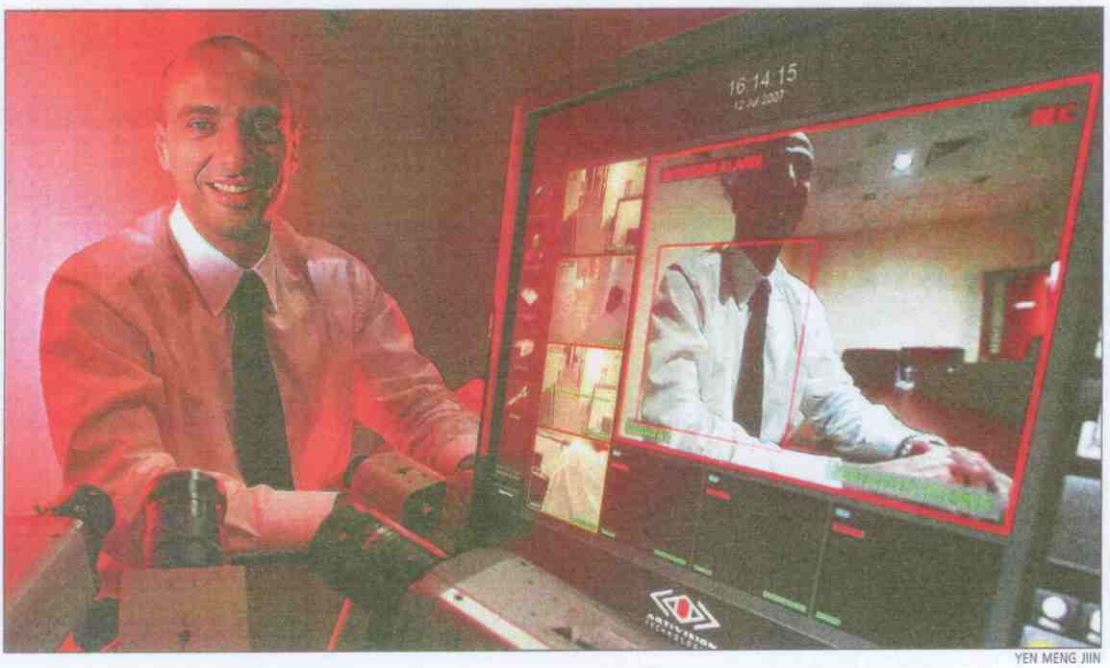
'We are not just providing technology to other companies to produce a product.'

– Dr Ofer Miller, co-founder and chief technology officer, Artivision Technologies



YEN MENG JIIN

Eye on the future

Computer vision tech firm Artivision sees great things ahead, writes **JANICE HENG**

THE proliferation of video surveillance is seen at best as a necessary evil in the heightened security climate. But to Artivision Technologies, each camera network is a business opportunity. "Our idea is to convert every camera in the world to a very smart camera," said chief technology officer Ofer Miller.

Once outfitted with a special chip, normal surveillance cameras gain the ability to detect security breaches, reducing the need for human monitoring. The secret behind this is Artivision's AVision technology. AVision-enabled cameras can perform user-defined tasks that range from motion detection – the most basic function – to behavioural analysis such as picking out a running person in a walking crowd, or someone who is loitering.

Artivision executive director Philip Soh met Dr Miller in New York four years ago and quickly recognised the potential of Dr Miller's algorithm engine.

With a group of friends, including now-president and executive director Leong Kwek Choon, Mr Soh invested in Dr Miller's technology and formed Artivision. Dr Miller, who comes from Israel, left a post-doctorate position in Tel Aviv University to become the company's chief technology officer.

Since then, Artivision has attracted institutional investors such as Tembusu Partners, which manages Tembusu Growth Fund. "I think the next new technology, the new wave, will actually be machine vision, or what we call video content analysis (VCA)," said Mr Soh.

In video content analysis, software can recognise, analyse and classify objects and movement in live or captured video.

Artivision now uses the technology in security and people management, but possible applications include biometrics, unmanned vehicle surveillance and even gaming.

At first, Artivision licensed its technology to product developers, said Mr Leong, who is responsible for the operations and business engagement.

Different direction

Artivision once worked with ST Electronics to develop an intelligent monitoring system for the latter. It also has projects with Thai Airways and the Thai police force. And at Osaka International Airport, the company licensed out its technology to receive a fee. Said Mr Leong: "This will be the model that we use in Japan." Artivision has two offices there.

But the company is also going in a different direction. Said Dr Miller: "We are not just providing technology to other companies to produce a product."

Early last year, Artivision launched its first product with the ministry of defence. Once connected to existing CCTV infrastructure, the Intelligent Vision Server 1000 (IVS-1000) can detect intruders, unattended objects, and missing objects, while also allowing for perimeter defence.

The product was soon followed by the IVS-3000, launched in May at the IFSEC UK 2007 industry exhibition. Even in Japan, where Artivision will rely on licensing, the company plans to launch the IVS-1000 and IVS-3000 centralised solutions soon.

But Artivision's products are not solely for the security industry. "We position ourselves as a machine-vision based company," said Dr Miller. "What we have built is an operating platform." And the flexible nature of AVision – essentially a fully functional operating system – means it can be adapted for a variety of products.

One such product is the IVS-5000. Unlike its security-centric predecessors, the IVS-5000 is more for business use, with the capability for monitoring human traffic, managing queues, and detecting crowds, among other functions.

Dr Miller is also working on an engine that will be able to analyse traffic conditions, generate historical statistics and even predict traffic jams. Artivision is in trials with Cisco for this soon-to-come IVS-7000 and estimates that commercialisation will take three to four months. The intelligent video servers are centralised solutions, allowing users to choose from a range of functions for their camera network. The next step is non-centralised solutions.

Said Dr Miller: "Our future plan is to do it as a specific solution per camera." The wait will not be long – Artivision hopes to develop this new product by the end of the year. Artivision says it is one of the leading companies in its field internationally. Its competitors are mostly in Europe, the US, and Israel.

For now the company is Asia-based, but it eventually intends to target the more lucrative markets in Europe, the US and the Middle East. A sales office has just been set up in Spain, and distribution deals are being signed in Israel and Europe. Artivision is also in talks with US distributors.

Pull factor

But given the company's international origins and the distance of major markets, why is it based in Singapore?

The good education system here was a factor, said Mr Soh. "There are a lot of very bright students doing postgraduates in computer engineering or computer science, but they don't have the exposure."

"They are not fulfilled," adds Dr Miller. But Artivision provides them with the opportunity to use their skills. Proving this point are Artivision's six Singapore-based engineers, all graduates of the National University of Singapore.

The company also has five engineers in Israel, with R&D split between both centres: the research taking place in Israel, and the development here.

Artivision intends to list within the next two years, though it has yet to determine which exchange. Artivision's three founders hope it will go further yet. According to them, there are very few players in the field – and Artivision is a good two years ahead of its peers. Said Mr Soh about the company: "It will be a Microsoft, but in VCA."