

Tech to help parents get through the night

Firm develops devices that can track temperature, location automatically

By RENNIE WHANG

A SLEEPLESS night caused by Mr Ng Hon Cheong's sick infant was the catalyst for the researcher and his three colleagues to quit their jobs.

The four men were convinced they could devise a solution to such woes, and started a company to do just that.

More than a decade later, Cadi Scientific's products are found in all hospitals here and in many others across Asia and the Middle East.

The products are wireless devices which track a patient's temperature and location. They can also match babies to their mothers in a busy hospital setting.

The firm's customer base is growing by 30 per cent to 50 per cent a year. But at the time of the firm's founding, it hardly occurred to the four - Mr Ng, Dr Zenton Goh, Dr Lim Soh Min and Mr Neo Sian Sheng - that success would be so resounding.

"Being researchers, our intention at the time was to build something that the market can find relevant, that we see people use. That was the most satisfying reward we thought of," said Dr Goh in an interview earlier this month.

They had been colleagues in the Centre for Signal Processing at the then National Science and Technology Board, with various specialities in audio signal processing, speech signal processing and image processing.

The origins of the firm came after Mr Ng showed up at work tired one day. He told his colleagues his baby had run a temperature overnight, and that he and his wife had been up repeatedly taking temperature, and sponging and medicating the baby.

Fighting off weariness, Mr Ng mused at the time: "It would be so good if there was something that can automatically measure the baby's temperature, and alert the parents when it goes up."

From there, the colleagues took a leap of faith and started Cadi Scientific in January 2003. Funding came from their own pockets, and they developed prototypes and business plans to look for investment.

"We weren't so sure we could make it work," Dr Goh said. "But we were confident about our own technical expertise, the research and product angle... We were not so familiar with the business side though, maybe with the unfamiliarity, we dared to venture and try."

Six months after setting up the firm, they built the first prototype of the Cadi SmartSense ThermoSensor - a wire-wrapped version "far from a product that could be worn on the body", Dr Goh said.

"But it was a proof of concept, showing we could have temperature measured in a wireless way."

The company managed to get funding from NUS Enterprise, the National University of Singapore's entrepreneurial arm,



Dr Zenton Goh, a co-founder of Cadi Scientific, demonstrating the use of the Cadi SmartSense SmartTag for infant-mother matching. A large part of the Asian market, including China, South Korea and Japan, use the company's infant-mother tracking system. PHOTO: LIM YAOHUI FOR THE STRAITS TIMES

in September 2003, but had to look for customers.

It was difficult to get hospitals to try products from a small, new company, so Cadi Scientific partnered other health-care solutions firms to conduct pilots in hospitals here. These started with a few pilots in Tan Tock Seng Hospital (TTSH) and Singapore General Hospital from late 2003 to 2005.

In 2006, the company had a breakthrough when TTSH deployed the ThermoSensor throughout the hospital.

SmartSense also evolved to encompass location tracking based on radio frequency identification (RFID) technology, not just for patients but also hospital equipment such as wheelchairs, infusion pumps, vital-sign monitors and ventilators.

The company realised the technology could also be used to match newborn babies with their mums, especially crucial here after a baby mix-up at KK Women's

“

ALERTS FOR PARENTS

It would be so good if there was something that can automatically measure the baby's temperature, and alert the parents when it goes up.

- Mr Ng Hon Cheong, one of the four founders of Cadi Scientific

”

and Children's Hospital in 2012.

The Cadi SmartSense Infant Safety Solution, now in its third generation, uses RFID tags to match mother and their babies as well as their cots.

The company has been capturing a large part of the Asian market with its infant-mother tracking system, reaching as far as China, South Korea and Japan, Dr Goh said.

He noted that the firm's major overseas milestone came in 2010, when it snagged its first hospital-wide deployment of SmartSense overseas at Kuala Lumpur's Prince Court Medical Centre.

Today, Cadi Scientific has 30 staff, with about 10 focused on research. Its wireless temperature tag remains the only one of its kind in the world, "revolutionising how conventional tempera-

ture monitoring has been done in hospitals". The adoption of its infant safety solution is proving to be even more rapid.

Dr Goh said the main challenge when starting out was that, being at the forefront of technology, the company's products may appear too advanced to hospitals.

"That's why, although we started out in 2003, we got our first lead contract only in 2006... We had to try to convince hospitals that these are products that will help improve productivity, patient safety. But being something advanced and new, it takes time for hospitals to accept... and eventually adopt such systems."

Looking back, the founders feel lucky and blessed, Dr Goh said.

"We have captured the market well despite competition from the United States (the biggest innovator of similar technology). We are proud to have a strong foothold in this part of Asia."

✉ wrennie@sph.com.sg