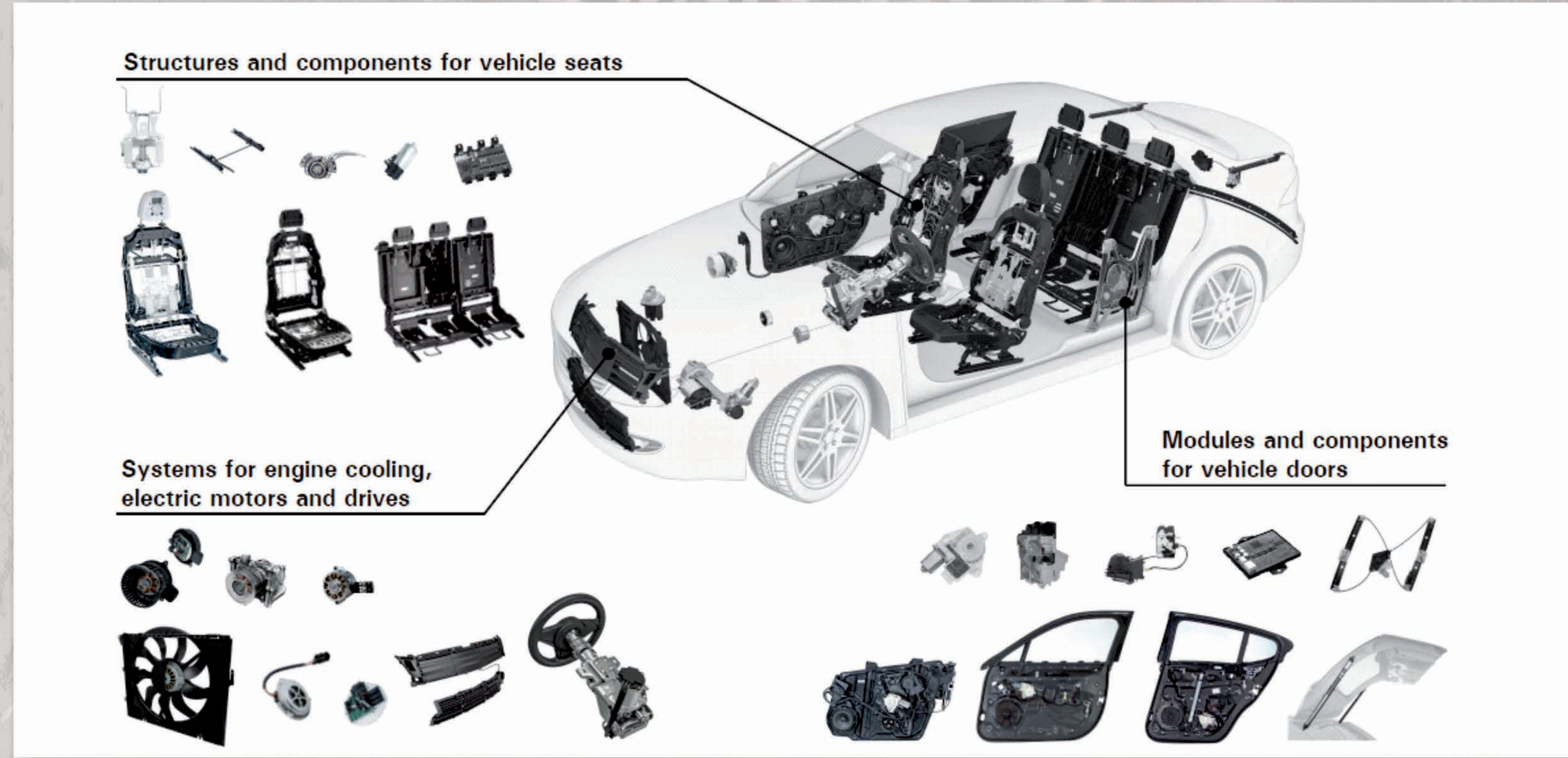


Optimal Low-Noise Energy-Efficient Electrical Machines and Drives for Automotive Applications

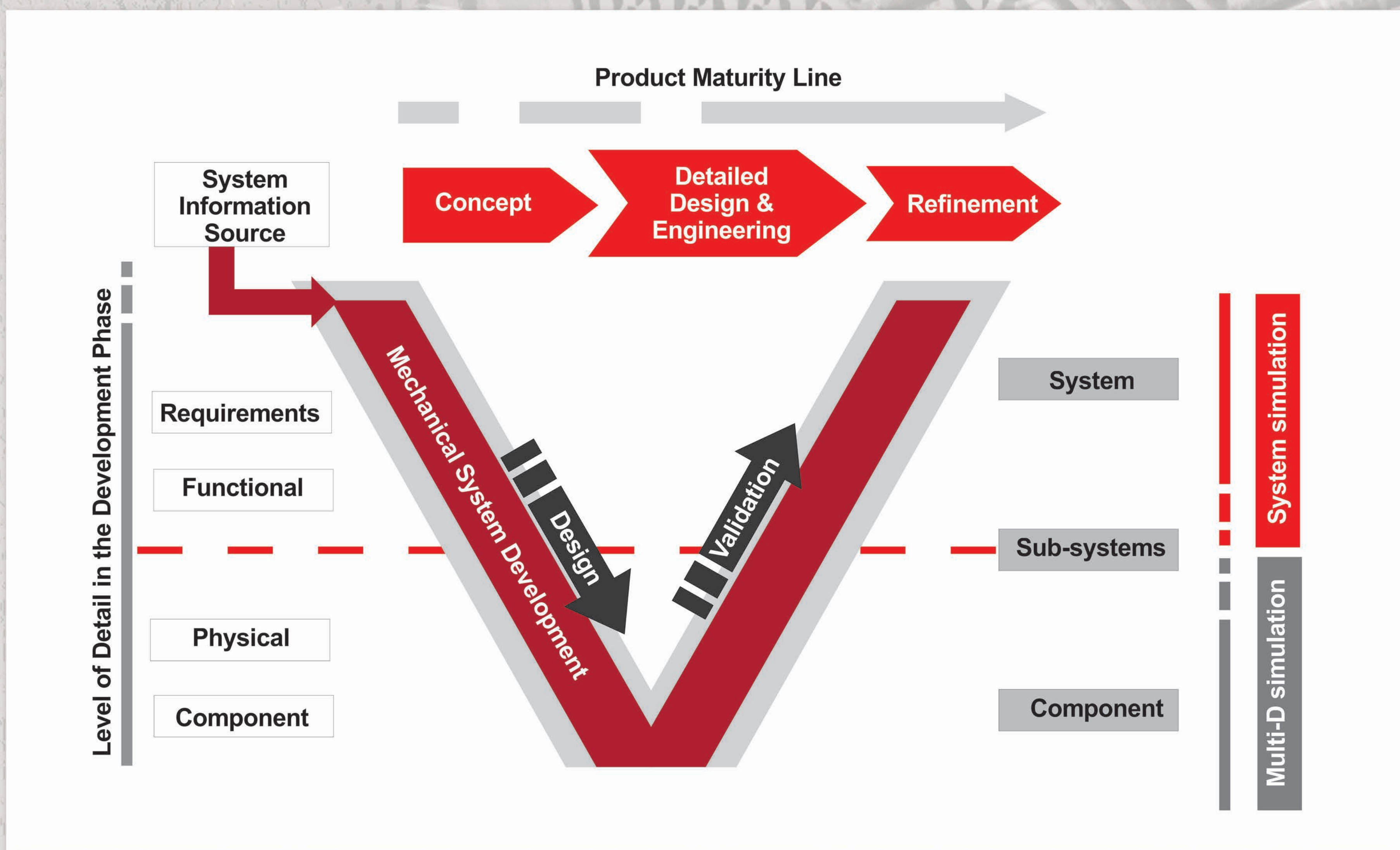
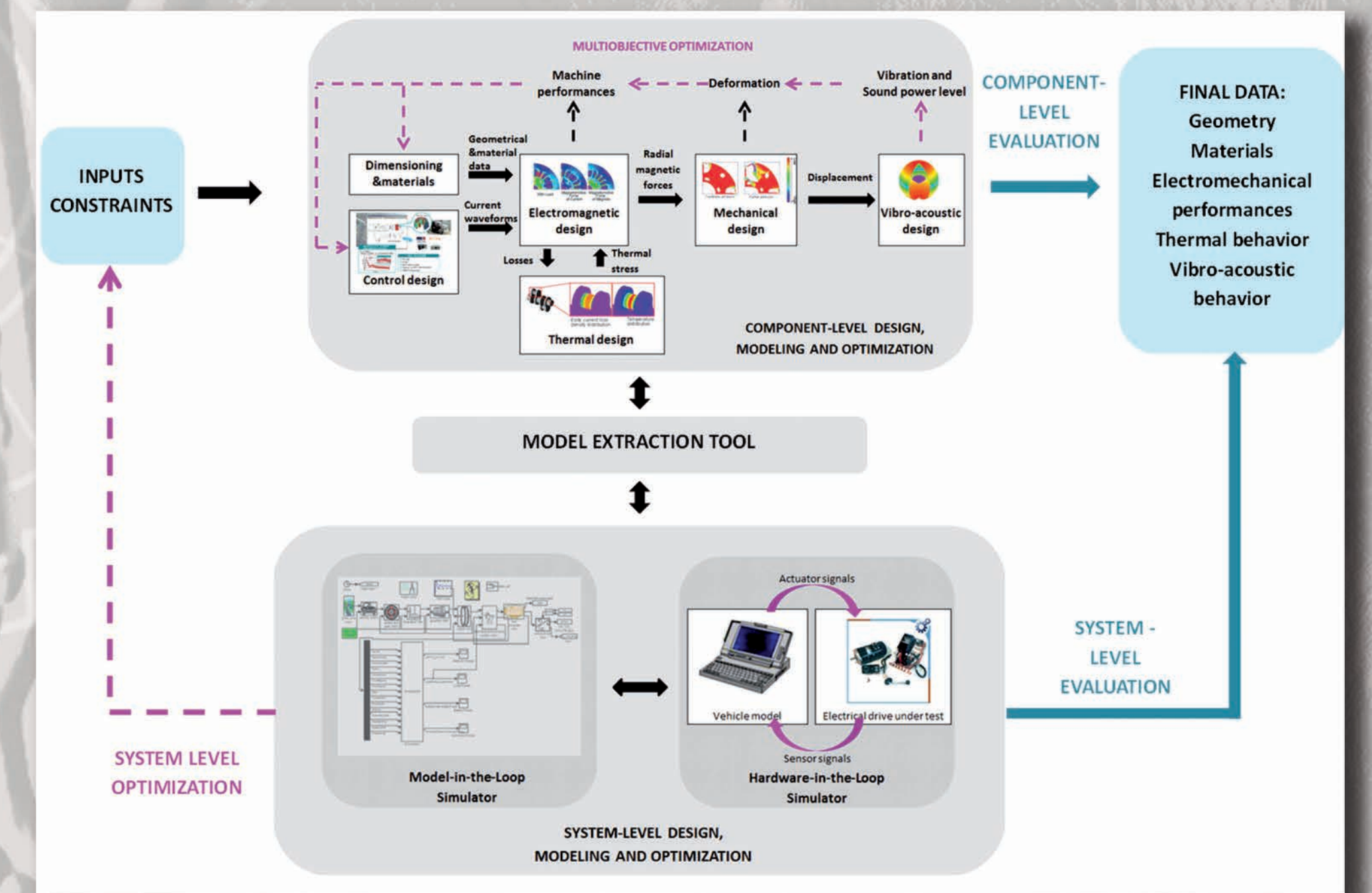
CONTEXT:

High degree of vehicle electrification
Enhancement of the vehicle performance
Enhancement of the driving comfort
Rise of the safety on the road
Improvement of the fuel economy
Reduction of the emissions.



RESEARCH OBJECTIVE:

Multi-level multi-physics design
Optimization and validation of energy-efficient low noise electrical machines and drives for automotive applications



OUTCOMES:

Integrated design platform combining multiple simulation methods with appropriate modelling languages and the ability to integrate existing designs fast and efficiently.
Enhance technological know-how and transfer of knowledge in the field of electrical machines and drives for automotive applications.

EMDA_LoOp platform:

Cost and time efficient development processes of electrical actuated automotive auxiliaries
Technology development for a high degree of function integration, low cost and robustness of automotive auxiliaries
Education and training

CHALLENGES:

Development of energy-efficient, reliable, robust, low-cost electrical machines
Highly integrated, energy-efficient power electronics modules.
New sound and vibration signature of the vehicles
Increasingly important role in all the development phases of the automotive components design process of Modeling&Simulation