LOCAL ENTREPRENEURS MAKE MILLIONS WITH SPINNERCHIP

by Pieter van Zyl

Four years ago a group of South Africans and others began to work on a specialised micro-chip. Brilliant people they are - but known only to others in the world of hi-tech electronics. The chip is smaller than a squashed pea but it has made multimillionaires of Doctor Pieter van Rooyen (38), Doctor Michiel Lötter (34), and their research team. Now they are celebrities.

A year ago the pair, and their 38 colleagues, quietly sold their company for $98 million (about R600 million). Their invention is called the SPINNERchip and it's the brain of the new generation (3G) of cellphones that works with the universal mobile telecommunication system (UMTS). Simply put, the 3G phone can do things that makes your old cellphone seem as useful as a brick.

With a 3G phone - equipped with the new SPINNERchip - you can keep tabs on your shares or keep abreast of the latest news in your hometown from thousands of kilometres away, trace the best restaurants in the city you're visiting or check something on your computer at home. You can even read your e-mail, send or receive videos and see the person you're talking to when you make a call.

Earlier this year, American telecommunications giant Broadcom bought out our local heroes to get their hands on their technology. "It's all been worthwhile," Van Rooyen says. "One day soon we'll see people on the street with our invention in their cellphones. It's very exciting."

Early on Van Rooyen and Lötter had dreams. In reality the actual success of their company has exceeded even the wildest of them. "It's incredible to be talking to you about how well everything's gone for us," Lötter says. "The feeling that I may soon be walking past someone in the street knowing our team's imagination and hard work are in his or her cellphone; it's a feeling no money could buy." And how does it feel to be richer by millions? "I'm a humble sort of guy," Pieter says. In any case most of the money is tied up in Broadcom shares. "Can I afford something better than box wine now? Definitely," he laughs.

From an early age Pieter van Rooyen was captivated by anything electrical that worked without wires or switches. "How does all that information waft through the air; it's like magic," he used to think. "I've always been stimulated by the unknown. It was a typical engineer's story; at school I wanted to take everything apart and sometimes broke expensive items."

Michiel Lötter always wanted to become an engineer and as a child in Benoni he could often be found fiddling with radios and other electrical devices. In 1995 Pieter - then just 28 - was awarded his doctorate in engineering from the Rand Afrikaans University (now the University of Johannesburg) and for a time worked for a telecommunications company before lecturing at the University of Pretoria. He also found the time to spend six months doing additional telecommunications studies in Japan and co-authored two books on how programs could be created to make cordless communication possible.

Lötter got his doctorate in 1999 - also at 28 - from the University of Pretoria, with Pieter van Rooyen as his supervisor and went on to manage the new telecommunications division of a big telecommunications company.

With the birth of the new millennium Van Rooyen and his associates felt the time was ripe for starting their own company. His studies had planted in his mind the idea of equipping a microchip with technology that would give cellphones a range of new functions. Now all they had to do was assemble the right team with the right skills. Michiel provided technical advice and gradually new talent joined and they called their company Zyray. With a name and a keen team Van Rooyen went out drumming up investment. He soon discovered there was no one in South Africa with enough money to take the risk. Just a licence for the software they developed together with a German company cost about R18 million.

America was the obvious place to go for big, high-risk funding for a new invention and that's where they went. "We didn't leave South Africa for any other reason," Van Rooyen says. They also needed the help of experts that weren't available in South Africa which is why Zyray has 20 American employees. While Van Rooyen was in America, 18 engineers and technicians were in the company offices in Midrand planning technological development of their invention.

By early 2001 Pieter van Rooyen had managed to persuade American investors to pump $25 million (about R153 million) into their brainchild. In March of that year they received $7 million (about R43 million) to start with. Only after a visit to the bank that confirmed they had millions at their disposal did the reality sink in with Van Rooyen: "Now it was getting serious - our dream was about to be realised." Van Rooyen's first year in America was rough - he had to commute to South Africa 17 times on business. He also visited Japan and Europe to talk to potential clients. "In one year I flew around the world four times," he says.

Then came the move to the headquarters in San Diego. Like the settlers of old they braved the unknown. Fortunately many South Africans live in San Diego and Van Rooyen met an estate agent from South Africa who helped him find accommodation and even arranged for the group to be fetched from the airport. He and the rest of Zyray didn't have the time to enjoy weekend barbeques as a means of maintaining cultural traditions like so many former South Africans in America. "We slaved away day and night to help one another survive in a strange land. We were and still are like an extended family," Lötter says. They lived for their work, enjoying it immensely and even giving up free time to keep plugging away at their dream.

Van Rooyen says when they tested the prototype at the end of 2001 and found it worked perfectly it was like becoming a father for the first time. After a few test runs in Germany companies were starting to display an interest in buying the technology as early as September 2002. "The next highlight was the realisation that others were as excited about our product as we were," Van Rooyen says.

He and his colleagues now work for Broadcom, best known for their laptop technology. "Yes, it's been difficult for us to adapt to working for someone else," he says but points out Broadcom is the perfect mother ship from which to launch other projects. Their next project is developing more than one aerial for cellphones to enable voice, photo and video calls to be handled simultaneously. For the time being most of their time will be spent in America.

"Four of the South African families had children here in America," Lötter says. "I had two children here myself." In May last year Pieter van Rooyen married a German woman, Rita, in America. He got divorced from his first wife 10 years ago and has a daughter, Rochelle, who's in Grade 9 and visits him in America regularly. Both men's apartments are chock-a-block with distinctly African decorations; their roots are undoubtedly still in South Africa. Lötter hopes to return to South Africa as soon as possible "I also think about returning all the time," Van Rooyen says. "Who knows, perhaps I'll be back sooner than I think. Apart from Rochelle, Van Rooyen most misses the smell of Africa. "In America everything is so ordered - Africa is a paella; America a big bowl of white rice."

Believe in your dreams and go for them full out, is Van Rooyen's advice. "The main reason for our success was we had a common aim and the passion to carry it out," he says. "It was a great adventure; now we're ready for the next one."

SPINNERchip 1.1 is an add-on WCDMA baseband co-processor that enables cellphone manufacturers to re-use existing GSM/GPRS hardware and software to rapidly move towards a dual-mode (GSM/GPRS and WCDMA) solution. Feedback from network operators and handset manufacturers confirms that SPINNERchip 1.1 provided the lowest risk, lowest-cost path to dual-mode GSM/GPRS and WCDMA available today. Upcoming versions of SPINNERchip will support future evolutions of 3G technology including HSDPA (high-speed downlink packets access). HSDPA, and enhancement to WCDMA technology, provides ultra-high speed downlink capability.