

Diagnosing disease – at the touch of a button

Swift diagnosis is frequently the key to successful treatment of illness and disease, and the delays caused while doctors wait for the results of tests can be crucial. Now a major new project will enable medical staff to make accurate diagnoses in a matter of minutes.

Enigma Diagnostics Ltd is developing the ML (mini-laboratory), a desk-top device which automatically purifies DNA samples and uses polymerase chain reaction technology to amplify DNA targets, creating millions of copies for ultra-sensitive detection. The need to send samples away to specialist laboratories, which can cause considerable stress and inconvenience for patients while they wait for results, will be eliminated; doctors and other health workers will be able to begin effective treatment at their first encounter with the patient.



Technology Strategy Board

Driving Innovation

Key priorities for the project include sexually transmitted diseases (STDs), diarrhoeal diseases and MRSA, the potentially lethal superbug carried into hospitals by newly-arriving patients who then infect others. Currently, a number of patients attending for STD tests subsequently prove difficult to follow up; using Enigma ML, the physician will know the nature of the infection and be able to begin treatment at the first visit. MRSA costs the NHS around £1bn per year; with a significant proportion of the UK's 13 million annual hospital admissions happening as emergencies, often at times when laboratories are not fully staffed, health workers will be able to identify and treat those carrying MRSA virtually as soon as they arrive, reducing the danger of cross-infection and cutting costs.

With a prototype due in October 2009 and a project completion date of late 2010, the ML is being developed for a global market estimated to be worth over \$11bn in 2007 and growing at 11% annually (Espicom Business Intelligence, 2007). Enigma's initial priorities will tackle diseases particularly relevant to the developed nations, but the ML will be able to test for many other infectious diseases, both human and veterinary, including those that continue to blight the developing world.



'The engagement of the Technology Strategy Board's monitoring officer has been very helpful – it's been a very active role which has moved the project forward.'

PAUL WEINBERGER – DIRECTOR, CLINICAL DEVELOPMENT, ENIGMA DIAGNOSTICS LTD

Collaborative research and development projects are one of the tools that the Technology Strategy Board uses to drive innovation in the UK. The Technology Strategy Board is a business-led executive non-departmental public body, established by the Government. Its role is to promote and support research into, and development and exploitation of, technology and innovation for the benefit of UK business; in order to increase economic growth and improve the quality of life. It is sponsored by the Department for Business, Innovation and Skills (BIS).
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AG182K

Duration

24 months from
1 November 2008

Technology Strategy

Board investment

£1.6m

Total project investment

£3m

Project partners

Enigma Diagnostics
Ltd, Nottingham Trent
University, University of
Nottingham