

Are you All-In on e-Mobility?

Matthew Jaster, Senior Editor

Collectively, 761,100 electric-drive vehicles were sold in the United States in 2020 according to the U.S. Bureau of Transportation. This includes electric, hybrid electric and plug-in hybrid electric vehicles. Global plug-in vehicle sales reached over 3.2 million in 2020. Despite a global pandemic, Europe — in particular — thrived as registered electric vehicles soared in the calendar year to the tune of 137 percent more than in 2019. (*EV-volumes.com*)

How does this happen? Green incentives, strict carbon mandates, intense promotion and the fact that many electric vehicles today are more attractive and perform much better than their gas-guzzling counterparts. So why are most automakers posting bold electric vehicle press releases and promises to makeover the entire industry by 2030? More importantly, can they actually pull it off?

The Technology Strategy

Volkswagen, for example, plans to maximize the potential of electric vehicles in terms of range, space and dynamics — and offer electric mobility at affordable prices. Three fields of technology play a key role in this major e-offensive: Firstly, a solid charging infrastructure, even over longer distances. Secondly, a unique production platform on which e-cars can be manufactured at competitive prices. And third, a newly developed battery system that enables scalable ranges for different customer and driving profiles. (*www.volkswagen.com*)

Increased Investments

Here in the States, General Motors recently announced that the company will increase its EV and AV investments from 2020 through 2025 to \$35 billion, representing a 75 percent increase from its initial commitment announced prior to the pandemic. The company's enhanced commitment will accelerate its transformative strategy to become the market leader in EVs in North America; the global leader in battery and fuel cell technology through its Ultium battery platform and HYDROTEC fuel cells; and through Cruise, be the first to safely commercialize self-driving technology at scale. (*www.gm.com*)

A Charging Infrastructure

The European CEO Alliance has issued policy recommendations supporting a progressive and ambitious push to achieve climate neutrality. Tackling climate change requires strong collaboration between the public sector and industry. Decarbonizing mobility, transport and buildings will be the major challenges. For the transport and mobility sector, electric mobility for passenger cars, light vehicles and heavy-duty vehicles has proven to be the most efficient technology in terms of energy consumption and emission reduction. To foster the entire ecosystem around electric mobility, members of the CEO Alliance have initiated cross-sectoral projects to ramp up battery production and create a charging infrastructure across



Europe with a goal of cutting carbon emissions by 55 percent by 2030. (*www.volkswagen.com*)

The Gear Industry Snapshot

AGMA recently published a white paper: A Gearing-Centric Snapshot of the EV Space written by members of its Electric Drive Technology Committee. The paper highlights drivetrain design, technology, machine tools, new manufacturing processes and the quest for the silent drivetrain and is a must read for the gear and power transmission market: (members.agma.org/ItemDetail?iProductCode=ELEC_DRIV_PAPER&Category=EMER_TECH&WebsiteKey=1fa29655-e8c0-41f6-b6a8-418a374ae587)

Looking Outside of Electric Vehicles

Biofuels are still making headlines with many pundits suggesting that the key to transportation in the future is going to take resources outside of EV. Plus, there's still a fair share of consumers bulking at EV costs, maintenance and range anxiety (imagine driving down a highway and worrying you may not make it to your destination without charging up). In addition, how will driving dynamics come into play? Does the weight of the batteries take some pleasure away from turning corners? Can the entire electric vehicle fleet of the future perform like the Porsche Taycan 4S — a vehicle that provides an extremely comfortable ride without much fuss with a sticker price of \$191,000 MSRP?

Show Versus Tell

EV commitments have been made. The promises promised. The automobile industry as we know it is about to turn upside down, inside out and provide a whole new vehicle strategy moving forward.

Are we in or out?