IoT helps drive technological advancements in the motoring industry

By Peter Malebye

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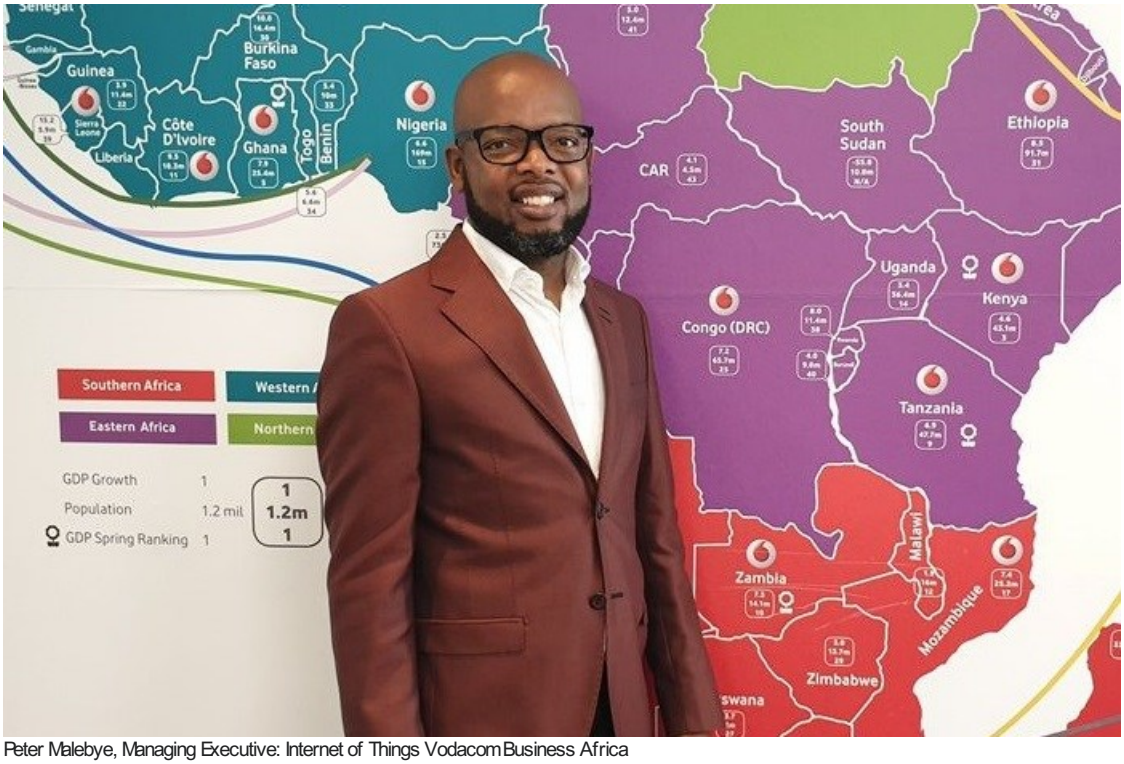

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The Internet of Things (IoT) is more than just a data technology system. In fact, IoT is all about helping improve people's lives and is also well set to drastically change the way vehicles, including cars, trains, trucks and even aircraft, are used. Embedded IoT sensors, coupled with connectivity, not only improve the manner in which vehicles are serviced and maintained, but also how they are designed, and ultimately how they will be driven.

Recent technology reports indicate that the data that is collected today is not used at all, and data that is used, is not fully exploited. The prevalence of IoT has enabled us to collect that data and translate it into meaningful information to revolutionise the future of smart vehicles.

Evolving towards autonomous vehicles

In fact, we are already beginning to see an increase in technology that employs artificial intelligence (AI) to enable AI interfaces in vehicles as we evolve towards autonomous vehicles. Vehicle design has developed in such a way that today, our smartphones are able to link to the in-vehicle infotainment system, essentially serving as a virtual personal assistant, with the ability to respond to voice commands and proactively guide drivers in collaboration with AI interfaces.

The very same sensors and wireless connections that make it possible to create a self-driving car can also be used to monitor how various vehicles are performing, for the purpose of enabling condition-based maintenance routines that are far more cost-effective than periodic maintenance or performing maintenance after a problem occurs.

Tracking performance data will also enable vehicle manufacturers to design more reliable products and discover other ways to serve customers.

Part of the drive to integrate IoT into vehicles is to gain better understanding of driver behaviour. Telematics also plays a vital role in this regard – assessing driver behaviour to calculate accurate insurance premiums.

With developments to our networks, and the introduction of 5G, we will see vehicles talking to each other on the road, sharing everything from information on speed to road conditions. The rise of this technology will help avoid crashes and even ease traffic congestion by relaying the information to fellow cars on the road.

The next step

The next evolutionary step will see vehicles communicate to everything around them. This technology will make it possible for vehicles to communicate with smart traffic lights, and even conduct transactions at petrol stations.

Of course none of this will be possible without access to the internet connectivity and even the cloud storage services. We're headed into an age where internet access will be just as important as fuel, with consumers comparing engine power to connectivity speed when purchasing their next car.

To truly unlock the power of connected vehicles, however, we'll require continuous and reliable network connectivity.

The telecommunications industry is driving the connected vehicle revolution, which provides the technology and connectivity that enables us to not only connect to, but also communicate with our vehicles. Currently, our 4G network's ability to support connected vehicles is limited. To transition into a world where driverless cars roam our roads, we'll need more scalable 5G networks, technologies and infrastructure. With these innovations in hand, we'll be able to develop end-to-end solutions for future mobility and truly help transform the transportation services.

The introduction of a 5G network technology will help equip vehicles with human-like reflexes, which will remove the need for any human element whatsoever when the vehicle is in operation.