NEWS RELEASE

Aptiv's CTO Glen De Vos discusses smart vehicle architecture and our approach to its high-tech complexity

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The following is an opinion editorial provided by Glen De Vos, Aptiv's chief technology officer and president, Mobility and Services Group.
DUBLIN, June 29, 2018 /PRNewswire/ -- You know the old saying, don't judge a book by its cover? My parents used to tell me that all the time. Growing up the son of an engineer, I got firsthand teaching of how seemingly simple tools and parts – when architected in the right way – could be used to create extraordinarily complex products.

I can now teach my three boys about the very same thing in the form of smart vehicle architecture. I can show them how wires, circuits and connectors can create the nervous system of the most complex computer with which you interact – a car. On the surface, these components might not appear high tech, but these are the components that will enable the future of mobility.

And I don't just mean the components. I mean the way Aptiv will design and create them, using state-of-the-art technology. We will increase our use of process and manufacturing automation to enable the full- fault tolerance and resiliency required to support functional safety requirements connected to autonomous driving.

As critical vehicle safety functions become automated, the need for an absolutely reliable and fail-safe signal and power distribution system increases. That means we need to reduce any risks associated with the manufacturing and assembly processes through the use of new technologies. Additionally, high-speed data requirements will drive significant product and process technology innovation in order to achieve the needed performance and reliability. The data rates, expected to exceed 10 gigabits per second, will be required to enable both infotainment and driver assistance systems.

How will we tackle these challenges? With new ways of thinking and by adopting new technologies in ways that might surprise you.

You've probably seen many applications of 3D printing – including the recent announcements about using the technology for printing shoes. We plan to take it to a new level. We have been testing and using 3D printing for the manufacture of high performance connectors for some time now – working with a company called Carbon 3D. It has helped reduce waste, and increase efficiency and quality. In a joint project with Autodesk, we will expand the use of this technology to power and distribution systems by 3D printing entire wiring harnesses.

We will also harness the power of software with the use of Artificial Intelligence (AI) and Augmented Reality (AR).

People talk about AI in regards to software and algorithms to program and teach cars how to drive themselves. But we are taking it one step further and implementing AI into each stage of product and manufacturing design. We will use it in our operating system, helping us to build smart, integrated plants and processes.

Finally, when you hear about AR – you probably think about video games, but we use the power of AR to revolutionize the way wiring harnesses will be manufactured. This will increase quality, efficiency and help create faster learning curves.

The rate of change in the transportation industry is occurring at the fastest pace in history and it is only going to accelerate. Aptiv will stay ahead of this blistering pace, steadfast in our commitment to providing our customers with technology breakthroughs – not only for what we make, but how we make it. We will continue to research and develop new tools and methods to keep us ahead of the pace when it comes to not only innovating change – but delivering it.

So, next time you come across a book with a seemingly innocuous cover – read it. It just may change the future.

Glen De Vos is Aptiv's chief technology officer and president, Mobility and Services Group.

About Aptiv

Aptiv is a global technology company that develops safer, greener and more connected solutions enabling the future of mobility. Headquartered in Dublin, Aptiv has 147,000 employees and operates 14 technical centers, as well as manufacturing sites and customer support centers in 45 countries. Visit **aptiv.com**.

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