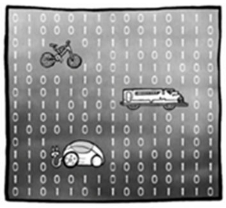
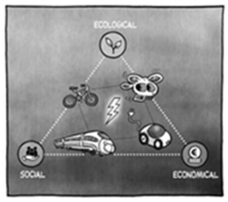
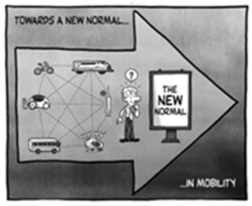
# FUTURE OF THE AUTOMOTIVE INDUSTRY




## Theses on future product design in the automotive industry

New competitors in the automotive industry, primarily from China, such as BYD, Nio, and Geely, are driving patents and standardization. The question is, to what extent are they driving product design? Three theories on this important question for the automotive industry[1].

## Thesis 1: Chinese competitors are driving patents

Chinese automotive companies are registering more and more patents for batteries, autonomous driving, and the transition to “software-defined vehicles,” driven by the Chinese government's mission-oriented industrial and innovation policy, which, although inefficient because it wastes resources, is goal-oriented because it drives technology.
Even though patent statistics give a distorted picture of the innovative activity of automotive companies because not every invention is registered as a patent and, especially in China, many patents are not based on real inventions, Chinese automotive companies have patent supremacy. And whoever has it also creates a dominant design, e.g., in connected and autonomous driving, which has been lacking until now. This means that they will win the “endgame” for a dominant design that is extremely modular and simple, can remain modern (in terms of hardware) over several life cycles, and can be updated over the air via software. This shows the importance of software: 20 years ago, the old platform determined vehicle design and driving dynamics, but today, software determines driving dynamics and vehicle design.

## Thesis 2: Chinese competitors are pushing their way into standardization

[1] The theses are based on discussions held by the Chair of Business Administration and International Automotive Management at the University of Duisburg-Essen, including at the 16th Science Forum on Mobility on June 13, 2024, in Duisburg and at the 32nd Gerpisa Colloquium on June 26, 2026, in Bordeaux, France. They are also based on surveys conducted in collaboration with Deloitte Consulting, in companies, at scientific and trade conferences, and at trade fairs in Germany and the most important automotive markets worldwide.

Chinese automotive companies are increasingly pushing their way into standardization committees, which initially focus on international ISO standards (standards of the International Organization for Standardization) or, in electrical engineering, IEC standards (standards of the International Electrotechnical Commission). These standards are then implemented at the European level in CEN standards (standards of the European Committee for Standardization) or CENELEC (standards of the European Committee for Electrotechnical Standardization) and in Germany in DIN standards (of the German Institute for Standardization) or DKE standards (of the German Commission for Electrical Engineering, Electronics, and Information Technology in DIN and VDE).
Chinese representatives have been relatively few in number in these commissions to date but are increasingly seeking chairmanship or secretariat positions in order to gain greater influence over standardization.

## Thesis 3: The software-defined vehicle will become the dominant design

A modularized car, such as the E-Volution concept from Aachen, which allows batteries, interior fittings, and bodywork to be replaced after six to seven years, can extend the service life of vehicles. It is more environmentally friendly and economical than recycling. Such a circular offering, which continuously upgrades vehicles, is necessary to ensure that residual values do not fall to zero and that there is demand for used electric vehicles.

However, this is only possible through a (mechanical engineering-driven) part of a new dominant design that Chinese suppliers, who are already pursuing modularization concepts, also master. They are pushing into higher market segments with their core brands and serving the lower market segments with sub-brands because they dominate the e-platform business (basic platform with different superstructures).

## Literature

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