

ASIAN INNOVATION AWARDS

Are we there yet? Innovators wait for technology to catch up with their big ideas

By JEREMY WAGSTAFF

INNOVATION IS not just about coming up with a better way of doing something and then racing to get something to market. Sometimes it's as much a waiting game.

Take, for example, Australia-based **Alive Technologies Pty. Ltd.**, one of 12 finalists for this year's Asian Innovation Awards, presented by The Wall Street Journal Asia in association with Global Entrepolis@Singapore. The

stalled... We really had to wait until we saw there was a need and the enabling technology was there."

Now, with Bluetooth standard in most phones, and other communication technologies like WiFi spreading and prices falling, Mr. Satchwell's dream is coming true. His company's **Alive Monitor**—a navy blue plastic gadget no larger than an MP3 music player—enables the user to measure not just heart performance, but the user's position and activity, logging the data and, where necessary, transmitting it via Bluetooth to a cell-

phones to catch up by incorporating two technologies that are now becoming commonplace—GPS, or Global Positioning System, where a device in your hand connects to at least three satellites to give you a pretty good idea of where you are, and a digital version of the good old-fashioned compass, which will tell you which way you're pointing. Harnessing those two technologies makes it possible for a cellphone to act as a kind of water diviner: Point it down a street and GeoVector will know where you are and which street you're pointing at to within a few meters. From there it can now start telling you the closest Japanese restaurant, which apartments in the street are available for rent, or details about a nearby landmark.

With millions of Japanese phones now having both of these technologies aboard, it's been a natural first market for GeoVector, which launched with the KDDI network in January. After 10 years of development it's been a long wait. "Our biggest obstacle," says Mr.

not waiting for signs of the body's responses to the infection, but by hunting for earlier clues, such as RNA, or ribonucleic acid, whose behavior may indicate a problem before the body starts to produce more visible proteins. "From Day One we can see," says Rosemary Tan, chief executive officer of Veredus, "because the RNA is the first thing to go into your body."

Another approach to innovation is to plunder from other fields. Daniel Cheng, managing director of **Dunwell Engineering Co.**, encountered only resistance when he tried to convince those involved in treating industrial wastewater that the same principles of filtering through a vibrating membrane could be applied to treating much heavier lubricants used to reduce friction in machinery parts, whether they're in vehicles, factories or power plants. "Even the inventor did not believe it would work for oil," recalls Mr. Cheng, so "they don't want to sell it to me. It's not going to work so why bother?"

Seeing a way to cut energy costs and produce better quality re-refined oil, he eventually persuaded them, and invented a method that reduced the cost of building a lubricant-recycling plant to about \$10 million from around \$80 million.

Such cross-fertilizing of ideas worked too for Franz Konstantin Fuss, associate professor at Singapore's Nanyang Technological University. After a career as a medical doctor in Vienna and Glasgow, Mr. Fuss had become something of an expert on sports equipment and orthopedic implants. So when he started reading about a new landmine-resistant shoe, he was sure he could do better. All the products and patents he could find couldn't guarantee that the wearer would not lose a limb if a landmine exploded. "I thought I would solve this problem completely differently," he says.

He and his Singaporean co-inventor Ming Adin Tan have since come up with their own answer—a polymer platform sole under which are six spiders' legs, each one containing a small metal detector and a retractable lower half. If the detector senses metal, the retractable half is released, allowing the other five legs to take the weight of the wearer so the mine is not detonated. How does Mr. Fuss feel about the responsibility of developing a tool for such a dangerous occupation? "You can never guarantee the shoe is 100% safe," he says in his disheveled office. "But if you think about probabilities you shouldn't even drive a car."

The old cliché about mothers

and invention is a cliché because it's true: Innovation is usually triggered by a need. GeoVector's cellphone diviner, for example, came out of an idea spawned by sailing, when laptop inventor and GeoVector CEO John Ellenby realized that captains on two vessels could not easily share what they saw no matter how near they were to each other. The idea of being able to tag landmarks seen through binoculars so they could be noted by others grew into tagging physical landmarks so they could be found through a cellphone.

This necessity and invention is probably why most inventors are serial innovators: They tend to keep dreaming up new ideas. Extreme examples of this can be found in India, where Prem Singh Saini, a man in his early 30s, has designed nearly 100 different devices, from a "low-cost, mobile phone-operated gun" to a solar-operated rickshaw to an "automatic barking system for substituting dogs."

Mr. Saini dropped out of school after his teachers failed to provide acceptable answers to such questions as "why does the earth rotate?" and has since been fiddling with electronics in his cluttered workshop in Haryana. Now he's solving more prosaic problems, such as farmers having to wait in the fields for power to be restored so they could turn on their pumps.

Mr. Saini came up with a simple solution: switch on and off the electricity—and thereby their water pumps—remotely via mobile phone. This not only helps the farmers, but also assists the local electricity providers, who can deter theft of electricity by activating and deactivating substations from their exchange office. His motivation? "Life is very short so we should do something new for the coming generations."

Mr. Saini's inventions are all reactions to problems he sees around him. And the solutions use materials he can find easily. U.S. computer chip giant **Intel Corp.** also took these two approaches, merging local ingenuity in India with some of its own materials and engineering skills.

Deploying its own ethnographic researchers to the wilds of rural India, Intel learned that the country's ubiquitous kiosks needed a hardy computer designed for places where power cuts, dust, monsoons and poor Internet connections are daily facts of life. "The more basic, the better," says Mark Beckford, head of Intel's Beijing-based Emerging Markets Platform Group.

The Community PC looks a lot

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Asian Innovation Awards finalists

These 12 finalists were chosen based on the following criteria: creativity or degree of innovation, quality of execution, and potential impact on quality of life or productivity

Alive Technologies

Australia

INNOVATION: The Alive Monitor, a mobile health and fitness-monitoring system

Dunwell Engineering

Hong Kong

INNOVATION: Technology for the recycling of lubricants

Franz Konstantin Fuss and Ming Adin Tan, Nanyang Technological University

Singapore

INNOVATION: An anti-landmine shoe that prevents detonation of the landmine

GeoVector

New Zealand

INNOVATION: Technology that lets you point a cellphone at an object and gain information about it

Infocomm Development Authority

Singapore

INNOVATION: Singapore government Web services exchange for sharing of data among agencies and with public

Intel

India

INNOVATION: The Community PC, a rugged computer for use in poor communities in India

Motorola

China

INNOVATION: A bilingual talking dictionary for mobile phones

Prem Singh Saini

India

INNOVATION: Use of mobile phone to switch electricity on and off for water pumps and to prevent electricity theft

State Government of Gujarat

India

INNOVATION: Chiranjeevi Yojana, a maternity-care program that reduces maternal and infant deaths

Suntech Power

China

INNOVATION: A way to build solar cells onto thinner, cheaper silicon wafers

Veredus Laboratories

Singapore

INNOVATION: Bird-flu diagnostic kits as well as tests to quickly identify different types of flu

Webaroo Technologies

India

INNOVATION: Software that lets you search Web pages without an Internet connection

awards honor people and companies who improve quality of life or business productivity.

Founder Bruce Satchwell wanted to take health-monitoring products out of the hospital and into the hands of the patients. Why should such devices, wondered the 51-year-old Mr. Satchwell, be so expensive, sit in wards and clinics and have to be manned by trained staff? Recovering patients would be freed from having to visit hospitals for regular checks, and disasters might be averted if patients were aware of a problem before things got too serious. Not to mention the market for such products among a population growing increasingly aware of the need to stay healthy and looking for ways to measure that.

The key to making health monitoring mobile and affordable, he realized, was to leverage a technology that was in the hands of nearly everyone: the cellphone. "I've had a long history of designing telemedicine products," he says, "but we saw an opportunity in terms of the growth of wireless, Internet and mobile devices, and of Bluetooth as an enabling technology."

Great idea, but the dream took a while to catch up with reality. "Bluetooth was still evolving," he says. "And we had the issue where very few mobile phones had it in-

phone. The cellphone then uses either the mobile network or, where available, WiFi, to transmit that data to the doctor.

GeoVector Corp. also found itself playing a waiting game. The company, originally headquartered in New Zealand and now with offices in both Auckland and San Francisco, saw a disconnect between the information available to people in cyberspace—the Internet—and that available to them in real space—the physical world. On the Web we're used to finding out what we want to know about something by clicking on it, whether it's an image, a word, or anything that is hyperlinked to the underlying information. Why, the company's founders wondered, couldn't we do something in the real world, "where objects become items you can click on," says Arron Judson, vice president of international operations.

Other companies had seen the same potential, but those solutions involved physically adding labels or tags that could be read by radio frequency identification scanners or Bluetooth-enabled phones, all of which were somewhat cumbersome, required a lot of manual labor and meant the user had to be close to the object in question.

GeoVector was a bit ahead of not only its rivals, but the technology. The company had to wait for cell-

Judson, has been "the technology catching up to our idea."

In the case of **Veredus Laboratories Pte. Ltd.** in Singapore, it was about innovation shortening a lethal gap: The delay in testing for the lethal H5N1 strain of the avian flu virus—of five days or more—has been a serious drag on combating the disease and preventing it from spreading. Veredus' first innovation was to speed up this process by

THE AWARDS: Honoring inventors who improve our lives

THE ASIAN INNOVATION Awards showcase some of the region's most inventive people and companies.

The Wall Street Journal Asia presents the awards in association with Global Entrepolis@Singapore, an international networking event that will be held from next Monday to Nov. 2. The awards honor individuals or companies that improve quality of life or productivity.

This year, The Journal received a record 224 entries. The Journal selected the finalists and presented them to an independent panel of judges, which se-

lected the ultimate winners.

Today, we feature the 12 AIA finalists and the six finalists for a separate award. The Global Entrepolis@Singapore Award honors an emerging company for an invention that best applies technology to a strong business model and has the potential to become a global market leader. The Journal presents the GES Award in association with Singapore's Economic Development Board. Next Wednesday we will profile the winners.

The judges are:

- **Steven J. DeKrey**, associate dean of the Hong Kong Univer-

sity of Science and Technology Business School.

- **Anil K. Gupta**, Kasturba Chair professor of entrepreneurship at the Indian Institute of Management, Ahmedabad.

- **Simon L.K. Leung**, regional president, Asia Pacific, for Motorola Inc.

- **Tan Sri Lim Kok Wing**, founder of the Limkokwing University College of Creative Technology and president of its professional arm, the Malaysia Design Innovation Centre.

- **Kenny Tang**, founder and chief executive officer of Oxbridge Capital Ltd., London.