



## Diagnostic and Research Tools

SBRI Healthcare NHS England competition for development contracts

September 2013

## Summary

A new national Small Business Research Initiative (SBRI) Healthcare competition is being launched by NHS England in partnership with the Academic Health Science Networks (AHSN's) to find innovative new products and services. The projects will be selected primarily on their potential value to the health service and on the improved outcomes delivered for patients.

The competition is open to single companies or organisations from the private, public and third sectors who will ultimately be capable of supplying the NHS with the resulting product or service on a commercial basis. The competition will run in two phases:

- Phase 1 is intended to show the technical feasibility of the proposed concept. The development contracts placed will be for a maximum of 6 months and up to £100,000 (inc. VAT) per project
- Phase 2 contracts are intended to develop and evaluate prototypes or demonstration units from the more promising technologies in Phase 1. Only those projects that have completed Phase 1 successfully will be eligible for Phase 2.

Developments will be 100% funded and suppliers for each project will be selected by an open competition process and retain the intellectual property rights (IPR) generated from the project, with certain rights of use retained by the NHS.

This competition theme, led by the Eastern Academic Health Science Network, focuses on diagnostic and research tools and encompasses:

- Development of new in vitro diagnostics, research instruments, reagents and consumables
- Research tools to support the recruitment and involvement of patients and the public in biomedical research and statistical and mathematical analytical tools to allow rapid analysis of datasets during clinical research

The competition opens on 16<sup>th</sup> September 2013. The deadline for applications is 1200hrs on 31<sup>st</sup> October 2013.

## Background

The UK biomedical sector is thriving, has been less affected by the recent global recession and is set to continue to grow as a result of continued and long-term investment. Pharmaceutical, biotechnology, diagnostics and medical technology companies are a major component of the UK economy, where nearly 30% of GDP is produced by sectors intensive in science, technology, engineering and mathematics (STEM) and is one of the most significant and productive sectors in the UK economy after financial services<sup>1</sup>.

## Challenges

This competition focuses on diagnostic and research tools to aid the process of biomedical and pharmaceutical research.

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<sup>1</sup> Biomedical research – a platform for increasing health and wealth in the UK: The Academy of Medical Sciences

## 1. Diagnostics:

In vitro diagnostics are an essential part of modern healthcare, used to diagnose, monitor, screen and assess predispositions to diseases and thus contribute much of the available medical information regarding a patient<sup>2</sup>.

Despite the benefits that they offer, the revenues generated by the IVD market in Europe accounted for only 0.8% of the total healthcare expenditure in Europe in 2011<sup>2</sup> but still there is pressure on the industry to reduce costs in line with the overall target to reduce the UK pathology laboratory budget. However, there is great opportunity for product advances within the field of diagnostics that may help address many of the modern day healthcare challenges, these include but are not limited to:

- **Pharmacogenomics/Companion diagnostics** – development of instruments and tests to predict patient response before exposure to a drug has many benefits including selection of optimal drug at outset of treatment, risk reduction, increased compliance and reduction in healthcare costs<sup>3</sup>
- **Point-of-Care and handheld diagnostic platforms/instruments** – there is increasing interest in point-of-care, particularly in microfluidic technologies to address evolving trends such as miniaturisation, multiplexing, networking, new more sensitive detection schemes and importance of sample processing<sup>4</sup>
- **Continuous monitoring** - monitoring a patients symptoms as closely as possible can improve the quality of their care, but it's not always practical. Today's diagnostics technologies are making continuous monitoring an achievable reality for certain patients, for example people with diabetes, and patients in hospital beds<sup>5</sup>.

**Biomarkers** – The advent of advanced proteomics and genomics technologies and associated bioinformatics is bringing promise of the development of molecular assays that can diagnose disease accurately, or enhance current methods of evaluation. Ideally, such molecular assays would be applicable to non-invasively obtained body fluids, enabling not only diagnosis of at risk patients, but also asymptomatic screening, monitoring disease recurrence and response to treatment. Biomarkers are being investigated for application not only in theranostics and prognostics but also by the pharmaceutical industry for more efficient drug development<sup>6</sup>.

New research instruments, reagents, consumables to be used in biomedical and pharmaceutical research are also welcome here.

## 2. Research Tools

This competition is also looking for potential solutions/ideas that support the involvement of patients and members of the public in research and statistical and mathematical analytical tools to allow rapid analysis of datasets during clinical research.

**Analytical Tools** - Data about us as individuals is everywhere and the amount being collected and stored is ever increasing. 'Big Data' is the term for a collection of data sets so large and complex that it becomes

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<sup>2</sup> European IVD Market Statistics Report 2011

<sup>3</sup> BIVDA – Pharmacogenomics – 21<sup>st</sup> Century IVDs

<sup>4</sup> Present technology and future trends in point-of-care microfluidic diagnostics. *Methods Mol Biol*:2013; 949:3-23

<sup>5</sup> <http://www.fiercebiotech.com/special-reports/continuous-monitoring-10-trends-diagnostics>

<sup>6</sup> Molecular diagnostic trends in urological cancer: biomarkers for non-invasive diagnosis. *Curr Med Chem* 2012; 19(22):3653-63.

impossible to process using traditional data processing applications<sup>7</sup> and is commonly used within the retail sector as a means to understand customers' purchasing habits and preferences for follow up promotional activity<sup>8</sup>. 'Big Data' within the healthcare sector comes from many sources; the advancement in digitising medical records, diagnostic, R&D and clinical trial data, even non-healthcare consumer data. This provides opportunity to healthcare in terms of streamlining care, improving outcomes and cost saving but also generates a huge innovation challenge to the sector in terms of developing suitable applications to make the data usable, searchable and actionable. Statistical and mathematical analytical tools to allow the rapid analysis of datasets generated during clinical research are needed here.

**Patient and Public Involvement (PPI)** – The objective is two-fold and requires tools firstly to enable engagement of patients more directly in participating in clinical trials and secondly to simplify the running of clinical trials acquiring patient based and patient generated data. Tools that lead to enhanced engagement of members of the public in research and improve or simplify recruitment to clinical trials and research programmes would be of particular interest. Patient and public involvement in research means that members of the public and/or patients are active partners in the research process, by for example advising on research project, assisting in the design of a project or in carrying out the research, rather than being the subjects of research. References: NHIR ([www.nihr.ac.uk](http://www.nihr.ac.uk)) [www.invo.org.uk/resource-centre/publications-by-involve](http://www.invo.org.uk/resource-centre/publications-by-involve)

## **Application process**

This competition is part of the Small Business Research Initiative (SBRI) programme which aims to bring novel solutions to Government departments' issues by engaging with innovative companies that would not be reached in other ways:

- It enables Government departments and public sector agencies to procure new technologies faster and with managed risk;
- It provides vital funding for a critical stage of technology development through demonstration and trial – especially for early-stage companies.

The SBRI scheme is particularly suited to small and medium-sized businesses, as the contracts are of relatively small value and operate on short timescales for Government departments.

It is an opportunity for new companies to engage in public sector customer pre-procurement. The intellectual property rights are retained by the company, with certain rights of use retained by the NHS and Department of Health.

The competition is designed to show the technical feasibility of the proposed concept, and the Phase 1 feasibility contracts placed will be for a maximum of 6 months and up to £100,000 (inc. VAT) per project. It is envisaged that a competition for Phase 2 Development contracts will be run during 2014.

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<sup>7</sup> White, Tom (10 May 2012). *Hadoop: The Definitive Guide*

<sup>8</sup> The big deal about big data. *Healthcare Financial Management*: 2013 Aug; 67(8):60-6, 68

The application process is managed on behalf of NHS England by the Eastern Academic Health Science Network through its delivery agent Health Enterprise East. All applications should be made using the application forms which can be accessed through the website [www.sbrihealthcare.co.uk](http://www.sbrihealthcare.co.uk).

Briefing events for businesses interested in finding out more about the competition will be held on the 24<sup>th</sup> September (Nottingham), the 30<sup>th</sup> of September (London) and the 2<sup>nd</sup> of October (North West). Please check the website for confirmation of venues and to register attendance.

Please complete your forms using the online application process and submit them by 1200hrs on the 31<sup>st</sup> October 2013.

## Key dates

Competition launch	16 <sup>th</sup> September 2013
Briefing events	24 <sup>th</sup> & 30 <sup>th</sup> Sept, 2 <sup>nd</sup> Oct 2013
Deadline for applications	1200hrs 31 <sup>st</sup> October 2013
Assessment	November 2013
Contracts awarded	February 2014

## More information

For more information on this competition, visit:

[www.sbrihealthcare.co.uk](http://www.sbrihealthcare.co.uk)

For any enquiries e-mail:

[sbrienquiries@hee.co.uk](mailto:sbrienquiries@hee.co.uk)

For more information about the SBRI programme, visit:

[www.innovateuk.org/SBRI](http://www.innovateuk.org/SBRI)



[www.sbrihealthcare.co.uk](http://www.sbrihealthcare.co.uk)



The SBRI Healthcare programme is directed by the Eastern Academic Health Science Network on behalf of NHS England and managed by Health Enterprise East.