

AUTOMOBILE-RELATED STARTUPS MATURE

Investment in auto-sector digital technology grows, even as the number of startups peaks

Automobile-related startups have raised \$50 billion since 2011, and currently are trending towards bigger, fewer investments that could yield a handful of global champions, according to an Oliver Wyman survey.

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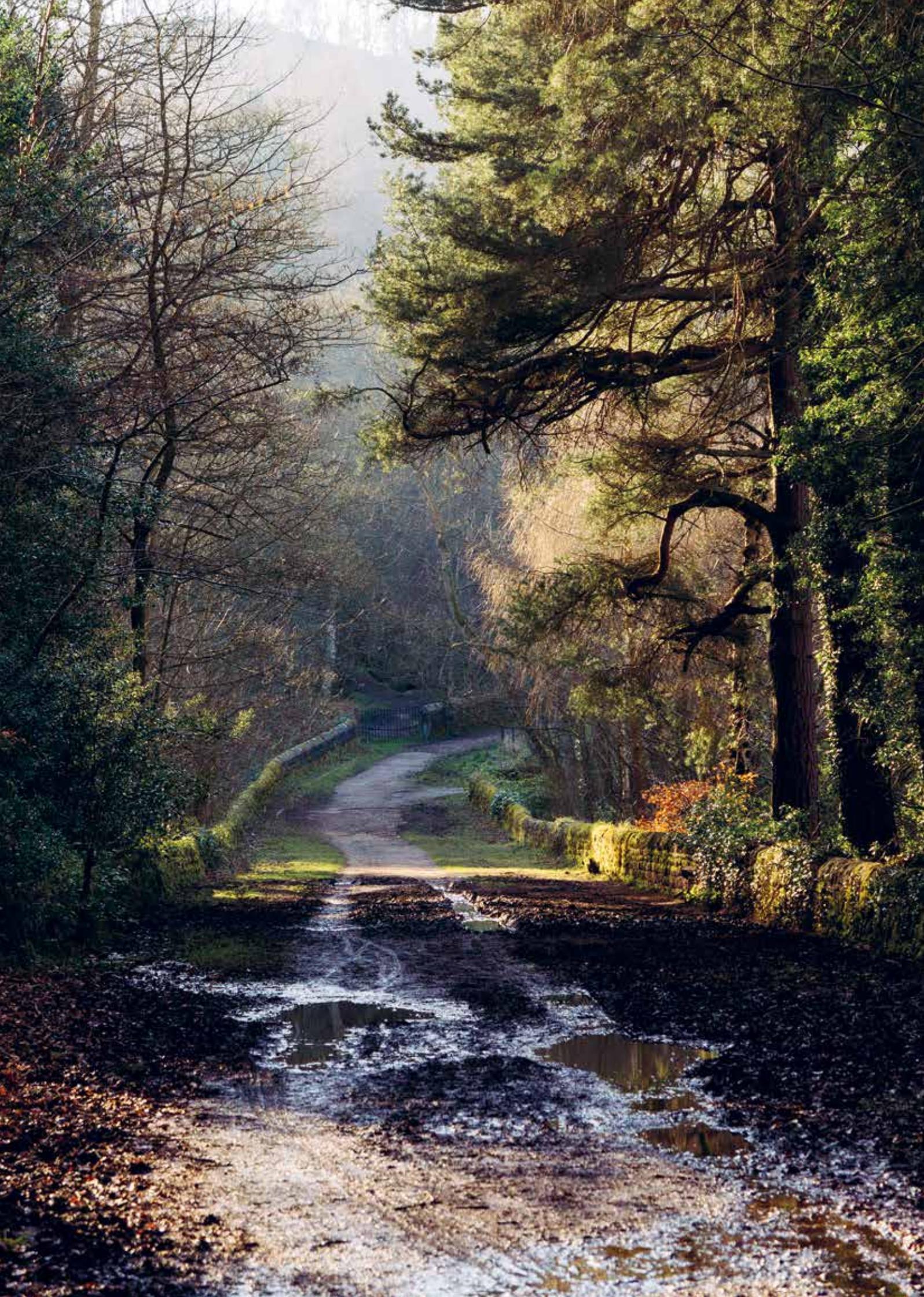
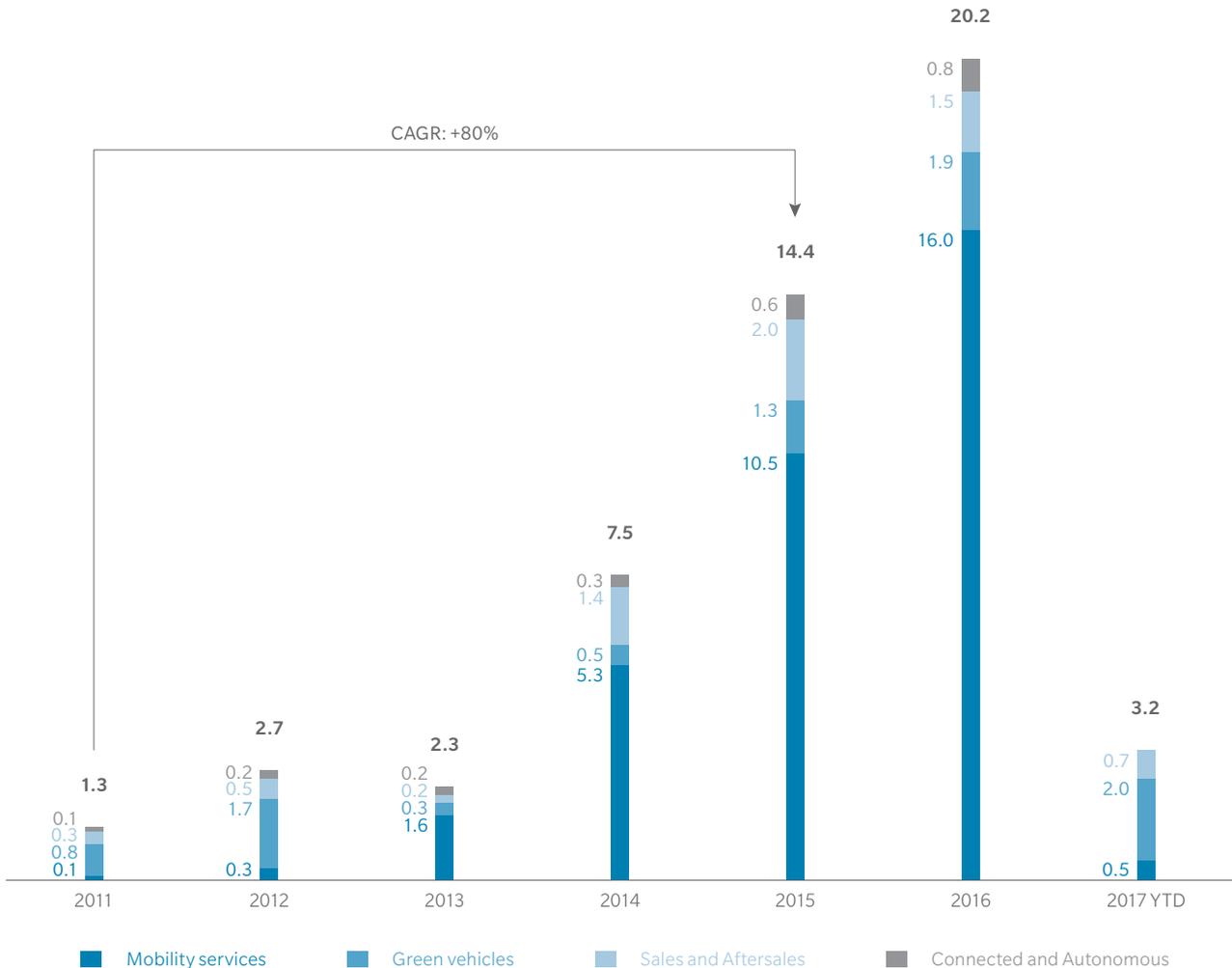


EXHIBIT 1: FINANCING INNOVATION

Startup funding has been steadily growing

INVESTMENTS RECEIVED BY STARTUPS, BY SEGMENT
IN \$BN, 2011–2017 YTD¹



1. Data for 2017 includes investments until 05/04/2017

Source: Oliver Wyman

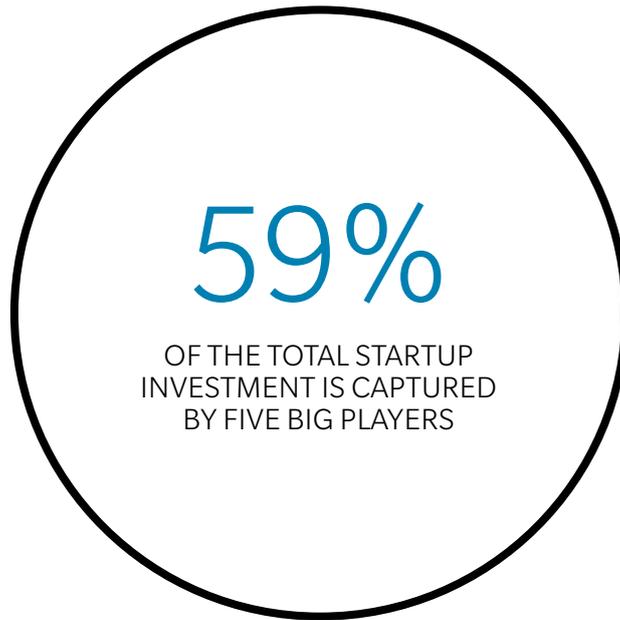
The investments show the increasing importance of outside talent and ideas, as the auto industry undergoes transformation. The car of the past was a stand-alone vehicle, owned and driven by humans, and fueled by gas or diesel. In the future, however, car travel will increasingly happen in self-driving vehicles, be powered by batteries, and form part of a range of intermodal mobility solutions that will include trains, bikes, and walking.

So automakers are looking for startups they can partner with or buy, and the total investment in auto-related startups has strengthened over the past five years. Investment in 2016 totaled \$20.2 billion, up from \$14.4 billion in 2015. (See Exhibit 1.)

However, the startup world appears to be maturing. While the total amount invested has grown, the funds have been concentrated in a smaller number of new enterprises: only 254

investments were made in 2016, as compared to 379 the year before. Notably, five big players captured 59 percent of the total investment, while 90 percent of the companies are working with less than \$100 million. Two world leaders stand out: Uber and Chinese ride-sharing company Didi Chuxing, highlighting the geographical distribution of the investment. Almost half the funds injected into startups since 2011 have gone to the United States, and a quarter to China.

Both automobile manufacturers and startups have much to gain by partnering: The automaker can benefit from exposure to the startup's more entrepreneurial and digital mindset; the startup, on the other hand, may gain greater visibility and status, as well as access to their larger partner's distribution networks and customer bases. These alliances are evolving in four categories: connectivity and autonomy; mobility services, such as rental,



sharing, and ride-hailing, as well as parking and other solutions; sales and aftersales, which increasingly feature an online element; and green vehicles – mostly electrically powered, but also using hydrogen solutions. Investments are becoming more concentrated geographically, too: Within the United States, 83 percent of investments were made in California, indicating a shift in the center of automotive innovation from Detroit to a state known for technology giants and big venture capital funds. Silicon Valley venture capital firm Kleiner Perkins Caufield & Byers (KPCB) has been the most active, with eight deals completed, followed by Google with five. Already, a new Big Four of auto-related digital technology has emerged in the form of Tesla, Uber, Google, and Apple.

But incumbent automakers are fighting back in areas dominated by the digital disruptors, such as ride-hailing and sharing. General Motors has paid \$500 million for a stake in Lyft, which

has the best chance of challenging Uber. BMW set up a unit, BMW i Ventures, in 2011, to invest in mobility services and electro-mobility. In November 2016, it announced the unit's headquarters would move from New York to Silicon Valley and invest up to €500 million over 10 years, five times its initial capital. The focus of the unit will be broadened to areas such as customer experience and advanced production technology.

Both BMW i Ventures and Daimler have invested in ChargePoint, the leading provider of charging systems for electric vehicles, which has now raised nearly \$300 million in capital. Ford plans to invest \$1 billion over five years in a new artificial intelligence software company. Digital applications for mobility are even attracting established companies from outside the auto world: Intel announced in March that it had paid \$15 billion for Israeli firm Mobileye, which makes cameras and laser-based sensors for self-driving vehicles.

The deals are taking automakers beyond their familiar partners, such as component manufacturers and dealerships. It is also notoriously hard to forecast the return-on-investment in digital technologies. But automakers need the new digital technologies, and they cannot develop them all themselves – especially given the imperative to integrate them fast. And digital innovation arises from a fast, experimental culture that is not to be found in much of the car industry.

Automakers must learn to work effectively in this new ecosystem, even if it is not what they are accustomed to. The future of their industry will be forged through partnerships with startups. ●

**AUTOMOBILE
MANUFACTURERS AND
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TO GAIN BY PARTNERING**