Five trends transforming the Automotive Industry

“easy” – Five trends that are driving the transformation of the automotive industry …and how companies should leverage them for their future prosperity.

It’s gonna be so easy!

The car of the future is electrified, autonomous, shared, connected and yearly updated – or “easy” for short.

• It will emit less exhaust fumes and noise into its environment because it is electric.
• It will take up less personal time and space because it moves autonomously.
• It will be more accessible because users will not need a driving licence to use it.
• It will be more affordable because it will no longer have to be bought outright but can instead be paid for in small amounts per use.

The automotive sector faces an unprecedented change with regard to the face of daily mobility. It will have on the industry and its users. That is why this report sets out to predict the fundamental restructuring of the automotive industry in terms of timescale, volume and complexity. Raising our findings on key demographic trends, we look at how the mobility behaviour of users might change and what effects that could have. Pwc Autofacts – a team of automotive industry specialists dedicated to ongoing analysis and prognosis of sector trends – is convinced that the future will be much simpler, at least where users are concerned. Before we go into any more detail, we first want to define what exactly we mean by electrified, autonomous, shared, connected and yearly updated.

Electricity

The transition to emissions-free individual mobility would hardly be possible without the electrification of the drive train. First, there is the issue of local components – the fact that cars now only emit very low levels of harmful substances, dust and noise. It also seems that going “emissions-free” will be a global initiative: The idea is that the electricity used to charge the cars will come from renewable sources to ensure CO2-neutral mobility.

Autonomous

The rapid progress made in areas such as artificial intelligence, machine learning and deep neural networks make it possible to achieve what until recently seemed utopian – namely the development of autonomous vehicles, which require no human intervention even in congested traffic situations. This will completely redefine the use of individual mobility platforms.

New application scenarios are emerging that would have been unthinkable just a few years ago.

Shared

For several years, many big cities have offered car-sharing facilities. While these are currently often run as pilot projects or citizen initiatives, sharing concepts will become economically viable with the introduction of autonomous vehicles. It will no longer be necessary to search for a shared vehicle in the surrounding area: instead it will be possible to order vehicles to wherever the user happens to be via a convenient “on demand” service.

Connected

The fourth “easy” dimension is the networking of cars with the outside world – summarised by the concept of the Connected Car. This term actually represents two concepts at once. On the one hand, it applies to Car2Car and Car2X communication, which is the networking of the car with other cars or with the transport infrastructure (such as traffic lights). On the other hand, the term also covers the networking of vehicle occupants with the outside world. In future, they will be able to communicate, work, surf the internet or access multi-media services during the journey.

Yearly updated

The development topics of electrified, autonomous, connected and shared will lead to a clear increase in the rate of innovation within the automotive industry. Model cycles of five to eight years, which have always been common in this sector, could soon be a thing of the past. Instead, the range of models will be updated annually in order to integrate the latest hardware and software developments. As customers will naturally not want to buy a new vehicle every year due to the high purchase costs, the short innovation cycles will enter the market primarily through regular upgrades of shared vehicles.

The focus is on the user

From the customer's point of view, the five dimensions are associated with numerous benefits. All predictions suggest that driving will become easier, safer, cheaper, and more comfortable. At the same time, the revolution in individual mobility will force the automotive sector to reinvent itself to a certain extent.

The young, technically savvy generation will be a significant driver in the development of more sustainable and convenient mobility solutions in the next few years – and will also characterise the attitudes and behaviour of successive generations. By contrast, people in middle age tend to look at the development of new mobility solutions with a degree of scepticism, at least initially. However, there will inevitably be a shift in the percentage of the population towards personas with a more modern orientation – both in Europe and the US as well as in China.

This process is likely to be even quicker and more dynamic in China, where the technological change will enjoy the best cultural and political conditions. By 2030, the percentage of the population of “traditional” users will be in strong decline in China. The establishment of autonomous electric taxis and the widespread electrification of public transport will play a major part in this transformation.

Effect on the automotive value chain

The comprehensive and rapid reorganisation of the automotive sector, as we predicted, will have far-reaching consequences for the entire industry and its value chains. Elementary structures and attitudes will have to change fast in order to cope with the developments by 2030 and beyond. If they want to remain successful, both the manufacturers and the suppliers will have to offer customer-oriented innovations.

In order to rise to the challenges posed by the restructuring of the automotive industry, manufacturers and suppliers need to redistribute their budgets quickly and in a targeted manner. Research and development needs to focus on software and services – but also on manufacturing feasibility and the modularisation of vehicles.

The transition to the “easy” world will be far from easy for the automotive industry. Traditional manufacturers and suppliers will be extremely vulnerable in the years ahead. They will have to battle against falling margins while at the same time making far greater investments in electro-mobility and new, customer-oriented innovations. The combustion engine, which was for decades at the heart of the German automobile industry in particular, will become obsolete. At the same time, more and more new competitors will force their way onto the market, which will make life difficult for the old timers. All these trends are likely to come to a head between 2020 and 2025 – which means that these are the decisive years for manufacturers and their suppliers.

What must be done?

• Redistribution of investment towards more R&D in the areas of software and services.
• Building capabilities for the development of customer-oriented products.
• Investment in the electrical future to counter simultaneously falling margins for combustion engines.
• Business models need to be adjusted: Focus on mobility services instead of product.
• Clear and intuitive mobility offering by linking hardware with software.
• Review business purpose: Manufacturers as fleet, service or product provider?

Travel in the fifth dimension

The question about the future of the automobile is the question about the future of mobility. Instead of only focusing on the buyers of new vehicles, the future automotive value chain will include and integrate all mobility users. We hope that this study will make a constructive contribution to current and future discussions and thus help to support the development of forward-looking strategies today and tomorrow.

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