

PwC Analyst Note >

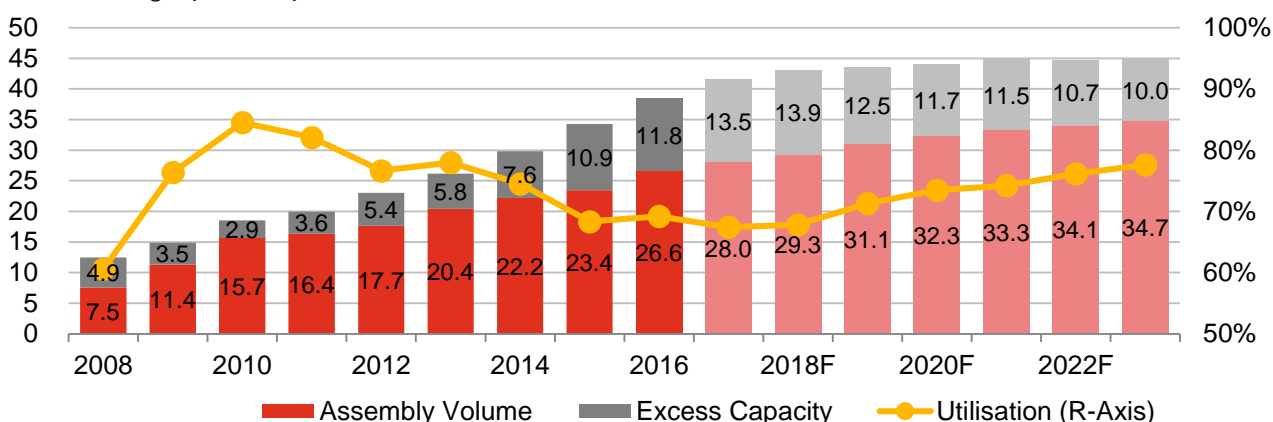
China: High speed connection?

The risks and rewards of the automotive digital evolution

Connected cars – including autonomous driving, safety, entertainment, vehicle management, and mobility management – will likely drive the future of the automotive industry. What stands in the way of mass penetration, and what should industry participants expect as the market matures and diversifies?

China: Light Vehicle Assembly

2008 – 2023F (millions)



Source: Autofacts 2017 Q2 Forecast Release

Fast and furious

After growing at a breakneck pace in the last decade, China – the world's largest automotive market – is showing signs of maturity. With the concentrated growth coming at a time where mature markets are already making progress, technological advancements in China are expected to occur at a faster rate. Consider that there are currently over 600 million smartphone users in China¹ – many of whom have had smart phones as their first phones. “Early adoption” is less of a concern in emerging markets as new technologies have materialized at later stages of the development life cycle. Though still in its infancy, the connected car is expected to progress at an accelerated pace.

Tech-hungry masses

Over half of the Chinese population is now online – that's 731 million internet users¹. And perhaps more

compelling is that 95% of those users access the internet via mobile devices¹. With the increasing number of mobile users, demand for in-car connectivity is expected to be stronger and more widespread. A quick perusal of domestic vehicle infotainment options and it's clear that in-vehicle connectivity and technology is increasingly important to Chinese buyers – 10-inch LED touch-screen interfaces, integrated GPS, advanced driver assistance systems (ADAS) – all technology that has only recently become available even in mature markets. Of course, these advancements come at a cost to both the automaker and the buyer. In its annual [Connected Car Report](#), Strategy&² estimated that revenues related to in-vehicle connected services including vehicle management, entertainment, and navigation could double by 2022. As part of the study, over half (51%) of the 3,000+ participants in online surveys and focus

¹ China's Ministry of Industry and Information Technology

² PwC Strategy& Connected Car Study, 2016

groups responded that connected functionality was an influencing factor in purchasing a vehicle – higher than price (46%) and engine performance (46%). Beyond the consumer push for increased connectivity, the Chinese government has been supportive of the advancement of automotive technology as part of the “Made in China 2025” initiative, providing incentives for domestic companies working towards new energy resources, increased connectivity, and autonomous driving.

Obstacles, opportunities abound

As with any emerging technology, there are a number of barriers that could slow mass penetration and economies of scale for connected cars and ultimately, the future autonomous vehicle ecosystem in China. Newer functionality and capability take time to develop and bring to production, and could cause frustration for end users if not properly designed and tested. Also, the greater concerns loom over cybersecurity threats and the potential behind the available data that increasingly connected vehicles hold. Much is yet to be determined when it comes to the related data liability and ownership. Advancing technologies require significant investment from automakers to fully capture the digital potential in connected cars. Indeed, strategic partnerships within the automotive value chain will

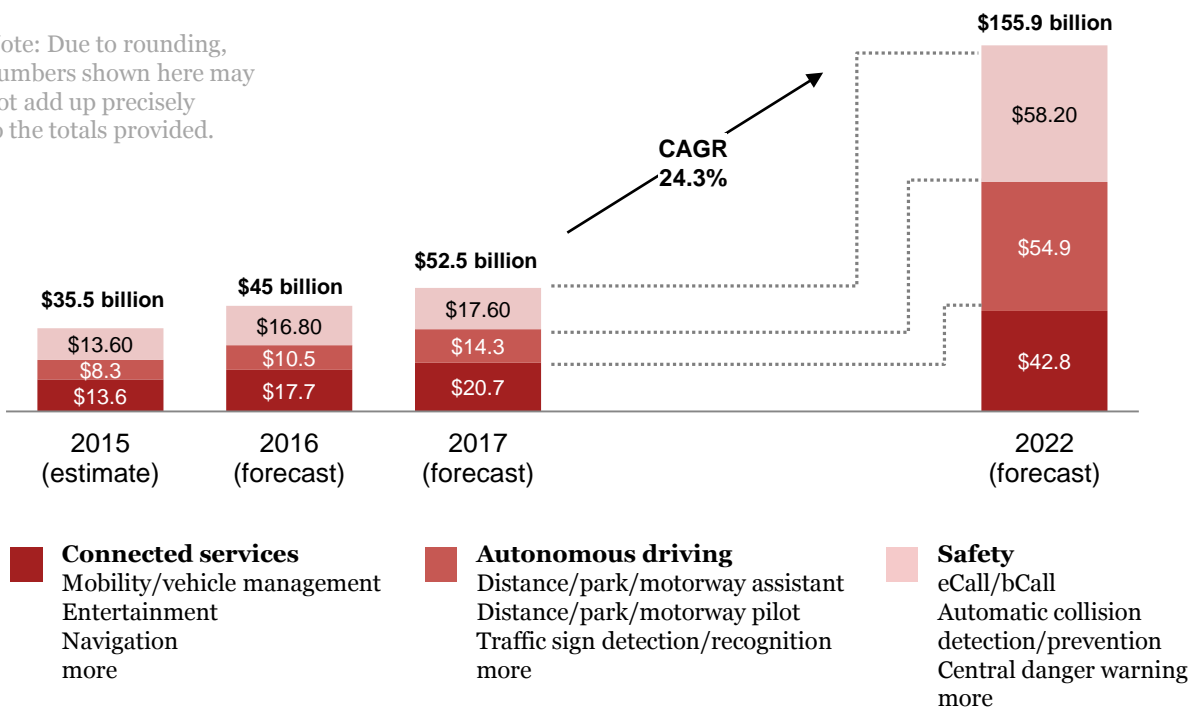
evolve to include other sectors and industries. The competitive landscape will not only grow, but proliferate to encompass stakeholders beyond traditional manufacturers. Potential exists for tech giants including Baidu, Alibaba, and Tencent (BAT), who have the technical know-how related to mobile connectivity and services, to Tier 1 and Tier 2 suppliers in the areas of advanced driver assistance systems (ADAS), in-vehicle electronic, and so on. Similar to Silicon Valley, newer tech start-ups with niche connectivity solutions will likely be funded or acquired, creating a market ripe for an uptick in deals activity.

With the growth and rate of innovation already in the Chinese automotive market, there’s little doubt that the potential related to connected cars is significant. Ultimately, technology and automotive companies will need to find synergies to effectively bring connected cars to the masses. Automakers, and tech service providers will need to develop sound strategies to ensure they’re prepared for the next digital revolution...in vehicles.

Please click [here](#) for the latest **Connected Car Report** from Strategy&. To continue this conversation and find additional information on PwC’s automotive capabilities in China, please visit pwc.com/auto.

Estimated connected car revenues by product package
2015 – 2022F (millions)

Note: Due to rounding, numbers shown here may not add up precisely to the totals provided.



Source: Strategy& 2016 Connected Car Report

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