

McKinsey Center for Future Mobility

Mobility investments in the next normal

A new survey looks at the impact of the COVID-19 pandemic on consumer sentiment, which could influence future mobility investments.

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Mobility significantly decreased in many regions as the COVID-19 pandemic spread in 2020. With industry stakeholders focused on keeping their businesses running, preserving margins, and protecting employees, it sometimes seemed as if the sector was at a standstill. After all, companies that were struggling to survive would likely gain little by investing in innovative technologies or mobility services. And with car sales plummeting, few consumers appeared willing or able to purchase new vehicles.

This view of the mobility industry, however, fails to account for several important developments. Although the COVID-19 pandemic has temporarily slowed growth, the mobility sector is undergoing a profound transformation and opening new opportunities for players that are willing to invest in vehicle electrification, autonomous driving, and other revolutionary products and services. What's more, our recent consumer survey of around 7,000 respondents worldwide, conducted in cooperation with the World Economic Forum, has highlighted several trends that make it imperative for mobility players to act now if they want to emerge stronger in the next normal.¹ Here's what we found.

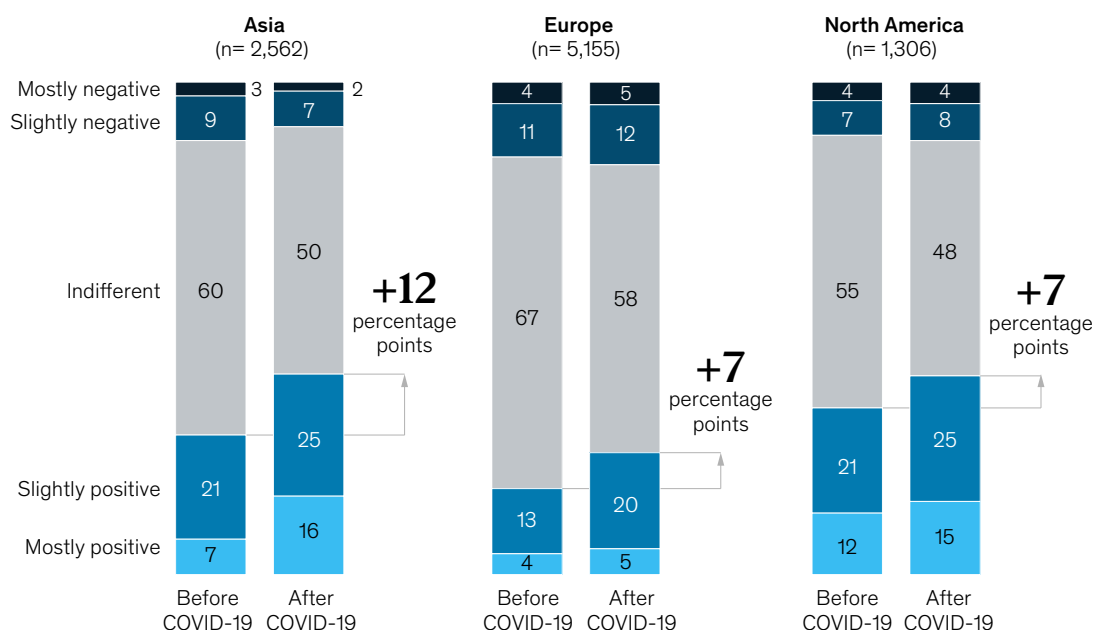
Positive consumer sentiment could boost the mobility industry

While the COVID-19 pandemic has created challenges for both automotive manufacturing and sales, OEMs could benefit from favorable consumer sentiment. Across regions, our survey revealed that the number of respondents with a positive view of OEMs had increased since the pandemic began, with the greatest growth occurring in Asia (Exhibit 1).

Exhibit 1

Automotive consumers now view original-equipment manufacturers more favorably than they did before the COVID-19 pandemic.

Consumer opinions on automotive OEMs,¹ % of respondents



Note: Figures may not sum to 100%, because of rounding.

¹Question: How would you rate your sentiment toward automotive manufacturers before and after COVID-19, given automotive manufacturers' response to COVID-19 (eg, manufacturing of medical equipment, furlough of employees, reduction of manufacturing capacity, safety of employees, government subsidies)?

Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

¹ The Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, was conducted in August and September 2020. It involved around 7,000 consumers from seven countries in Asia, Europe, and North America.

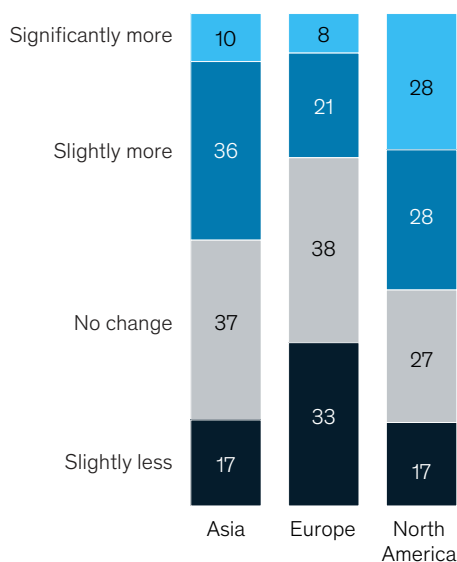
COVID-19 has increased interest in low-emissions transportation

The COVID-19 pandemic appears to have increased consumer awareness about the negative effects of travel, including congested roads and heavy emissions. Annual global passenger plug-in electric vehicle (EV) sales hit three million in 2020—a more than 40 percent year-on-year increase—with 46 percent of fiscal-year sales coming from Europe, 39 percent from China, and 12 percent from North America.² In our survey, many respondents stated that they were now more interested in battery-electric vehicles (BEVs) and partial-hybrid electric vehicles (PHEV) (Exhibit 2). Europe was the only region where interest in BEVs and PHEVs declined. This trend is somewhat paradoxical, since Europe still has the highest EV sales, and may be occurring because European respondents are becoming more concerned about vehicle ownership in general. More than 55 percent of survey respondents from North America, which has lagged in EV sales compared to Asia and Europe, expressed increased interest in these vehicles. More importantly, when asked about the factors contributing to their interests, respondents across regions were most likely to cite increased sustainability concerns and air-quality improvements.

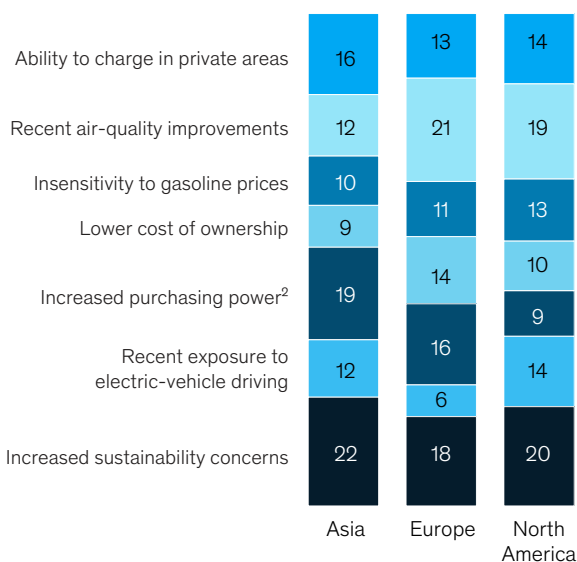
Exhibit 2

The COVID-19 pandemic has increased consumer interest in battery electric vehicles and partial-hybrid electric vehicles.

Did COVID-19 change your interest in buying an electric/hybrid¹ vehicle?
% of respondents



What are the top 3 reasons why you now consider electric/hybrid¹ vehicles more?
% of respondents



Note: Figures may not sum to 100%, because of rounding.

¹Battery electric vehicles and partial-hybrid electric vehicles.

²Increased purchasing power through government incentives.

Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

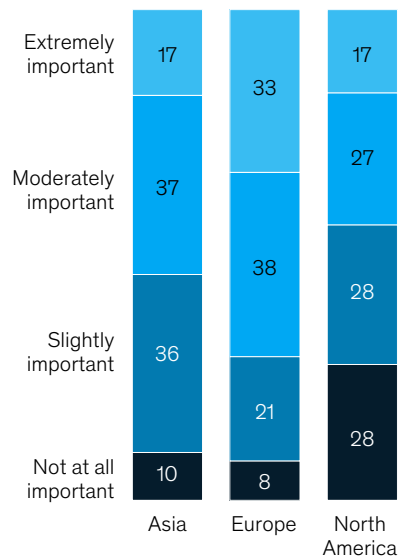
² "EV tracker—full year 2020: EV sales hit 3 million (+40% YoY) despite pandemic, as December hits all-time high (+120% YoY)," Bernstein Research, February 3, 2021, [bernsteinresearch.com](https://www.bernsteinresearch.com).

The shift in consumer sentiment could have implications for commercial transport. More than 70 percent of survey respondents stated that delivery of goods should shift from vehicles with internal combustion engines (ICE) to BEVs or H2EVs (also known as hydrogen fuel-cell plug-in hybrid electric vehicles) for long-haul trucking and intracity transport (Exhibit 3). Surprisingly, more than 40 percent of respondents in all regions stated that they were willing to pay a premium to enable this shift. Anecdotal evidence from online retailers indicates that actions are still lagging sentiment, however, as the percentage of consumers willing to pay to offset the carbon from their delivery appears to be lower.

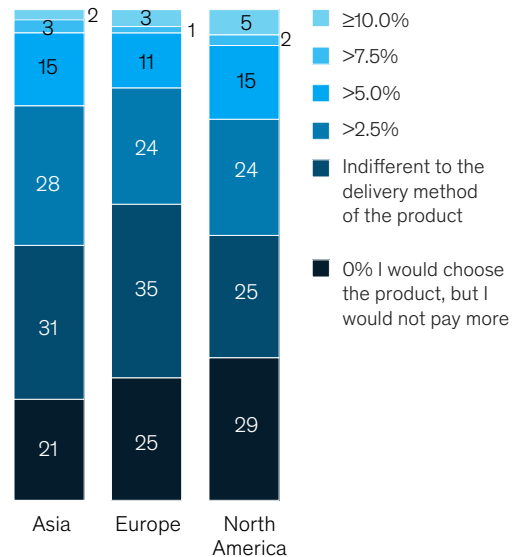
Exhibit 3

A majority of consumers believe that electric vehicles should handle long-haul trucking and intracity delivery; many are willing to pay a premium for the shift.

How important is it that long-haul trucking switch to alternative energy?¹
% of respondents



If you believe that alternative-energy hauling is important, how much more would you pay?
% of respondents



Note: Figures may not sum to 100%, because of rounding.

¹Switch from internal-combustion to battery or hydrogen electric vehicles.

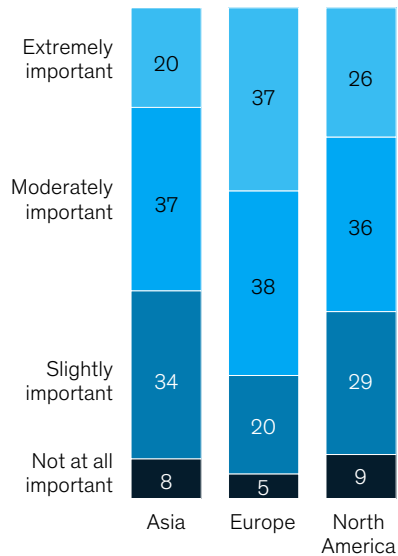
Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

In another major shift, low-emissions manufacturing is becoming more vital. Of the survey respondents who were considering an EV purchase, over half stated that it was a moderately or extremely important consideration (Exhibit 4). This development suggests that changing consumer sentiment will affect not only vehicle sales but also the entire supply chain. Many respondents were also interested in end-of-life vehicle recycling.

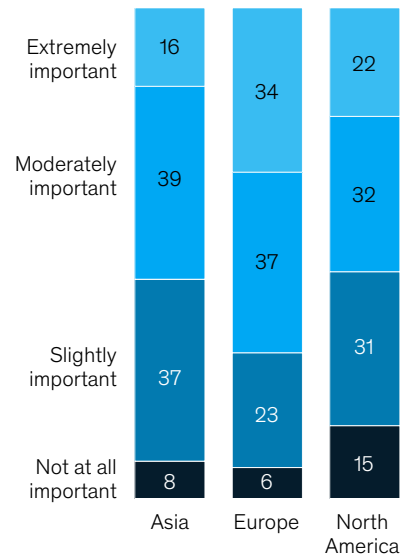
Exhibit 4

Many potential electric-vehicle buyers valued low-emissions manufacturing and end-of-vehicle-life recycling.

How important is low-emissions manufacturing to your electric-vehicle purchase?
% of respondents¹



How important is end-of-vehicle-life recycling to your electric-vehicle purchase?
% of respondents¹



Note: Figures may not sum to 100%, because of rounding.

¹Respondents restricted to those who were considering an electric-vehicle purchase.

Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

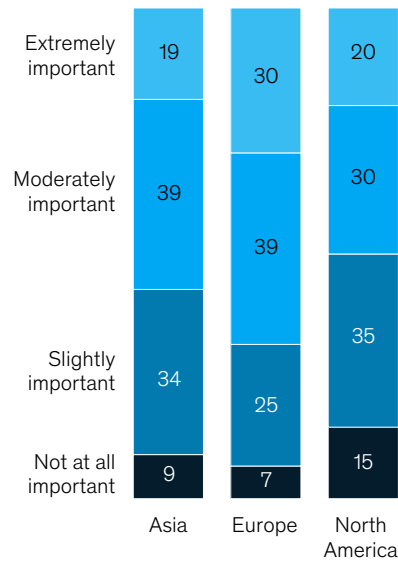
Of the survey respondents who were considering an electric-vehicle purchase, over half stated that low-emissions manufacturing was a moderately or extremely important consideration.

The survey also showed that use of sustainable materials was an important consideration for potential EV buyers (Exhibit 5). Use of a local manufacturer was also moderately to extremely important to many respondents.

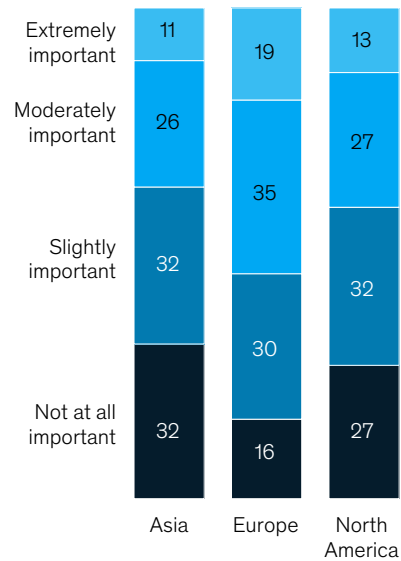
Exhibit 5

Many potential electric-vehicle buyers were interested in the use of sustainable materials and local manufacturing.

How important is use of sustainable materials in manufacturing to your electric-vehicle purchase?
% of respondents¹



How important is local manufacturing to your electric-vehicle purchase?
% of respondents¹



Note: Figures may not sum to 100%, because of rounding.

¹Respondents restricted to those who were considering an electric-vehicle purchase.

Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

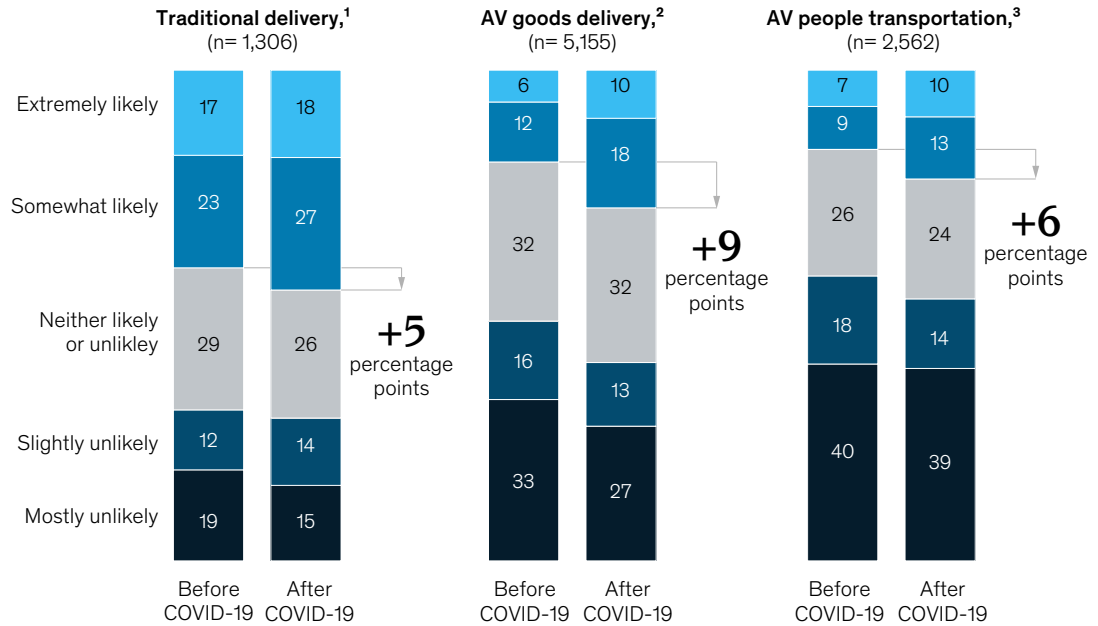
COVID-19 has increased interest in autonomous driving, but many barriers remain

Our survey showed that the COVID-19 pandemic has made consumers more likely to use delivery services, via traditional methods and autonomous technology. Similar trends were seen across regions, and Exhibit 6 shows the results for North America, as an example. Both quarantine restrictions and the desire to limit human contact are contributing to these results. The next normal has accelerated the interest in autonomous technology, with the number of North American respondents stating that they would be extremely or somewhat likely to take deliveries from autonomous vehicles (AVs) increasing from 18 percent to 28 percent. There was a more modest uptick in the number who were willing to use AVs for people transport. This shift in consumer sentiment and acceptance could unlock opportunities for AV players to test, pilot, and deploy AV deliveries.

Exhibit 6

The COVID-19 pandemic has accelerated consumers' interest in autonomous-vehicle delivery.

Opinions on traditional delivery and autonomous-vehicle (AV) delivery,
% of North American respondents



Note: Figures may not sum to 100%, because of rounding.

¹Question: How likely would you use traditional delivery of food and packages straight to your door? ²Question: How likely would you use a self-driving robot/vehicle for delivery of food and packages? ³Question: How likely would you use a fully autonomous vehicle to transport you from point A to B? Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

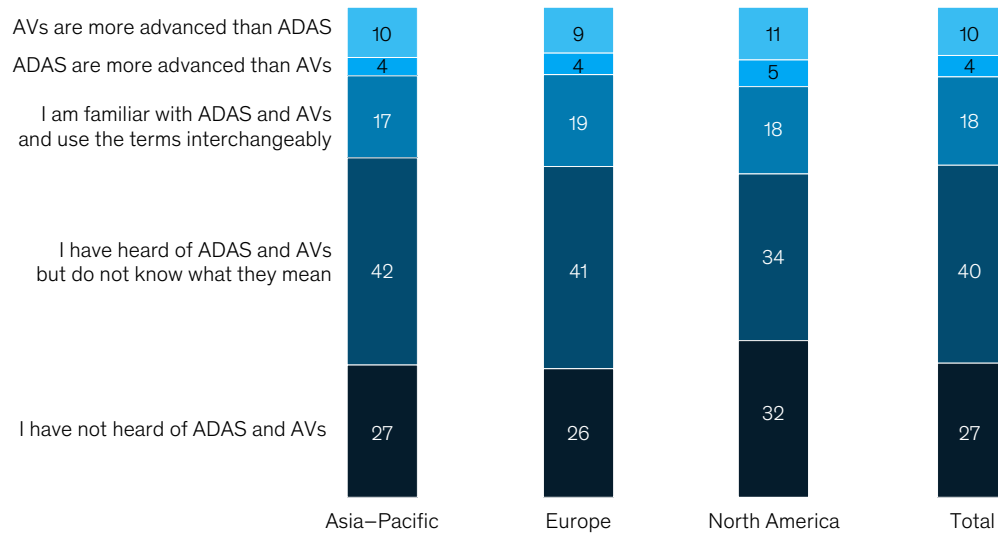
Despite the growing acceptance of autonomous vehicles, OEMs and other stakeholders face many barriers to adoption.

Despite the growing acceptance of AVs, OEMs and other stakeholders face many barriers to adoption. Overall knowledge of this technology is still relatively low, with many respondents stating that they had never heard of AVs or advanced driver-assistance systems (ADAS), or that they did not fully understand the meaning of these terms (Exhibit 7).

Exhibit 7

Most people cannot differentiate between advanced driver-assistance systems and autonomous vehicles.

Knowledge of advanced driver-assistance systems (ADAS) and autonomous vehicles (AVs),¹
% of respondents



Note: Figures may not sum to 100%, because of rounding.

¹Question: When thinking of advanced vehicles and autonomous features, which of the following statements are most representative?
(For Asia-Pacific, n = 1,308; for Europe, n = 2,554; for North America, n = 735; Total n = 4,597.)

Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

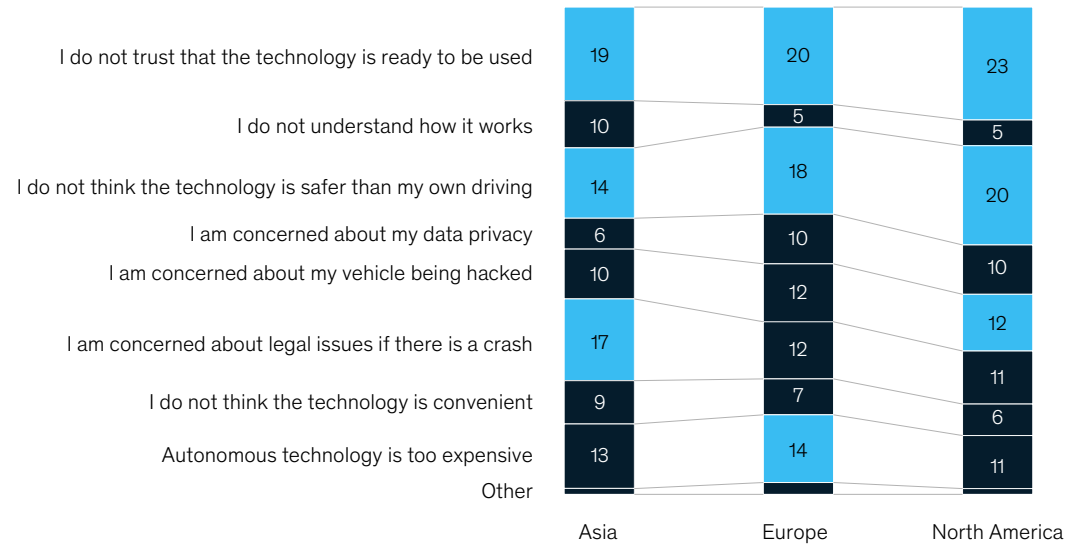
The lack of consumer education contributes to the relatively low trust in AVs—something that is still pronounced despite the increase in the number of people willing to use them. When we asked survey respondents what kept them from using AVs, most stated that they did not believe the technology was ready (Exhibit 8). Many others stated that they did not believe AV technology was safer than their own driving. Overall, trust is so low that almost half of consumers would not trust OEMs, regulatory bodies, or independent third parties to validate technology.

Exhibit 8

The major factors preventing the adoption of autonomous vehicles include lack of trust in the technology and safety concerns.

Key reasons you are not interested in purchasing a vehicle with advanced driver-assistance systems (ADAS) or a fully autonomous vehicle (AV),¹ % of respondents

■ Top 3 responses



Note: Figures may not sum to 100%, because of rounding.

¹Question: What are the key reasons you are not interested in purchasing a vehicle with advanced driver-assistance or fully autonomous features?

Source: Global COVID-19 Automation Consumer Survey, a joint survey from McKinsey and the World Economic Forum, September 2020

Mobility has decreased during the pandemic, but our survey indicates that consumer interest in autonomous driving and vehicle electrification has accelerated. Players along the mobility chain who want to thrive in the next normal should consider pivoting their investments to these areas while simultaneously educating consumers about their benefits. Such educational efforts will be particularly important for AVs, since public trust remains low and many people are still reluctant to use these vehicles. In addition, the greater openness of consumers toward autonomous-delivery solutions could make them more familiar with AV technology, potentially opening more opportunities.

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