

The spark of inspiration from a blackout

Hoestar works with NTU to develop device to detect equipment faults

By CHERYL ONG

WHEN it comes to operating industrial machinery, the old adage that "prevention is better than cure" is a very sound policy.

Mr Leong Weng Hoe, 54, built a business based on this prudent approach after Singapore faced one of its worst ever power generation failures in 1992.

At the time, Mr Leong had been running his own general engineering firm – Hoestar Inspection International – providing services such as plumbing and air-conditioner servicing since 1990.

The widespread power disruption of 1992 showed him that technology had not been developed to detect problems in mechanical and electrical industrial machines before mishaps took place.

Often, as in the case of the blackout, it was too late by the time the problem was detected.

Rainwater from a leaking roof caused a short circuit at the Senoko power station, causing the plant to catch fire. The ensuing blackout lasted more than 13 hours, affecting a third of the island, hitting businesses and households alike.

After the incident, Singapore Power took some time to figure out how to prevent such mishaps from happening again – and more time to introduce the technology to firms.

Spotting a gap in the market, Mr Leong wanted his firm to go beyond providing general engineering services.

So he decided to set up Hoestar

PD Technology – a new unit of his firm – in 1999, to specialise in providing equipment inspection services to firms and industries that rely heavily on mechanical and electrical engineering.

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NEW TECHNOLOGY

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But the technology and equipment adopted from SP PowerGrid at the time were unreliable. Mr Leong soon found that they failed to detect many problems in the industrial equipment that he was checking.

Unwilling to settle for less, he began to develop his own “partial discharge analyser” – a device able to scan high-voltage industrial equipment to detect malfunctions.

Hoestar teamed up with Nanyang Technological University's (NTU) School of Electrical and Electronic Engineering.

Then, after six long years of research and development, Hoestar came up with its own analyser in 2005.

However, the new product did not meet with market enthusiasm as the technology had yet to be adopted widely, and firms were doubtful about a product “made in Singapore”, said Mr Leong.

“It was quite a new technology in those days, and we had to hold seminars and conduct demonstrations to companies to raise awareness in this area.”

But he is thankful that he had a few customers who continued to believe in his product when he was still developing it with NTU.

“They were like our torch-bearers, without them we have no reference point. If you have no names to quote, that's basically it, you'll go nowhere. That was what motivated us to continue with our research,” he said.

Today, the firm employs 10 staff, and has developed more

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Mr Leong holding the partial discharge analyser. The devices on the right are continuous online monitoring systems. Since its first device, Hoestar has developed more new technologies in the field of equipment inspection. ST PHOTO: KEVIN LIM

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Two months ago, Hoestar developed a wireless vibration sensor with the Institute of Materials Research and Engineering.

These sensors can monitor the “health” of machines and send wireless signals to a computer that mechanical industrial equipment might not be working well.

Hoestar's research efforts have not gone unnoticed.

The firm is often mentioned at

dinners held by the Agency for Science, Technology and Research, making all their efforts worth it, Mr Leong added.

Today, the firm also counts big names such as the Exxon Group, Schneider Electric and Keppel FMO among its clients, and has an office in Selangor.

Though it reported a turnover of \$1 million for the last financial year, it still has big plans to introduce its equipment to the rest of the world.

“We hope to introduce our technology to Asia first. In the next five years, we hope to go to Europe, the Middle East and the US. Then we will go global,” he said.

While that seems to be a long way ahead for the firm, Mr Leong recalls that he had started with only \$5,000 of start-up capital.

“Sometimes when you look back, you tell yourself that you must have been crazy to do it.”

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