

WE'RE SOUTH AFRICAN!

If the Afrikaans saying is to be believed, we're a nation of doers. Of farmers making plans. That may also be why South Africans are tip-top innovators, writes AMANDA KILLICK.



TAP here to view

5 GREAT SOUTH AFRICAN INNOVATIONS

For the technology obsessed among us, any debate about innovation starts with the prolific Serbian-American inventor Nikola Tesla and ends in a galaxy far away. Some will also thumb wrestle to the death over which inventions we can – or can't – live without. But none of these inventions, scientists or thinkers who have changed the world are South African. Or are they?

Well, yes! We've had the Frankenstein-esque heart transplantings of Dr Christiaan Barnard. And, in 1969, Pratley's putty allegedly held bits of the 'Eagle' together, helping to make the saying 'the Eagle has landed' a part of Apollo XI's moon success.

And that's just the beginning...

First, the facts

Every year since 2007, the Global Innovation Index (GII) is co-published by INSEAD, Cornell University and the World Intellectual Property Organisation (WIPO) to rank world economies and each nation's capacity for growth, innovation and results. This year, 142 countries were evaluated, using 84 indicators of innovation, from existing infrastructure, human capital and research, to market and business sophistication, and knowledge and creative outputs.

The GI 2013 showed that Sub-Saharan Africa entered the rankings – topped by Switzerland, Sweden and the UK – at 53 with Mauritius. South Africa was five spots behind and Uganda still in the top 100, at 89. The rest of Africa seems to start cramming in at intervals from 92 onwards, with Ivory Coast, Algeria and Madagascar in 136, 138 and 140 respectively.

“On average, high-income countries outpace developing countries by a wide margin across the board in terms of scores; a persistent innovation divide exists,” noted Soumitra Dutta, co-editor of the report.

The GI 2013 further highlights that emerging markets have increased their Research and Development (R&D) faster than high-income countries. So, since 2008, China, Argentina, Brazil, Poland, India, Russia, Turkey and South Africa have been at the forefront of this phenomenon, also largely driving the growth in patent-filings worldwide.

That means, as a nation, South Africa is spending more money, more readily and filing more patents than some developed nations. But how does that trickle down through the lines of data and into the pockets of the average innovator?

Long ago & far away...

“South Africans are great survivalists,” says Donovan Neale-May, managing partner at the SABLE Accelerator, a US-based network linking South African businesses with global partners. Neale-May is from South Africa, but has worked from Silicon Valley since 1982.

“We're risk takers who've combined education, invention

5 GREAT SOUTH AFRICAN INNOVATIONS

1960's



Dolosse

Twenty-ton concrete tide-tamers, the dolosse were invented by East London engineer Eric Merrifield in 1963. They're now found protecting coastlines and harbours worldwide.

1970's



CAT scan

Invented by South African physicist Allan Cormack and his colleague, Godfrey Hounsfield, in the UK in 1972. The duo shared the Nobel Prize for Physiology or Medicine in 1979 for this innovation.



Kreepy Krauly

Designed by Ferdinand Chauvier, the world's first automated pool cleaner has been keeping things tidy underwater since its birth in Springs in 1974.

1990's



Thawte

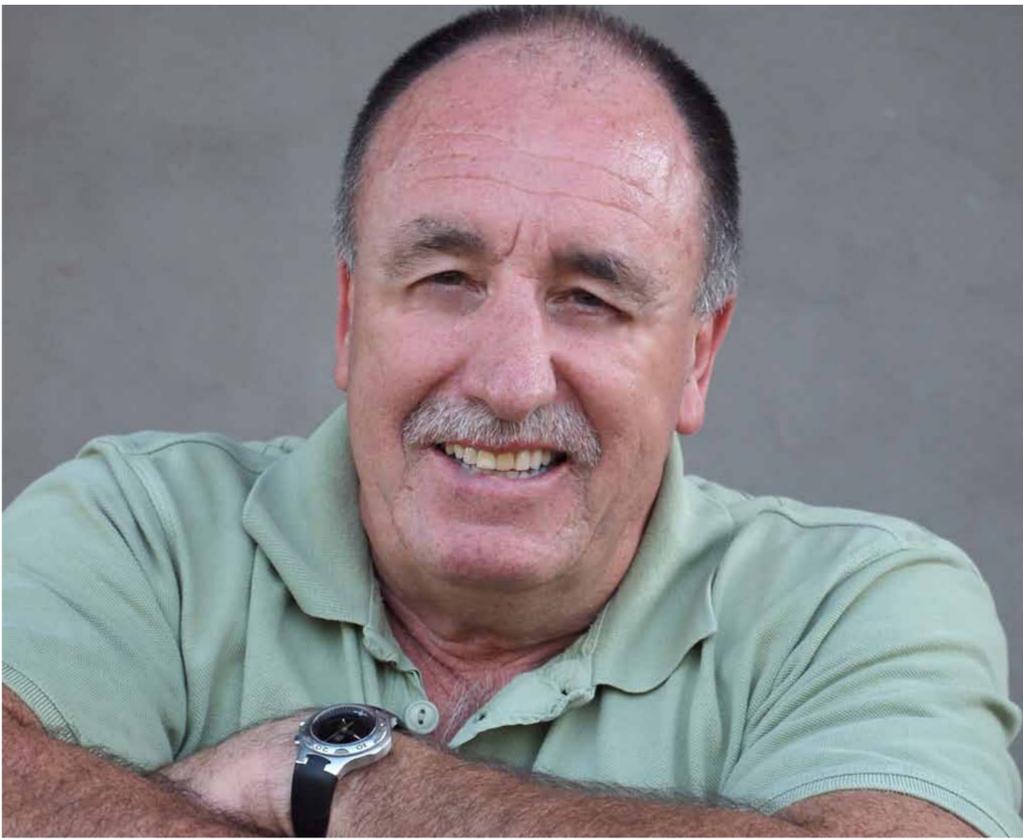
Mark Shuttleworth's now legendary company started in his parents' garage in 1995 doing digital certificates for websites and email servers. He sold it in 1999 to VeriSign for \$575 million (equivalent to R3.5 billion at the time).

TODAY

The Lodox Statscan

As seen on Grey's Anatomy, the Lodox Statscan can x-ray an entire human body in 13 seconds. It's developed by Pieter de Beer and his team at Lodox and has been named 2013's Most Innovative Concept in Digital Radiology at the Accenture Innovation Index Awards.





achievements and can still tap in to the core company for organisational support.

Roadblocks & spietkops

Vinny Lingham is the founder of free website maker [Yola](#) and CEO of mobile gift card company [Gyft](#). He grew up in East London but is now also based in Silicon Valley. He believes that South Africans live in their “own little bubble and can sometimes be our own worst enemies”.

and self-sufficiency to grow a nation that’s inherently motivated towards success across racial groups. The only thing that holds us back is a weird inferiority complex borne on the back of our history. But we can compete more than capably in a global market,” he says.

Neale-May believes the reason why more innovations are coming from the entrepreneurial sector, rather than big business is that, in big companies, people seldom want to be that ‘tall blade of grass’. He says: “Corporates are structured to promote the collective so it’s difficult to get bottom-up innovation in a hierarchy where the cultural DNA means conformity.”

On a positive note, he points out that some South African corporates are encouraging ‘intrapreneurship’ where teams run their division like a small business separate to the mainstream business, so they get the recognition for their

In starting his businesses, Lingham has learned that if you want to play in the global playground, you can’t do it from South Africa, especially if you’re in the technology sector where you get information density, clusters happening, and the culture is to share information freely. “As a nation, we don’t understand the nature of collaboration – it’s all about not letting the other guy know our ideas. We also can’t comprehend market size without experiencing it on a global scale. For example, in the United States, the tech market is worth \$125 billion per year. In South Africa, we have too few internet users to understand the concept of scale, which means, as an innovator who’s taking your tech product to market in South Africa, it’s so small that you have to screw over customers to get profit.”

Lingham believes we have the infrastructure and the talent to be world-class innovators, but in a slow-



Did you know?

The original American patent for the safety pin was sold for \$400 so its inventor, Walter Hunt, could settle a \$15 debt with a friend. That was in 1849. He didn't realise that the company he sold it to – WR Grace and Company – would go on to make his bent wire fastener into a multimillion-dollar cash cow.

growing economy, corporates can outlast even the most innovative start-ups and that's a huge barrier to our success as a nation of innovation. "Growth is a priority in South Africa, but our government is too conservative in their growth policies and so they don't know how to achieve it. If the market is not growing, there are no new customers, but it's not shrinking either, so we're not losing customers. That means that in 20 years, the gap between the 'haves' and 'have nots' is just getting bigger all the time."

Get the edge & do it well

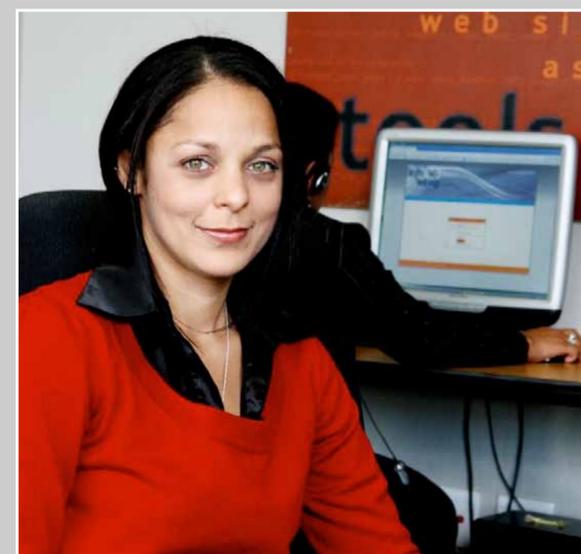
Ashley Uys is MD of [RealWorldDiagnostics](#), providing high-quality, efficient and affordable diagnostic test kits for HIV/Aids, pregnancy and multiple drug use. His innovations are award-winning and he learned early on that to be noticed in the biotech research and pharmaceutical industry, "you have to do something novel, especially when your competitors are often huge global companies". He believes constant innovation gives a business – and nation – a competitive edge and, as market needs change over the years, it also keeps you relevant. Uys's company is currently listing as a preferred supplier to the World Health Organisation.

"There's so much red tape around protecting your



Zeze Oriakhi-Sao, creator of [Malée Natural Science](#) a range of beauty products and cosmetics she custom-designed in 2009 that use ingredients sourced from Africa. Oriakhi-Sao's dream was to change the perception of the African cosmetics market by creating world-class products that could compete internationally and tell an authentic African story. Products are available online and in her Hyde Park, Johannesburg store.

Shana Kay is a successful serial tech innovator in the ICT space and currently co-head of [Onyx Interweb](#), a management consultancy. She's also CEO of [Intellicred](#), a system that helps businesses protect their brand, control their affiliates and grow their revenue on the Web through IntelliSeal verification. Kay has been named one of South Africa's top young tech innovators by The Mail & Guardian.



Kerryne Krause-Neufeldt, inventor of [eyeSlices](#). The award-winning product was designed by Krause-Neufeldt

Credit GetIt magazine



to address eye puffiness, dark circles, wrinkles, redness and tiredness via a set of reusable cryogel polymer pads that deliver natural soothing relief to the skin – think sci-fi-style cucumber slices – for professional and home use. Today, after launching in 2006, eyeSlices are exported to 20 countries.

SA'S WONDER-WOMEN

The first patent granted to a woman was in the USA in 1809, but today, many female innovators still find protecting their ideas and getting patents registered a huge challenge. Closer to home, these awesome South African female innovators are thriving:



intellectual property (IP) in South Africa that, by the time you can get an actual product to market, a year and a half can have passed, only to find someone else has pipped you to the post,” he says. “The key is to move fast, but although there’s lots of access to funding for innovators and entrepreneurs, the red-tape from a registration of IP, patent and grant perspective can



Ashley Uys

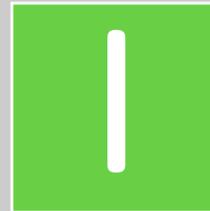
be expensive or far too time consuming to be proactive.”

He tempers the negative with the belief that South Africa has an excellent tertiary education system to encourage and support innovation at grass-roots level. “The Raymond Ackerman Academy is doing a lot to bridge the gap for learners between matric and university. There are also a number of think-tanks out there, which means innovation can thrive – innovating on your own is hard!”

Uys says playing businessman and mad scientist at the same time can be a challenge, but when he wants to launch new products, he goes the route of grants. “R&D is 150% tax deductible so for an entrepreneur, there’s a lot of incentive to do it properly. But doing the red tape dance can have ups and downs – the government has excellent funding and grants in place, but then tend to throw up barriers when the time comes to take your product to market.”

GOT AN IDEA YOU WANT TO GROW?

Get in touch with these innovation hubs and helpers:



INSEAD



Institute For Inventors and Innovators



Raymond Ackerman Academy for Entrepreneurial Development



SAB Kickstart



Seed Engine



South African Innovator’s Network



The Innovation Summit

Uys innovates to create a sustainable business model but is very aware that, in business, innovation often isn’t a guarantee. “If you’re developing a product and it becomes apparent that it’s not feasible, shelve it for later; don’t burn too many resources. For inventors, easy money isn’t quick money, so you need to move smart to make things!” ■