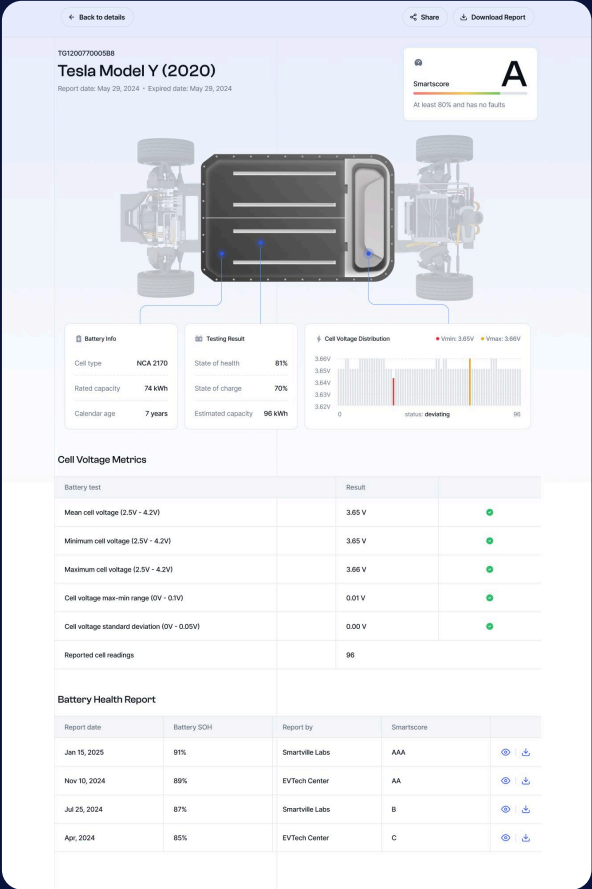




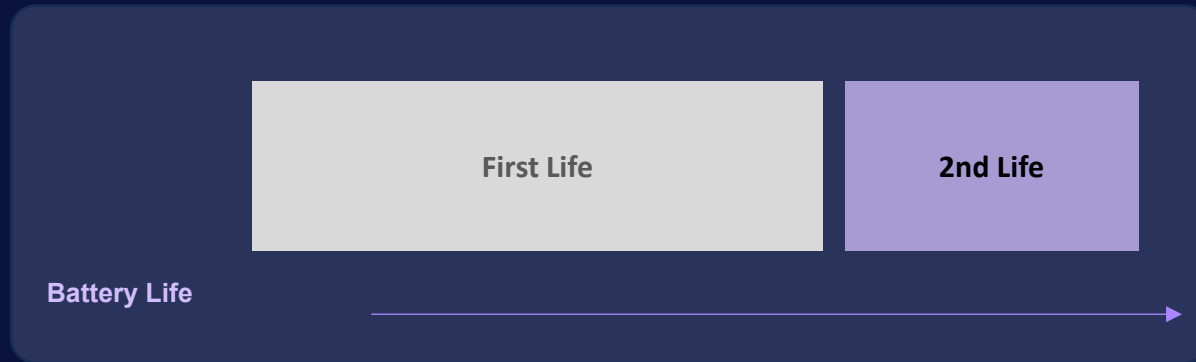
# Enabling Data Transparency in Second-Life Batteries for Stationary Applications



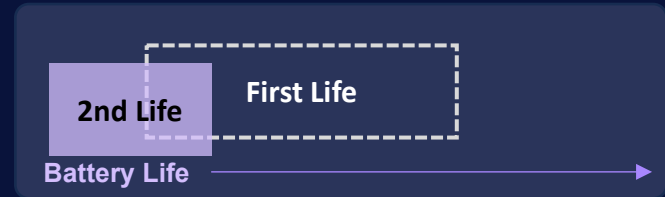
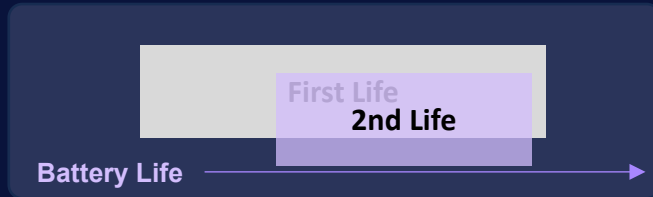
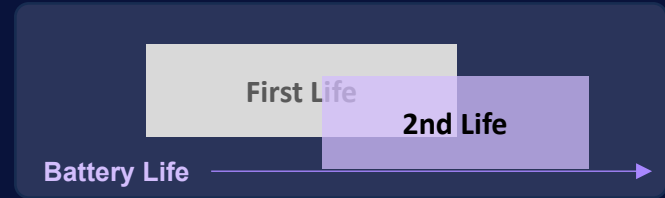
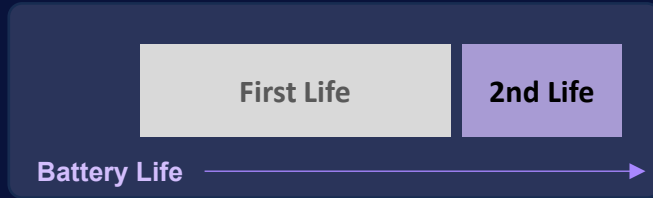
Antoni Tong  
Founder & CEO  
antoni@smartville.io



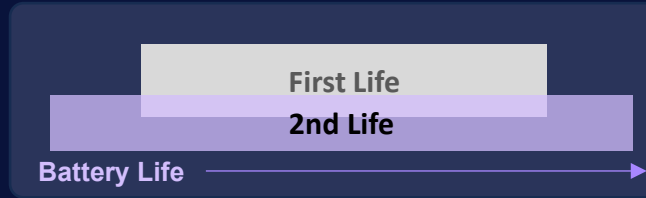
# What exactly is a 2<sup>nd</sup> life battery



# What exactly is 2<sup>nd</sup> life battery



# What exactly is 2<sup>nd</sup> life battery



Battery OEMs

Auto OEMs

Fleets

Businesses with Fleets

Auto Insurances

Auto Auctions

Auto Dismantlers

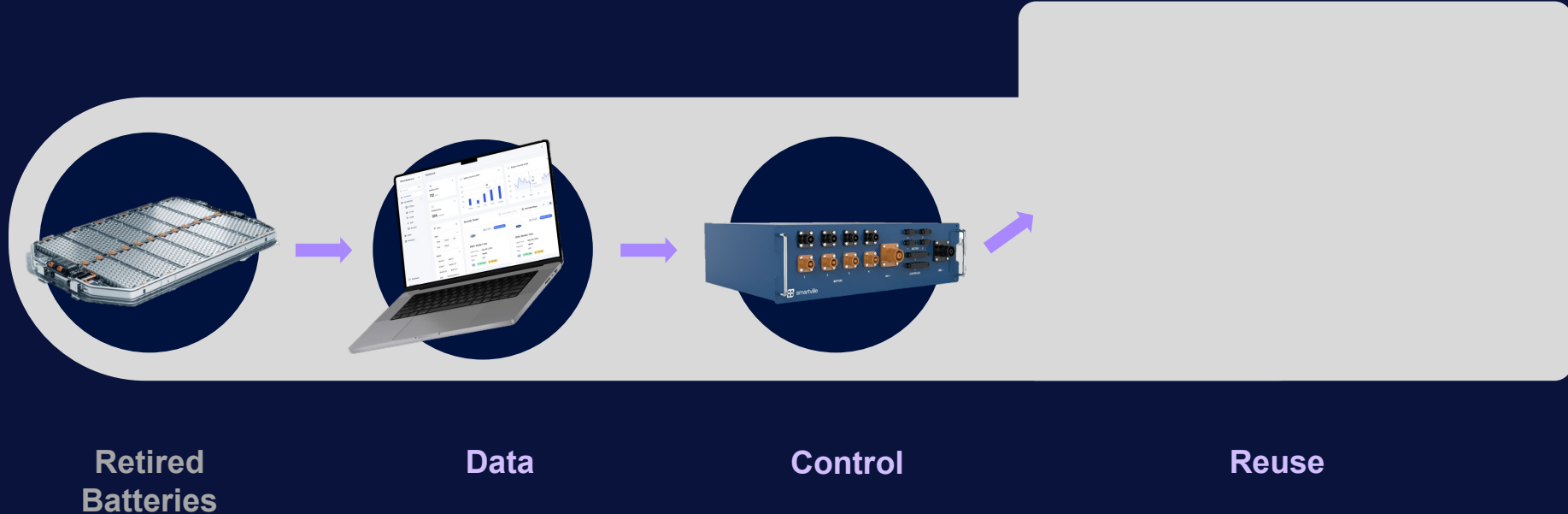
Auto Recyclers

Battery Recyclers

BESS Project Developers

The list goes on ...

# Smartville develops a circularity platform to efficiently assess, trade, and reuse batteries



# From Retirement to Reuse: Creating a Path of Least Friction



## Supplychain - Assess and route batteries to be reused

Smartville **Periscope** is a portable tool for EV and battery assessment, providing real-time insights into battery health.

Smartville **Whole Battery Catalog** data platform helps stakeholders to quickly inventory battery reports, establish buyer-seller trust, and trade batteries for reuse and repair.

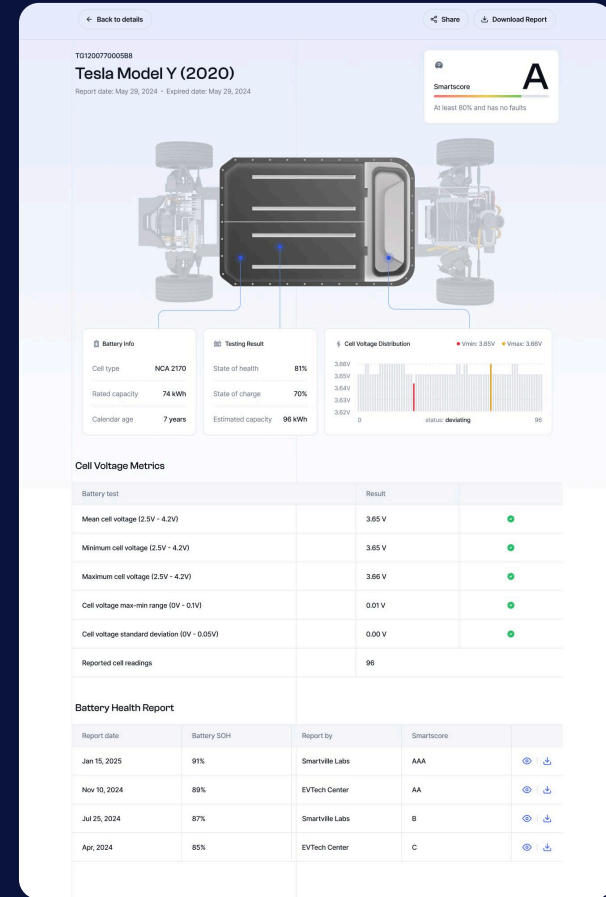


## Repurposing - Make it easier to reuse batteries

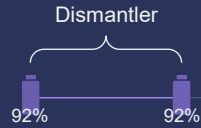
Our proprietary battery pack controller **BatteryConnect** offers a simple, scalable path to repurpose EV batteries into a wide range of energy storage applications.

Our flagship turnkey solution, **Smartville 360**, unlocks storage value without the cost and risk of overseas alternatives.

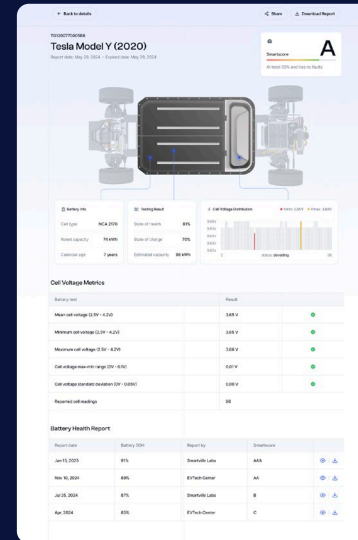
# Establish A Chain of Data Transparency



# Establish A Chain of Data Transparency



State of Health

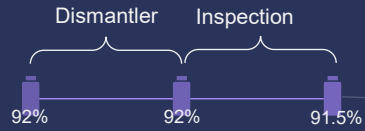


## Data

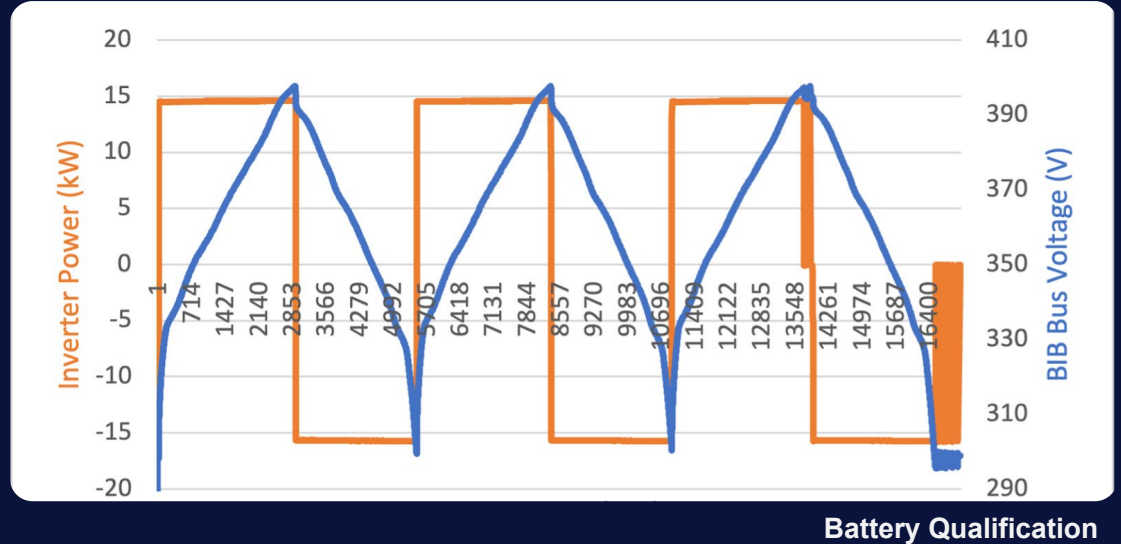
- Unique ID
- Battery type
- Calendar Age
- Estimated Cycles
- Voltage, SOC, SOH
- Component Failure
- Estimated Value
- Estimated Energy
- Remaining Life



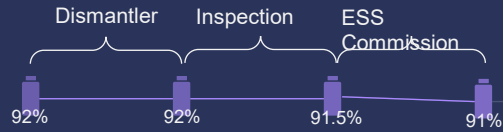
# Establish A Chain of Data Transparency



State of Health

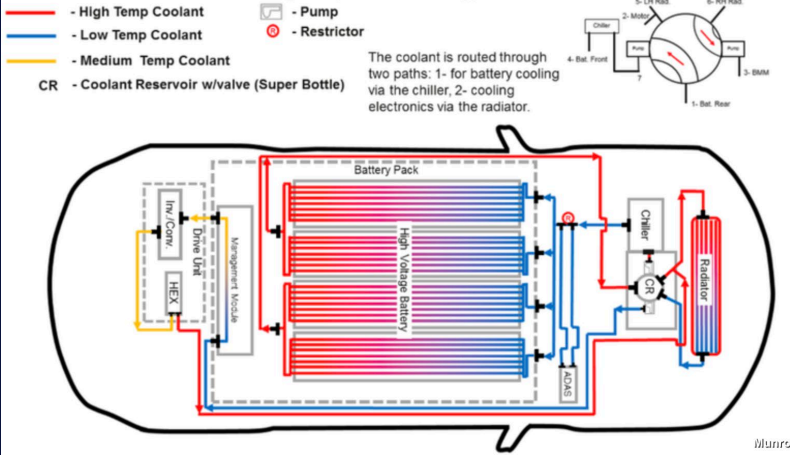


# Establish A Chain of Data Transparency



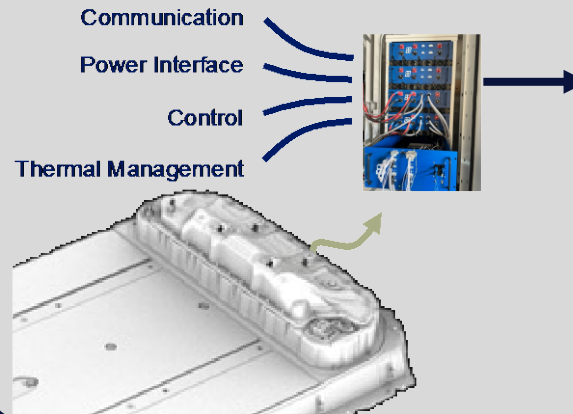
State of Health

## 2018 Tesla Model 3 Coolant Diagram (Case 1 Cooling)

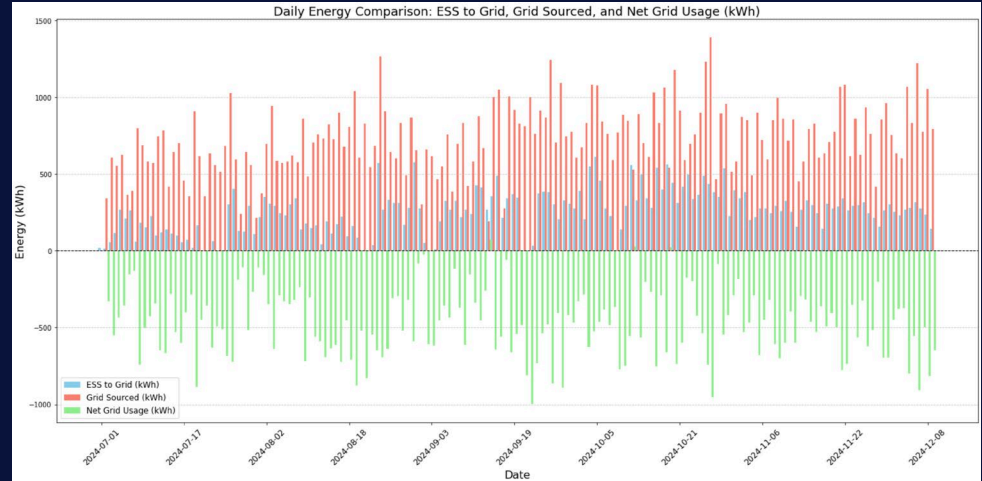
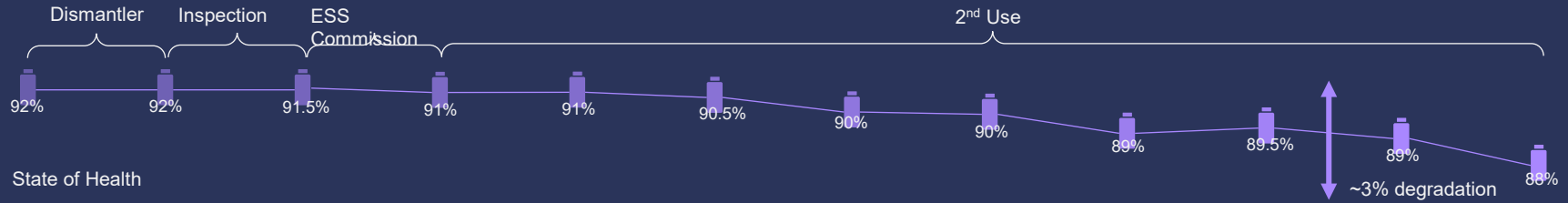


(Sandy Munro)

## BatteryConnect



# Establish A Chain of Data Transparency



~3% degradation/year

# Expanding the Use Case for Battery Data



**+ Live data stream**



**Towing and first response**



**+ Live data stream**



**Battery logistics and storage**



**+ Live data stream  
+ Cycle data**



**Battery Qualification**

# Build A Data Platform Together

- Data travels more easily than the batteries themselves.
- Consistent and transparent data benefits all stakeholders involved in handling, shipping, reusing, and recycling.
- Build a battery “credit report” that provides a record of health history and key lifecycle events.



smartville

Smartville  
[www.smartville.io](http://www.smartville.io)  
[info@Smartville.io](mailto:info@Smartville.io)

Antoni Tong  
530-304-5193  
[antoni@smartville.io](mailto:antoni@smartville.io)