

# What does 2019 have in store for us?



By [Simon Carpenter](#)

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Despite the undeniable power of modern predictive analytics, in some ways, we are no better off than the old crone with her crystal ball when it comes to predicting what the world holds in store for us in 2019.

That's partly because the world we live in has become much more volatile and unpredictable. After the stasis of the Cold War period gave way to a new geo-political world order with the collapse of the Soviet Union and the rise of China the world has fundamentally changed.



Simon Carpenter, Chief Technology Advisor at SAP Africa

Along the way we've had to deal with the ongoing effects of globalisation, the War on Terror, the banking and fiscal crisis of 2008 (whose effects still linger on), and generational change in the workplace and consumer base. On the global front, we see factors such as Brexit, shifts in US foreign and domestic policy and the resulting trade wars as well as the refugee crisis in Europe and USA all conspiring to create more uncertainty.



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In our own SADC region, we have had confounding variables such as droughts, the failure of the nation-state of Zimbabwe, state capture in South Africa, the rapid decline of SOEs such as Eskom and SAA, the downward trend of most commodity prices and emerging markets contagion muting inward investment to contend with.

And it's also partly because we find ourselves in the maelstrom of a massive inflection point at the tail-end of the Industrial Revolution. Many refer to this as the Fourth Industrial Revolution.

I think that's a dangerous term that can lead us into the mental trap of thinking that the Digital Revolution is somehow "just" the next, incremental wave; one where we can use technology to do what we've always done - only smarter, faster and cheaper.



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It's not. This is a time of exponential progress in science and technology and one in which the combinatorial effects of this multi-factor progress generate positive feedback loops that are accelerating and amplifying the pace of change across the board.

Unlike the previous three waves of Industrial Revolution when societies, governments and organisations had time to adjust (whether by recalibrating regulations, or re-training staff or slowly ramping up investment in modern technologies) this is not true today. The pace is blistering; never has the old saying "you snooze, you lose" been truer than it is today.

So, against this backdrop, here are some of the things I think we can expect to see in 2019 across Africa.

- **Smartphone penetration will accelerate across Africa**

Smart mobile devices will continue to fall in price and investments in local cell phone manufacture by companies such as Transsion and Yekani will ramp up lured by Africa's growing population.

This new-found affordability will literally put the world in people's palms. As this happens we will start to see interesting new ways of delivering education, financial and other services – beyond the models pioneered by the likes of Safaricom's mPesa and Hello Tractor - as companies figure out how to provide shared value at the base of the pyramid.



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One of the most exciting outcomes of this growing smartphone usage in Africa will be the impact on agriculture, food security and nutrition. Africa has around 60% of the world's arable land, but crop yields are five times lower than the global average. On a continent that will see its population double to 2.5 billion by 2050 that is an untenable situation.

At the same time, small scale agriculture accounts for about 80% of today's food production and nearly 70% of all jobs in Africa. Imagine the multiplier effects that can be achieved by using information to help those small-scale farmers to improve their production; their personal wealth will rise, food security will improve, resources such as land and water will be better conserved, Africa's US\$35–50bn food import bills will be slashed, and export revenues will rise to mention a few.

And Africa would benefit from the fact that small scale farmers, with the right information at their disposal, do less environmental harm than large-scale mono-agriculture.

As mentioned in AGRA's Africa Agriculture Status Report 2017, "agriculture is a proven path to prosperity. No region of the world has developed a diverse, modern economy without first establishing a successful foundation in agriculture". And there is no more potent symbol of a diverse and modern economy than today's smartphone. This is one of the reasons that SAP has invested in SAP Rural Sourcing as a way of realising our purpose to help the world run better and improve people's lives.

Perhaps more interestingly and longer term, this burgeoning access to the internet will trigger a growing awareness of how transparent the world can be. Citizens and civil society will start to realise that it's not okay for governments to pull the wool over their eyes and will leverage the combination of smartphones, cloud and social networks to drive more open government; ultimately this could lead to greater democracy and less corruption across the continent.

- **Cloud computing will grow more rapidly**

Many tech advances today are driven by the consumer market; the big social networks and e-commerce players like Alibaba, eBay, Amazon and Jumia all service their consumers out of the cloud.

In fact, most would not be economically viable without it. This will have a knock-on effect on business as more and more managers realise that the same deployment paradigm that serves consumers so well can also be leveraged in B2B, B2C and B2E (everything). Especially for small to mid-size companies cloud computing offers a compelling way around the skills shortages and personnel costs that drive up IT costs.



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Because of their scale and their need to protect the integrity of their offerings cloud providers can employ deep expertise and state-of-the-art technologies that are out of reach for smaller organisations. Cloud users across Africa can benefit from this; reducing their risks and enhancing their capacity to compete.

There is one further way in which Africa has a unique advantage when it comes to cloud computing. Except for some economies like South Africa and sectors like Financial Services, the levels of investment in on-premise software and owned data centres is low relative to global patterns. So, African organisations should find it easier to avoid the sunk cost fallacy and instead go straight to the cloud.

- **Internet of Things will change the public sector**

As we have seen elsewhere in the world, the ability to exploit the Internet of Things to better manage public infrastructure can have a profound impact on people's lives.

In Rio de Janeiro, Brazil, the use of IoT to monitor drains and sewers had a direct impact on saving lives. Elsewhere, smart cities are using IoT to improve traffic flows, monitor key point installations and use energy more efficiently. National railways are using sensor data and machine learning to predict equipment failures. With this information, they not only protect the train schedule – which makes customers happy – but also reduce their maintenance costs and improve safety.



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African governments, at all levels, should take note. It is widely acknowledged that Africa suffers under a massive infrastructure deficit. Using digital technologies like IoT and Big Data along with data science and integrated processes could go a long way towards improving life for all Africans.

- **AI – Anxiety Index or Amazing Innovation?**

There is plenty of hype about what AI (Artificial Intelligence), in its various guises, is going to do to jobs and possibly even the future of humanity. And of course, these fears are amplified in Africa with its rapidly growing population and lack of industrialisation creating elevated levels of joblessness.

We must acknowledge these fears but at the same time realise that Africa is not a special case somehow disconnected from the rest of the world and therefore immune to progress – if we don't move fast the digital divide will become an unbridgeable chasm.





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That AI-powered “no collar” workers will change the nature of work is undeniable. That some jobs will disappear is also true. But this technological displacement has happened since the beginning of the Industrial Revolution – when did you last see a gas street-lamp lighter or someone shovelling horse manure from the streets? Granted, however, we’ll have less time to adjust and one of the challenges in Africa is the lack of STEM skills we produce relative to countries like China and India.

Where Africa needs to embrace AI is in pursuit of productivity (the wellspring of wealth creation) in non-differentiating areas of the business so that human talent can be directed towards activities such as building customer relationships, solving complex problems and creating new opportunities – all things which AI cannot do.

We will also see AI being used to drive improvements in areas where Africa needs to make rapid progress and to overcome current constraints such as in agriculture and healthcare. And, given the proliferation of threats, we will also see AI being applied to IT security. We can also expect to see the more prescient B-schools making AI a high-profile topic in their curricula and especially as it pertains to issues of ethics and morality.



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But, perhaps the most profound impact of AI in the African context will lie in the field of natural language processing. Today, millions of illiterate Africans are shut out from the formal economy because it is difficult for them to interact with the forms and interfaces that drive most government and business processes. AI changes all of this with voice-activated user-interfaces.

Yes, there is much work to be done to train the NLP algorithms on African dialects and accents but the opportunity to build more inclusive economies and societies is too big a prize to let it slip away for lack of effort and courage.

- **Blockchain projects address Africa’s unique challenges**

While global researchers work feverishly to come up with blockchain models that are more energy efficient and suffer less latency, local entrepreneurs are busy with concepts that address pressing challenges in Africa; namely, land titles and identity (whether of people or diamonds).



## Boosting blockchain adoption in SA

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In 2019 we can expect to see more blockchain projects across the fields of healthcare (patient master records), pharmaceuticals and food (attesting provenance) and financial services (especially with a focus on remittances).

- **The pace of change will accelerate through 2019 – on more fronts**

Above we have touched on just a few aspects of the Digital Revolution. There are many more, ranging from wearable computing to extended reality to personalised medicine to cyber warfare and mesh networks to autonomous vehicles and drones to the gig economy.

All these advances merit your attention because success in 2019 and beyond will depend on your ability to creatively synthesise these technologies into new solutions for Africa's progress.

## ABOUT SIMON CARPENTER

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