



# AUTOMAKERS' CHOICE: DISRUPT OR BE DISRUPTED

An unprecedented range of challenges arrives

CHANGE IS AFFECTING the auto industry from many different angles, and in recent years it has been accelerating. Some governments are trying to phase out first diesel engines initially and then internal combustion engines in general. There is growing global pressure to reduce the use of fossil fuels in order to cut carbon emissions. And a growing number of municipalities are restricting cars to reduce traffic jams and pollution.

While the auto industry has some promising solutions, these too are potentially disruptive. Battery-powered electric drivetrains will mean that cars use a completely different propulsion system, which incumbent manufacturers may not have a lead in. Autonomous cars may offer effective solutions for urban transport challenges such as congestion and parking – but they might also alter the way cars are used and decrease ownership.

The industry has reacted successfully to challenges throughout its 100-plus year history. But these tests generally arrived one at a time – such as the oil shock, which forced an increase in fuel efficiency – or gradually, as with increasing safety and anti-pollution regulation, which led to widespread adoption of seatbelts and catalytic converters over relatively short periods. Today, digital advances, changing customer needs, and environmental regulations are generating a perfect storm with multiple, simultaneous challenges.

## **NEW MOBILITY SOLUTIONS**

To address these disruptive impacts, automakers need to rethink their business models through a holistic strategic agenda. It is important that they defend traditional profit pools as much as possible – for example, those provided by well-designed cars and original parts, high-margin options, and vehicle financing. These will help weather the big changes coming.

But for the future they must also develop new sources of income. Firms need to ensure they do not get trapped in a sunk-cost fallacy: just because something has always been done in a certain way, does not mean that it should continue. Now, more than ever, they must focus on customer needs and experiences; pose fundamental questions about their businesses; and reexamine all current decisions and processes. The responses will then inform fundamental decisions, such as where to invest financial and human resources.

The crucial question is: What do people want cars for? In the 21st century, mobility patterns have begun to change rapidly, often to the benefit of alternative modes of transport. However, people's mobility needs are increasing, not declining, so automakers should examine new potential areas of growth. For example, in many large cities, people go to work by public transport and only need a car occasionally. For them, sharing a vehicle might make more sense than owning one, and car-sharing services such as Zipcar have been taking off. German automakers in cooperation with car rental/leasing firms have developed DriveNow and car2go, which offer free-floating car-sharing services. Corporate fleets, too, are becoming more widespread. And advanced connectivity in new cars offers rich opportunities for other mobility services and data-based business models.

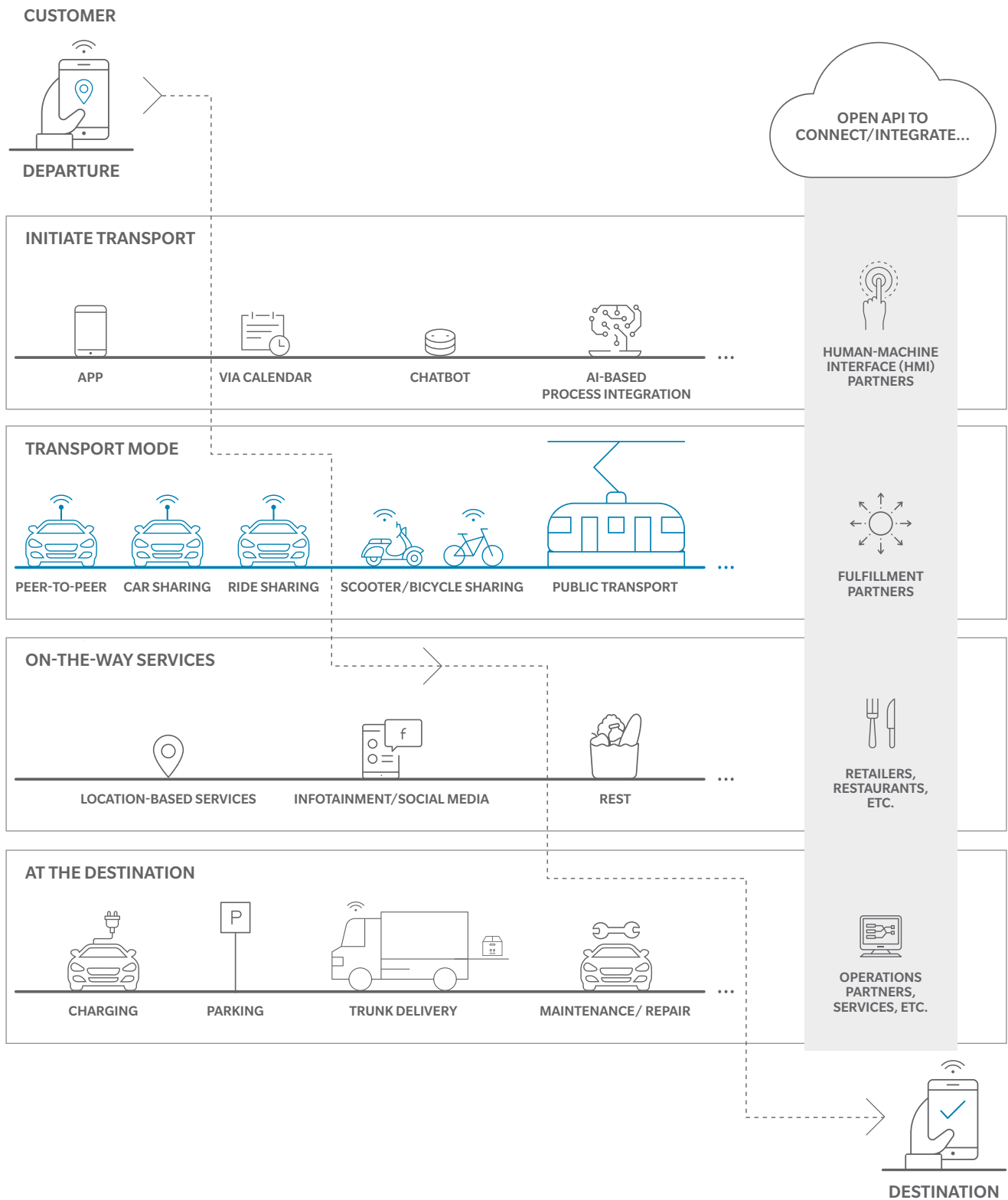
Some of the new services help to manage journeys from end to end through "smart mobility" solutions, which are expected to be a major trend over the next 20 years. Current examples include mobile apps for ridesharing, city parking, and real-time public transport. In the future, smart mobility will also mean integration of transport modes, creating demand for one-click book-and-pay travel services. (See Exhibit 1.)

Overall, mobility startups – covering areas such as autonomous vehicles, e-mobility, smart city controls, and multimodal hubs – attracted over \$40 billion of investment between 2011 and 2016, with the amount of investment roughly doubling each year. The market share of innovative mobility services is projected to quintuple to 20 percent by 2040, while the share of private cars will shrink by roughly a quarter to some 55 percent. We think the smart-mobility market could generate up to \$270 billion in revenue by 2040, as well as profits above \$100 billion. Automotive mobility services could account for more than half of these revenues and profit pools.

As smart mobility solutions spread, such services will become the norm to swap transport modes. In our Mobility 2040 survey, a clear majority of the 7,500 participants said they would consider abandoning their current preferred mode of travel if an alternative offered enhanced smart-mobility services. Of consumers aged between 18 and 35, 94 percent said they would consider switching, as did three-quarters of those over the age of 65. In another recent online survey, 48 percent of respondents aged between 18 and 34 said they used mobility services, such as Lyft, Uber, Zipcar, and MyTaxi.

EXHIBIT 1: TARGET PICTURE MOBILITY 2025

Fulfilling customer mobility needs by using AI, collaborating with partners and offering a complete service portfolio



Source: Oliver Wyman analysis

## DIGITAL TOOLS FOR DIGITAL PRODUCTS

Product disruptions such as autonomous driving and mobility services represent only the outward manifestations of change. Automakers will need to invest heavily to develop new electric and digital technologies, putting firms under pressure to create economies in other areas. One way to boost effectiveness and get better value is to digitize and virtualize R&D, for example by systematically gathering data and using it to inform the design and development process.

In manufacturing, automakers achieved average productivity improvements of 20 percent in each of the past three decades, mainly thanks to automation, outsourcing, and standardization. Over the next five to 10 years, the automation and outsourcing of white-collar jobs could drive even greater gains, perhaps enabling workforce reductions of up to 30 percent in selected functions.

But instead of simply reducing workers, companies need to pursue the scarce supply of high-tech workers and either replace or retrain current staff. It will not be sufficient simply to automate more processes and replace line workers with robots. Instead, factories will use increasing numbers of “cobots” – collaborative robots – and workers will have to be retrained to work with them. So, automakers will have to make their workforce planning and recruitment processes more dynamic and agile. Some are already retraining workers for digital roles, as well as hiring professionals fluent in robotics and app development.

Auto sales are mostly still done in a very traditional manner – through TV advertising and dealerships. Digital tools and solutions could help to radically cut the costs of sales and reaching target customers. They could also create new ways to retain customers and new opportunities to offer them services. If an automaker knows when someone has been looking at an online configurator, it can send follow-up ideas and proposals. If it knows that a sports-car owner has started a family, it can guess that the driver might be ready to move to a larger, more practical car, such as an SUV. The automaker can then send suggestions for a new model, set up a test drive, and offer financing.

Online auto sales have yet to catch on. Cars are far more expensive than almost all other consumer goods, and the decision-making process takes longer – often because people first want to visit a showroom and talk to a sales rep. However, the move to small, frequent transactions like rentals and car sharing could lead the average car buyer to be more digitally savvy and become comfortable with the online experience. So, car manufacturers’ sales executives will need to develop innovative offerings and channels.

Artificial intelligence (AI) has great potential to improve sales planning. Instead of relying on experience and gut feel to plan and allocate volumes, automakers can now leverage smart, data-driven tools, which will help them better meet customer demand. Experience suggests that AI-based planning and sales excellence could raise profitability per vehicle by between 15 percent and 20 percent.



## THE FUTURE STARTS NOW

While automakers have probably never faced more challenges than now, the global population is growing and increasingly prosperous, and the demand for mobility is great. The new emerging customer is one who can be satisfied by the more traditional mobility products, but also by new ones as well. The successful companies will be those that figure out how to fulfill the needs of this new customer. That will likely mean embracing the very technologies that threaten to disrupt the existing business model.

However, smart mobility solutions are likely to follow the patterns of other digital platforms, such as search engines and social networks. These tend to be dominated by single players, such as Google and Facebook, which manage to turn early leads into market domination. Automakers will need to move fast.

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