



Reinvention of the Automobile – Safer, Greener & Electric

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Gottlieb Daimler and Carl Benz's revolutionary invention – the automobile – first hit the road 125 years ago. Ever since, the automobile has moved the world – and not just by moving people from A to B. It's one of the keys to individual independence. Wherever the number of cars increases, human opportunity expands. Consider that, before the invention of the automobile, the "average European" travelled only 20km per year. Today it's at the same distance per day – and most of it by car. Driving a car gives us a whole new perspective: we take control. But the influence of the car goes far beyond the individual freedom it provides: It is also a pre-requisite for economic prosperity. We simply couldn't imagine modern economies without cars and commercial vehicles. In Europe alone, the auto industry generates more than 370 billion euros of tax revenues per year. Millions of families worldwide directly depend on the auto industry – and there is yet another billion whose jobs in other sectors also require auto-mobility.

Because of all that, the automobile has become a tremendous success story – and there are many chapters yet to be written: By the time we celebrate the 150th birthday of the automobile, the number of cars worldwide will likely have doubled over today. The lion's share of this growth will stem from emerging economies. At the same time, the success of the automobile in countries like India or China also leads to its greatest challenge: As more and more people discover the advantages of the car, we must continue to minimize its impact on the environment and make each vehicle ever cleaner. The reason is obvious: Burning ever-scarcer fossil fuel contributes to global warming. As a result, customers are becoming more environmentally conscious – and policy makers around the world are adopting increasingly stringent emission regulations. In response, auto manufacturers are offering a broader range of clean drive technologies, including fuel-efficient internal combustion engines, hybrids and battery-electric and fuel cell drive systems.

That is not to say that petrol and diesel engines have had their day. High-tech combustion engines will remain the most effective technology for reducing CO₂ emissions for years to come. But in the end, they will fund their own replacement. Electricity and hydrogen will become the new lead currency of auto-mobility – and this paradigm shift is so profound that it is fully justified to speak of a "re-invention of the automobile". In fact, this reinvention is also causing a major transition in the automotive industry itself: Whereas generations of automotive engineers have worked to gain energy efficiency in putting the vehicle in motion, energy storage is now the key to the future. That's why the auto industry is increasingly building new, "non-traditional" partnerships with battery manufacturers, chemical companies, power utilities and electronic specialists.

Yet the shift to "green" technologies is not the only transformation our industry will see: As modern communication technologies become an ever more important part of our lives, the auto is about to become more "connected", too. And as the digital "drive style", the car will provide even more freedom. In sum, there is plenty of evidence that the automobile will change more in the next ten years than it did in the last fifty. However, a few things will stay the same: The automobile will keep making history. And the fascination with automobile will continue to know no political, national or cultural borders. It conquered Europe and North America in the 20th century – and it now spreads through India, China, Russia and other emerging economies: liberating people from the confines of their immediate surroundings and helping societies realize their full potential. Automobile will become safer, greener and "more electric".