EV Battery Lifecycle Management

Lea Malloy, Head of EV Battery Solutions, Cox Automotive Mobility

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Cox Automotive
lea.malloy@coxautoinc.com
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The Electric Future is Here

Billions of dollars in infrastructure bill for charging could supercharge electric vehicle adoption

EV start-up Rivian is valued at $86 billion after market debut, higher than Ford


Automakers Are Adding Electric Vehicles to Their Lineups. Here’s What’s Coming.

Exclusive: Global carmakers now target $515 billion for EVs, batteries
Cox Automotive’s Vision for Electric Vehicles

We believe battery-powered vehicles will be the dominant form of transportation in the future for people and goods – not only in America, but around the world. We are strategically steering our business to support the global transition to battery power and, ultimately, continue to be one of the top automotive services providers in the world.

We believe EVs are an important part of reducing greenhouse gas emissions and meeting the goals on climate change. Cox is committed to driving positive environmental change through our efforts to achieve carbon and water neutrality by 2034 and achieve zero waste to landfill by 2024.

We believe in a closed loop ecosystem for EV batteries to reduce the environmental impact of metals mining. We support practices that enable the extension of EV battery first lives and end of life reuse and recovery treatments.
EV Battery State of Health

TRANSPARENCY SCALES THE LITHIUM-ION BATTERY MARKET

- “Universal diagnostic system” discussed by multiple subcommittees
- Cox’s approach to battery health is similar to CARB’s draft standardization proposal
- Access to data is a priority – data enables SOH determinations and transparency
- SOH is a key input into establishing trusted marketplaces and next step decisioning
Delivering the Industry Standard for Battery Health

DATA-DRIVEN BATTERY HEALTH INSPECTION & VALUATION

VIN-specific battery health report improves valuations, trust and transparency with EVs.

1. **Battery Vitals Score**: Patented algorithm drives industry standard score informed by key measures of energy in and out

2. **Comparison to New**: At birth range and battery capability

3. **Range Snapshot**: Range available at full charge compared to new

1000+ Vehicles Tested
End-to-End Battery Services

FULL LIFECYCLE EV BATTERY SOLUTIONS

Core Capabilities: Battery health and valuation, storage, logistics, and remanufacturing.

- **BATTERY HEALTH**
  Guide to valuations and servicing recommendations

- **LOGISTICS**
  Forward and reverse transport of packs between partners for servicing

- **STORAGE**
  Monitor, climate-controlled pack storage

- **REMANUFACTURING**
  Battery remanufacturing or refurbishment per OEM standards

- **REPURPOSE**
  Use of automotive battery packs in non-automotive environments

- **PRETREATMENT RECYCLING**
  End-of-life treatment of packs

- **TRACKING**
  Digital chain of custody for each EV battery
TRANSPARENCY SCALES THE LITHIUM-ION BATTERY MARKET

• Essential to track battery activity, chain of possession, servicing, repurposing, etc.
• Like state of health, standardization helps, but more important to incentivize producers to track and allow servicers to access data
• A key input into establishing trusted marketplaces
Data-Driven Transparent Battery Platform

- 24-hour Secure OEM Access (Warranty, Engineering, Customer Care, Logistics)
- OEM Adaptive Reports and Forecasting Models
- Quality Records – Full Audit Trail
- Ticketing Communication System
- Ordering and Processing
- Data Mining
- Automated Refurb Battery Capacity Matching
- Capturing of Usable Data for Root Cause Analysis of Aged Modules
- Inventory Management
EV Fleet Services

SERVING LIGHT, MEDIUM AND HEAVY-DUTY FLEETS

EV Battery Service Center Capabilities
✓ Storage & Warehouse
✓ Fleet Depot Charging
✓ Removal & Replacement
✓ Diagnostics
✓ Remanufacturing
✓ Reuse
✓ Removal & Replacement
✓ End-of-Life Logistics & Collection
✓ Recycling Pre-treatment

Mobile, On-site Capabilities
✓ Mobile Fleet Charging
✓ Diagnostics
Together We Win

EMPOWERING OUR CLIENTS, PEOPLE AND COMMUNITIES TO PROTECT THE PLANET AND TRANSFORM THE AUTOMOTIVE ECOSYSTEM

- **Positive Environmental Change:** EVs play an important role in reducing greenhouse gas emissions, meeting climate change goals and creating a greener future

- **New Service Opportunities:** EVs unlock a host of new EV battery service opportunities with limited 3rd party competition

- **Lower Operational Costs:** EVs bring many benefits to passenger and fleet vehicles – a top benefit being a lower total cost of operation

**Transportation sector**

Largest source of greenhouse gases in the U.S.*

**1.5M grams of CO2**

Average EV savings each year, equivalent of four return flights from London to Barcelona**

*EPA

**MyClimate Shape Your Future
Questions?
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