



EV Battery Solutions
COX AUTOMOTIVE

EV Battery Solutions

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- VRA UK | Feb 2024

EV battery repair and replacement



If EVs are so s...
then why are th...
expensive to f...



EV Battery Replacement Costs Getting Crazy

9.4K views • 1 year ago

"I felt like I got kicked": Ontario man told new EV battery would cost more than \$50,000

685K views • 1 year ago

Owner of Hyundai plug-in hybrid shocked by \$15,000 cost to replace battery

1M views • 1 year ago

Consumer and OEM battery focus



Performance



Affordability



Availability



Battery



2nd Life
Reuse



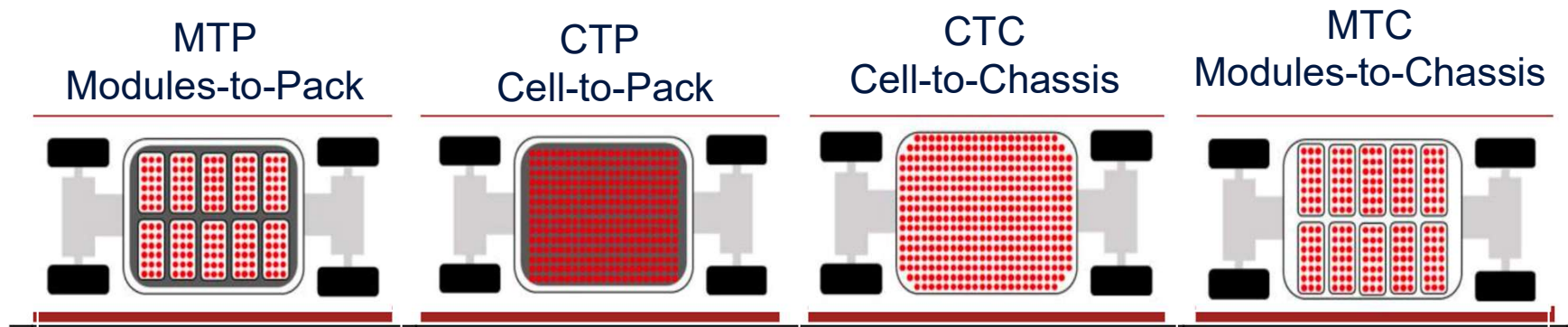
Recycling

Residuals

Repairability

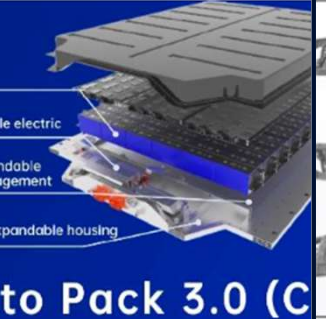
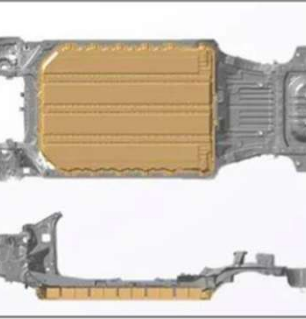
Replacement

Battery CTP & CTC structural innovation



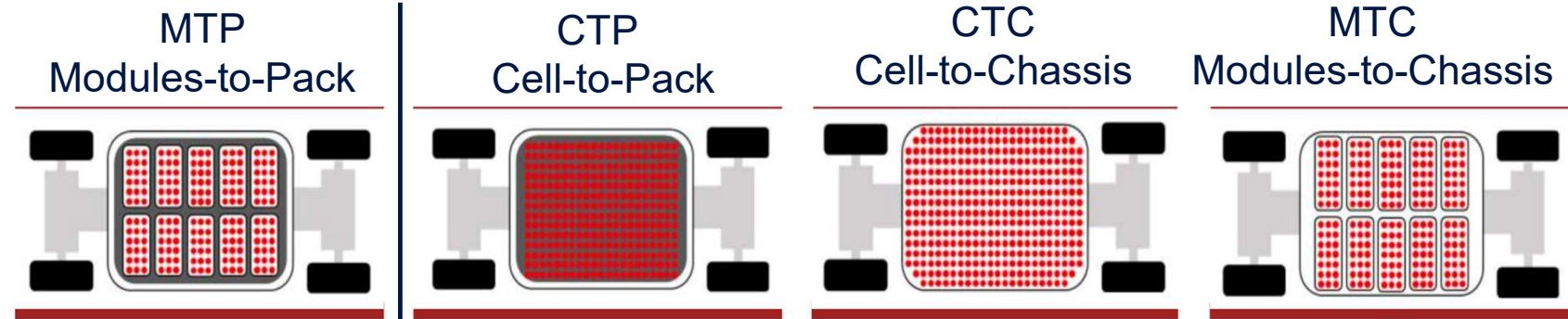
Repairability	High	Low	Low	Low
Module Replacement	Yes	No	No	No
Production Cost	High	Medium	Low	Low

OEM CTP adoption examples – latest vehicles

	 HYUNDAI 				 Mercedes-Benz  TOYOTA
					
CTP	IMA	CTP	CTP/CTC	CTP	CTP/CTC
Blade	eS & eM	Blade	Blade	Qilin CATL	Blade
Neue Klasse	CATL	BYD			Leapmotor
NMC & LFP	LFP	LFP	LFP	LFP	LFP

Battery failures analysis and projections

Here is a light overview of our process, stage by stage



Failure rates

In
warranty
3.1 %

Out of
warranty
5-7 %

Failure rates

In
warranty
1.3 %

Out of
warranty
2.6- 4 %

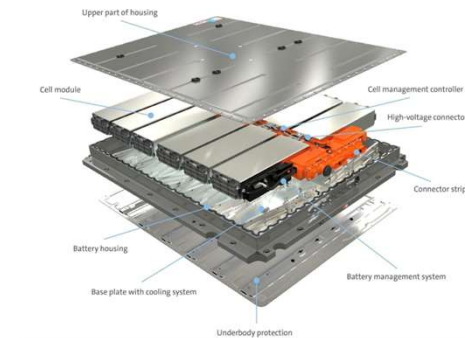
*Does not include
Recall events or
accident damage

Sources

Recurrent Auto (sample of 15,000 EV drivers),
IMR Inc. | AutomotiveResearch.com (sample of ~6,000 survey
respondents),
Base, medium and high rates scenarios are based on non-recall
rates from recurrent and overall IMR data,
Cox .EV Battery Solutions Strategy & Analysis

Repair stakeholders and factors

- Manufacturers
- Fleets
- Dealers
- Insurers
- Salvage
- Remanufacturers
- Remarketing
- ESS
- Warranty providers
- Green Parts
- Storage
- Logistics
- Consumers



Reman

Repair

Reuse

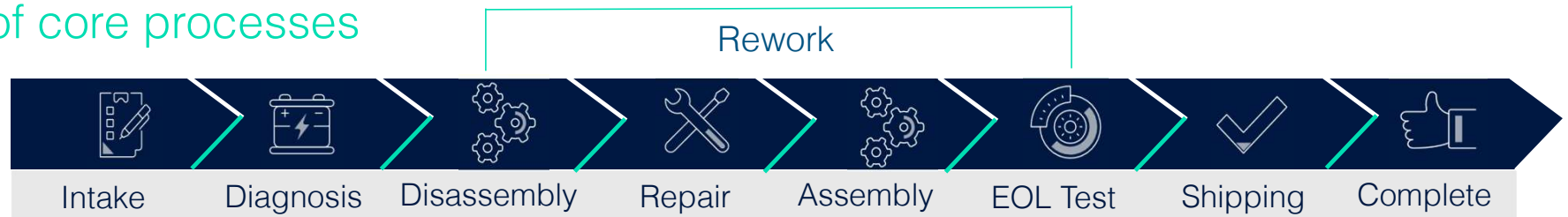
Recycle

- Parts availability
- Service condition
- Diagnostic checks
- Feature and technology
- Labour and skills
- Mandated processes
- Special tooling
- Specialist services
- Calibration and testing
- Quarantine and storage
- Power requirements
- Legislation e.g. Passport, Circularity, SoH.
- Technology development,
- Transformation investment

EV battery repair process execution

Here is a light overview of repair process stage by stage

Flow of core processes

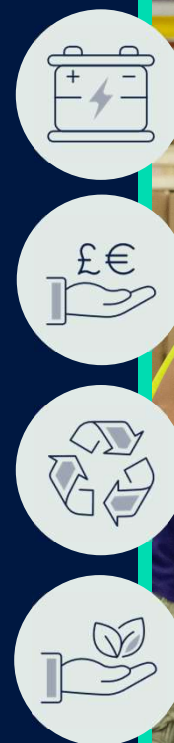
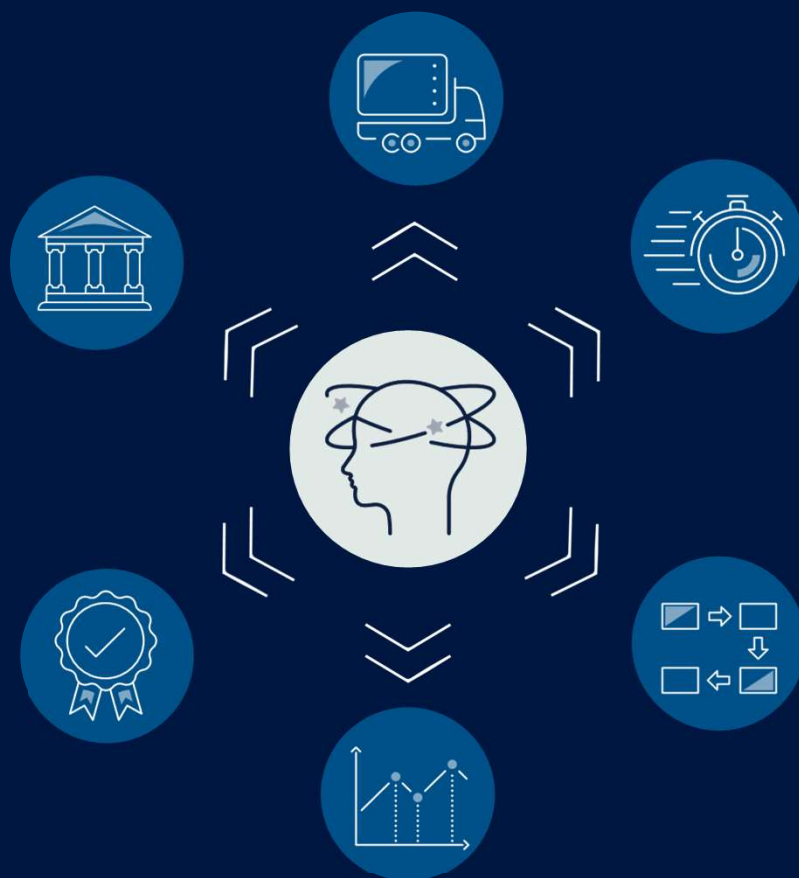


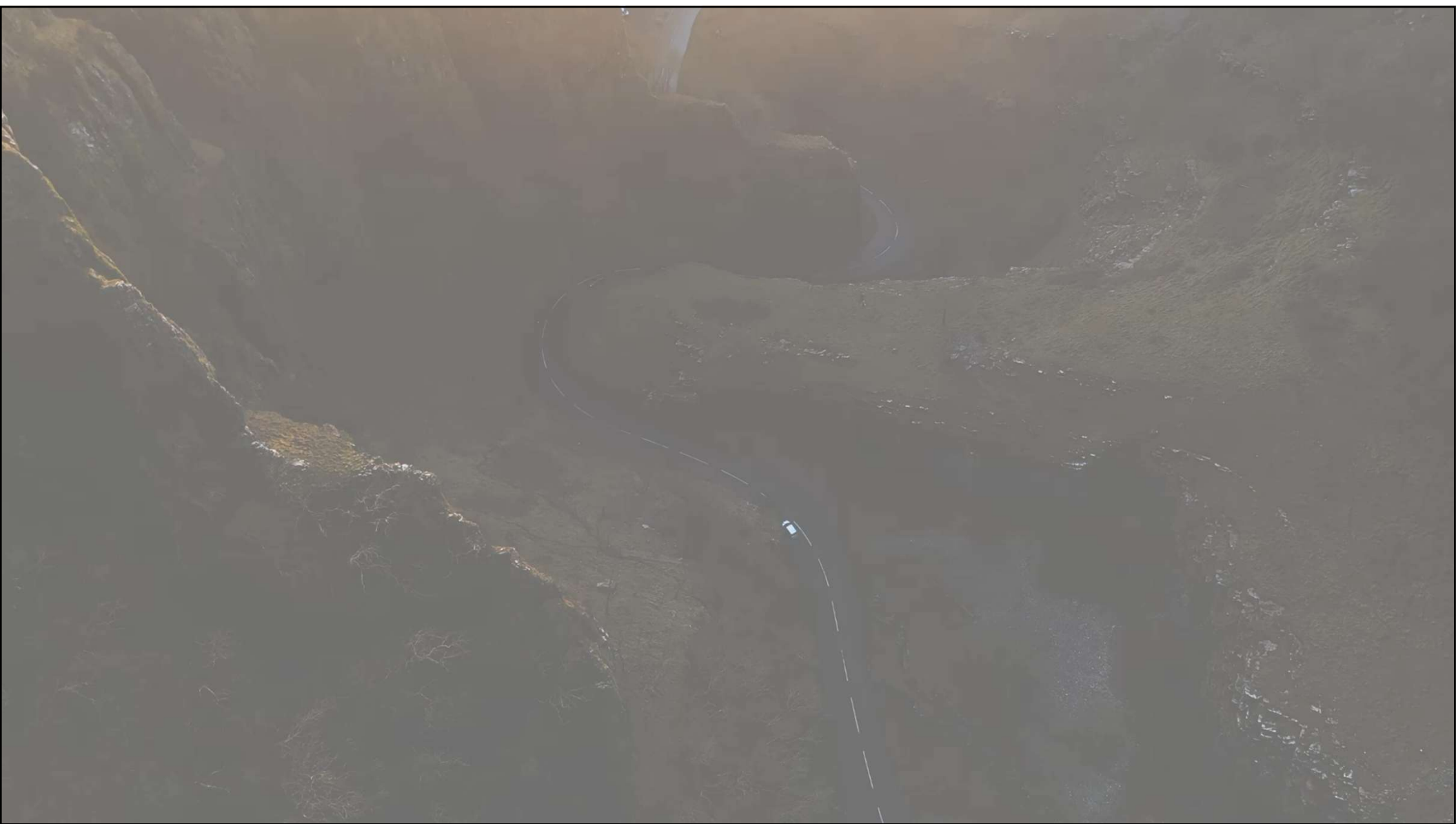
Supporting these core processes are activities, including;
Collection logistics storage | Monitoring | Internal logistics.

Tracked and managed with

ALFRED
GLOBAL

Repair partner considerations





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