From hybrids to self-driving vehicles

A sector hit hard by the downturn is hoping to exploit changing urban landscapes, writes John Reed

Global light vehicle sales (m)

<table>
<thead>
<tr>
<th>Year</th>
<th>Europe</th>
<th>N America</th>
<th>Asia</th>
<th>S America</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>16.8m</td>
<td>5.6m</td>
<td>1.4m</td>
<td>0.1m</td>
<td>0.3m</td>
</tr>
<tr>
<td>2010</td>
<td>20.2m</td>
<td>5.4m</td>
<td>14.0m</td>
<td>2.8m</td>
<td>0.6m</td>
</tr>
<tr>
<td>2015</td>
<td>23.2m</td>
<td>5.0m</td>
<td>15.4m</td>
<td>2.6m</td>
<td>0.8m</td>
</tr>
<tr>
<td>2020</td>
<td>26.9m</td>
<td>5.2m</td>
<td>19.4m</td>
<td>2.6m</td>
<td>0.9m</td>
</tr>
<tr>
<td>2025</td>
<td>28.9m</td>
<td>5.4m</td>
<td>20.7m</td>
<td>3.0m</td>
<td>1.0m</td>
</tr>
</tbody>
</table>

2030 Vision.

At Audi, we’re committed to pushing innovation and design. It’s something you’ll see in an car, like the all-electric Audi F-Tron. But we believe it’s just as important to consider the environment of the future too.

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To find out more, visit: audi-urban-future-award.com
From hybrids to higher tech

Electric cars and plug-in hybrids have all the allure of money-saving consumers. Whether they will ever become major players in the car industry is an open question.

The development of electric and plug-in hybrid cars has been one of the most promising areas of development in recent years. However, despite the hype, electric cars still account for only a small fraction of new car sales. The majority of automakers, while offering a variety of electric and hybrid models, remain focused on traditional gasoline-powered vehicles.

One of the main reasons for the slow adoption of electric cars is the limited driving range. While electric vehicles are ideal for short trips, they are not suitable for long-distance travel. Automakers are working on improving battery technology and increasing the range of electric cars, but it will take time to overcome this barrier.

Another challenge is the high cost of electric vehicles. While the price of electric cars is decreasing, they are still more expensive than traditional gasoline-powered vehicles. Automakers are also facing regulatory pressure to reduce greenhouse gas emissions, which has led to increased investment in electric and hybrid vehicles.

Despite these challenges, the future of electric cars is bright. As technology improves and battery costs continue to fall, electric vehicles will become more competitive with traditional gasoline-powered vehicles. The upcoming generation of electric vehicles will have longer ranges and lower prices, making them a more viable option for consumers.

Automakers are also exploring new business models to make electric vehicles more attractive to consumers. For example, some companies are offering car-sharing services, where customers can rent electric vehicles on an hourly or daily basis. This model is particularly appealing to young professionals who value flexibility and sustainability.

In conclusion, while the future of electric cars is uncertain, the trend towards sustainable transportation is clear. As technology advances and consumer preferences shift, electric vehicles are likely to play a more significant role in the automotive industry.
Mass reduction techniques cross into the mainstream

Weight saving: lighter materials ease the load on motors and batteries, writes John Reed

When BMW recently revealed its Vision EfficientDynamics (VEd) concept car, many people liked the car, others hated it, and a few even asked: where is the boot? BMW's answer is ‘little’ – an integrated electric system, which took up most of the area in the trunk on a traditional back seat. The Mini is in a test phase and when BMW is ready to launch its electric system, not into the Actros as a hefty, battery-powered version of its 1 Series small car but into the Munich carmaker’s ‘mass production’ slot, the question of what the boot will be in 2013, will mark a radical departure from its current line-up of cars. Indeed, the car will be built using a different manufacturing materials – from different motors on the road. The car will have a flat battery pack rather than the high ‘pack’ for battery and electric motor. BMW’s decision to build the car is an important opportunity for BMW and its customers to adapt the driving systems and innovative technology to be a part of the new way of thinking that is the switch from them. Not to take over control of the car, but to adapt the driving systems and innovative technology to be a part of the new way of thinking.

Because of carbon fibre's high price, it has not yet mostly been used in aircraft and racing cars, or on luxury vehicles. Group, a leading German-headquartered car manufacturer, says it will only ever use carbon fibre, as it has now mostly been used in aircraft and racing cars – or in small quantities on luxury models, such as some of the latest supercars and luxury models. BMW says it is as strong as steel, but the cost is much higher.

While cutting car manufacturers for a Formula One racing car ‘like bread’ is an oxymoron, it is often to save weight. BMW spent 15 to 20 per cent of its relevance to image and carmakers’ realisation of the ‘active assistance’ systems will be as common in the future in which cars bristle with sensors and communication systems. BMW says it only takes five to ten years until driver assistance systems will be as common as the ‘active assistance’ systems within the industry. BMW says: “It will take five to 10 years until driver assistance systems will be as common as an ADB and ESP.”

Safety

Drivers limit the effectiveness of electronics, says Daniel Schaefer

If one technological feature of a car ranks high on customers’ shopping lists, it is safety. Carmakers and their suppliers have pioneered the development of safety features, from headrests, to seatbelts, to airbags, to ABS and ESP. They have started to adapt to safety features and become more active, even more involved in a driver’s mechanics. The now familiar in the car industry, says Mr Steffan, “It will take five to 10 years until driver assistance systems will be as common as an ADB and ESP.”

Future of the Car

2011

2012

To pre-reserve your Renault electric vehicle go to renault-z.e.
The Future of the Car

Mobile phone generation cools on cars

Alternative: Sharing or rental could replace ownership for many drivers, says John Reed

Marketing and strategy executive at automakers who poll young people are seeing “serious evidence of a shift” away from car ownership. “They are looking a little bit more critically at whether or not they want the commitment and responsibility involved in the ownership of an asset,” says Mr Reed. “There’s a shift away from the ownership of an asset in favor of a rental or a sharing concept, which is much more of a service than ownership.”

Physical mobility is not as necessary as it was in previous generations, Mr Reed explains, so more people are looking to get in a car to get transport, rather than get in a car to get around. “That means the need for a parking lot or a tow path or a map is no longer as critical,” he says. “More than ever, people are looking for a car to get to a destination, rather than a destination as a result of a car.”

Mr Reed says the growth of car-sharing schemes is another factor behind the shift away from car ownership. “Young people are much more comfortable with the idea of just using a car,” he says. “It’s not that they are not interested in vehicles, it’s just the car ownership thing is not as big of a deal.”

While hosting an automo-
times listicle night or a movie night, or some other form of entertainment. “We’re seeing that the generation that we’re seeing today is much more comfortable with the idea of a car as a service,” Mr Reed says. “I think that’s going to continue to grow.”

Another factor is the increasing popularity of ride-hailing services, such as Uber and Lyft. “People are much more comfortable with the idea of calling a car through a smartphone app to get where they need to go,” Mr Reed says. “That’s going to continue to grow.”

Many young people also prefer the convenience of having a car available when they need it, rather than having to own and maintain one themselves. “People are much more comfortable with the idea of having a car when they need it, rather than having to own it,” Mr Reed says. “That’s going to continue to grow.”

This trend is likely to continue as more young people embrace car-sharing and ride-hailing services. “The trend is going to continue to grow,” Mr Reed says. “Car ownership is not as necessary as it was in previous generations, and more people are looking for a car as a service rather than as an ownership concept.”

Old tech still has plenty of mileage left

Two-wheelers show the way in innovation

Technology

Robbi Jaggi looks at the latest developments

Two-wheeler sales have been on the rise in recent years, as more people turn to two-wheelers as an affordable and convenient mode of transport. Two-wheeler manufacturers have been pushing the boundaries of innovation to meet the changing demands of customers. "We are seeing a lot of innovation in two-wheelers, as manufacturers are trying to provide more features and comfort to customers," says Jaggi. "They are also focusing on improving fuel efficiency and reducing emissions." In addition, two-wheeler manufacturers are also working on developing electric two-wheelers to cater to the increasing demand for sustainable mobility. "Electric two-wheelers are becoming popular as they are environment-friendly and offer lower operating costs," says Jaggi. "Many manufacturers are investing heavily in electric two-wheeler technology to stay ahead of the curve." Two-wheeler sales have been on the rise in recent years, as more people turn to two-wheelers as an affordable and convenient mode of transport. Two-wheeler manufacturers have been pushing the boundaries of innovation to meet the changing demands of customers. "We are seeing a lot of innovation in two-wheelers, as manufacturers are trying to provide more features and comfort to customers," says Jaggi. "They are also focusing on improving fuel efficiency and reducing emissions." In addition, two-wheeler manufacturers are also working on developing electric two-wheelers to cater to the increasing demand for sustainable mobility. "Electric two-wheelers are becoming popular as they are environment-friendly and offer lower operating costs," says Jaggi. "Many manufacturers are investing heavily in electric two-wheeler technology to stay ahead of the curve."