New Apple Car Concept Design

It's not exactly unheard of for companies to delve into production processes outside of their known brand. After all, the "think out of the box" mantra doesn't apply to individuals alone. In the business world, it would just be intrapreneurship or the diversification of interests. Avon did it. Xerox, Hasbro, Abercrombie and Fitch; even Nokia did it. All of these companies started with different products but eventually branched into the brands they're now known for. Changing times, sometimes, require some dynamism in production and manufacturing. It's all part of the physics of business and entrepreneurship. The most recent paradigm in this trend of diversification is Apple's electric car project.

Everyone knows Apple as the company behind such top-notch products as iPods, iPhones, iPads, Macs – to mention but a few. Since the iPhone's launch in 2008, Apple has been part of the chain of high-class technological companies in the world. Currently, it is one of the big five industries in the U.S information technology industry. I don't need to tell you what that says of its commercial and technological status. As if its run of excellence isn't enough, Apple has once more held everyone in awe with its intention to go into the automobile industry. The internet has been buzzing recently with talks of an iCar. And we're curious to know just what stakes the company is about to introduce to the automobile industry. What's it about this car? In an industry that undergoes constant automobile revolutions in design, tech, and concept, what's Apple bringing to the table? To sate this curiosity, we're going to shed some light on the car, its concept, and design.

Before we go on, I'd like you to like this video and click the subscribe button so you'll be notified whenever we post a video. Now, back to the iCar.

The intention for an Apple-car began as far back as 2008. Steve Jobs (*Steev Jawbs*) expressed this shortly after the release of the original iPhone. However, his interest didn't seem to gain any traction until the rumors intensified in 2015 when Apple began to hire research specialists and experienced engineers to look into the project, which inside the company is named Project Titan. It also diverted some of its original employees to the project and hired new ones. In September 2015, *The Wall Street Journal* confirmed two crucial details regarding the concept and design of Apple's car:

One, it's going to be a BEV (Battery Electric Vehicle); and two, it's going to be an AV (Autonomous Vehicle). Your favorite sci-fi movies are about to become reality, aren't they?

As a Battery Electric Vehicle, the Apple Car isn't going to be operating an internal combustion engine like most traditional cars in use today. Much like Tesla, it's going to derive its propulsion purely from rechargeable batteries, with no other auxiliary source of power. This concept shows good thinking on the part of the company's executives as electrically-propelled vehicles are nothing but economical and efficient. The Apple Car will reduce carbon dioxide emissions as well as that of other greenhouse gasses. It would also cut down on the dependence on oil, thus reducing the issue of oil scarcity, and buoying the prices of gasoline.

A more interesting detail is the Apple Car's AV concept. The AV – standing for autonomous vehicle – also means a self-driving vehicle; much of these you must have seen in tons of sci-fi movies. Since there's little to nothing that science and technology can't achieve, it's expected that the concept of a self-driving car would have been in the works all this while. Apple has been conducting research and experiments regarding the use of this technology. To this effect, there have been several rumored sightings of self-driven Apple cars in the past, though the company was quick to put out disclaimers. Nevertheless, the technology is perfect enough for prototypes and observations within enclosed spaces. With the Apple Car, we wouldn't have to wait that long before the dream of cars driving themselves through the streets becomes real.

As with all self-driving cars, Apple intends to use a variety of sensors to ensure that the iCar can read and receive data of the surroundings, which will, in turn, guide the car through navigation paths, and help in circumventing

obstacles. Such sensors include sonar, inertial measurement units, radar, GPS, lidar, and odometry. Apple has had talks with partners concerning the purchase of elements for the car such as lidar sensors, which would see their cars get a 3-D reading of the road. The iCar might also feature multiple lidar sensors to help in the measurement of distances. The presence of lidar sensors in the iPhone 12 pro and iPad pro points to a possible derivation of sensors from internal lidar units.

If you think this is all, then you still don't know anything about the iPhone or any of the "i" products. Apple also plans to integrate groundbreaking battery technology to ensure that their car is quite the catch when it's launched – just like the iPhone. Rather than use the normal battery design, Apple intends to utilize a unique single-cell structure that compresses the power cells, thus creating more space in the battery. This space would be useful in the containment of materials that have the potential to prolong the car's ability to go longer distances before a recharge. Though the battery type is lithium-ion, Apple is looking towards a unique variant. Currently, the company is evaluating a lithium iron phosphate chemical structure for its car battery – a chemical structure that eliminates the tendency to overheat.

In 2017, Apple's director of artificial intelligence, Ruslan (*Rooslahn)*, revealed research he'd done on AI tech that would aid the self-driving concept. By now, you should be familiar with lidar sensors so we'll skip it and go straight to other projects in the research. One of the software Ruslan's research produced is one that uses a camera or cameras mounted on a car to identify pedestrians, other cars, and motorable parts of the road. A third project used a technique dubbed SLAM (simultaneous localization and mapping), which is applied in augmented reality and mapping. There was also talk of software that collects data from cars with sensors and curates this data into a three-dimensional map. Rulan also expounded on the integrated AI's ability to make complex decisions like avoiding pedestrians and obstacles on the road.

In 2014, Project Titan included plans to create a car design from scratch –a decision that would lead to an Apple-branded car. Along the line, there were conjectures from certain quarters indicating that Apple would partner with a car manufacturing partner to come up with the iCar. However, even those fell into obscurity. One other hypothesis is that Apple might stick to the creation of an autonomous driving system for integration into cars made by already existing manufacturers. Whichever the case, it is expected that we would start seeing Apple cars on our streets from 2024/2025.

Details regarding the design of the car are still blurry, as such all we can grasp are strong theorizations provided by both insiders and tech experts. One of such speculations concerns the iCar's interior lighting – thanks to patents purchased for that purpose. Apple intends to integrate within the car's structure, LEDs and OLEDs connected with fiber, using unique lighting tubes that carry the light around the car. This lighting system, coupled with embedded sensors, would help create such illusions as seamless doors that display buttons or icons like a screen.

The engineers involved in Project Titan consider including in the car's design such features as an interior bereft of a wheel and pedals, thus enforcing the autonomous driving concept; spherical wheels, giving the car the ability to drive sideways; augmented or virtual reality built into interior displays; automatic doors that open and close without a sound; and a different driving system more visually pleasing than what other companies developing AV's (autonomous vehicles) use.

While there is no concrete physical rendition of the iCar yet – courtesy of Apple's reticence – purchased patents such as the one mentioned earlier could tell us what to expect in the iCar's design. One of these patents, purchased in 2011, will allow you to unlock your car and start it with your iDevice. Another one, from 2009, reveals a design with an interior camera which is speculated to aid the detection and interpretation of hand movements to control certain functions. A 2012 patent looks into how any user can get into an iCar and set personal preferences with their iDevice. The most recent patent, published in 2017, details a system that uses Bluetooth for communication between cars, sensors, and GPS to detect obstacles.

These patents may not necessarily be for self-driving cars, as some of them are utilized in modern vehicles. Nevertheless, some of them do point strongly to what you would visualize the iCar to be.

Conclusion

The level of speculation surrounding the iCar is reminiscent of the times preceding the launch of the first iPhone. Nevertheless, typical of the success that trailed the iPhone when it was finally launched, we can expect that the iCar is going to be an electric self-driven car, boasting an exquisite, super-futuristic design that marks it out as one of a kind.

References

https://9to5mac.com/guides/apple-car/

https://www.reuters.com/article/uk-apple-autos-exclusive/exclusive-apple-targets-car-production-by-2024-and-eyes-next-level-battery-technology-sources-idUKKBN28V2PU?edition-redirect=uk

https://www.wired.com/story/apple-executive-reveals-more-of-its-self-driving-technology/

https://www.macworld.co.uk/news/apple-car-3425394/

https://www.thesun.co.uk/tech/13566740/apple-car-concept-video-self-driving-car-2024/

https://www.somagnews.com/apple-car-concept-that-draws-attention-with-its-design/

https://appleinsider.com/inside/apple-car

https://en.wikipedia.org/wiki/Self-driving_car

https://en.wikipedia.org/wiki/Battery_electric_vehicle#Economy

https://en.wikipedia.org/wiki/Apple_electric_car_project

https://en.wikipedia.org/wiki/Apple_Inc.#Electric_vehicles

https://www.mentalfloss.com/article/22822/15-companies-originally-sold-something-else