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## Self-driving Cars Excite Industry, But They're Not Yet Ready For Prime Time

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There has been much fevered talk about the imminence of self driving cars, leaving the impression with the public that it won't be very long before the automobiles we buy don't even have steering wheels or pedals.

This has been fueled by the car manufacturers themselves as they swap overblown rhetoric about the progress being made thanks to their engineer's ingenuity and the massive sums committed to these projects.

Britain's BMI Research hosted a seminar recently where it tried to get the hype and bluster and provide some insight into the prospects of computerized/robot/autonomous vehicles. Perhaps job one should be to decide which of these terms makes the most sense.

But the most important "fact" to emerge from the meeting was that fully-autonomous cars won't be available for up to 15 to 20 years, according to BMI Research analyst Anna-Marie Baisden.

Some questions to emerge included the fate of pricey sports cars like Ferrari in a driverless world. Would anyone pay \$200,000 to sit in a supercar driven by computer?

If the computerized technology is so close to being able to drive a car on city roads or highways, handle errant pedestrians, know that an incoming object is a bird not a car, and handle a whole range of unpredictable situations, why aren't train services already computerized and driver-less? After all, the task for train drivers excludes steering, turning or avoiding strange objects given that the path has already been cleared.

Manufacturers have made clear performance vehicles will be last in line for automation.

"We can expect autonomy to be mostly focused on the mainstream car segment – but also commercial vehicles, as we have seen progress with delivery vehicles making largely autonomous trips," Baisden said in a report.

After the question of when autonomous cars will appear, perhaps even more important is what is the point anyway, and will consumers actually want these vehicles. When the infirm elderly and unlicensed, uninsurable young have bought their robot cars, who would be next in line?

Baisden said automotive manufacturers' strategies are divided. Some look for full autonomy, with an eye on car sharing or ride hailing fleets, and those that want the technology to assist in more difficult and dangerous aspects of driving. But don't hold your breath if you're looking for a fully computerized car.

Among big manufacturers seeking business in the new mobility arena, Volkswagen has already done a ride-hailing deal with Gett, GM with Lyft and Toyota with Uber.

The industry is cranking up investment to compete with cars of the future, said Citi Research.

"Traditional automakers are growing increasingly aware of the opportunities and threats of new emerging technologies relating to connectivity, electrification, mobility services and autonomous vehicles. Profound changes are anticipated once we enter the driverless era, and new business models are likely to evolve to provide efficient on-demand mobility solutions," Citi Research said in a report.

This will take some time, said BMI's Baisden.

"The timeline for adoption depends on what level of autonomy and what level of penetration. We already have driver assist features such as parking assist and autonomous braking being gradually rolled out in new vehicles, and we have fully autonomous cars in the testing stages on the road. To some extent, then, you can say they are already here. However, in terms of having widespread adoption of fully autonomous cars, we believe it could be up to 15 to 20 years." Baisden said.

The question of computerized trains seems simple but Cato Institute analyst Randal O'Toole said in fact there are many examples of driverless trains already, in Arizona, San Francisco and Washington. (There's another one in London, the Docklands Light Railway).

But the economics of rail operation, which are very labor intensive, won't benefit much from eliminating the driver, and the public is wary of safety implications, O'Toole said. He expects autonomous cars to appear relatively quickly, when the problems of high-quality mapping in cities has been solved.

"I also think that as soon as autonomous vehicle software hits the market, many people will retrofit older vehicles to become autonomous. There are already companies promising to do this though the NHTSA (National Highway Traffic Safety Administration) is questioning whether they are safe," O'Toole said.

The next big hurdle will be a regulatory one, according to BMI's Baisden, with liability in accidents to the fore.

If a vehicle that offers an autonomous option is in an accident, there will be legal wrangling centering on who or what was in control at the time. Or if a self-driving car is involved in an

accident with a human driven one, this makes the case for complete segregation of the two modes.

“We expect autonomy to be much more applicable to shared mobility fleets in the early stages. It will be easier for fleet managers – in some case the carmakers themselves – to deal with such issues as insurance, maintenance, and the cost of the technology as a fleet can benefit from economies of scale,” Baisden said.

“Autonomy could conceivably lead to demand for wider roads if driverless cars can operate more safely at higher speeds and so enable more cars to operate at once. In turn, however, this could reduce the need for certain modes of public transit such as light rail,” Baisden said.

Cato’s O’Toole agrees that when cars are completely computerized, travel by rail will be eclipsed, and says those planning expensive new systems ought to take this on board.

“American cities had nearly \$200 billion worth of rail transit projects on the ballot (on November 8). It will be interesting to see how many decide to build systems that are already functionally obsolete and will be even more obsolete when self-driving cars hit the road, which will happen before at least some of those rail lines are built,” O’Toole said.