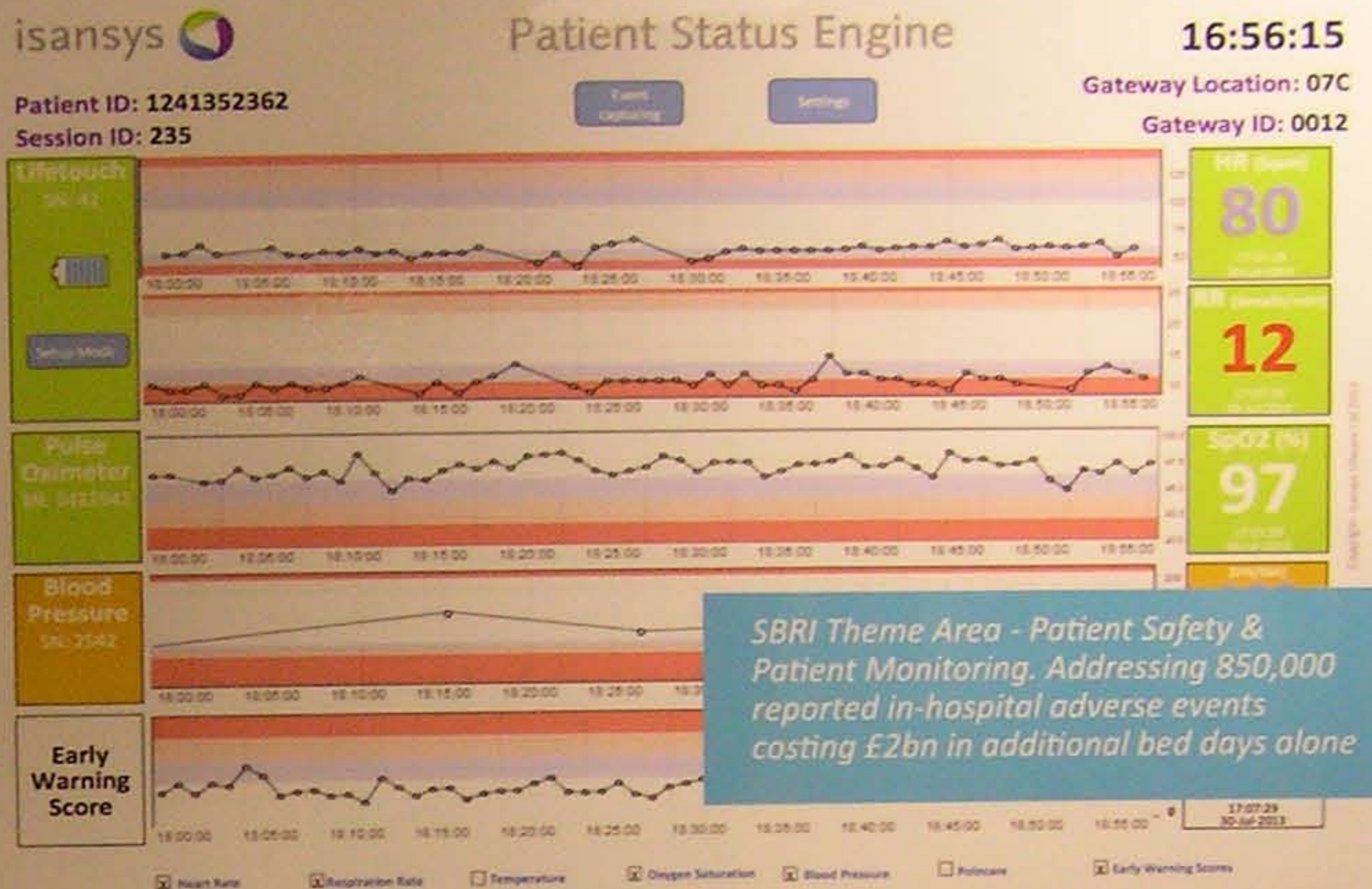# Every patient monitored: scalable, low-cost multiple vital sign patient-data acquisition and analysis platform, for rapid early detection of deterioration - An SBRI Healthcare NHS Development Contract to increase Patient Safety

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This project will allow Every Patient to be Continuously Monitored remotely, affordably and easily

isansys — Patient Status Engine — 16:56:15

Patient ID: 1241352362
Session ID: 235
Gateway Location: 07C
Gateway ID: 0012

HR (bpm): **80**
RR (breaths/min): **12**
SpO2 (%): **97**

Lifetouch · Pulse Oximeter · Blood Pressure · Early Warning Score

SBRI Theme Area - Patient Safety & Patient Monitoring. Addressing 850,000 reported in-hospital adverse events costing £2bn in additional bed days alone

Background

A national SBRI Healthcare competition launched by NHS England in partnership with the Academic Health Science Networks to find innovative new products and services, have awarded a feasibility contract to Isansys Lifecare to develop technology that allows scalable, low cost wireless monitoring of every hospitalised patient. This project falls under the theme "Patient Safety & Patient Monitoring" which aims to provide solutions to a critical unmet need to early detect deteriorating patients in hospital.

- All costs arising from patient safety estimated to cost £5 billion, close to 5% of the NHS budget
- Secretary of Health Jeremy Hunt, April 2014: the NHS is 'paying out £1 billion a year in patient safety related compensation claims'

The Problem

Patient safety related issues in the NHS result in an estimated 850,000 inpatient adverse events and more than 12,000 avoidable deaths. The total costs relating to patient safety including additional bed days, "re-work", litigation and unrecorded events are more than £5 billion annually.

Combining improved monitoring with early warning scoring methods has been shown to be the most effective way of reducing avoidable patient deterioration and the number of unexpected deaths in clinical settings, with subsequent benefits for patients and cost savings for providers.

The Project

Recognising that medical devices needed to be smaller, cheaper and connected, Isansys have developed low cost and scalable continuous wireless monitoring devices and integrated these, together with third party devices, into the CE marked Patient Status Engine (PSE) platform.

To achieve "Every Patient Monitored" this project is developing additional sensors to replace expensive third party devices and to obtain higher quality data and better data coverage.

Technology Outcomes

- An integrated suite of low cost wireless vital sign sensors
- Continuous patient data and real time analysis
- Addressable bedside display and data entry screen for manual input (for example of Glasgow Coma Scales)
- Cost less than one-tenth that of current bedside monitors
- Immediate local and remote (networked) access to patient data

Clinical Outcomes

- Affordable continuous monitoring for all patients in hospital and home
- Significant improvements in patient outcomes through avoidance of adverse events and avoidable deaths
- Potential for enormous cost savings for NHS (hundreds of £millions)
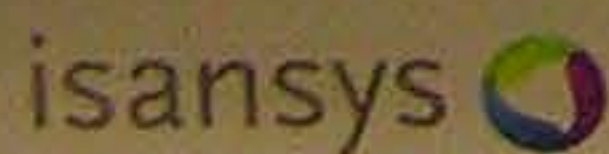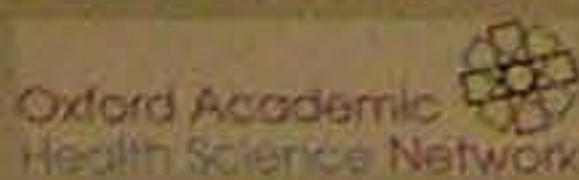
SBRI HEALTHCARE

The Small Business Research Initiative for Healthcare (SBRI Healthcare) is an NHS England initiative, championed by the newly formed Academic Health Science Networks (AHSNs), who aim to promote UK economic growth whilst addressing unmet health needs and enhancing the take up of known best practice.

Part of Innovation Health and Wealth the SBRI Healthcare programme sets industry the challenge in a series of health related competitions which result in fully funded development contracts between the awarded company and the NHS. Unlike many R&D projects which offer grant or match funding, SBRI contracts are 100 per cent funded and the company retains the IP.

Oxford Academic Health Science Network

Academic Health Science Networks (AHSNs) have a unique opportunity to bring together clinical research, informatics, innovation and training and education, with healthcare delivery to improve health outcomes and raise quality and value through large-scale, sustainable change.

The Oxford Academic Health Science Network covers a population of 3.3 million across 4 counties where the NHS spends £5bn a year and employs 65,000 people. The Oxford AHSN area is also home to many major international companies and over 300 life science businesses. In addition it covers 12 Clinical Commissioning Groups, four Local Enterprise Partnerships and 12 local authorities – as well as 10 NHS Trusts and 9 Universities.

The objectives of the Oxford AHSN are to:
- Focus on the needs of patients and local populations
- Speed up adoption of innovation into practice
- Build a culture of partnership and collaboration
- Create Wealth

isansys

Isansys Lifecare is a new generation healthcare company that provides patient surveillance and monitoring services built on an innovative, low cost and scalable platform. We work with leading healthcare professionals, institutes and policy organisations operating in a wide range of healthcare settings, who want to employ new patient monitoring technologies and methods to improve patient outcomes and reduce costs. Based on its scalable wireless sensor technology, Isansys' 'Vitals as a Service' clinical solution provides continuous real-time information for automated patient surveillance, for early warning scores and track and trigger indicators, and for predicting adverse events.

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