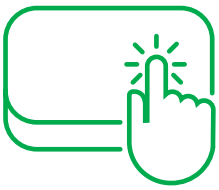
IHS Markit®

From Zero to a Trillion

The Mobility Revolution

Author, Tom De Vleesschauwer, Senior Director

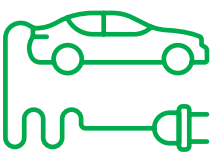
Innovative technologies and business models are poised to transform the way people use cars. Three key developments are converging: the first is ride hailing, provided through apps like Uber, Didi, or Ola. The second is the rise of electric vehicles. The third, and potentially most transformative: autonomous vehicles. While the three developments are separate innovations, their impacts will overlap. Together, they will challenge the century-old model of mobility based on individual car ownership.



App-based mobility services, which effectively did not exist a decade ago, will grow to become a huge business—at least a USD1-trillion market by 2040. All these changes portend potentially momentous shifts for vehicle manufacturers and energy companies alike, as well as opportunities for new entrants from the technology sector that are now battling for a share of the dollars that consumers will spend on transportation in the future.

Ride hailing is the opening act of the transformation. One key impact is that more people will travel by car than previously expected. This means more miles or kilometers traveled by cars and increased access to mobility via the car, especially in emerging economies. Consumers, particularly those in regions where transportation options were previously limited, will have more choices than ever before. Another key impact of ride hailing will be more intense use of vehicles. A car driven by a mobility service company will travel on average 50,000 miles per year, five or six times more than a car purchased for personal use. This will mean fewer cars sitting empty in parking lots waiting to be used by their owners and higher overall utilization of the automotive fleet. This could have big implications for the global automobile industry. As a result, some of the major vehicle manufacturers are investing in the mobility services market.

No single path lies ahead. There will be a lot of regional variation in how mobility services evolve, shaped by choices made by policy makers, consumers, and investors. Some cities could end up with an open, lightly regulated market, while others may incorporate car-based mobility services into their mass transit systems. In highly congested, densely populated areas, ride pooling—where multiple passengers share a car ride—could be favored to lower the number of cars on the road. This entire development also creates new challenges for traditional urban mass transportation systems.



App-based mobility services have grown because consumers value what they provide—they did not come about because of a government fiat. This is different from the reemergence of electric vehicles (EVs). More than one million EVs were globally sold in 2017, up 43% from the prior year. Government subsidies and incentives are the biggest stimulant for EV sales so far. Sales growth has been strong in recent years, but it is easier to log fast growth when the starting point is near zero. EVs still only accounted for 1.7% of total light vehicle sales in 2017—and just a mere 0.2% of the global car fleet.

If the shift to EVs takes place at scale, the implications will be large for the oil and electric power industries, but timing and pace are far from clear right now. If these policies fade away, EV sales could falter, and possibly severely. Meanwhile, the lack of adequate charging infrastructure remains another major challenge to large-scale adoption. Building new infrastructure can be expensive without any short-term guarantee of economic payback; creating a "chicken or the egg" dilemma for the power sector.

Yet even with continued policy support and broad proliferation of charging infrastructure, the shift to EVs will take a long time. In the IHS Markit planning scenario "Rivalry," growth in global oil demand continues to grow until about 2040 and then plateaus. Moreover, light vehicles only account for about one-third of total oil demand today.

Autonomous vehicles are the most profound innovation. Leading technology companies and "new-tech" start-ups are active, often partnering—and competing with—the major vehicle manufacturers. Autonomous vehicle technology will also provide opportunities for companies in the automotive ecosystem to generate additional revenues by providing entertainment, information, and communications to passengers. Given this, stakeholders from other industries will likely become players in the autonomous vehicle race as well.

Autonomous vehicles will have a big impact with improved road safety. They can be programmed for safe, defensive driving and don't get tired, distracted, or fall under the influence of drugs or alcohol. More than one million people are killed each year in car accidents around the world. Autonomous vehicle technology won't necessarily eliminate road deaths, but it could significantly reduce them over time.

In addition to saving lives, driverless technology could reshape how we live in profound ways. Long commutes could be more productive and pleasant, so more people may choose to live farther from where they work. Autonomous trucks have the potential to reconfigure industrial logistics and warehousing practices.

In addition to saving lives, driverless technology could reshape how we live in profound ways.

It would have been difficult in 1918 to envision all the ways the personal car would reshape life in the 20th century. In a similar way, it may be hard to imagine now all the ways autonomous vehicles could transform life in the 21st century. However, before autonomous vehicles lead to cities being redesigned, they must be embraced by consumers and integrated with vehicles that have drivers—and demonstrate a safety record that is far superior to the best human drivers.

As the three big innovations diffuse more widely around the world, a growing array of new services can be expected to emerge that incorporate elements of each. One possible example: a personal subscription providing access to a set number of autonomous EV miles or kilometers per month.

To see where things may be going, keep an eye on China. It is the now the largest car market, with sales of 27 million cars in 2017, 60 percent more than the 17 million sold in the United States, the second-largest market. China is also the largest market for EVs thanks to a host of increasing government policies and subsidies.

By 2040, there will be a lot of money to go around in the trillion dollar mobility services market. Although because there is so much at stake, many formidable players—vehicle manufacturers, oil companies, electric utilities, and technology firms—are becoming actively engaged today, seeking to position themselves in what could well be the competition of the 21st century.

For more information www.ihsmarkit.com

CUSTOMER CARE AMERICAS
T +1 800 447 2273
+1 303 858 6187 (Outside US/Canada)

CUSTOMER CARE EUROPE, MIDDLE EAST, AFRICA
T +44 1344 328 300

CUSTOMER CARE ASIA PACIFIC
T +604 291 3600

E CustomerCare@ihsmarkit.com

About IHS Markit

IHS Markit (Nasdaq: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 85 percent of the Fortune Global 500 and the world's leading financial institutions. Headquartered in London, IHS Markit is committed to sustainable, profitable growth.

Automotive offerings and expertise at IHS Markit span every major market and the entire automotive value chain—from product planning to marketing, sales and the aftermarket. For additional information, please visit www.ihsmarkit.com/automotive or email automotive@ihsmarkit.com.

256240709-MFT-0718