



# MOBILITY AS A SERVICE

Mapping a route towards future success  
in the new automotive ecosystem



# MOBILITY AS A SERVICE IS ACCELERATING IN THE AUTO INDUSTRY.

The automotive industry's shift towards mobility as a service is accelerating. But how can Original Equipment Manufacturers (OEMs) make the most of the opportunities it offers? Accenture's insights into the mobility as a service market provide a road map for OEMs to win in this emerging space.





**Mobility as a service**—digitally-enabled car-sharing and ride-hailing—will be a key driver of growth and profitability in tomorrow’s auto markets, far outstripping the profitability potential of traditional car making.

Accenture research shows that **by 2030**, revenues from manufacturing and selling vehicles (**around €2 trillion**) will be only marginally higher than they are today, and that profits from car sales will even shrink slightly (**from approximately €126 billion to €122 billion**). By contrast, revenues from mobility services are projected to soar to **almost €1.2 trillion**—with profits reaching as much as **€220 billion**.

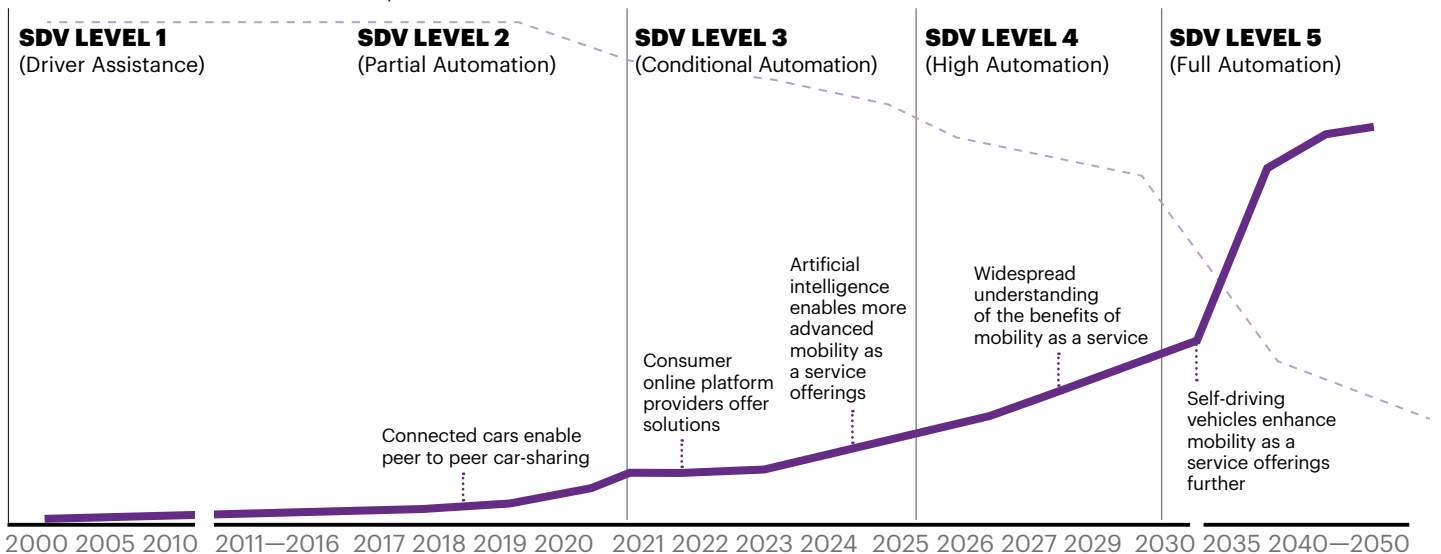
Fueled by constant improvements in autonomous vehicle technologies, global markets for mobility as a service are set to grow significantly over the next decade (see Fig. 1).

**By 2030, revenues from mobility services are projected to soar to almost €1.2 trillion**

FIGURE 1

**The German mobility as a service market will reach 20% of total individual car transport by 2027**

[%] Share of German individual automotive transportation volume<sup>1</sup>



**SDV = Self-driving vehicles**

**Rides in non-shared vehicles** - - - - -

**Mobility as a service rides** —————

<sup>1</sup> Source: Statista & Bundesumweltamt 2017 (Data until 2016, 2017 and after own Accenture Forecast)



# ARE OEMS READY?

OEMs will need to address three critical challenges before they can seize all the opportunities from the emerging “passenger economy”:



They will need to meet customer’s increasingly demanding expectations—shaped by the car-sharing and ride-hailing services pioneered by new entrants—and offer new services that are even better.



They will need to ensure the profitability of these new services. Many OEMs’ early, experimental car-sharing and ride-hailing services are not earning money. This will have to change.



They will need to integrate their core “build-and-sell” business with their new offerings. Players in other industries—for example, Apple in smartphones, Google in AI-enabled hardware devices—have shown how critical it is to build a business model that strikes the right balance between hardware, software, and ecosystem. OEMs should do the same.

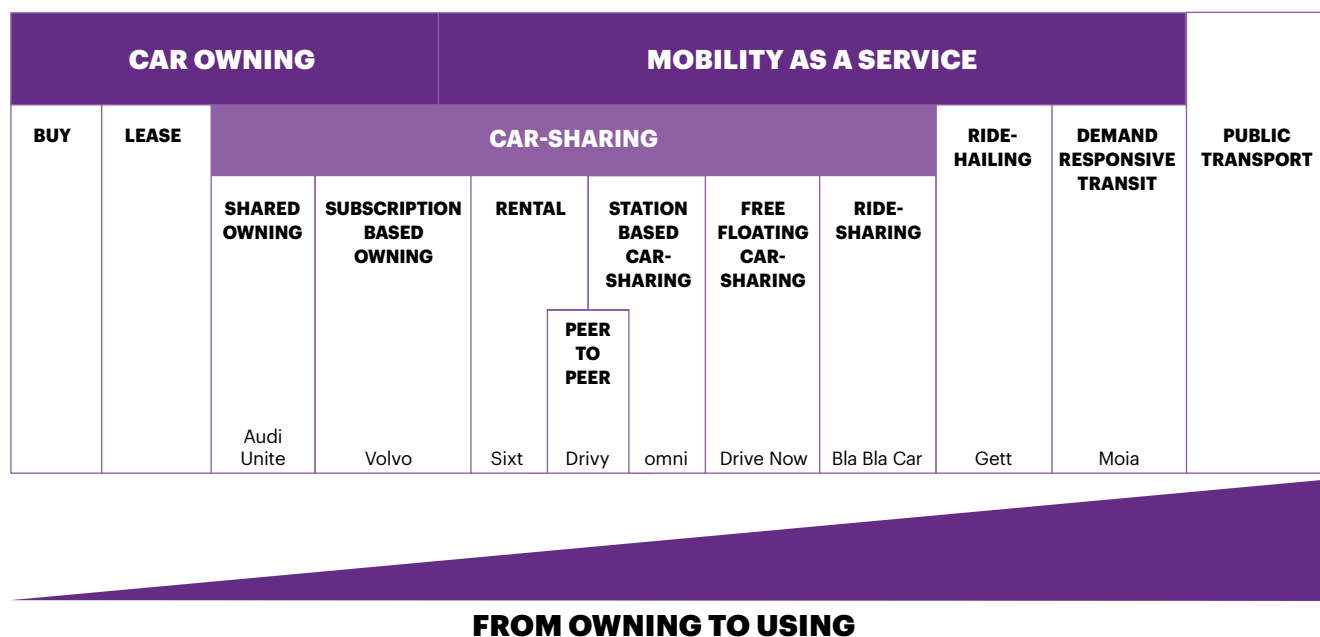


OEMs' existing strengths position them well to meet these challenges. They have the expertise in vehicle mass production and are thus very likely to dominate the manufacturing of autonomous vehicles that will turn mobility as a service into a mass market. They still occupy the critical interfaces between products and services, hardware and software. And their brands, powerful distribution networks, and customer following can help build and sustain mobile services at scale: the key to success.

But they will also need bold new strategies to bring these strengths to bear. Auto executives must make smart choices about where and how to play, and anticipate what customers need and expect from mobility services. They will also need to execute on these choices, and fast. Nimble newcomers have been besieging the emerging mobility as a service space for some time, and thanks to their incursions, the changes that will eventually enable the mobility as a service revolution are already well underway (see Fig. 2).

# Auto executives must make smart choices about where and how to play, and anticipate what customers need and expect from mobility services

FIGURE 2  
**Fields of play: Mobility services OEMs could explore**



Source: Accenture

# NEW COMPETITORS, NEW EXPECTATIONS

The disruptive business model pioneered by such ride-sharing services as **Uber** and **Lyft** now has several imitators. Additionally, some large, data-driven platform players are currently vying with OEMs for control of the connected vehicle customer interface and they aim to expand their reach. Even traditional car-hire and public transport providers are leveraging their proven competence as mobility providers (and considerable local clout) to grow their footprint, especially in urban areas. What's more, these alternative providers are meeting customer expectations significantly more successfully than OEMs (see Fig. 3).

OEMs, in fact, are struggling to keep up. True, **Daimler's Car2Go** subsidiary is now said to be the largest car-sharing company in the world<sup>1</sup>; While **Volkswagen's** new **Moia** business aims to launch a pioneering on-demand, all-electric shuttle bus service for the city of Hamburg in 2018, which will simulate the experience of autonomous driving in every respect, except that the driver, for now, is still in place<sup>2</sup>. Yet these experiments, though impressive, are still nowhere near as customer-friendly as the services of established mobility players or start-ups. They're also almost always separate ventures that aren't truly integrated into OEMs' overall business. And they certainly are not profitable.

As mobility morphs into a market whose economic value lies in the efficient management of an all-encompassing system likely to attract the attention of regulators as its societal benefits become clearer, OEMs could be doing a whole lot more.

## SHAPING NEW STRATEGIES

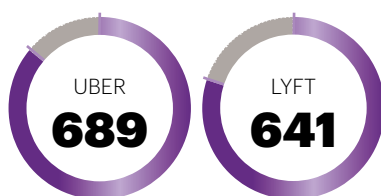
OEMs need to position themselves appropriately along the emerging automotive value chain—a decision that will hinge, of course, on each individual player's purpose, vision, core competencies, and assessment of the likely market advantages (see Fig. 4).

Recent automotive sector investment activity suggests that major players are already anticipating significant shifts in the value chain. Cases in point: **General Motors** plans to deploy self-driving electric cars in test fleets in partnership with its ride-sharing affiliate, **Lyft**<sup>3</sup>; and **Delphi** recently announced an agreement to acquire **nuTonomy**<sup>4</sup>.

FIGURE 3

### Comparing service availability by number of cities (per 800)

#### RIDE-HAILING



#### CAR-SHARING



Source: Service Provider Websites

Even today, however, OEMs could be making better use of their existing assets to boost efficiencies and increase their core mobility revenues. Experiences in other industries demonstrate the power of an approach that combines a premium product with a superior, platform-based ecosystem. Consider, for example, how **Apple** has garnered 80 percent of total global smartphone profits with a market share of less than 15 percent<sup>5</sup>.

If OEMs were to combine complementary vehicle fleets into a seamless, full scope, and switchable service via a mobility platform (including all car-sharing types, as well as ride-hailing and rentals), they would maximize the use of their

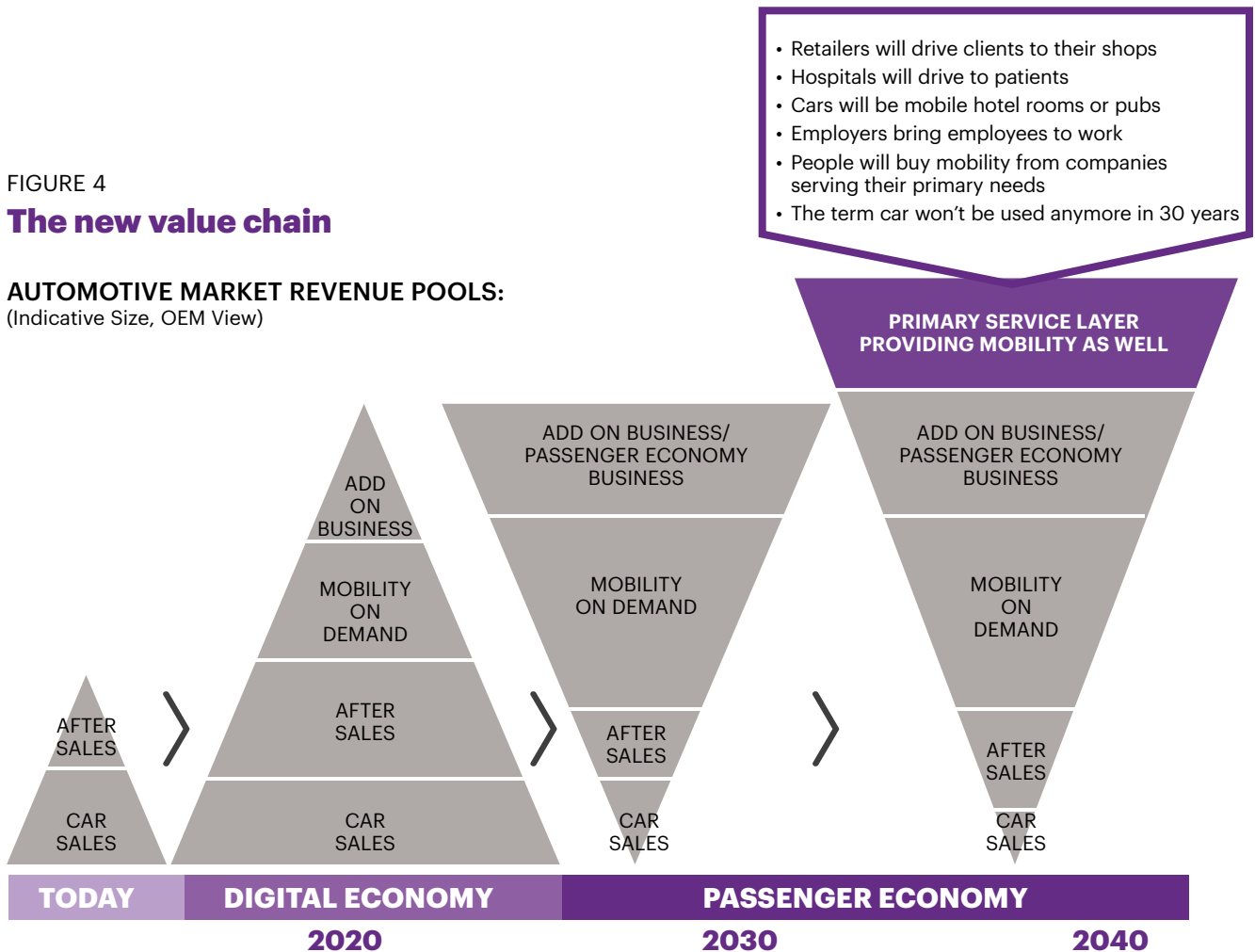
basic product. They would utilize test-driving fleets and boost subscription-based ownership to meet the needs of customers waiting for a new vehicle. And by combining new mobility services with classic sales (which is crucial for short-term growth), they would give customers what they really want: full flexibility.

Offering digital add-on services, such as a concierge/virtual assistant, park, charge and fuel, would create new revenue streams. OEMs could also build significant new profit pools by monetizing both sensor and user data—combining their own with external data sources, in partnership with third parties, such as travel companies.

FIGURE 4

## The new value chain

### AUTOMOTIVE MARKET REVENUE POOLS: (Indicative Size, OEM View)



Source: Accenture

# PARTNERING TO BOLSTER STRENGTHS

Mobility and digital markets require a much more customer-centric and open way of working. OEMs will have to put their future customers' needs around mobility, services, and experiences front and center. They will also need to partner with other players to make the most of the platforms and ecosystems of the future.

No OEM, even the largest and most prepared, will have all the required strengths to compete and win in the near future. Working with strategic partners whose strengths complement their own will be essential. Case in point: **Daimler's** mobility platform, **Moovel**, offers users access to the modes of transportation best suited to their routes, and was created in cooperation with public transit and car rental companies<sup>6</sup>.

Partnerships with digitally-savvy suppliers, start-ups or even large digital corporates will often be the best way to build capabilities in highly specialized areas such as artificial intelligence or IT security. Furthermore, such partnerships will often be the only way to scale platforms and service offerings quickly—a must-have in digital business, where size matters.

These new economies of scale will also require partnerships between OEMs that usually compete. Some signs of this are already evident. For example, **Daimler, Volkswagen** and **BMW** are partnering with mobile telecoms equipment firms to collaborate on developing the infrastructure required for self-driving cars<sup>7</sup>. But some partnerships will simply emerge because they offer great opportunities. Joint ventures between OEMs and digital media platforms, for instance, will create new markets around in-vehicle music and video streaming.





## ADOPTING NEW BUSINESS MODELS

To compete and win in these new markets, OEMs will have to adopt new business models that enable them to strengthen their existing capabilities, accommodate new ones, and leverage each group with the other.

Five business model options present themselves, each of which could deliver a profitability boost, depending on a player's business strategy and how effectively they apply it (see Fig. 5).

# OEMs will have to adopt new business models that enable them to strengthen their existing capabilities

FIGURE 5  
Five major business models for the future

		OEM OPTIONS							
		Car Intelligence	Build Cars	Repair & Maintenance	Fleet Operation	Own Service Brand	Car Mobility Aggregator	Mutli-Modal Mobility	Eco-System
BUSINESS MODELS	<b>LUXURY VEHICLE MANUFACTURER</b> OEM establishes premium/luxury brand, and manufactures, markets and sells cars of the highest quality	+	+	+					
	<b>B2B ASSET PROVIDER</b> OEM focuses on selling high quality autonomous cars mainly to B2B customers	+	+	+					
	<b>VEHICLE &amp; FLEET OPERATOR</b> OEM owns and operates vehicle fleet	+	+	+	+				
	<b>CAR MOBILITY SERVICE PROVIDER</b> OEM offers its own car mobility service, e.g. car-sharing or ride-hailing services	+	+	+	+	+			
	<b>FULL MOBILITY PROVIDER</b> OEM offers full mobility as a service, combining multiple means of transportation	+	+	+	+	+	+	+	+

Source: Accenture

⊕ Function fulfilled by OEM

⊕ Function potentially fulfilled by OEM



### **1: LUXURY VEHICLE MANUFACTURER**

Catering to the small, yet persistent market of customers who still want to own a car. This pure-play model will likely require the capability to establish a premium or even luxury brand, and to manufacture, market and sell cars of the highest quality.



### **2: B2B ASSET PROVIDER**

Building, selling and servicing a new generation of “built-for-service” autonomous vehicles and delivering them to fleet providers; much as aircraft manufacturers build passenger planes for airlines. OEMs that take this route will likely have to shed their brand marketing operations and ramp up their flexible production capabilities.



### **3: VEHICLE AND FLEET OPERATOR**

OEMs would generate a circular economy effect that reduces waste and increases revenue potential by making, owning and operating all-inclusive vehicle fleets designed for an optimal lifecycle. More efficient vehicle use would reduce the costs of mobility services. And OEMs wouldn't even need to own the services themselves to increase the lifetime efficiency of the vehicle; just all that stands behind them, end-to-end.



### **4: CAR MOBILITY SERVICE PROVIDER**

Essentially a scalable version of classic car-sharing, which, by generating more frequent customer interaction, provides valuable customer data insights. If OEMs were to monetize that data, leveraging strong partners to provide additional, location-based services, they could generate new car sales leads as well as improve the overall efficiency of vehicle use. A desirable option, but one that requires substantial brand investment to make it competitive.



### **5: FULL MOBILITY PROVIDER**

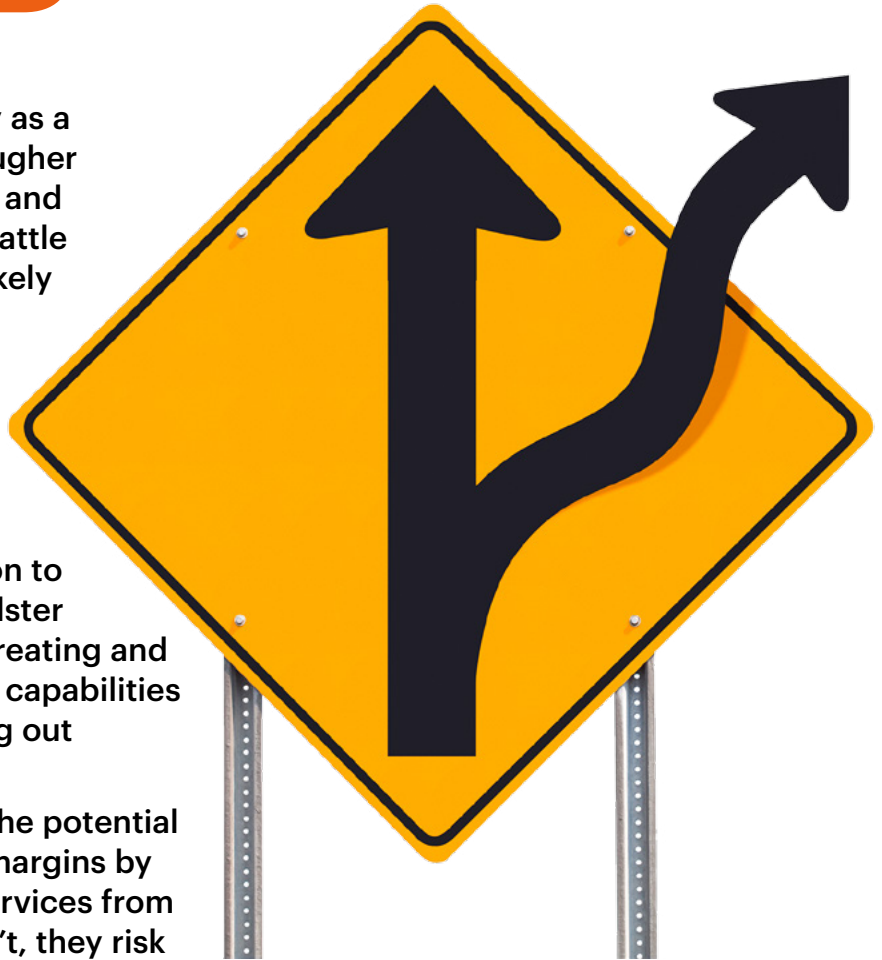
By offering full mobility as a service, combining multiple modes of transportation, OEMs could act as mobility aggregators at the heart of an inter-modal ecosystem, with partners including public transportation providers fully integrated into their brand. They would significantly broaden the scope of data and how it's used, strengthening their grip on the user interface. The drawback: there would only be room for one or two dominant players in each market.

# SCALING TO SUCCEED

The competition to deliver mobility as a service is tough—and set to get tougher as new entrants pile into the space and continue to raise their game. The battle for control over customer data is likely to be especially fierce. But if they are determined to raise their own mobility game, OEMs could win the intensifying struggle for the customer.

The key to long-term success is scale. And OEMs are in pole position to leverage it—so long as they can bolster their existing capabilities around creating and manufacturing cars, and build new capabilities around ideating, testing, and rolling out mobility and digital services.

OEMs should act now to optimize the potential for strong growth at much higher margins by focusing on developing mobility services from the user's point of view. If they don't, they risk falling behind in a still-open race. Already in an excellent starting position, OEMs can be among the winners if they wisely pivot their business model and transform at scale.



## ABOUT THIS REPORT

Accenture Automotive works with the world's largest car makers and suppliers to help digitize their business. This report is based on insights from our work, as well as proprietary research on the mobility as a service market.

To determine the progress of autonomous driving, we examined how many "robo" taxi and bus projects were active as of November 6, 2017 (excluding projects that had ended and new-trial announcements). Our principal source for this data were newspaper articles (accessed through Factiva) and publicly available websites of the main manufacturers of robo taxis.

To assess mobility as a service market development, we leveraged data up to and including 2016 from Statista,

the Hamburg-based online statistics, market research and business intelligence portal, and from the Bundesumweltamt (German Ministry of the Environment, 2017). Our forecast was based on the future modal split model in the Shell Passenger Car Services for Germany to 2040 study, and our own market model based on a number of qualitative assumptions about when current mobility as a service barriers will be overcome and what impact that will have on future market growth. These include: the new mindsets of a new generation; the notion of the car as a status symbol and enabler of individual freedom; service reliability; the customer-centricity of services; economic advantages; the regulatory environment; service access; technology disruption; and new market entrants.

## CONTACTS

### **Axel Schmidt**

axel.schmidt@accenture.com

### **Juergen Reers**

juergen.reers@accenture.com

### **André Gerhardy**

andre.gerhardy @accenture.com

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## SOURCES

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<sup>3</sup> [fortune.com/2017/02/17/gm-lyft-chevy-bolt-fleet/](http://fortune.com/2017/02/17/gm-lyft-chevy-bolt-fleet/)

<sup>4</sup> <http://www.nutonomy.com/press-release/delphi-reaches-agreement-to-acquire-nutonomy/>

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