AVERY DENNISON

Europe Accelerates EV Progress

How green incentives, technology advancements, and shortening supply chains are advancing the European electric vehicle market - and bringing new considerations for OEMs and suppliers around EV battery labeling.

60%

In October 2020 the EU Parliament voted in favor of amending the EU climate law to increase the 2030 emission reduction target to 60% compared to 1990 levels.

Source: European Parliament, 2020

20%

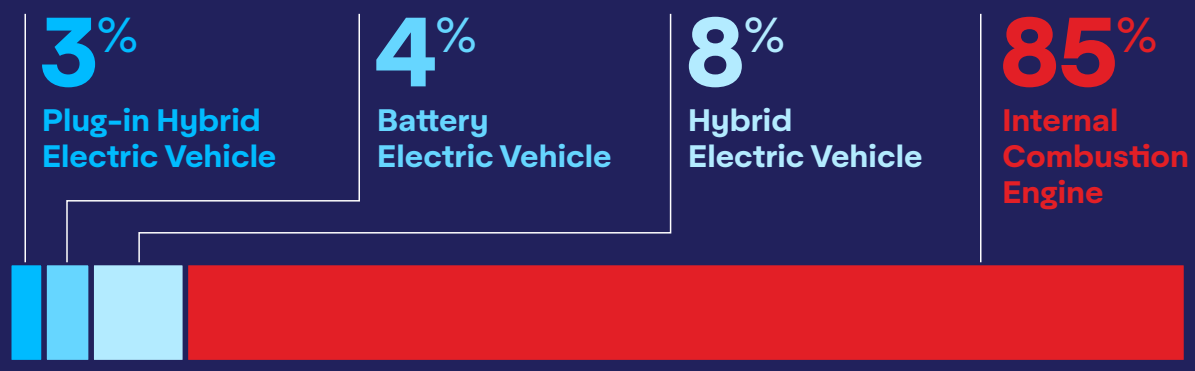
The amount of global road vehicles that need to be electronically powered by 2030 to meet the Paris Agreement climate goals.

Source: UNFCC, 2015

Current Market Share

As of March 2020, 15% of the 2.1 Million registered vehicles in France, Germany, Italy, Spain, and the UK are hybrid, battery, or plug-in hybrid electric vehicles.

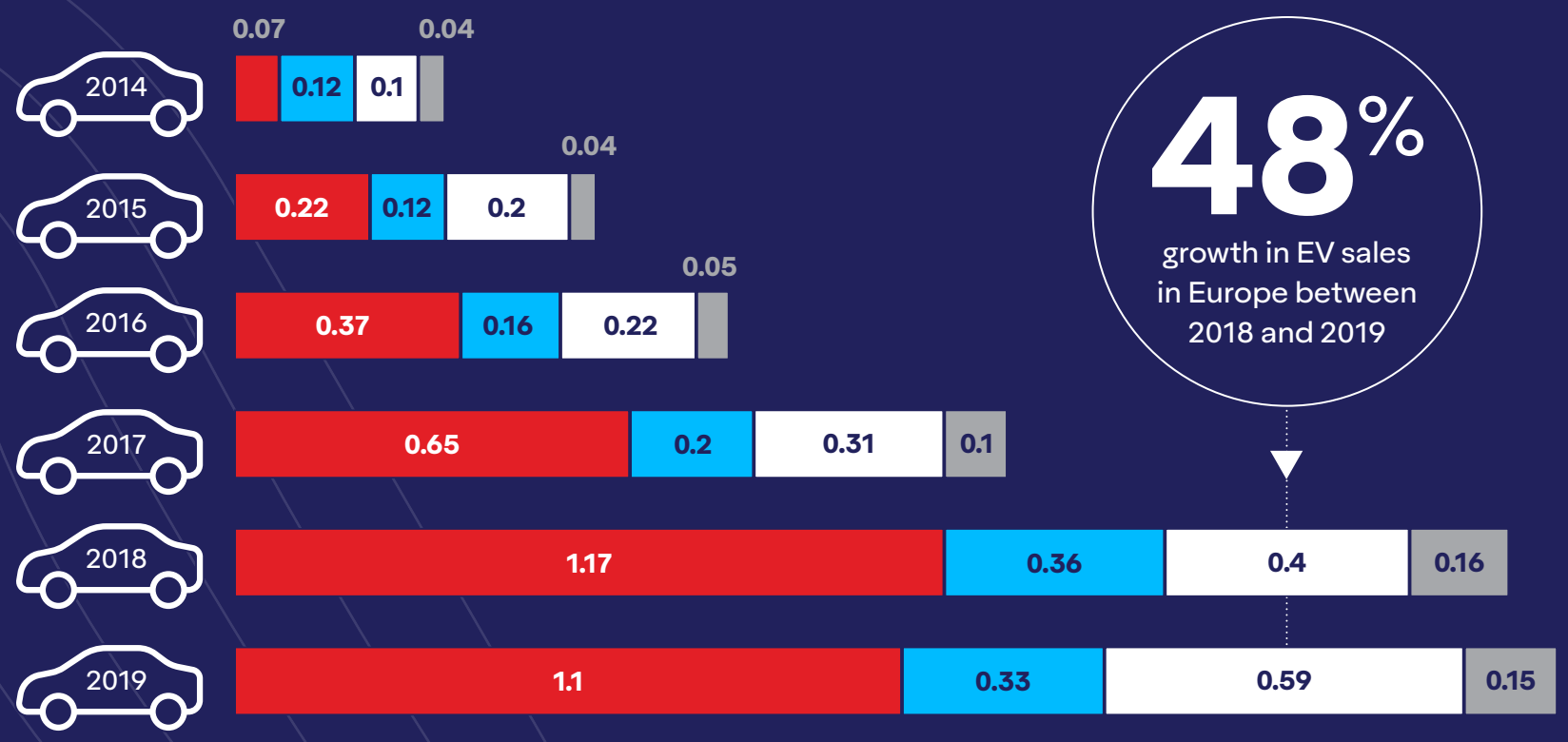
Source: *E-Mobility Sales Review*, PWC, Q1 2020



EV is Significantly Growing in Europe

EV sales in Europe are steadily increasing year over year.

Global Electric Car Sales, in Millions



Source: *Global Electric Car Sales by Key Markets*, IEA, 2020

2020 Green Recovery Plans

In response to the coronavirus impact, European countries look to green recovery plans that include EV-incentives.

€4000

Subsidy for citizens replacing older vehicles with cleaner electric or hydrogen models

110%

Tax deduction on installing private electric vehicle charging points

£10m

Supporting 'innovative R&D projects' for the scale up of manufacturing automotive batteries, fuel cells, motors and electronics

€1.9bn

To promote the renewal of the French fleet in favor of clean vehicles, including deployment of charging stations

€2.5bn

Pledged towards expanding electric vehicle infrastructure, with €1.5 billion aimed at domestic battery production

1m

Additional EV charging points around the EU, pledged by the European

Source: *The World's 'green recovery' plans to cut emissions after coronavirus*, Carbon Brief, 2020

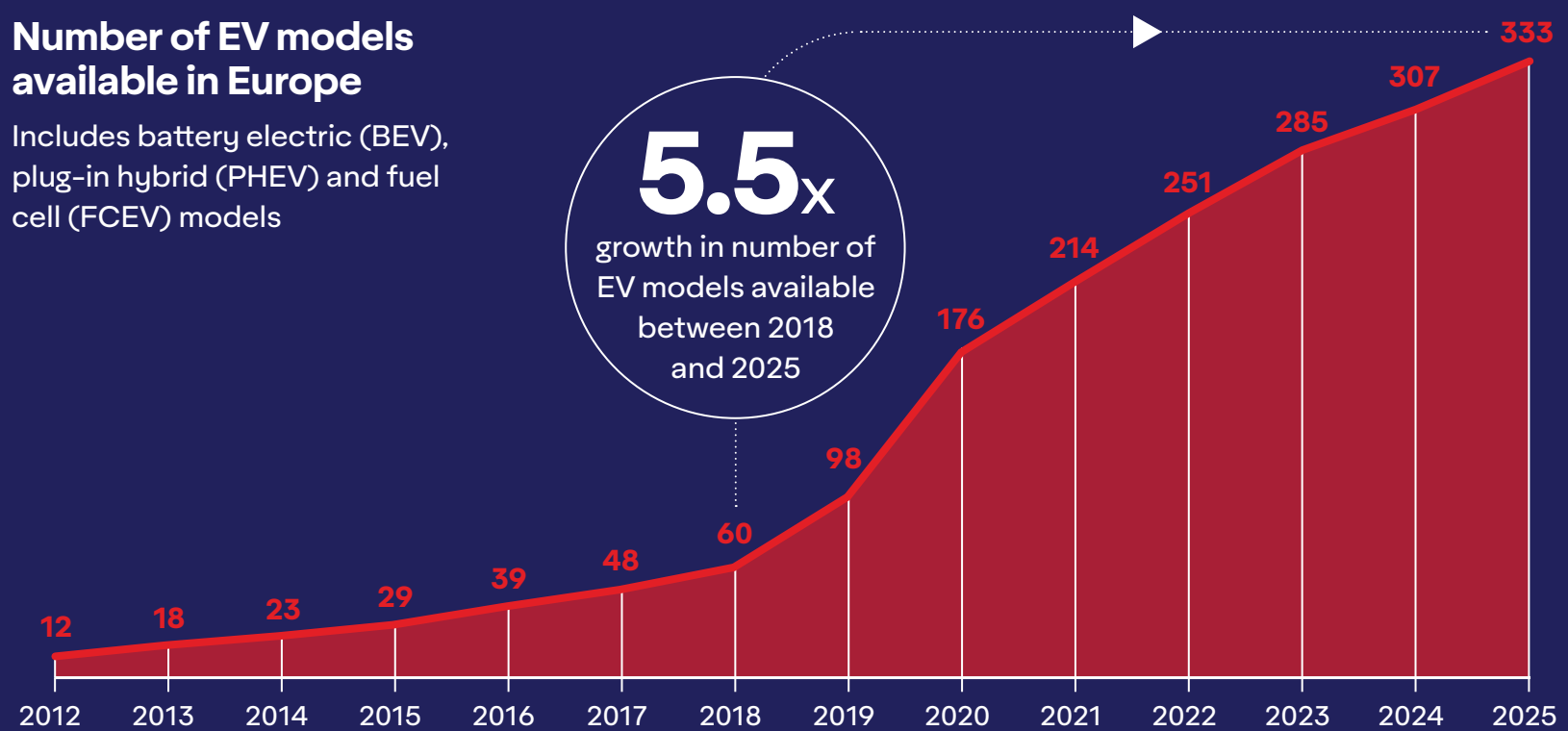
Commission's plan to 'Repair and Prepare for the Next Generation'

Rapid Rise in European EV Market

European drivers will have plenty of choice, with over three hundred different EV models announced to be on the market by 2025.

Number of EV models available in Europe

Includes battery electric (BEV), plug-in hybrid (PHEV) and fuel cell (FCEV) models

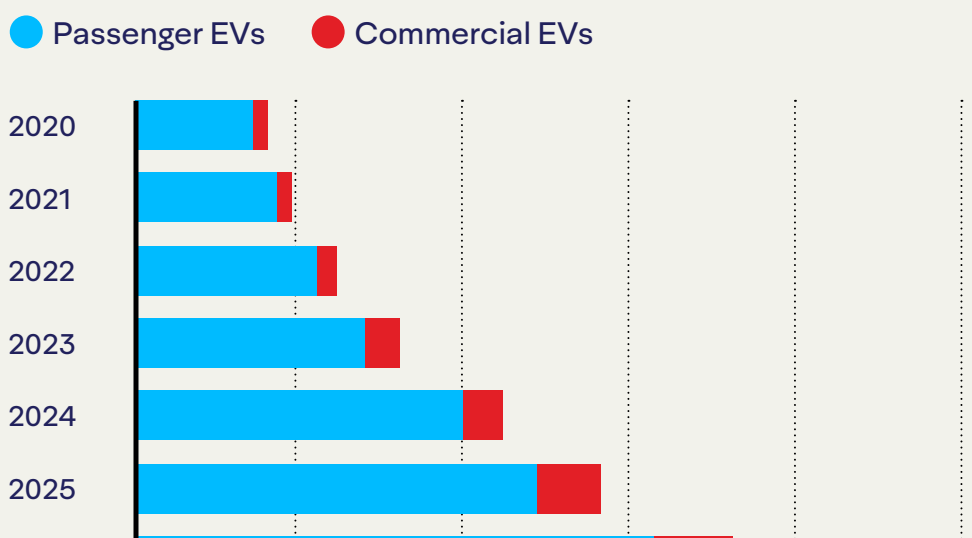


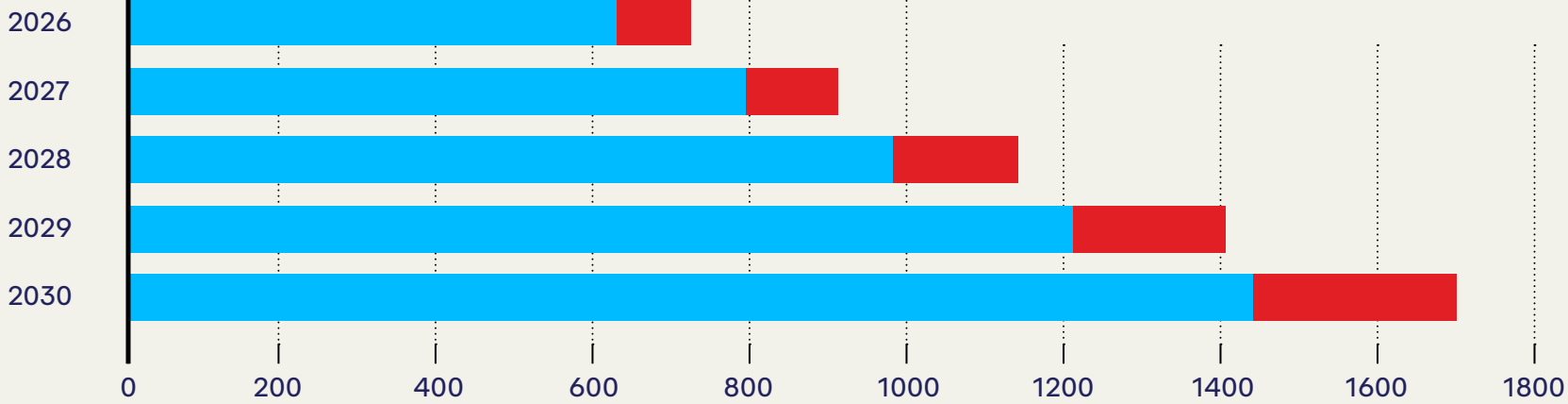
Source: *Electric Surge: Carmakers' Electric Car Plans Across Europe*, Transport & Environment, 2019

Supply Chains Get Shorter as European Battery Manufacturing Ramps Up

By 2030 the demand for EV batteries is expected to reach 1755GWh.

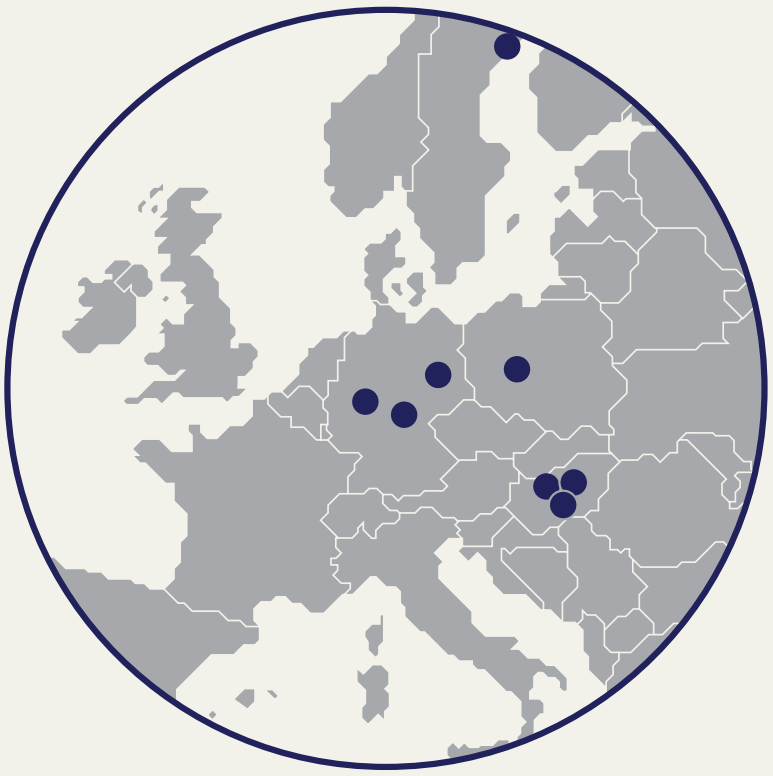
Annual lithium-ion battery demand (GWh)





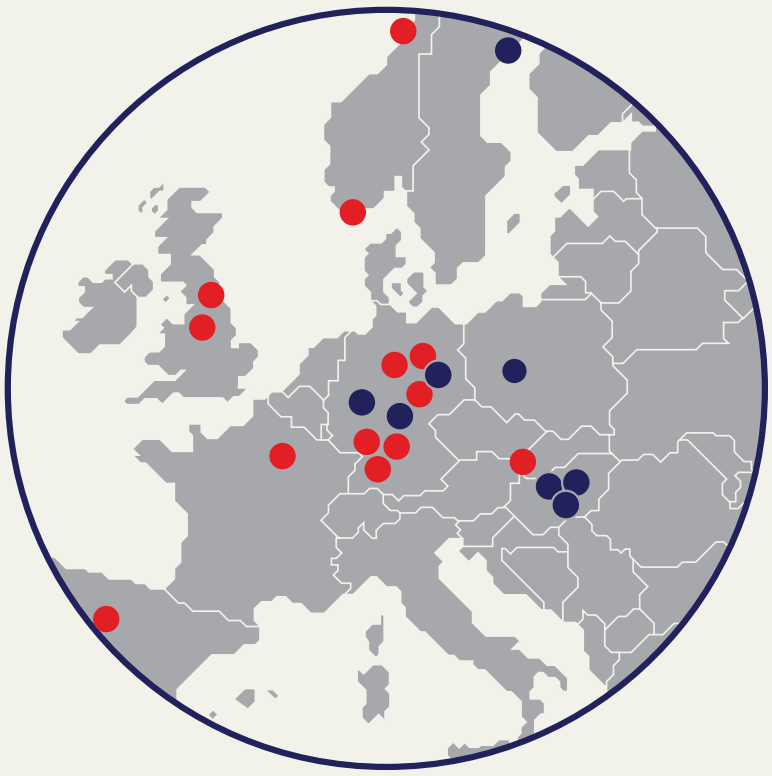
Source: *Electric Vehicle Outlook*, Bloomberg NEF, 2020

There is a rapidly growing list of Lithium-Ion factories planned across Europe, with over 500GWh capacity announced.



Planned lithium-iron factories announced by

September 2018



Planned lithium-iron factories announced by

June 2020

Source: *Investor Presentation June*, Infinity Lithium, 2020

Innovation in EV Batteries Is Accompanied by Innovation in Automotive Materials

New powertrains require new qualification considerations around labels and adhesives.

Durability

More demanding applications show a need for materials with higher dielectric strength and ESD (electrostatic dissipative)

Adhesion

EV manufacturing needs lightweight materials to compensate for the weight of battery packs, requiring better performing adhesives

Functionality

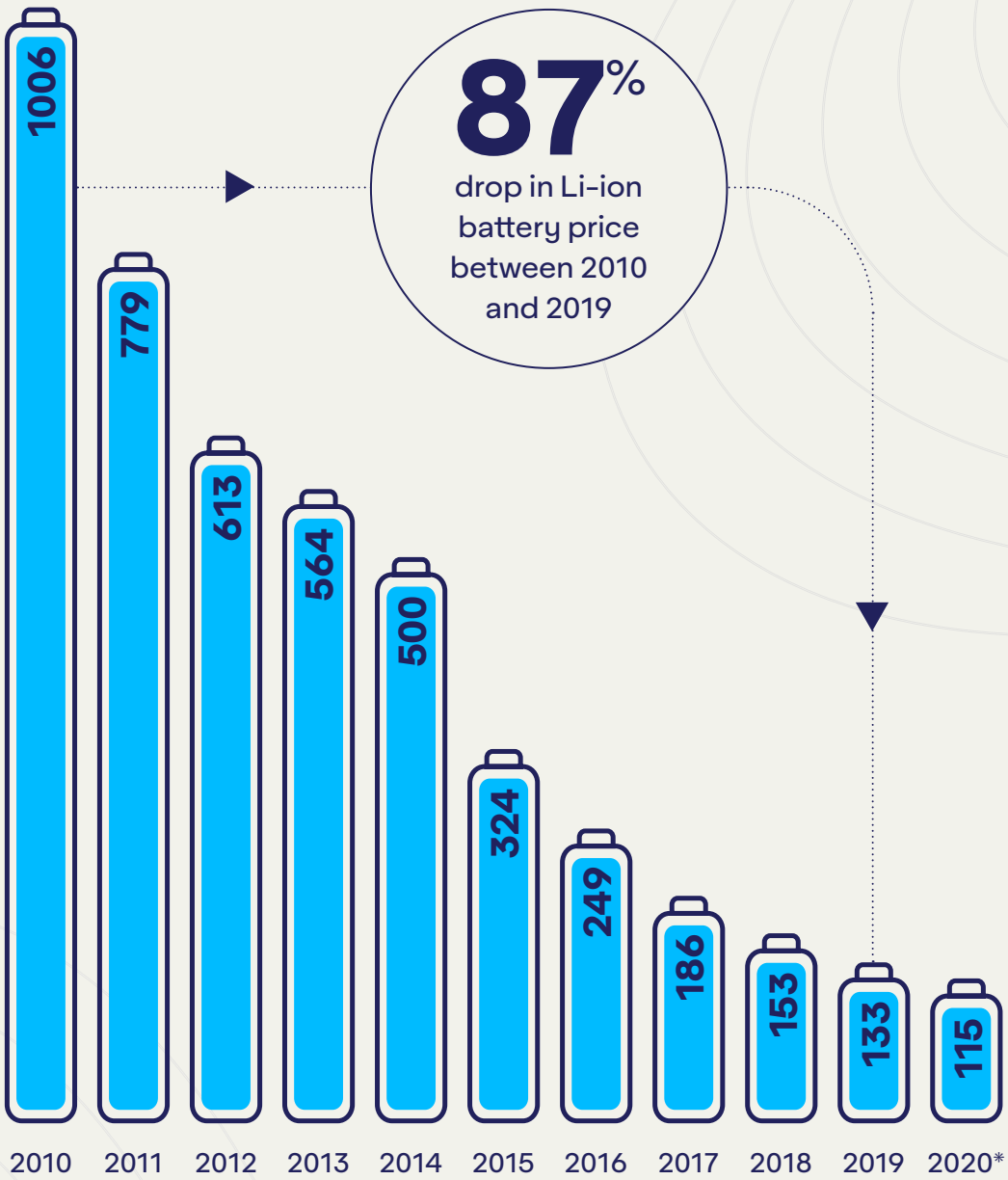
EVs bring a higher number of components of sensors and electromechanical devices dependent on the battery management features. Labeling materials must be flame retardant, chemical resistant, and hold up under high voltage.

that bond to low surface energy plastics that are often contaminated by moulding agents.

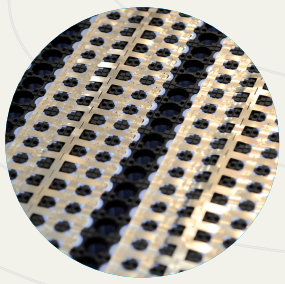
systems. RFID enabled labels show new possibilities around identification and connectivity.

Denser, Cheaper, Farther – Battery Advancements Pave Way for Mainstream EV

Lithium-ion Battery Prices Fall Year Over Year (€/kWh)

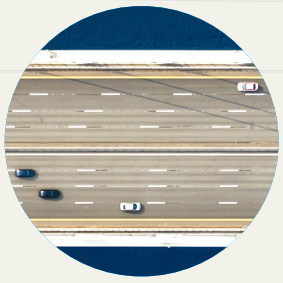


87% drop in Li-ion battery price between 2010 and 2019



3x

Battery-cell energy densities have almost tripled at the cell level since 2010. With current models up to 300Wh/kg



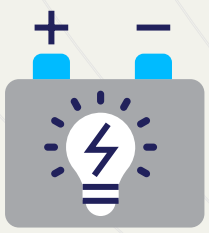
2x

The global average of BEV range has doubled in less than a decade. From 166km in 2012 to 379 in 2020

*expected

Source: *Electric Mobility The End of The Beginning*, Bloomberg NEF, 2020

Avery Dennison is Your Label Partner for EV Production



Full Range of EV Solutions

A broad materials portfolio for battery labeling, thermal conductive, high-shear adhesives, insulating, shielding and sealing, as well as RFID enablement.

Expert Support

Personal on-site or hotline support on quality, standards, and re-qualifications thanks to our global experience with OEM & Tier specifications.

Automotive Qualified Adhesives

Most diverse selection of in-house developed and manufactured adhesives, fulfilling industrial regulations and specifications. Highest quality standards and continuous investment in R&D.

Reliable Supply

Multiple European production plants ensure a consistent supply flow, and offer flexibility around short lead times and small MOQs.

For more information on technical performance and printing recommendations, please refer to the respective datasheets. Please note that the Avery Dennison product range and service offering can be subject to changes. For an accurate overview, please check our website label.averydennison.eu or contact your local Avery Dennison sales representative.

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