Session 1: Mobile Source PHEV Truck Development and Evaluation Projects

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Topics Discussed

- DOE PHEV Demo Project
  - Project History
  - Current Program Structure
  - Overview of Each Technology Deployed
- Heavy-Duty PHEV Projects

Project History – A Rough Road Travelled

Project History – A Story of Corrective Action Plans

Initial Project – 378 Eaton PHEV F550 Bucket Trucks

- Eaton exits → Corrective Action Plan

Re-scoped project – Azure PHEV Bucket Truck, E450 Shuttle Bus & Odyne Work Truck

- Azure declares bankruptcy → Corrective Action Plan

Current Program Status

The restructured program is similar to the preceding program but with updated offerings:

Class 6-8 aerial trucks with Odyne PHEV system

Chevrolet Pickup with VIA PHEV system

Ford F150 pickup with Quantum PHEV system

Chevrolet Express Van with VIA PHEV system

Odyne - Work Truck Applications

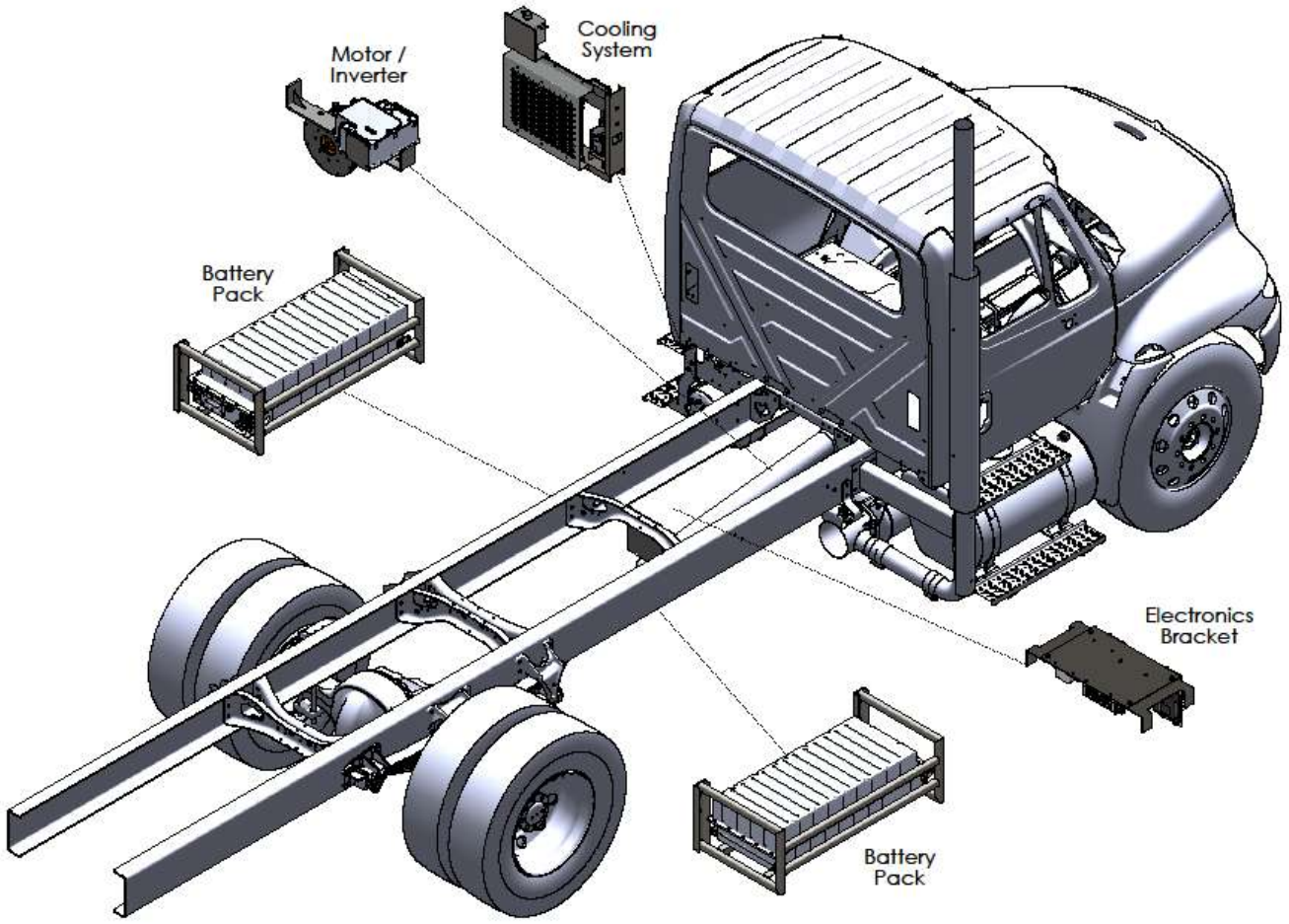
Hybrid Bucket Truck

Hybrid Digger Derrick

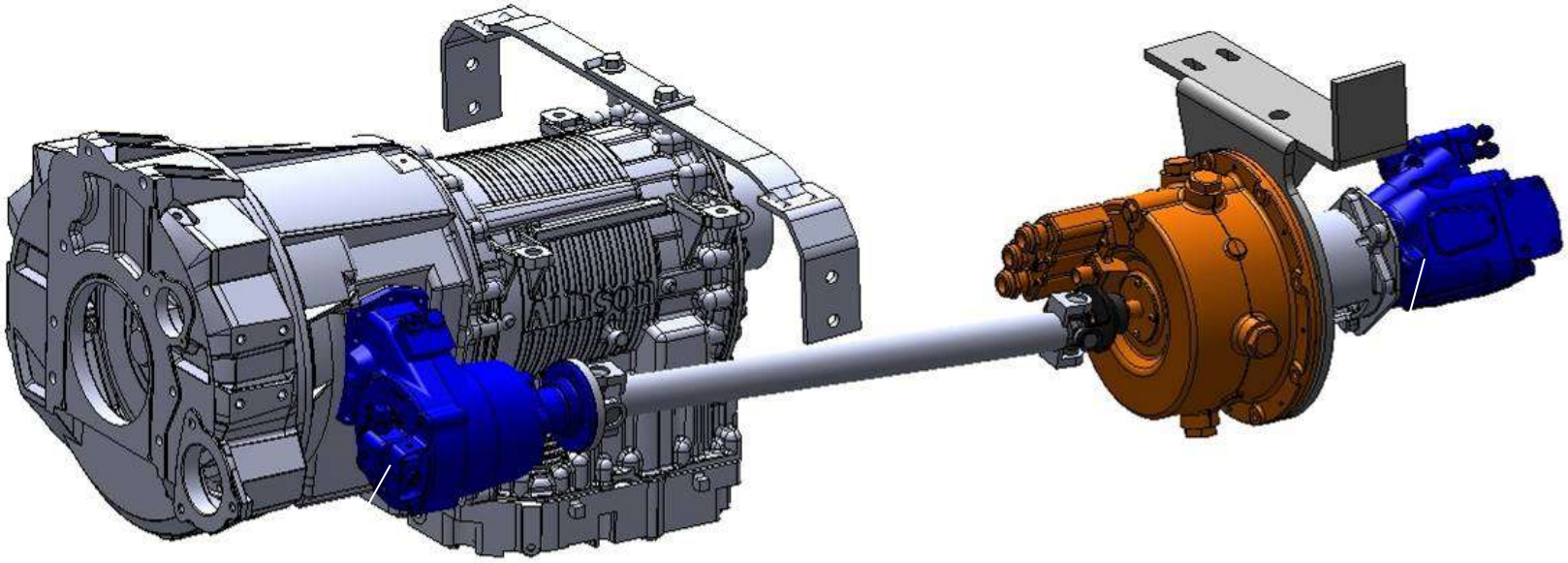
Hybrid Compressor Truck

Hybrid Crane Truck

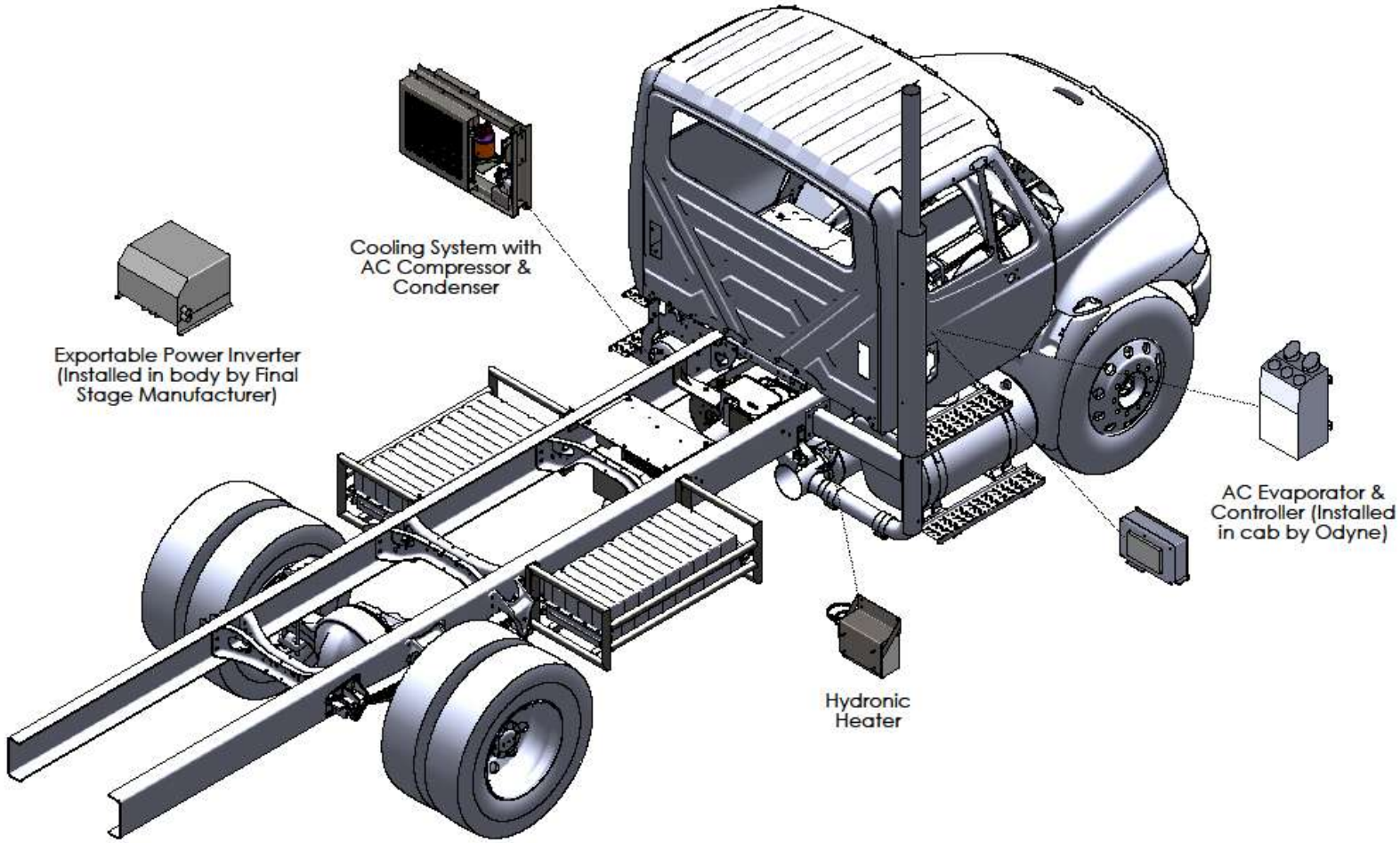
Odyne - Core Hybrid Components



Minimally Intrusive Design

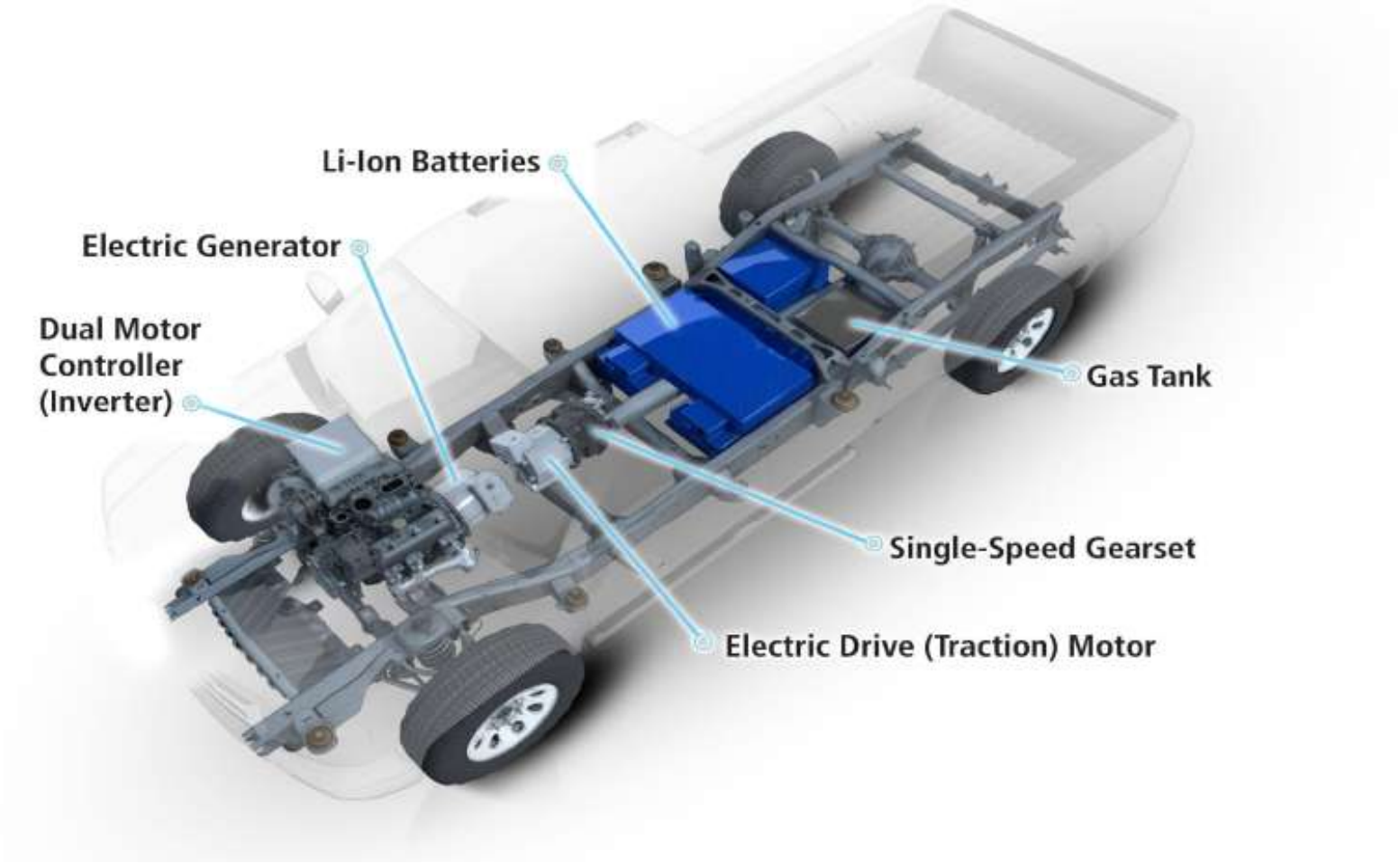


Odyne Ancillary Components



VIA Motors – Class 2 PHEV's

VIA System Architecture



Exportable Power Panel

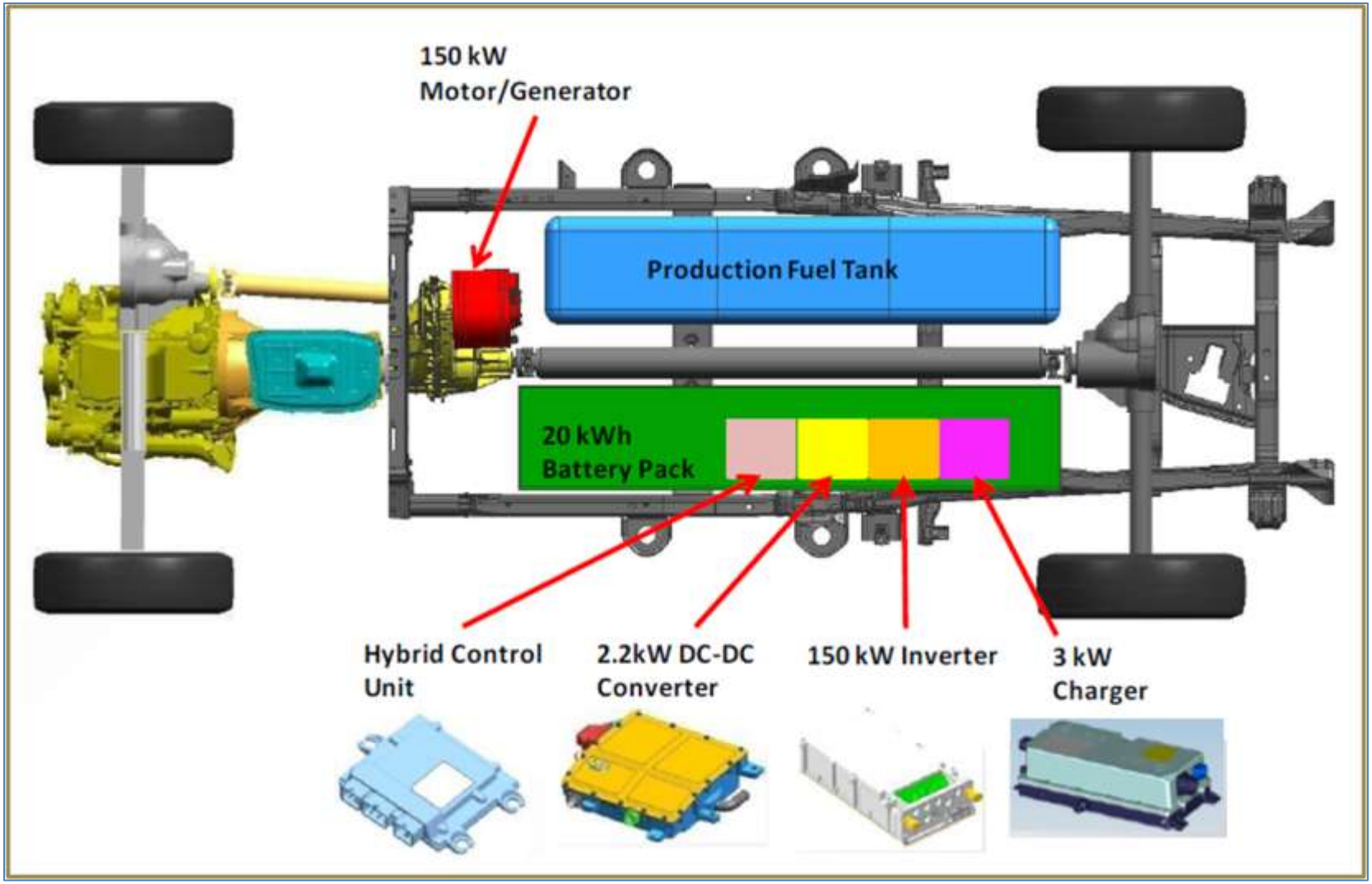
Potential for 15kW of exportable power.

Current configuration:

- Duplex 15A 120V Outlets
- Single 30A 240V Outlet
- Level II Charge Port

Quantum Class 2 PHEV

Quantum PHEV Architecture



Demonstration Activities

The project will…

- data log each vehicle for a 2-year period
- install MPR to enable smart charging demonstrations
- conduct emissions & FE testing consistent with measured use-profile
- use project results for system refinement

Heavy-Duty PHEV Projects

Volvo Class 8 PHEV
Parallel Hybrid Architecture
Diesel ICE

Kenworth PHEV
Series Hybrid Architecture
Capstone Microturbine (diesel)

Potential Project Evolution

From…

Static Grid Connection

To…

Dynamic Grid Connection