

Gearing up for a world of connected things

 By [Deon Liebenberg](#)

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Deon Liebenberg, head of IoT at Vodacom, gives his insights on what will happen on the IoT landscape in 2018 and beyond.

If you think about the last 24 years of mobility - it took us [the industry] 24 years to connect five billion people on the continent to mobiles and now we can't live without it.



Deon Liebenberg, managing executive IoT at Vodacom

The forecasts show that there will be 40-50 billion things connected in the next three years. This is real. The rapid expansion of connecting things to the internet is going to be very real. But what will it mean to us as humans?

What is "the internet of things (IoT)?" I think it's imperative to establish what people's understanding of IoT is. Many people say it's a product, others say it's a proposition, others say it's a trend.

Connecting things faster and faster

So, before I get to trends predictions, people and enterprises need to understand the magnitude of what is going to hit us: the internet of humans, the internet of things, the internet of money... all these buzz words will become a reality - or rather, is becoming a reality as we speak. For example, in South Africa, it initially took us six years to connect two million things. More recently, it took one year to connect one million things, and now we are already connecting 70,000 things every single month. I'm forecasting that will exponentially happen faster and faster.

“ Once everything is online and connected to the internet, that's when the world will change. In fact, we're already seeing some social challenges being addressed by IoT. ”

Digital twins

A very important principle to understand is that every single person has multiple personalities on the web, which I call multiple digital twins. You have a professional LinkedIn profile which is very different to your WhatsApp profile, which is different to your Tinder profile as well as your Twitter profile. You don't use the same pictures, you don't have the same followers, you don't post the same things.

Every single *thing* will eventually also have a digital twin and will be connected to the internet - just as we connected humans to the internet. What will that allow us to do? Simply, if I take a chair and connect it with an IP address to the internet, I can manage it. And once things are connected, they will network and communicate with each other and everything will become automated. They will create value for us as humans, and our entire human existence will change.

Our digital world will be consumed through augmented reality and our physical world will go into the internet. This will create new industry and value propositions.

Moving towards building ecosystems for self-driving cars

Everyone is talking about "smart cities", "connected this" and "smart that", and I'm not sure people really understand what it means. With so many things getting connected every month already, we are effectively starting to build the ecosystems for future self-driving cars.

We'll have software-defined cars, connected to the internet, driving past billions of connected things which will all be part of a big mesh network, why would you need to drive? The chances of today's ten-year-olds ever needing a driver's license are slim to none. Because, thanks to the network of connected things and sensors, cars will drive themselves.

Africa will see early successes and a lot of incubation and innovation

Early successes will be seen in markets such as Africa which has very different challenges to markets in Europe. Mainly social challenges like education, health, agriculture, safety and security and utility management.

South Africa has one of the world's most sophisticated fleet management solutions since almost ten years ago, where Europe is only starting to sell fleet management security now. I see a lot of incubation and new stuff happening here and a lot of following happening from other markets. This is largely due to Africa using the mobility jump far faster than any other market.

Narrowband IoT

The infrastructure we have today is built for humans, not machines. So to keep up with this massive upswing of "connecting everything" enterprises and consumers will need to change their technology.



Vodacom commercially available NB-IoT network operational

1 Nov 2017



We recently launched our Narrowband IoT, which is one trend you'll hear a lot about.

“ Low power, wide area networks will accelerate the adoption of the internet of things. ”

No one will ask how things are connected - it will just need to be connected

Let's take Ghana as an example where thousands of lives have been lost over years because they can't predict the flood levels of water coming down the river during the flood season. IoT will allow us to connect the river to the internet by dropping sensors every 100 metres into the river. Whenever the flow of the river changes by one second, a trigger alarm goes through to say the flow has changed and the algorithm understands it and the necessary actions can be taken.

If you take a normal GSM SIM and you drop it in there, the battery will be drained within one day. But a low power, wide area network allows me to drop a penlight battery into the river which will last for ten years. It will switch on once a day and say everything is okay, and switch off.

At the end of the day, consumers aren't going to ask how they are connected, they just need to be connected.

The objective is connecting everything to everything so they can communicate with each other - without you and me knowing - to create value so that we can impact lives and businesses.

“ It's connecting everything, it's creating ecosystems, it's creating real value and understanding the value chain behind the internet of things, to provide value to the internet of humans. ”

Security

At the very core of IoT is security. Wherever you connect to is critical: if it's on a mobile network which is in a regulated/spectrum environment, it means it's secure. If it's unregulated, it becomes dangerous. Imagine losing billions because your vacuum cleaner got hacked and they got into your Bitcoin account. This is real.

“ Security will become a massive topic in 2018 and it is a big challenge. ”



IoT Barometer Report reveals optimism over IoT's potential outcomes

11 Oct 2017



Economic outlook

To survive in our current economic climate, companies will have to reinvent themselves in 2018. Consumers are already digital but companies need to digitise.

“ Research has shown that the internet of things will not just impact the ICT environment, it will positively impact countries' GDP by 30-40%. ”

At the end of the day, everything will be connected. You'd be wise to let go the old ways, reinvent, and digitise in 2018.

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**[Deon Liebenberg](#) was interviewed by [Ilse Burger](#).*

ABOUT DEON LIEBENBERG

Deon Liebenberg is the managing executive of the internet of things (IoT) for Vodacom across Africa - transforming assets into intelligent devices. He is a senior executive specialising in the creation and development of new and fast growth businesses in large organisations. Liebenberg has more than 20 years of experience in the communications industry, earned working at some of Africa's leading operators and service providers as well as at multinational and telecom vendors.

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