

ECOTS – Evaluation and Control Of Thermal management Systems

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Challenges:

The thermal system is influencing the efficiency of electric vehicles, and it is becoming complex to design and manage, i.e. multiple circuits, multiple systems with individual demands, i.e. batteries, power electronics, electric machines, fuel cell.

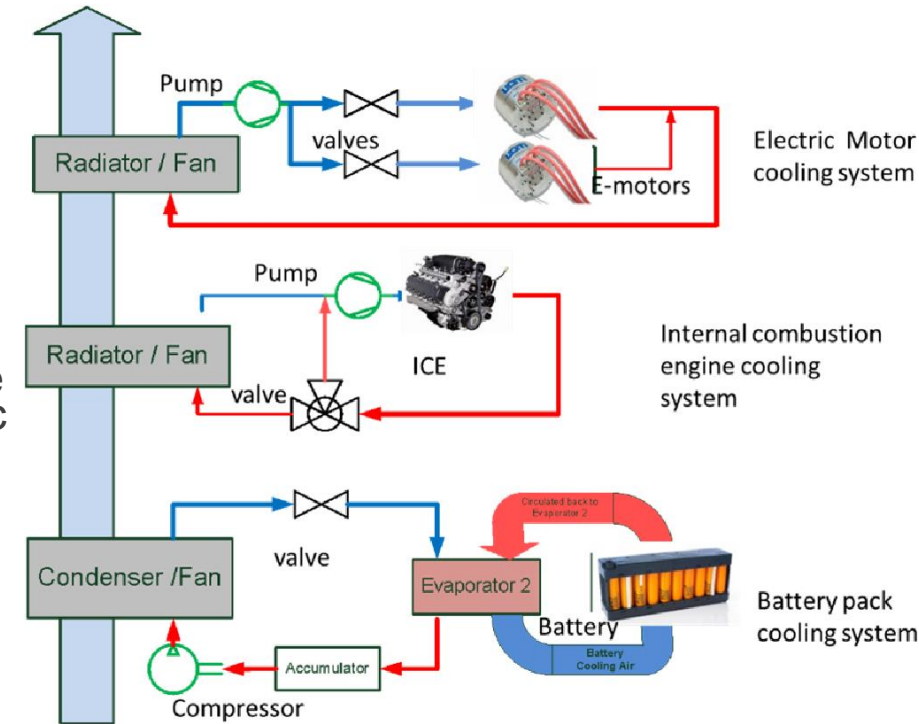
Goals:

Develop models and methods that support analysis, design, optimization, and control of current and future thermal systems.

Systematic modelbased methods that can handle various system topologies and can also incorporate ageing and lifetime assessments.

Approach:

Extend the Open ECCV simulation platform with more capabilities for analysis of thermal system adding more components and models.



Picture from:
Design, Modeling and Control of a Thermal Management System for Hybrid Electric Vehicles
Xinran Tao, 2016