Insulate.
against
FUTURE SHOCK

What should really scare you is 20 000 years
of progress in 100 years, writes
LANCE HARRIS.
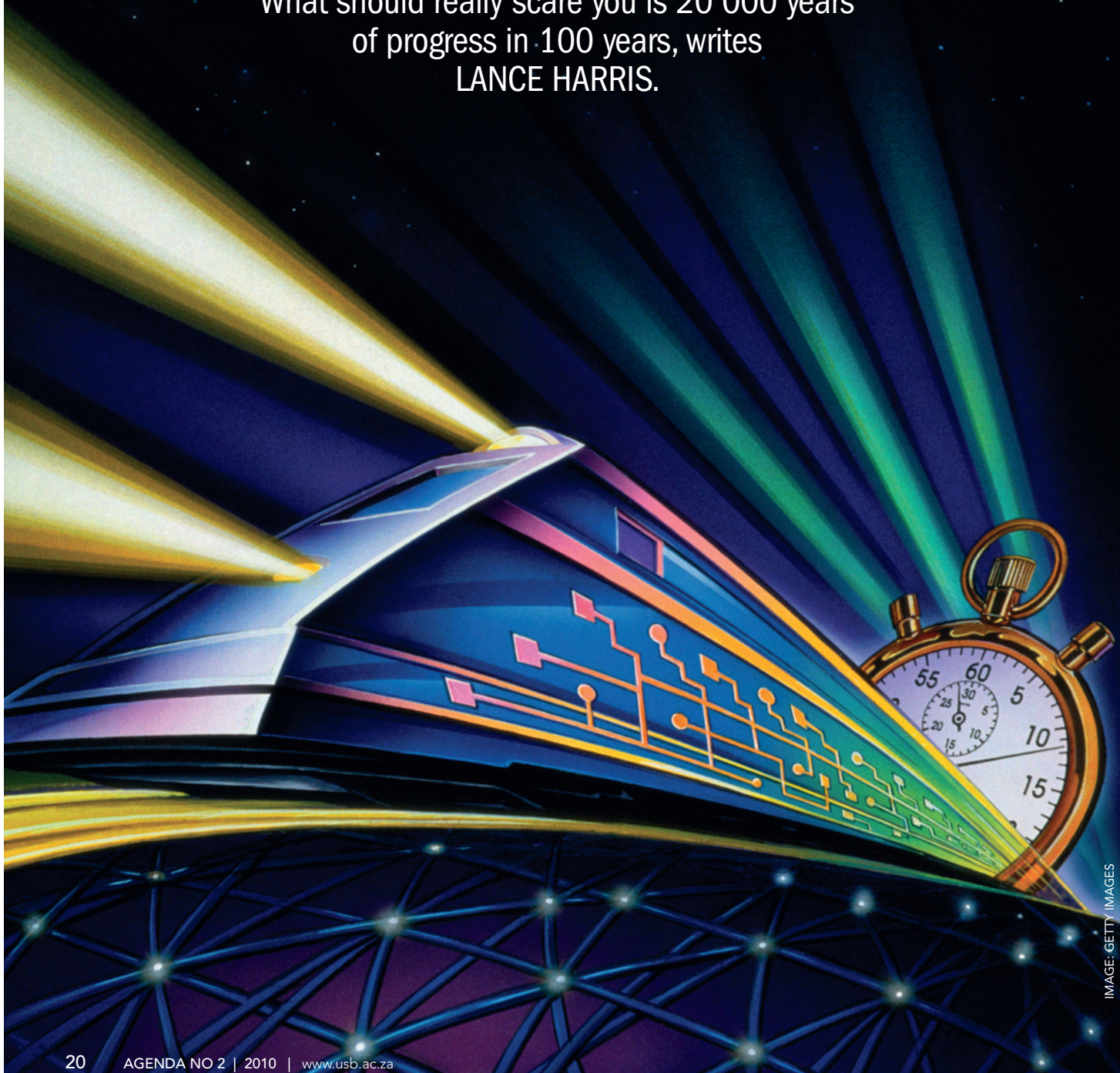
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"**PROGRESS IS A** comfortable disease," wrote the American poet, ee cummings. But for many people and organisations, the rapid advance of technology and the progress that it brings about is actually unsettling. Just ask PD James, the British crime novelist.

The 90 year-old author recently told *The Telegraph* newspaper that the speed of change is "frightening and horrifying" for anyone who started a career working on a typewriter. "Every week some marvel is unveiled," she complained. "There's a world out there and you can't understand it, and it's happening very quickly."

James is suffering from what Alvin Toffler called 'future shock' – a sense of disorientation that comes from seeing too much change in a lifetime. She was born at a time when cars were rare, and telephones and electricity were just starting to become widespread. Fast-forward a near century and James lives in an almost unrecognisable world.

Technology change brings profound changes to nearly every aspect of our personal and business lives. Taken to its extreme conclusion, the frightening concept of *singularity* suggests an impending intelligence explosion, a term coined by IJ Good. Although accelerating, technological progress is limited by the intelligence of the human brain, which has not changed significantly for millennia. It is mooted that the increasing power of computers might eventually lead to the building of a machine that is more intelligent than humanity.

Futurist Raymond Kurzweil writes: "The history of technology shows that technological change is exponential ... so we won't experience 100 years of progress in the 21st century – it will be more like 20 000 years of progress. There's even exponential growth in the rate of exponential growth."

So what's driving technological change today? Simply put, it's a burgeoning human population building on the discoveries and inventions of the billions of people who came before them. As Steven E Landsburg, the American economist, writes: "The engine of prosperity is technological progress and the engine of technological progress is people. Ideas come from people. The more people, the more ideas."

And web-based collaboration and research tools are making it easier for new ideas to be disseminated and shared. Cheaper, more powerful computers are enabling us to crunch through huge volumes of data quickly, laying the groundwork for further innovation.

More important than the technology are the changes in behaviour it brings about in your employees, colleagues, customers and competitors. Organisations need to embrace new technologies to keep pace with the changes they bring about in markets and societies.

Digital technologies have already reshaped the way that people think and behave. Many writers see a divide between so-called digital *natives* – those growing up with MP3 players, smartphones and the web – and digital *immigrants*, who have had to learn to use technology in adult life.

Some researchers say that the rate of technology change is so dramatic that it is causing a number of mini-generation gaps – they're observing different experiences and usages of technology even between university students and high-school children. Managing, understanding and adopting a rapidly changing mix of technologies will be central to the future of any business and any business leader.

"It's almost impossible for an organisation to keep pace with technology changes. And the windows of opportunity to take advantage of them are very short," says Martin Butler, senior lecturer: Information Systems Management at the University of Stellenbosch Business School.

Godfrey Parkin, programme facilitator at USB Executive Development (USB-ED), says that organisations need to be strategic rather than reactive in their adoption of new technologies. The longer an organisation waits to adopt a new technology, the more difficult and expensive it becomes to make the changes in infrastructure, processes, systems and culture that are required to exploit that technology.

But Parkin notes that an organisation's core competencies should remain constant even if its enabling technologies change. "If a book publisher sees its business not as the production and wholesaling of books, but rather the sourcing, editing and distribution of content, then the advances in technology do not massively disrupt the business."

Butler says that organisations should think about how they will apply technology in innovative ways rather than getting too caught up in the technology itself – for example, they need to make innovative use of technologies to reach new clients, distribution channels and markets or to improve business efficiencies.

How one's partners and especially customers are using technology should factor heavily in the organisation's technology strategy, Butler says. For example, you can't afford to ignore social media accessed through cellular devices if this technology is part of your customers' everyday lives.

Parkin says that pragmatic organisations

COMMUNICATION & COMPUTING
TIMELINE

2400 BC: Babylonians invent the abacus.

1200 BC: Homer talks about signal fires in the Iliad.

1500: Pedro de Ataide deposits a letter under a large milkwood tree in Mossel Bay, creating South Africa's first post office.

1642: Blaise Pascal invents the adding machine.

1844: Samuel Morse demonstrates the electric telegraph.

1848: George Boole develops binary algebra, used in binary computer design and operation.

1876: Alexander Graham Bell invents the telephone.

1889: Dorr Felt invents the first printing desk calculator.

1939: William Hewlett and David Packard establish Hewlett-Packard Company, signalling the symbolic birth of Silicon Valley.

1947: Invention of the transistor at Bell Laboratories, USA.

1973: Martin Cooper makes the first phone call on portable cellular phone.

1992: The World Wide Web is born.

2000: Human genome sequencing process begins.

2010: There are about two billion Internet users and about five billion cellular subscribers worldwide.

2020: More than 22 billion devices will be internet-connected, including most cars and household appliances, predicts IMS

should make it policy to run small pilot or prototype projects with emergent technologies from a very early stage. This keeps costs down, and helps you to assess potential without disrupting the mainstream business.

To stay ahead of day-to-day technology change as an individual, you can join social networks that are most relevant to your interests and follow the writers or bloggers who best curate and interpret the blossoming knowledge available on the web, says Parkin. It's also a good idea to attend selected seminars to future-proof yourself. ▫