

When advanced AI meets 4IR

It will enable the always smart, always learning and ubiquitous computing of the future

TECHNOLOGY



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WE HAVE been acclimatised to the concept of artificial intelligence (AI) and heard the hype about the 4th Industrial Revolution (4IR): now prepare for the next stage – when advanced AI meets 4IR to enable the always smart, always learning, ubiquitous computing of the future.

Combining the Internet of Things (IoT), a plethora of smart new devices and sensors, and a hyper-connected high-speed global network, 4IR is already changing business models and analysts expect the pace of 4IR-driven change to accelerate.

By fully integrating now-mature AI into the mix, the world will gain computing that impacts every facet of business, work and daily life, and crucially – keeps getting better at it.

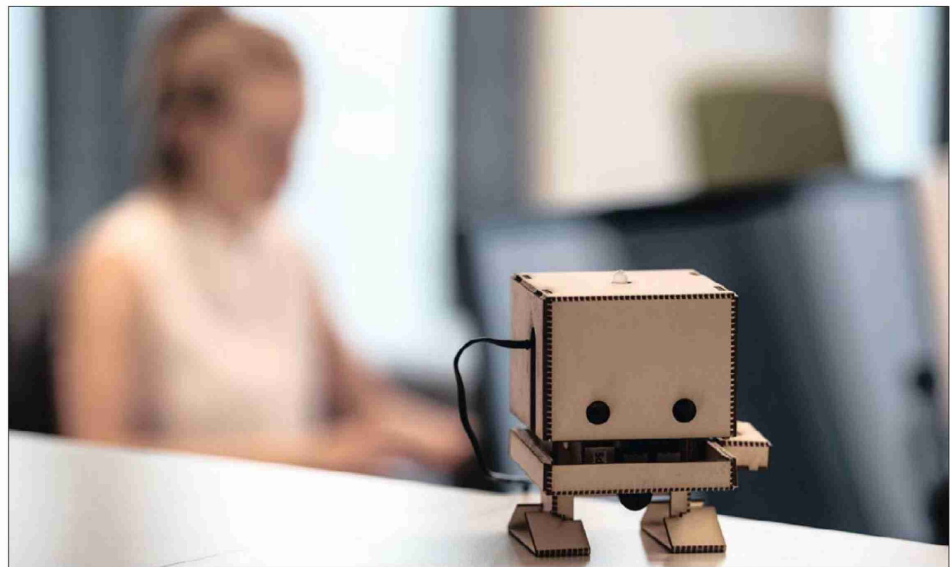
While IBM pioneered AI in the form of Watson several years ago, many industries were slow to adopt it – in many cases because they simply were not sure where and how to apply these novel technologies, and whether they would deliver return on investment. In fact, a 2018 study by MIT Sloan Management Review and Boston Consulting Group found just under 20 percent of companies could be considered pioneers in AI adoption.

But IBM researchers expect AI adoption to pick up in enterprise this year, beginning in areas such as customer service.

AI-enabled chatbots are now taking over some of the resource-intensive work of dealing with customer queries, and doing such a good job of it that up to 69 percent of consumers now prefer to deal with chatbots for quick communications with brands.

Businesses in Africa are also embracing AI in financial services, for predictive maintenance, to support cyber security and for market analysis and research. But the AI spike is just beginning.

In a hyper-connected environment where everyone and everything is connected, AI's true potential will



A ROBOT figurine sits on a desktop in the industry lab at the International Business Machines (IBM) Watson cognitive computing platform IoT centre in Germany. While IBM pioneered artificial intelligence in the form of Watson several years ago, many industries were slow to adopt it, the writer says. | ANDREAS ARNOLD Bloomberg

begin to be realised.

Everyone and everything will transmit vast amounts of big data that was never before available for analysis and forecast.

The world will know where and how everyone and everything interacted, what factors impacted on their movements and behaviours, and therefore – how to simplify and improve these processes and what they are likely to do next.

With advanced AI in the mix, systems will automatically make the improvements necessary for better health and safety, productivity and outcomes. It has the potential to dramatically improve food production, revolutionise health care, end manual labour and make life safer, cleaner and better for everyone.

4IR underpinned by advanced AI is set to change the way people exist, so profoundly that it might be seen as the next phase of evolution – where man and machine merge.

4IR is already under way: IBM Research's annual "5 in 5" technology predictions assess the very real AI-enabled innovations emerging across the world, and their potential to impact

all facets of life.

Each year, we showcase some of the biggest breakthroughs coming out of IBM Research's global labs – five technologies that we believe will fundamentally reshape business and society in the next five years.

"5 in 5" reveals that within the next five years, radical recycling processes will transform plastic waste disposal and recycling, AI sensors will detect pathogens in food, cheap monitors will allow for food safety tracking across the supply chain, and digital twinning will support better agricultural yields at lower cost.

4IR, incorporating blockchain and powered by cloud and edge computing are now transforming the way we live and work in much the same way that the advent of the internet, PCs and cellphones did in previous decades.

Gartner South Africa states that artificial intelligence, blockchain and quantum computing are the top strategic technology trends for 2019, which will have an impact and transform industries through 2023.

Recognising this, organisations are expected to change their cloud strat-

egy focus from the low-end infrastructure-as-a-service opportunities to focus instead on extracting valuable data from their business processes; integrating data across the enterprise and with external data sets; and applying AI, blockchain and analytics technologies to that data.

In future, as people and objects become increasingly connected, we will see organisations across all sectors exploring new ways to harness these connections and the resulting data to create goods, services, workplaces and environments that were once only the realm of science fiction.

We are understanding that businesses developing and wanting to use these powerful new technologies have an obligation to guide those innovations in ways people can trust and that foster broad economic prosperity.

Therefore, the 4IR has encompassed the power to transform many spheres of our daily lives, unleash new journeys of discovery and push new boundaries in Africa and across the world.

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