

Discover the market

Now that you've learnt about yourself in the world of work, it's time to explore the sectors at large. Read more about your potential employer's performance in the marketplace, as well as which companies you are best suited to work for.



The world is changing faster than we can assimilate. Just think: only 25 years ago computers were rare at universities and no-one had even heard of a laptop. You typed your assignments on a typewriter – with a ribbon – and mistakes meant you had to retype the entire page. Your best friend was your pen and notebook.

Some of the jobs for which people studied in those rarefied days no longer exist; and there is no guarantee the jobs for which you studied in the past five years will exist a few years from now. Technology is the big game changer.

The World Economic Forum in Davos this year focused on exactly this – the challenges posed by the Fourth Industrial Revolution, the rapid advances across technologies that are changing all aspects of life and work. There is a very real fear that machines will eliminate the need for human employment.

Boston Consulting Group predicts that by 2025, up to a quarter of jobs will be replaced by either smart software or robots, while a study by Oxford University has suggested that 35% of existing British jobs are at risk of automation in the next 20 years. Although South Africa is a little behind the curve of first world countries, this could be a reality for us too. These range from the expected – factory worker, taxi driver and cocktail waiter – to the unexpected – journalist and doctor.

Already robots are writing news reports and Watson, IBM's supercomputer, is teaming up with a dozen hospitals in the US, offering advice on the best treatments for a range of cancers. Robots have been helping doctors perform surgery for years.

What does this mean for your job? Erik Brynjolfsson at the Massachusetts Institute of Technology's Sloan School of Management says: "The biggest misconception is the idea that technology will come for our jobs. The bigger opportunity is to use technology to enhance performance and augment human activity... Technology can be used to destroy and create jobs."

Major changes from mindsets to management principles have to happen. "Education has to



Ten fields that will boom in 2020

- 1 Scientific research
- 2 Computer engineering
- 3 Veterinarians
- 4 Environmental & conservation science
- 5 Management
- 6 Finance
- 7 Counselling & therapy
- 8 Some healthcare fields
- 9 Data analysis
- 10 Entrepreneurship

be fundamentally reinvented" so that young people are given the critical 21st-century skills to cope with the rapidly changing world, Brynjolfsson believes.

Flux Trends, the South African trends forecasting agency, has a few ideas about what you should look out for as you set your sights on the working world. Apps like Auditor give advice - on questions such as "How to advance my career" - in the form of three-minute audio clips from over a hundred experts. And if you're an entrepreneur, Business Talent Group provides people to tackle a specific problem without adding another senior executive to the payroll.

And then there's the sharing economy to boost your income passively – think Uber and Airbnb. Flux predicts the trend will not have a favourable impact on the bottom line of conventional businesses.

While we're thinking about the future, let's not neglect the present, and count the ways South Africa is making a significant impression today. Let's not forget that disruptive technology is produced by brilliant people – and South Africa has more than its fair share of them! Probably the most in the public eye is in the entertainment industry, led by Trevor Noah and Charlize Theron. So too are their counterparts, but the country is also holding its own in the fields of medical and scientific fields science and medicine, as well as in the financial services and the green energy arena.

When it comes to innovation we're not too shoddy - Elon Musk is well on his way to save many of humanity's problems with innovations with electric cars, space travel and solar panels- just Google him to read the many projects he's implemented. Our JSE is one of the top 20 exchanges in

the world in terms of market capitalisation. It is Africa's largest and is bigger than Moscow's and Singapore's. World-class systems allow the JSE to offer leading technology, surveillance and settlement.

According to the 2015/2016 World Economic Forum Global Competitiveness Survey, South Africa is ranked eighth in Financial Sector Development out of 140 countries. The South African banking sector is concentrated, competitive and diversifies its products and broadens its services within the context of international best practice, according to the Banking Association of South Africa.

When it comes to medicine, we know about the first heart transplant and the first penis transplant, the breakthroughs in skin grafting and cancer treatment, but there is also the Computed Axial Tomography Scan, or CAT Scan. It was designed by Cape Town physicist Allan Cormack and his associate Godfrey Hounsfield. They received a Nobel for their work. The Smartlock Safety Syringe is another South African invention. It provides improved protection against the transmission of bloodborne diseases such as Ebola and HIV through needle-stick injuries.

A South African invention has made solar electricity five times more cost-effective than solar photovoltaic cells by using a micro-thin metallic film. Our government's Renewable Energy Independent Power Producer Procurement is a world leader in building green energy facilities.

And for sheer genius, the Hippo Water Roller helps people all over the world in rural areas where they have to walk long distances to get clean water.



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