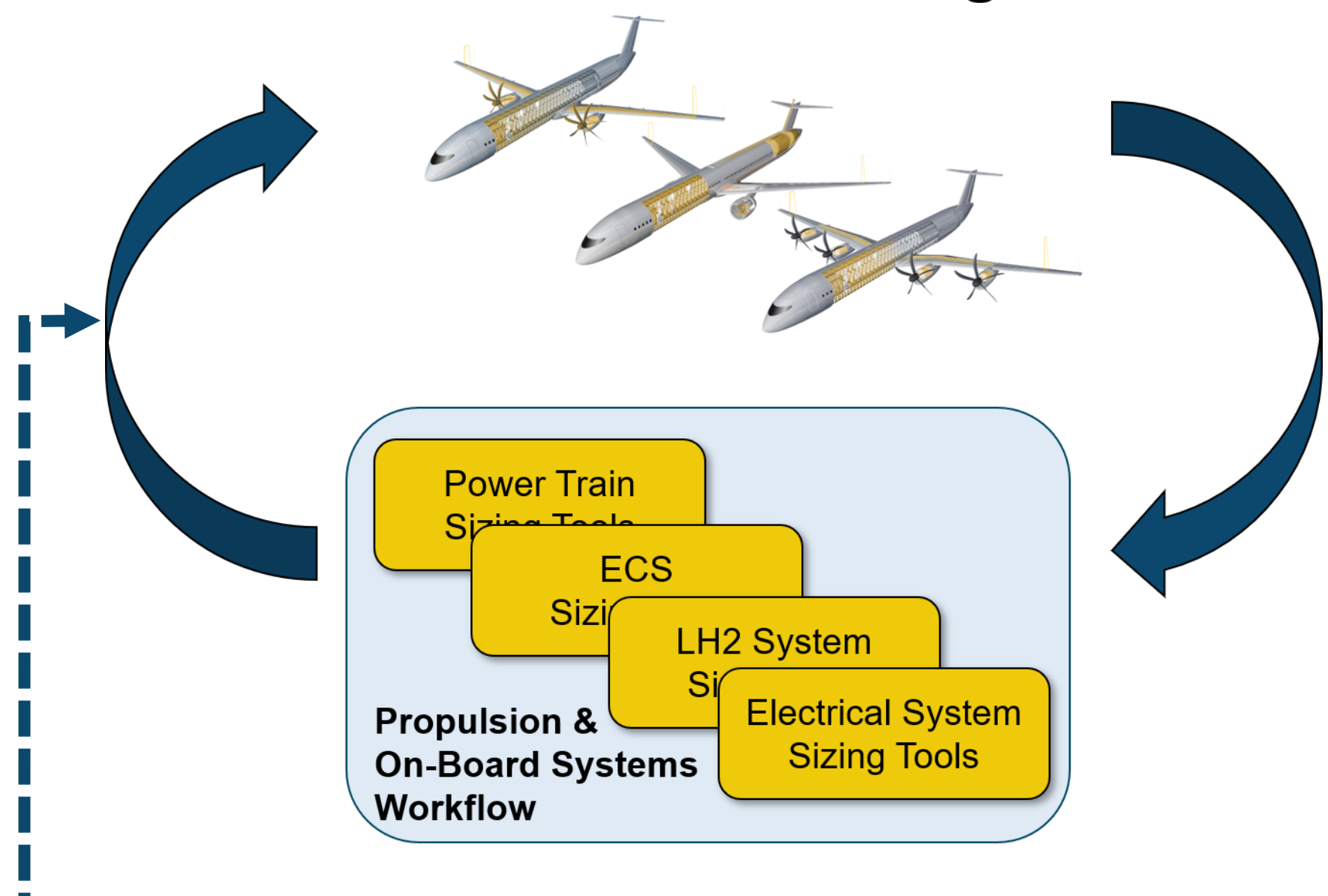
Plug-In Hybrid



Mild-Hybrid (LH2)



Overall Aircraft Design



On-board and propulsion systems sizing workflow for the PHEP configuration in RCE (Remote Component Environment).

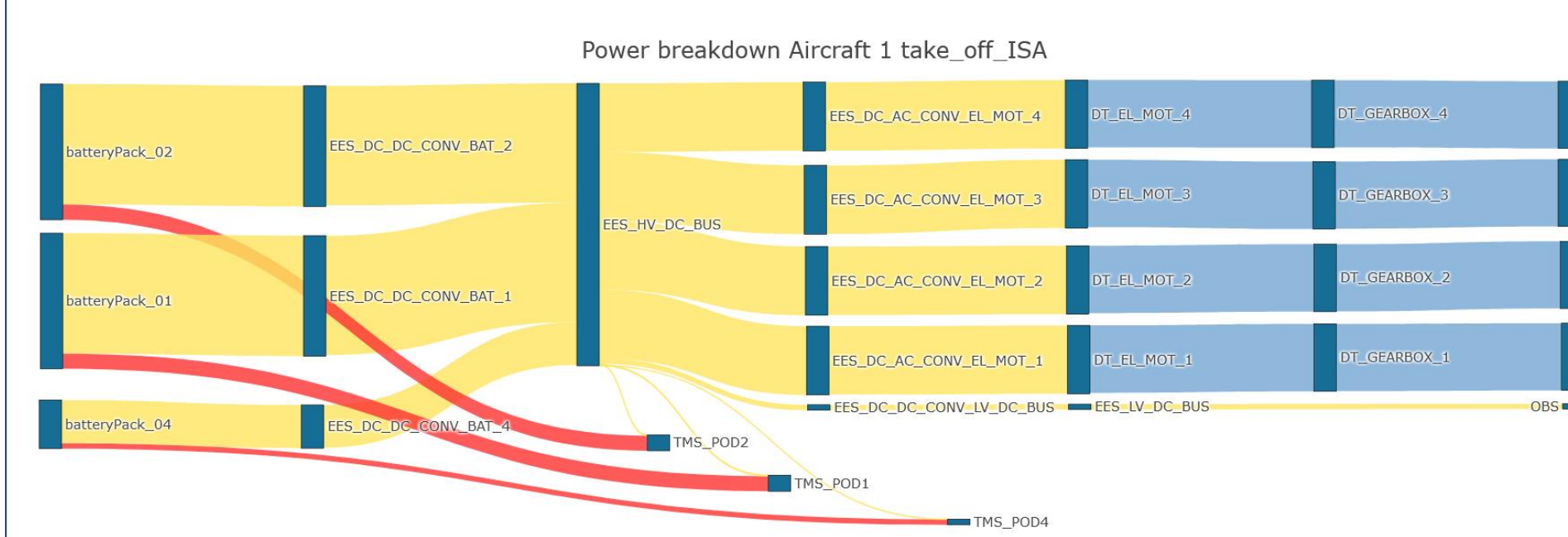
Sizing workflow

- Sizing tools for all relevant disciplines are integrated in RCE
- Each component of the system architecture is represented by an instance of the respective sizing tool
- In- and outputs for each tool are determined by the system architecture definition in CPACS
- Workflow will be fully integrated: results are directly fed back to the overall aircraft design workflow

Results

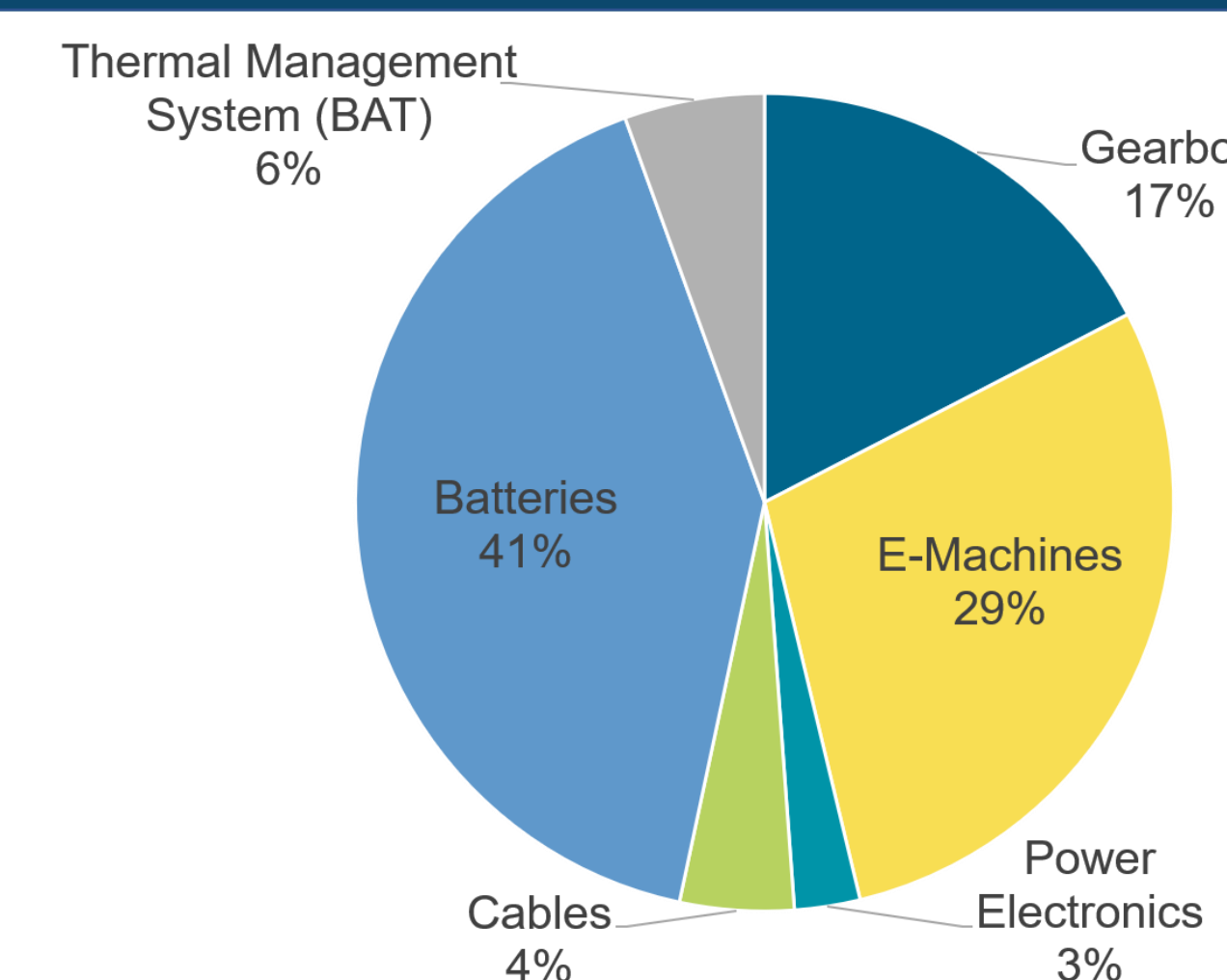
As a main result, the sizing workflow provides system masses and power flows. The system mass of each component is determined in each tool and is a result of the analysis of various characteristic operating points. The power flows in the power breakdown are always a snapshot at a specific operating point.

Power Breakdown



Visualization of the PHEP power flows at a single operating point: hybrid electric operation.

Powertrain Masses



System masses (PHEP) after initial sizing process by the analysis of different operating points.



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