The Future of The Motor Industry – the impact on property
INTRODUCTION

There has been an abundance of coverage in recent months about innovative technology that is potentially going to transform the shape of the Motor Industry. People often now unequivocally assert that the Motor Industry is on the cusp of a paradigm shift, both in terms of powertrain technology and ownership structures. As such, in response to queries from investors and other market stakeholders this report will seek to address the future of the Motor Industry and attempt to provide some much-needed clarity.

It is true that the future of the Motor Industry in the long term is likely to be Electric, Shared and Autonomous but what does this mean? What is the timescale for this change? And what impact will this have on property in all sectors?

However, because the ‘Future of the Motor Industry’ is such an all-encompassing topic at the outset there is a need to limit the scope of this report. We must immediately separate the cyclical from the structural. The purpose of this report is not to address cyclical issues such as new car sales figures or consumer confidence.

Rather, it shall examine the more structural changes feeding into our industry, these are the changes that will determine the future shape of the market. Alternatively Fuelled (AFVs) or Electric Vehicles (EVs) are going to have a more far-reaching impact than cyclical new car sales figures. As such this report shall put the cyclical to one side and focus on the structural.

The structural changes that it will primarily focus on are Electric Vehicles, Autonomous Driving and Subscription Services. Although, before addressing each in turn it is of paramount importance to understand the interconnectedness of all three. Each in turn is both cause and effect of the other two. While each factor will undoubtedly have a widespread impact when considered alone, it is the collective impact that will be truly transformative. To demonstrate this tripartite impact, commentators predict that when Autonomous Cars first start appearing on our roads they will be Electric and available initially only as ‘Autonomous Taxis’ within geographically limited areas. The growth in the viability, reliability and performance of Electric Vehicles and the prevalence of subscription or ride-hailing services is making autonomous driving more of a reality. The future of the Motor Industry is not just Electric, Shared or Autonomous, it is Electric, Shared and Autonomous.

This is not to trivialise the impact of any one of these three factors, each is certainly worthy of extensive coverage in its own right. This report will now aim to provide a clear and lucid summary of each, as understanding the constituent parts is a necessary part of understanding the whole.
The first topic to speak to in more detail is that of EVs or more broadly AFVs. Here the crucial thing to appreciate is that **AFV take up will be cumulative rather than sudden**. With the plethora of anti-diesel headlines that have permeated from the mainstream press, announcements about air quality/clean air initiatives and the UK Government’s policy for all new cars to be AFVs by 2040, people could be forgiven for assuming that Conventionally Fuelled Vehicles (CFVs) will disappear almost overnight. This is certainly not the case, **APC predict that AFVs will account for 50% of vehicles on the road and 100% of new car sales by 2039** (as shown in the graph below). What this means is that although in time the impact of AFV take up will be marked **the basis of the market for years to come will still be the CFV**. AFVs currently represent just 5.1% of new vehicles sold. The growth to critical mass seems set to happen with manufacturers pledging to offer more and more AFVs and EVs but this does not mean that Petrol or indeed the much-maligned Diesel will disappear in the foreseeable future.

Naturally, predicting the level of growth for AFVs over the medium to long term is no easy feat. Growth will be influenced by a multitude of factors e.g. the availability of charging infrastructure, the range of viable product offered by Motor Manufacturers as well as the speed of battery technology evolution. Batteries with longer range capabilities would be a game changer as ‘range anxiety’ is one of the primary obstacles supporters of EVs face. Further Government policy initiatives, either penalising CFVs or further subsidising the cost of running an AFV could bring forward this powertrain revolution, one need only look at Norway to get a glimpse of what the electric future might look like. There strong Government incentives have seen AFV growth far outpace many other regions. Experts predict that AFVs will account for c.40% of new car sales in Norway in 2018.

**AFV UPTAKE & CFV DECLINE**

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![AFV Uptake & CFV Decline Graph](image-url)
Moving on to Autonomous Driving the first myth to dispel is that self-driving cars are the stuff of science fiction, to a large extent the technology already exists, in a limited way in many luxury cars with self-parking and lane discipline on motorways, but in a fuller way where companies such as Waymo and Uber are already undergoing significant testing of fully autonomous vehicles. For context, the Waymo fleet has self-driven for more than 5 million miles since 2009. As such, most analysts agree that Autonomous Vehicles will be part of our lives at some point in the future, but there are many different opinions regarding how long it will take for this to happen on a large scale. The reason for this is not technological, rather it is because regulatory ambiguity pervades. Autonomous Vehicles are yet to be given a clear regulatory mandate. Where Autonomous Vehicles are allowed regulation is not ubiquitous, which means scaling out autonomous vehicles more widely or justifying large capital investments is not easy.

Regulators face many difficulties, but two of the biggest are how do you deal with the problem of a transitional period between Autonomous and Non-Autonomous Vehicles? As well as how do you deal with the problem of public perception? Much like AFVs, Autonomous Vehicles are not going to arrive in large numbers immediately, as such they will have to co-exist with Non-Autonomous Vehicles in a single traffic mix. In some places such as motorways, where the introduction of a self-driving lane is a possibility, this may be easily achieved. But, how to integrate the two types of Vehicle into more restricted urban environments where space is not so readily available remains a substantial issue.

Public perception is also a concern, as the March 2018 incident where an Uber self-driving taxi was involved in a fatal collision with a woman in Arizona highlighted. The benefit Autonomous Vehicles could bring in terms of reduced road deaths is enormous, in the US in 2017 there were c.40,100 Motor Vehicle Deaths. While some analysts postulate that as many as 94% of crashes involve human choice or error. Yet in those extremely uncommon and isolated incidents where Autonomous Vehicles have been involved in crashes the outcry has been disproportionately loud, as the fallout from the aforementioned case proves. Similar levels of disapproval often do not come to the fore when a human driver causes a similar or worse tragedy. People seem less willing to accept an accident when there is not a human who is ultimately responsible. Autonomous Vehicles have the potential to reduce the numbers of road accidents and deaths greatly if given the chance, but people seem unwilling to grant them this chance. In time it may be that people's attitudes change as Autonomous Vehicles become more normalised but for now educating the public as to the potential benefits of Autonomous Driving continues to be a challenge.

If these are some of the unresolved questions that Autonomous Vehicles still face let us turn our attention to what we think that we do know, or at least what we can be more confident about. We know that when Autonomous Vehicles are first introduced it will be in geographically limited areas, most likely in large cities. This is partially due to the long-term trend towards urbanisation but is primarily due to the need for very detailed and accurate mapping for the technology to work. They will also likely first be introduced as fleets of connected ‘Autonomous Taxis’, this is because by working as a group and feeding information to each other directly or via a controller these Autonomous vehicles will be able to respond to live updates about road conditions/closures etc. A lone Autonomous Vehicle operating by itself would not have this luxury. Thus, we are a long way from being able to walk into a dealership and purchase an autonomous car for ourselves.

Thirdly we anticipate that Motor Manufacturers and ICT companies will collaborate and form alliances to deliver this technology. Autonomous Vehicles represent an opportunity area for new entrants to the market, but as Tesla are finding out with the Model 3, manufacturing a car for the mass market is hard. Consequently, ICT companies and Motor Manufacturers have started to engage in mutually beneficial relationships. Where ICT companies bring the technology and Motor Manufacturers the car
manufacturing expertise. These Motor Manufacturers understand production but know less about complex software. Conversely, the ICT companies know about machine learning and computer vision but not making cars. It is likely therefore that we will see more deals and alliances as companies of both forms compete/cooperate for a piece of this potentially lucrative market.

Making predictions about AFV uptake and indeed attempting to determine in exactly what shape the Autonomous Vehicle will appear is an arduous undertaking. Yet, in comparative terms, car sharing, subscription services and ride-hailing applications are something one can be more certain about as many people already utilise these services. Car ownership is becoming more expensive and less appealing to the younger urban generation. Moreover, the combination of autonomy and ride-hailing, together with a switch to AFVs, is undermining the logic of car ownership for many people. Personal mobility though, remains of upmost importance to people, it is only that less people want the burden of buying, taxing and insuring a car. People still want to get from A to B and the car remains a principle way for people to do this.

Thus, there has been a surge in the popularity of services such as Uber and Gett as well as memberships of car clubs. This revolution looks set to continue, ownership structures will continue to change as consumers demand and buy mobility but not necessarily a car. What people often fail to understand in relation to this is that this is not a bad thing for the Motor Industry. Cars will still be used regularly, most probably more intensively and will need to be owned, insured, serviced and replaced by someone. It is only that in some cases this someone will be a commercial entity rather than an individual.

Though this does not mean that Motor Manufacturers are standing still while new ownership structures develop. Ford have introduced FordPass, an app that offers a range of mobility services and Porsche offer a subscription service called Porsche Passport. Consumers pay one monthly subscription and can then utilise any vehicle within the Porsche range. A SUV for family trips or a convertible on a sunny day. It seems logical that in the short, medium and even long-term car ownership and subscription services will sit alongside each other, people will not totally forgo car ownership. As a family, instead of having a second car you might have a car club subscription.

### THE IMPACT ON DEALERSHIPS

Moving forwards, as this report has discussed AFVs and EVs, Autonomous Vehicles and Subscription Services/Car-Sharing have the potential to have wide-ranging consequences both individually and collectively.

**Consequences that will be felt across multiple industries across manifold different sectors.** One of the biggest potential impacts is on property, and this is not an impact confined to dealership property. **Dealership property in many ways stands to gain from the introduction of this technology** because Dealerships offer the route to market for much of this mobility revolution.

It is likely that the current trend towards dealer group consolidation, with the larger dealer groups getting bigger and often subsuming the smaller groups, will mean that the long-standing decline in outlet numbers continue. Though the effect this has is to drive an increase in profitability for those dealerships that continue to operate as consumers are re-directed to other sites. For example, Lookers (the third biggest dealer group by turnover) have seen their gross profit per outlet increase from £14.2 million in 2011 to £31.8 million in 2017. It is only the small and loss-making dealerships that are under threat from new technology. Unrelated to new technology dealer groups have for a long time been engaging in a continuous process of evaluation, with a view to driving up sales per outlet and to help leverage their fixed cost base. Fundamentally, **good dealerships in good locations, operating the right brand will continue to be profitable.**

<table>
<thead>
<tr>
<th>Region</th>
<th>Living in large urban areas</th>
<th>18+ years with a valid driving license</th>
<th>Registered with a car-sharing provider</th>
<th>Multiple uses per month</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>385 million</td>
<td>153 million</td>
<td>35 million</td>
<td>3.5 million</td>
</tr>
<tr>
<td>Europe</td>
<td>81 million</td>
<td>46 million</td>
<td>14 million</td>
<td>1.4 million</td>
</tr>
<tr>
<td>North America</td>
<td>50 million</td>
<td>31 million</td>
<td>6 million</td>
<td>0.6 million</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>253 million</td>
<td>75 million</td>
<td>15 million</td>
<td>1.5 million</td>
</tr>
</tbody>
</table>

**SOURCE: STATISTA; BCG ANALYSIS**
The dealership will continue to be both the provider and maintainer of this evolving product package. The mothership of the new technology and connectivity desired by customers. As such Motor Manufacturers see dealerships as central to their sales strategy. A move to bigger sites to accommodate more servicing for more vehicle types is possible, as is a disaggregation of services. Sales will increasingly be part digital and part physical but in terms of impact on the built environment, the impact on car dealerships will not be as significant as the impact felt in other sectors.

THE IMPACT ON THE PROPERTY MARKET

No property sector will remain unaffected by this motoring revolution. Offices will have to provide charging infrastructure to employees and become more connected to increasingly technologically sophisticated cars. As the Autonomous Vehicle becomes more of a mobile office, physical office space will become more about networking and socialising along the ‘WeWork’ model. It is likely that Subscription Services and Autonomous Vehicles will mean that central business districts continue to prosper as people’s commutes become easier and less stressful therefore potentially encouraging people to commute from further afield.

The Industrial sector will face a huge change in that it will not just be cars that are autonomous and electric but also trucks. While electrification will bring with it a demand for large scale charging or battery storage facilities. Autonomous trucks will provide mobile storage and offer an extension of the ‘just in time’ delivery concept. Perhaps then less storage space will be needed as products spend more time stored in transit.

If the impact on the industrial sector is debated, the impact on the leisure sector is widely expected to be positive. Subscription Services, ride-hailing services and in due course Autonomous Vehicles will mean that drink-driving is no longer an issue for people. Pubs, restaurants, hotels and more can utilise car parks to provide EV Chargers and create an additional revenue stream. More optimistically restaurants may even run their own fleet of ‘Concierge Vehicles’ to run people to and from their network in an attempt to encourage longer or more regular visits.

Residential property will almost certainly at some point have to provide charging infrastructure as this will be the easiest source of widespread AFV/EV Charging, at least initially. A requirement for EV charging facilities may result in increased development costs, but over time capital and rental values are likely to respond to the provision of such services. Blocks of flats will seek to differentiate themselves by offering mobility services or membership of a car-club. While Nissan are even looking into the possibility of transferring electric charge from your EV to your home.

While this remains impractical for now due to battery technology limitations and the fact that a house runs on Alternating Current and an EV runs on Direct Current, a step change in battery technology may make this a realisable target.
The Retail sector is experiencing well-documented troubles at the moment, but EV charging may be a way not only to create new revenue as alluded to above in reference to leisure facilities but also to increase dwell time as customers wait for their car to sufficiently charge. Besides the diminished need to find a car-parking space after utilising a ride-hailing service or with an Autonomous Vehicle dropping you off may see increased footfall on the High St as accessibility improves.

Urban planning is going to change, cities are habitats for vehicles as well as for people. How planners respond to the electric, shared and autonomous future will decide what the city of tomorrow looks like.

As mentioned above, the need for car-parking will be diminished. Both Autonomous Vehicles and the prevalence of car-sharing and ride-hailing services will mean that a car spends less of its lifetime parked. It will be used more often. As such, valuable space in city centres currently being used to house car-parks may be freed up for alternative use. Some car parks will be needed of course but do they need to be in city centres? Do they need to be as large? Perhaps not. Cities could become denser as some of the space currently used for car-parking is re-allocated.

CONCLUSION

Clearly then property in a broad sense is going to face a significant change. Regulation of new technology when it arises will impact the shape and extent of this change, but certainly just as Motor Manufacturers and Car Dealers are set to benefit from new revenue streams, commercial landlords too could look to supplement their income while simultaneously future-proofing their investments.

Overall, this future is coming. It is happening quickly in some places; subscription services and ride-hailing apps are already popular in many urban environments. It will though be slower in other places, there are c.38 million Vehicles on UK roads, of which only c.440,000 are AFVs. The impact in this area is going to take time to be felt. If you are to take one thing away from this report, it should be that through all of this what is important is mobility, this is what cars provide and will continue to provide through all of this change. People are still going to want and need mobility in the future. This future may well prove to be electric, shared and autonomous but we are not in that future yet.

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