Ailytics: Replacing human surveillance with all-seeing AI
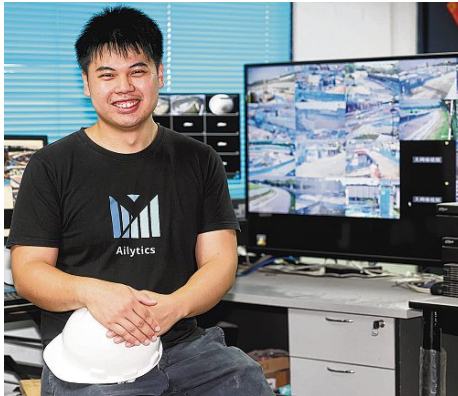
Last year, Ailytics' software, which can reduce the frequency of manual inspections significantly, detected more than 32,000 potential hazards across more than 80 job sites, says CEO Lenard Tan. PHOTO: AILYTICS

Ailytics: Replacing human surveillance with all-seeing AI

ON MOST construction sites, safety teams have to look out for ever-present risks, especially where heavy machinery or work from heights are involved. But now, artificial intelligence is helping to spot safety violations.

Traditionally, construction firms rely on safety teams who manually inspect sites for breaches or on workers who monitor camera feeds, said Ailytics chief executive officer Lenard Tan.

Both methods, however, are prone to human error, operator fatigue and inefficiencies.

"If we go on a site walk, and we see someone without a face shield, and ask him to put it on – we are 90 per cent sure that after we walk away, he will take it off again," Tan said.

AI video analytics tools, such as Ailytics' software, solves these problems by providing continuous monitoring without the need for constant human involvement.

The company's visual-recognition AI software analyses video footage to detect and flag hazards in real time, alerting safety teams to missing protective gear, for instance, or unsafe practices such as workers standing under suspended crane loads.

By using the software, construction sites can reduce the frequency of manual inspections by up to 50 per cent.

In 2023, Ailytics' software detected over 32,000 potential hazards across more than 80 job sites, Tan said.

So far this year, the system has been rolled out across at least 122 job sites in six markets: Singapore, Hong Kong, Malaysia, Indonesia, Abu Dhabi, and Israel.

In April, the company secured US$2.7 million in a pre-Series A funding round, led by venture capital firm Tin Men Capital.

But getting to this point was not easy. When the company was founded in 2021, convincing construction bosses to adopt cutting-edge technology was a challenge, said Tan.

Many firms hesitated to invest in AI when its value was yet to be proven, he recalled. "They would say: 'Who are you young punks who (have) never even worked in construction before?' These were typical remarks, and we had to prove ourselves."

Since then, however, acceptance of AI has grown – and recent regulatory changes in Singapore have also shifted the landscape in AI's favour.

Since Jun 1, it has been mandatory for construction worksites worth S$5 million and above to install video surveillance systems in higher-risk zones.

These include areas where work involves lifting operations, excavations and potential falls from heights over 2 metres.

With the new mandate, all such sites now have camera systems – into which AI video analytics can be integrated. Ailytics has seen a rise in demand for such integration, said Tan.

"Now, the infrastructure cost for the cameras is already (baked) in," he explained. "In the past, if they wanted our solutions, but they didn't have the cameras, the infrastructure cost could be too high, especially for short projects."

Ailytics is also gaining traction overseas. Singapore now accounts for 70 per cent of revenue, but this share is expected to shrink over the next few years as the company expands its international footprint.

In the next three to five years, Tan projects that Singapore's contribution to its revenue will decrease to around 20 per cent, as the company expands into regions such as Europe and the Middle East.