

NEWS RELEASE

Carbon Dioxide Sensor to be Optimised for Medical Capnography Applications

Project co-funded by the Technology Strategy Board to Design a 'Low Cost & Portable' Capnometer

Glasgow UK, January 2014 - Project partners Wideblue Ltd (WBL) (project leader), Gas Sensing Solutions Ltd (GSSL) and Cambridge Respiratory Innovations Ltd (CRiL) have secured funding from the UK's innovation agency, the Technology Strategy Board through the recent Photonics for health competition for collaborative research and development. Total Project value £708k.

This project aims to develop a low cost respiration rate monitor and capnometer, based on GSSL patented non-dispersive infrared fast response infrared sensor, sensing exhaled carbon dioxide and to trial demonstrators in various clinical settings.

Respiration rate is the vital sign most closely related to patient outcome, however routine and reliable measurement of respiration rate is notoriously difficult to do. It is prone to false readings, outside influences and is therefore not considered reliable. Previous attempts have included the use of motion sensors, flow measurements or use expensive IR lasers and are prone to ergonomics concerns with product costs too high for widespread adoption and routine use. Capnometry, the measurement of carbon dioxide concentration during the breathing cycle, is already in use in critical care, however the development of a significantly lower cost sensor with response times better than those on the market, allied with innovative analytical software, has the potential to revolutionise the management of chronic respiratory conditions. Both the respiration rate monitor and capnometer will utilise unique patented low cost solid state mid-infrared light emitting diode/photodiode detector combination.

The project includes end user assessment by Emergency Department - Cambridge University Hospitals NHS Foundation Trust Addenbrooke's Hospital, and Glasgow's Royal Hospital for Sick Children for clinical evaluation in paediatric anaesthesiology. The project also aims to have the devices evaluated in GP and secondary care applications. Sports and Exercise Science, University of the West of Scotland (Hamilton) will evaluate applications for usage in sports.

The project brings together a world-class consortium, combining capabilities in GSSL gas sensor development and production, WBL medical device design, development and qualification and CRiL clinical trialling, respiratory breath analysis and capnography market knowledge. Current GSSL fast response non-dispersive infrared CO₂ sensor platform, trademarked as SPRINTIR™, provides confidence that the unique technology can be further optimised to provide clear advantages for medical capnography applications.

The government-backed Technology Strategy Board is investing up to £3.7m in projects that apply innovative photonics technologies to challenges in the health sector. The aim is to bring together multi-disciplinary teams involving academics, businesses and healthcare providers, to develop new applications of photonics.

<ends>

About Wideblue Limited

Wideblue (www.wide-blue.com) is an integrated product design, product development and manufacturing consultancy. The product design and manufacturing team are experts in industrial design, mechanical engineering, electronic design, software development, photonics, image processing and manufacturing. Multi-disciplinary technical skills are backed up by a proven design process, strong project management and medical device regulatory experience. Wideblue design consumer products, medical devices, scientific instruments and specialist technical systems. The Company's strength is developing integrated systems which are commercially viable products.

About Gas Sensing Solutions Ltd

Gas Sensing Solutions (www.gassensing.co.uk) was established June 2006 with funding from Tweed Renaissance Investment Capital (Melrose, Scotland) & Scottish Co-Investment Fund. GSSL is the leading supplier of low power consumption and fast response carbon dioxide non-dispersive infrared gas sensors. Currently GSS produce the worlds lowest power consumption and fastest response non-dispersive infrared carbon dioxide sensors, trademarked as **Q2IR** and **SprintIR** respectively. The patented sensor technology has received international acclaim and is in full production at the companies Glasgow based facilities for use in various applications including indoor air quality control/ energy reduction in buildings, industrial safety, horticulture.

About Cambridge Respiratory Innovations Limited

Cambridge Respiratory Innovations Limited (CRiL) has been established to develop low cost personal medical devices based on III-V mid-infrared technology for healthcare and sports medicine markets. The team have a broad background in optoelectronic technology development, pulmonary and emergency medicine, healthcare and medical device marketing and business development.

About the Technology Strategy Board

The Technology Strategy Board is the UK's innovation agency. Its goal is to accelerate economic growth by stimulating and supporting business-led innovation. Sponsored by the Department for Business, Innovation and Skills (BIS), the Technology Strategy Board brings together business, research and the public sector, supporting and accelerating the development of innovative products and services to meet market needs, tackle major societal challenges and help build the future economy. For more information please visit www.innovateuk.org.