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EVERY BREATH
YOU TAKE...

How Owlstone's new tech
could detect cancer

Owlstone is a jewel of a company where clever people like to work, not least because their efforts look set to save thousands of lives. Jenny Chapman went to see CEO and one of the founders, Billy Boyle to catch up with what has been happening with the creation of a new company, Owlstone Medical

IMAGINE what it was like before we had blood testing? The same question could soon apply to breath tests, not the sort they give you at the roadside, but a medical advance which will save numerous lives and the NHS a lot of money.

The technology has been developed by Cambridge company Owlstone, whose magic “button” was initially created for the defence market and has already enjoyed \$31 million in sales, mainly in the US, where this part of the company is now based.

Meanwhile, on Cambridge Science Park, Owlstone Medical, spun out

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recently from the original company, is pushing ahead with the miracle breath test which can spot the early signs of cancer and other illnesses.

For Billy Boyle, CEO, and who founded the company in 2004 with fellow Cambridge University Engineering Department scientists, Andrew Koehl and David Ruiz-Alonso, there is particular poignancy in the success of the breath test in early detection of cancer; his wife, Kate, mother of their twin sons, died of cancer at the age of 34.

Owlstone had already started working on its breath test for medical purposes when Kate was diagnosed with stage 4 colon cancer.

“Colon cancer has a 95 per cent survival rate if it can be caught at stage 1,” Billy tells me. “By stage 4 it is 4 to 5 per cent.”

The Owlstone technology makes it possible to filter out most of the information contained in breath and home in on the tiny changes which indicate cancer.

It is also far more likely that we will do a breath test rather than the existing test for colon cancer, which involves a package through the post and three days of picking at your poo before posting it back.

“This test is notoriously bad because people don’t like doing it and only about 50 per cent who are sent the kits use them, and then only about two-thirds of people with cancer are spotted. But people don’t mind giving a sample of breath and it is 88 per cent accurate.”

The breath test technology is currently in clinical trials – actually, the largest ever for breath, involving 3,000 people in centres such as Papworth, in London and parts of Europe.

Results are expected next year.

Going back a few years, to the beginning of Owlstone, the three founders had decided they wanted to start a business and did the hot thing at the time, entered Cambridge University Entrepreneurs competition for start-ups. Things fell into place almost straight away, with the great Walter Herriot, then director of St John’s Innovation Centre, getting involved as a mentor, and a fortunate chance encounter in a college bar.

“It was at Trinity Hall and the person we met there was involved with a US equity company, Advance Nanotech. I literally had the business plan in my bag and it was only two days after writing it.” Hello \$2 million.

“We had a slightly stormy relationship as they were more interested in driving up their own share price by association with Cambridge and Oxford start-ups.”

But Owlstone was already strong

enough to find alternative, more supportive investors, prepared to be in there for the longer term.

Although initially the effort was put into the defence and security sectors – the same technology could be used to “sniff out” toxic gases and explosives – Owlstone soon had it in mind to serve the medical market.

Billy explains the creation of Owlstone Medical as a separate company earlier this year: “They are quite different business, with different types of investor. A defence sector business is normally sold, while a medical one is more likely to be an IPO.”

A big part of Owlstone’s success to date has been in making a chemical sensor for just a few dollars and incredibly small compared with alternative kit which costs a vast amount and is the size of a kitchen sink.

Together, the two Owlstones have 70 people, including half a dozen in the US, where the defence business is based, the R&D bods on the Science Park and, also on the Park, manufacturing.

Owlstone Medical raised \$7 million earlier this year to spin out; and who wouldn’t want to invest in tried-and-tested technology afforded a different purpose where in five years’ time it could be in every GP surgery?

At this point, for some random reason, I ask Billy about dogs, whether their ability to detect cancer on human breath has in any way been part of Owlstone’s development work?

We both agree that it might be tricky to have a dog in every GP surgery.

At the moment the focus is on colon and lung cancer, but many other ills are detectable, such as asthma. Patients breathe down a tube and their breath is trapped in a sample tube for analysis, simple as that.

As to the extent of the market, the US considers anyone over the age of 55 to be at risk of colon cancer, and there are more than 80 million who should be screened; while in lung cancer it’s nine million.

“Both are multi-billion dollar opportunities, and we think we are uniquely positioned and with a mature technology background. I can’t see why we won’t be the dominant player.”

Owlstone is currently raising more



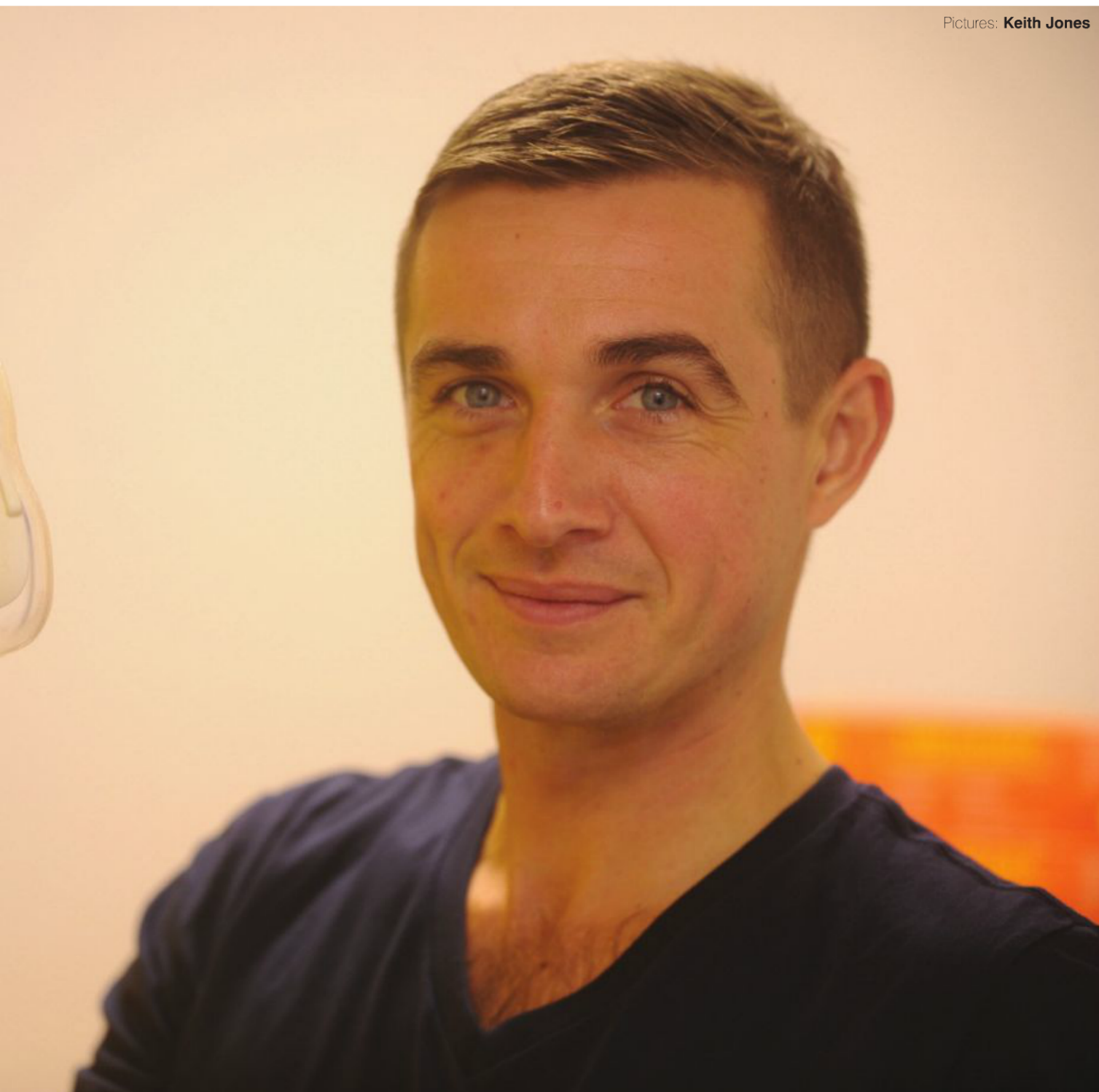
“In five years we will routinely be detecting cancers early on and saving lives, with breath sensors used in primary care settings. You don’t need new drugs if a disease can be picked up early. The economies will be big for the NHS”



Owlstone CEO Billy Boyle and the new breath testing kit which can spot the early signs of cancer. Left: The all-important magic ‘button’



“People don’t mind giving a sample of breath and it is 88 per cent accurate”



funding for the medical business and Billy says: "I am excited about the broader range of diseases, but we need more capital for these.

"In five years we will routinely be detecting cancers early on and saving lives, with breath sensors used in primary care settings. You don't need new drugs if a disease can be picked up early. The economies will be big for the NHS."

I ask if Owlstone has had any problems finding the skilled people it needs: "We have got really good people because it is quite clear what we are trying to achieve, and a lot of smart people are highly motivated by our company mission."

