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↑ Left to right: Owlstone Co-founders and Department of Engineering alumni Andrew Koehl, David Ruiz Alonso and Billy Boyle

Owlstone, a detection technology company co-founded by Department of Engineering alumni Billy Boyle, David Ruiz Alonso and Andrew Koehl, has created a cancer breathalyser.

The detection technology specialist company has won £1 million funding from the NHS in the UK to develop the technology and help combat lung cancer.

Owlstone's LuCID project – a consortium made up of a number of leading academic institutions and clinical partners – aims to diagnose lung cancer at a stage when survival rates are dramatically better.

The LuCID (Lung Cancer Indicator Detection) project is researching the early, non-invasive diagnosis of lung cancer by measuring volatile organic compounds in patients' breath.

The vision is to save 10,000 lives and save the NHS £254 million by 2020, by increasing detection of lung cancer in its early stages.

Owlstone's co-founder Billy Boyle said stage one lung cancer had a 75 per cent survival rate compared to just a five per cent chance of survival for stage four victims.

Using leading-edge nanofabrication techniques, Owlstone has developed a complete chemical detection system on a ALUMNI UPDATE

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chip: a 'dime size' Field Asymmetric Ion Mobility Spectrometer (FAIMS), with the ability to rapidly monitor a broad range of chemicals at very low quantities with high confidence.

Phase I of the LuCID project is already completed: 12 markers of lung cancer were shown to be detectable by Owlstone's FAIMS technology, which Billy says is a cheaper and smaller alternative to existing detection technologies.

The new funding for Phase II will be targeted towards the delivery of a breath sampler – a customised breathalyser suitable for use in a doctor's surgery or hospital, and clinical validation of the method.

Billy said: "If you could change only one thing in the fight against cancer it would be to detect the disease earlier where existing treatments are already proven to save lives."

FAIMS technology has the potential to bring a quick and easy-to-use breath test to a GP's office. Our team will not rest until we help stop the daily devastation that cancer brings to patients and their families."

The technology is being trialled around the world for different types of cancer and other diseases.

Billy lost his wife to cancer on Christmas day 2014. "When my wife was sick we talked about what motivated her, what motivates me. Knowing the conversations I had with her about how we can develop technology for the benefit of others is something that makes me walk into the office every day. It puts an extra spring into my step."

A community of researchers interested in breath-based diagnostics are jointly designing an open-source breath sampler that can be used with a range of analytical instruments. Join the Breathe Free community at www. breathe-free.org.



You develop technologies for a reason. Sometimes it is for monetary gain. Other times it's to make a difference. And I think we have a real opportunity to try and improve the lives of patients.

Alumnus Billy Boyle Co-founder of Owlstone



www.owlstonenanotech.com