Apple From iPhones to iCars - Sep 26th 2015 | SAN FRANCISCO *The Economist*

Apple is entering the auto business, but the road ahead could be rough

HAVING redefined the personal-computer and mobile-phone industries, Apple has set its sights on a new, moving target. The darling of the tech industry is aiming to debut an electric car in 2019, according to a report by the Wall Street Journal. For years there had been speculation that Apple had auto ambitions. It has been hiring swarms of engineers to work on the project, code-named Titan, which now employs around 500.

With around $200 billion stored up, Apple certainly has enough cash to spend on a new venture. Its legions of fans are always eager to see it launch a new offering that makes a splash. Its most recent product, the Apple Watch, has not been the massive hit some analysts expected, and Apple's launch event earlier this month was rather dull, showcasing mainly tweaks to existing products. Launching a car would be far more daring and, in theory, highly lucrative. Global car sales were worth around $2 trillion last year.

However, there are many things about the car business that make it quite unlike peddling phones. The replacement cycle for an iPhone is a mere two years. Consumers hold on to their cars for far longer. To make business sense, Apple's cars would need to earn returns comparable to those of its existing products. But gross profit margins like Apple's current 40% or so are something most large-scale carmakers can only dream of. At BMW, one of the most profitable of these, such margins are around 20%.

An even more important factor is that, as demonstrated by all this week's attention on Volkswagen, cars are more heavily regulated than consumer electronics. Compliance with safety standards and emissions rules is likely to be more rigorously enforced in future. That is a tricky prospect for even the most experienced carmaker, let alone an industry newbie.

The firm's capabilities in mobile devices will be an advantage, as cars become ever more connected to the internet. But the risks associated with connected cars are of a different order to those with mobile phones. This week it was revealed that malware had infiltrated some of the smartphone apps sold in Apple's store, including two of the most popular apps in China. This was embarrassing but not disastrous. If similar malware got into an Apple car, the results could be deadly.

Such concerns are not enough to discourage tech firms from driving at full speed into the car business. Leading the way is Tesla, a maker of upmarket electric vehicles set up by Elon Musk, a successful tech entrepreneur. Google is working on a self-driving vehicle and an operating system for cars, and recently hired a former motor-industry executive to run its autonomous car project. Apple's decision to enter the motor industry may be fuelled in part by not wanting to leave Google with control of the dashboard and cars' operating systems. Their rivalry is turning into a road race.