

Text D

Electric Cars Are Set to Arrive Far More Speedily Than Anticipated

The high-pitched whirr of an electric car may not stir the soul like the bellow and growl of an internal combustion engine (ICE). But to compensate, electric motors give even the humblest cars explosive acceleration. Electric cars are similarly set for rapid forward thrust. Improving technology and tightening regulations on emissions from ICEs is about to propel electric vehicles (EVs) from a niche to the mainstream. After more than a century of reliance on fossil fuels, however, the route from petrol power to volts will be a tough one for carmakers to navigate.

The change of gear is recent. One car in a hundred sold today is powered by electricity. The proportion of EVs on the world's roads is still well below 1%. Most forecasters had reckoned that by 2025 that would rise to around 4%. Those estimates are undergoing a big overhaul as carmakers announce huge expansions in their production of EVs. Morgan Stanley, a bank, now says that by 2025 EV sales will hit 7m a year and make up 7% of vehicles on the road. Exane BNP Paribas, another bank, reckons that it could be more like 11% (see chart). But as carmakers plan for ever more battery power, even these figures could quickly seem too low.

Ford's boss is bolder still. In January Mark Fields announced that the "era of the electric vehicle is dawning", and he reckons that the number of models of EVs will exceed pure ICE-powered cars within 15 years. Ford has promised 13 new electrified cars in the next five years. Others are making bigger commitments. Volkswagen, the world's biggest carmaker, said last year that it would begin a product blitz in 2020 and launch 30 new battery-powered models by 2025, when EVs will account for up to a quarter of its sales. Daimler, a German rival, also recently set an ambitious target of up to a fifth of sales by the same date.

The surge has two explanations: the rising cost of complying with emissions regulations and the falling cost of batteries. Pure EVs, which send no carbon dioxide directly into the atmosphere, and hybrids, which produce far less than conventional engines, are a way to meet Europe's emissions targets — albeit an expensive one. But the gains from cheaper methods such as turbocharging smaller engines, stop-start technology and weight reductions will no longer be enough, since a tougher testing regime, to be introduced in the wake of VW's diesel-cheating scandal, will make those targets still harder to reach.

The hefty cost of preventing nitrogen oxide spewing from diesel engines, which emit far less carbon dioxide than the petrol equivalent, may see them disappear by 2025. Further development of ICEs could be enough to meet the 2021 targets. Carmakers also need to be prepared to hit the next ones, says Andrew Bergbaum of AlixPartners, a consulting firm. These, yet to be finalised in the EU for carbon dioxide, may be as low as 68g/km by 2025 compared with 130g/km today.

Regulations are favourable outside Europe, too. In China more than 400,000 pure EVs were sold last year, making it the world's biggest market. The government, keen to clear the air of choking exhaust fumes, has plans for a quota that could insist that 8% of sales are EVs or hybrids by 2018. In the USA, California, which accounts for one in eight cars sold in America, is allowed to set tougher environmental standards than the national ones. It, and seven of the other states that have

adopted its emissions rules, have a target of 3.3m EVs on their roads by 2025.

Technology will have as much impact as politics. Vehicles that carmakers are forced to produce for the sake of the environment will become ones that buyers want for the sake of their wallets. EVs were once generally a second car for richer, environmentally minded drivers, prepared to pay a big premium for a vehicle with a battery that took an age to charge and had a limited range.

The falling cost of batteries will make the cost of owning and running an EV the same as that of a traditionally powered car in Europe by the early 2020s, even without the hefty government subsidies that many rich countries use to sweeten the deal. Better batteries should also conquer “range anxiety” — most pure EVs now run out of juice after around 100 miles (161km). If battery costs continue to tumble and performance improves at the current rate, the price of a car with a range of 300 miles could hit \$30,000 by the early 2020s, according to Exane BNP Paribas. Slicker technology will also mean charging in minutes, not hours.

The lack of charging infrastructure still deters buyers, but signs of growth are encouraging. In most rich countries governments, carmakers and private companies are putting up the necessary cash. In America the number of charging points grew by more than a quarter to almost 40,000 in 2016. Even Shell and Total, are planning to put chargers on the forecourts of their petrol stations across Europe.

But EVs are not yet a profitable business for carmakers precisely because of their batteries. Chevrolet’s Bolt, on sale late last year, costs under \$30,000 with subsidies and travels 238 miles between charges. But each sale will reportedly set General Motors back \$9,000. Tesla’s rival, the Model 3, is set to go on sale later this year; the firm has yet to make an annual profit. Even Renault-Nissan, the world’s biggest EV manufacturer, loses money on electric models.

Research and development also cost a fortune. Daimler says it will spend E10bn by 2025 on just ten battery-powered models. Restructuring is also expensive. For a century carmakers have built factories, employed workers and developed a supply chain around the ICE. In one scenario Morgan Stanley reckons that VW’s entire car business could make a loss between 2025 and 2028 as it transforms itself.

Some carmakers are better placed than others for the transition. Profitable premium brands such as Daimler and BMW have the resources to invest and can be confident that their richer customers will be the first to switch to more expensive EVs. Mass-market carmakers have a trickier task, according to Patrick Hummel of UBS, a bank. Despite falling costs, a cheap EV for the mass market is still a distance away. But for those carmakers, already operating with wafer-thin profit margins, must still invest heavily in anticipation of that moment.

EVs may eventually make more money than ICE cars as battery costs fall further. They are competitive in other ways too: EVs are simpler mechanically, and require less equipment and fewer workers to assemble them. But carmakers first face a transition that will hit cashflow and profits. Getting ready for an electric race will be painful, but missing it altogether would be disastrous.

I. Choose the correct answers.

1. What does the word “volt” in the first paragraph refer to?

- A. the unit of electromotive force
- B. electric motors
- C. electric batteries
- D. electric energy**

2. Which of the following is not true about EVs' development?
 - A. Evs have been among the mainstream models in the automobile market.
 - B. More advanced electric batteries will be available for Evs.
 - C. Actual sales and production growth of EVs will surpass expectations.
 - D. Carmakers are launching their transformation plan towards the EV market.

3. Which of the following could account for the rapid growth of EVs?
 - A. More technical aftersales supports from carmakers.
 - B. Improved acceleration technology provided by carmakers.
 - C. Full budget accounting of carmakers.
 - D. A grim prospect of alternative programs for ICEs.

4. Which of the following should not be included in the factors hindering EV development?
 - A. Lack of charging systems like charging stations, charging piles.
 - B. Insufficient subsidies and research and development spending.
 - C. Long charging time and limited mileage by poor batteries' storage.
 - D. Stricter emission regulations.

5. Which of the following is the main reason for the tough transition from ICE to EV for carmakers?
 - A. Because they will lose much profit from altering previous market disposition.
 - B. Because the investment for transition will be too huge to navigate.
 - C. Because the rates of return on investment will be uncertain.
 - D. Because the emission regulations all around the world will be much tougher.

II. Complete the sentences below with the right endings to agree with the information in the passage.

Pure EVs _____.

Hybrids _____.

Turbocharging smaller engines _____.

Pure ICE powered cars _____.

Diesel powered cars _____.

- A. will be less than the estimated production
- B. will perfectly comply with emission regulations
- C. will exit the market
- D. are a good choice for cutting the cost
- E. are driven to the mainstream by technology advancement
- F. are powered by electricity
- G. are convenient alternatives to produce less carbon dioxide
- H. are more friendly to the environment
- I. are easier to meet the emission standards

Keys:

I. 1. D 2. A 3. C 4. B 5. A

II.

1. B 2. G 3. I 4. A 5. C

Text E

Can New Tech Boots Safety in Uber Cars, and in Taxis, Too?

When you tap open the AsterRide app to hail a taxi, you'll see something a bit different from other ride-hailing apps: a feature called InstaAlert. It's designed to help passengers notify friends or family that they're in a taxi and to send an update once the rider arrives at a destination in one piece.

AsterRide is marketing itself as a safe alternative in the ride-hailing industry. Its timing is auspicious — Uber, taxis and other ride-for-hire rivals have made headlines around the world over some of their drivers allegedly engaging in sexual assaults, kidnappings and beatings.

Ride-hailing apps — like Uber, Lyft and Flywheel — let passengers use a smartphone to hail a taxi, black-car service or a personal driver using their own car. The companies behind these apps are aiming to convince passengers that the rides they hail are safe. **[A]** Though these companies say safety is their top priority, nearly every week there's a new story detailing a driver's alleged offense against a passenger.

AsterRide and a few others, including Shuddle, are part of a growing reaction to assuage customers' concerns. They're beefing up safety features in their apps, such as adding panic buttons and passenger tracking, and they're also looking to create more-secure services with heightened driver background checks and all-female driver fleets. It's unclear how many of these features will become industry standards, but they do represent a turning point in intensified attention to safety.

"Rider safety is becoming a paramount concern with users of app-based ride-sharing services," said Tejas Mehta, an analyst with Parks Associates, a market research firm that specializes in emerging consumer technology products. "This has created an opening for competitors such as AsterRide and Flywheel."

AsterRide launched in November 2013 by offering a similar service to its competitors: Passengers tap on a smartphone app that can hail a taxi or black-car service to take them to their location. But unlike its competitors, AsterRide aims to give customers peace of mind by promising to alert friends and family that they're on their way.

So far, its service is only in Phoenix, Ariz., but it will be expanding to cities in Florida, Illinois, California and other locations in a few months, the company says. **[B]** Both Aster Ride and Flywheel work only with existing taxi and black-car companies.

AsterRide is small potatoes compared with Uber, which is flush with nearly \$5 billion in funding and operates its service in more than 250 cities around the world. **[C]**

Seth Rudin, AsterRide's CEO, said he chose to focus on safety after he spoke to several women traveling with their children. "Every time they got in a cab they didn't feel comfortable," he said. He'd heard that some people were trying to protect themselves by snapping a photo of the taxi driver's license and sending it to friends. **[D]**

Passengers can set up InstaAlert to notify certain people whenever they request a ride, and then these people will get texts or emails when the ride starts and ends. The app also shows pickup and drop-off locations, along with real-time GPS tracking of the ride, driver's name, car type, license plate and taxi registration ID numbers.

At the end of the ride, the app asks the passenger to verify that they arrived safely at their

destination. If the passenger says no or doesn't respond, AsterRide will contact the passenger's family members or friends and urge them to call for help.

Uber has been in the spotlight for a string of incidents allegedly perpetrated by its drivers. Various media outlets have reported alleged rape, sexual harassment and groping in Washington D.C, Chicago and Orlando, Fla. An Uber driver in India was accused of beating and raping a passenger, prompting officials to ban the service in the country's capital of New Delhi.

A few Uber drivers have also allegedly brandished knives and guns, and punched, choked and beaten passengers, according to several media reports.

Uber said it is trying to fix the problem by exploring new methods to screen drivers, including biometrics, voice verification and possibly even polygraph exams. The company also said it was looking into ways to let passengers "communicate with us and their loved ones in the event of an emergency."

Already, Uber can track every ride with GPS, and its app shows passengers the driver's photo, license plate number and vehicle type.

Recently Uber announced a new program in Chicago under which it will have "security specialists," which include off-duty police officers, perform real-time audits of Uber rides.

"Putting safety first for each of the one million trips we are doing every day means setting strict safety standards, then working hard to improve them every day," Uber's head of global safety, Phillip Cardenas, said. "Uber is committed to developing new technology tools that improve safety; strengthen and increase the number of cities and countries where background checks are conducted; and improve communication with local officials and law enforcement."

Uber and AsterRide aren't the only ride-hailing companies that say they're boosting safety—other startups are also thinking of innovative ways to make rides more secure.

After the alleged rape incident in India, one of the country's largest taxi companies, Meru Cabs, launched a female-only ride service called Meru Eve, according to the *Wall Street Journal*. The taxis, which are driven by women and pick up female passengers, come equipped with pepper spray and panic buttons that alert the company if there's a problem.

Another company that has an all-female driver fleet is a San Francisco, Calif.-based ride-hailing app called Shuddle, which focuses on passengers who can't normally drive themselves around, like children and seniors. To ensure the safety of its customers, the company says, it has stringent driver background screenings and ride monitoring systems.

Shuddle requires that every driver have child care or caregiver experience and a clean background check that includes no misdemeanors. For every ride, the passenger and driver are given passwords so they can verify each other. Also, all rides are live-monitored by Shuddle and there's a call desk that people can reach out to at any time, Company CEO Nick Allen said this amount of scrutiny makes it safer not only for passengers but for drivers too.

"There's no magic bullet," Allen said. "You have to do a number of things well."

I. Choose the correct answers.

1. Which of the following is the most possible service of black-car service, according to the passage?
 - A. point-to-point and airport ride service
 - B. cheaper cab service
 - C. standardized travelling ride service
 - D. professional and accredited chauffeur service

- I.** 1. D 2. A 3. A 4. D 5. D
II. 1. C 2. E 3. B 4. D 5. A