# ENERDEL VOLVO TECHNICAL SEMINAR

**Pack to Vehicle:**

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# MODULAR BATTERY ARCHITECTURE

## Off-the-shelf, state-of-the art solutions


- Minimizes development lead time
- Minimizes cost
- Improves serviceability
- Enhances control of thermal performance

## Beyond automotive grade with high quality tolerances

# BATTERY MANAGEMENT EXPERTISE

## Micro-processor based battery monitoring and control systems

## Critical to monitor and control the charge on each individual cell

- Safety and efficient pack operation
- BMS must maintain voltages on cells equally for optimum pack capacity
- Balancing the pack throughout charge and discharge cycles
- Optimized life expectancy

# BATTERY MANAGEMENT SYSTEMS

**Optimize capacity and actively prolong cell life**

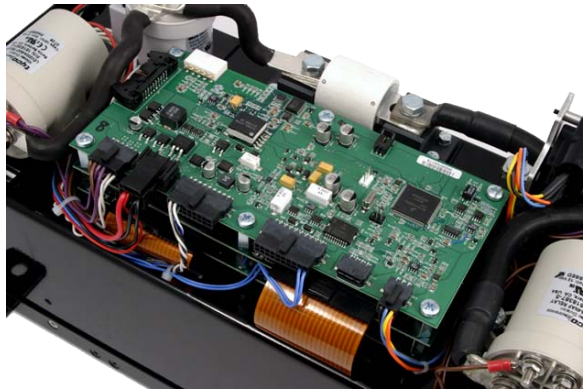
**React in milliseconds, ensuring safety and maintaining integrity**

**Interface with off-board diagnostic units**

**Monitor and report state of health and charge**

**Control safe and efficient pack re-charging**

**Control of cooling systems for safe operating temperature**



# APPLICATION

## Vehicles

- Hybrid Electric
- Plug-in Hybrid Electric
- Electric Vehicles


## Government Applications

## Energy Solutions

## Energy Storage