

How AI will change the automotive game for the better

 By [Trevor Hill](#)

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As the “fourth industrial revolution”, championed by the World Economic Forum's Klaus Schwab, gains momentum, it's thrilling to anticipate what this means for the automotive industry - and as a result, cities of the future.

Schwab and the WEF link the emergence of breakthrough technologies such as artificial intelligence to a revolution in how business and society function together into the future. It makes sense. But, what this vision needs most, is for industries like ours to take the lead in translating theory into a tangible reality.



Trevor Hill, head of Audi South Africa

As with everything today, this happens within a context of constant change. The automotive industry is itself experiencing its own “fourth revolution”, and Audi is responding by transforming itself into an automotive brand that owns the future. Our focus is on driving progress as an innovator intentionally crossing the divide between a traditional model as motor vehicle manufacturer to being a hybrid business, where our vehicles enable superior mobility for goods and people in a more modern city.

Critical to this, is how we seamlessly integrate artificial intelligence across our product range. We know that the application of artificial intelligence opens up a new dimension of performance for vehicle products and that AI has an exponential impact on what we call the “mobility value chain”.

Switch to the use of mobility products, services

This means embracing the fact that future growth will no longer occur in the traditional car business but, instead, it will shift to the use of mobility products and services. Areas such as autonomous driving, new and sustainable drive concepts, mobility services and digitalisation of the car and vehicle environment are all examples of where our industry should be moving.

As a digital car company, we are digitising all processes: from product development with virtual reality to the factory with intelligent robots and to sales with the latest digital technology. To enable this, we have expanded our business model to ensure that services appear alongside our products.

This by no means eliminates the need for automotive production and technology but instead makes a giant leap forward in how traditional technologies play a greater part in society through the inclusion of AI. With this in mind, we are focusing our business on developing alternative powertrains, integrated mobility solutions, autonomous driving technologies and a significantly greater level of connectivity that will help us better evolve the entire mobility value chain as soon as 2020.

The 25th hour

Much of our focus is centred on the concept of the 25th hour. The 25th hour is built on the premise that in the future, self-driving cars will navigate fluently through the city – without a steering wheel, without a driver.

“ Users will have free time - the “25th hour” of the day. ”



Photo by Gleb Kozenko via Unsplash

Already, models such as the new A4 and new Q7 point the way ahead. Their online services, grouped together under the term Audi Connect, link them to the internet, the infrastructure and to other vehicles. Their assistance systems operate predictively. For instance, they can alert the driver to a tight bend that comes just after the crest of a hill, or Traffic Jam Assist can take charge of the steering in slow-moving traffic on good roads, at a speed of up to 60km/h. These technologies represent a pre-stage to piloted driving, which will be introduced in series production in 2017 with the next A8 generation.

Outside of what is included in the latest generation of luxury sedans, we are entering a time of swarm intelligence, where cars communicate with each other and with infrastructure, then use this information to plan optimum routes and speeds. A technology called Traffic Light Information (TLI) is already in place in Las Vegas, where it communicates with traffic lights and provides drivers with a “time to green light” countdown on the head-up vehicle display, telling them when the light is due

to change.

Cars communicating with the infrastructure around them

Cars communicating with the infrastructure around them can also cut fuel consumption in urban traffic by up to 15%, as cars “surf the green wave”, adjusting their speed to ensure each traffic light turns green as they reach it.

The latest generation of mild-hybrid vehicles features electrical systems that can coast with the engine switched off and the drivetrain decoupled, an extended start-stop mode and a high level of brake-energy recuperation. This is another step toward affordable, practical, fully electric vehicles.

The buzzwords in automotive design these days are autonomy, intelligence, and innovation. The vehicles of the future will continually learn and develop, while the technology adapts to people’s individual needs. Cars’ AI will also suggest appropriate services and book them if desired by its passengers, like a concierge.

The latest software can also be downloaded as required, so you will be able to update your car in the same way you update your phone or your computer. From now on, your car can order functions on demand and always have the most up-to-the-minute capabilities – downloaded straight from the internet, as you need them.

The car of the future

“ *The car of the future will be a car uniquely customised to client needs.* ”

It will be constantly learning, updating its knowledge and fine-tuning the user experience to suit the driver’s preferences. Your car can create working conditions that are even more pleasant and productive than in the office.

Piloted parking is another revolutionary innovation already available in the cars of today. You no longer even need to be seated in your vehicle while you park – your car does it all for you, more accurately and requiring less parking space.

This has further implications for urban design, as the space required for parking areas can be reduced. Indeed, the very idea of mobility is changing. Even the principle that you need to own a single personal vehicle to be mobile is being questioned. Car companies are offering mobility solutions that allow you to pick up a car when required, or to change the model of car you drive several times during a year.

A quantum leap into an exciting new phase of our existence

Thanks to advancements in automation, innovation and artificial intelligence, motoring and mobility are about to change permanently.

How we get around has always been part of what defines us humans, and we are about to take a quantum leap into an exciting new phase of our existence.

It’s quite a time to be alive.

ABOUT TREVOR HILL

Trevor Hill is the head of Audi South Africa. With over 20 years of global experience with Audi, Hill joins the South African team after spending two years at the head office in Germany heading up the global strategic project of Internationalisation.

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