SIEMENS

News Release

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GB Rowing unveils its secret weapon

High-tech healthcare technology is being hailed as the 'secret weapon' in the athletic arsenal of the GB Rowing Team at the World Championships in Bled, Slovenia, this weekend.

As the High Performance Partner, Siemens works with the GB Rowing Team on innovative ways to assist the team's training and the performance of its men's, women's and adaptive crews.

Siemens has provided the GB Rowing Team with a RAPIDPoint 350 ® Blood Gas analyser, which enables the team to gain valuable athlete performance data by monitoring athlete's adaption to high intensity training.

David Tanner CBE, the GB Rowing Team's International Manager: "Since the Siemens sponsorship began in 2006 we have worked on a range of technology projects and the use of the Siemens RAPIDPoint 350 is a very good example of the partnership between Siemens and the GB Rowing Team. We would like to thank Siemens Healthcare division for assisting us with this project and making it possible for us to have access to key medical equipment and adapt its use for our needs. There is no question that this has helped the GB Rowing Team to improve performance on the water."

Blood gas testing is used to evaluate oxygenation. If a rower was displaying symptoms of an acid/base imbalance, difficulty breathing, or shortness of breath, a blood gas test would determine respiratory difficulties and ensure that rowers

are at their peak training level. It also ensures that muscles are at their optimum for exercising. Whereas some people might get a stitch when exercising, this ensures that rowers don't get to that stage.

It works by measuring bicarbonate which is one of the body's natural lactate buffers. During the build-up to the racing season, it enables observation of increases in resting bicarbonate. This provides valuable new information about the rowing athletes' anaerobic system and its contribution to race performance.

Paul Thompson, Chief Coach for women and lightweights: "Using this analyser allows coaches and support staff better to monitor, direct and individualise the rowers' programme to maximise the training effect and their race readiness."

Elite rowers train year round and are put through a gruelling training regime. Helen Glover, World Cup winner 2011 and World Championship silver medalist 2010, women's pair: "As international rowers we are used to undergoing various testing procedures during training but the testing involved with the RAPIDPoint 350 is painless and non-invasive. The results have been very helpful to me in understanding how my body reacts to intense periods of training. As an athlete who has experimented with Sodium Bicarbonate, information regarding its effect on my physiology and the optimum supplementation strategy is crucial."

Normally used in the hospital environment, the small, low maintenance and easy-to-use analyser makes it ideal for a huge range of testing environments, including sport. It delivers results in just two minutes to enable fast decision making. The compact and lightweight units require minimum space, so they can be easily deployed for both routine and emergency needs and provide appropriate critical care menus for all calculated tests. Small and portable, it weighs less than 8kg (18lbs).

Emma Neupert, Talent Research Scientist, English Institute of Sport: "The GB Rowing Team Start Programme has been using the Siemens blood gas analyser on the 'Tall, Talented and Trainable' project which examines the impact of training and progression rates in development rowers with high performance potential. Through analysing small quantities of blood the analyser has enabled us to track specific responses to training through monitoring such parameters as pH, bicarbonate and dissolved gases in the blood.

"As the information we get from the Siemens blood gas analyser is provided immediately, we are able to give instant feedback to the rower and coach. From these parameters we can then make informed decisions on the implications of these values and adapt their particular training session as required. As the system is portable we are able to take these measurements at different locations and on camp, giving us the flexibility to carry out our analyses in a range of surroundings."

The Blood Gas Analyser measures blood pH (an indication of muscle acidity) and bicarbonate (the body's acid buffer) from small blood samples, and is used by the GB Rowing Team on a regular basis to collect ongoing data in race performance analysis.

Previously physiological measures of a 2km training performance was limited to peak blood lactate measurements post-race, providing limited information about the work done during a complete performance. With results from the RAPIDPoint 350, it is possible to determine the differences between an individual's blood lactate and their remaining bicarbonate stores. Giving information about the anaerobic contribution to performance that lactate alone does not provide.

Afia Boamah, Blood Gas and Stratus CS Product Manager at Siemens Healthcare Diagnostics said: "Siemens are delighted to have assisted the GB Rowing Team,

and we are extremely pleased that our Blood Gas Analyser has been of value in their current training program. Our RAPIDLab300 is small, low maintenance and easy-to-use system making it ideal for hospital critical care environment and a huge range of other testing environments, including sport. "

The GB Rowing Team have previously been restricted to peak blood lactate measurements post-race, which can be inconsistent due to the many variables of an outdoor sport. Mark Homer, physiologist with the GB Rowing Team: "The benefits and effects of multifactorial training are difficult to measure in the field and, while we can effectively monitor aerobic fitness, the adaptation to high intensity training is more difficult to track.

"For the past two years we have been using the Siemens RAPIDPoint 350 to measure blood ph and bicarbonate. Changes in resting bicarbonate levels over time give an indication of anaerobic adaptation; for example, increased bicarbonate levels demonstrate an increased ability to buffer acidic muscular conditions at high intensities. This information also helps us to understand the differences between rowers, areas for improvement, and the importance of this area of physiology to rowing performance in general.

"The information we have gathered has allowed us to track how individuals are adapting to high intensity training towards the climax of the racing season."

A RAPIDPoint 340® Blood Gas Analyser, which is similar to the 350 model, will feature in a new display in the Science Museum's Antenna contemporary science gallery from 5 September. The display, called 'Can this kit help create a champion?' will include a piece of GB Rowing kit and an interactive exhibit featuring interviews with scientists and the GB Rowing team – exploring the science behind the analyser and how it is used to improve the team's performance. Visitors can learn more about the technology and meet the GB

Rowing team in person at a special three day event being staged at the Science Museum from October 25-27, during the half-term holidays.

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Notes to editors:

The RAPIDPoint® 340 analyser measures pH and blood gas (oxygen and carbon dioxide). The RAPIDPoint 350 analyser also measures electrolytes sodium, potassium, calcium or chloride and hematocrit. All test results are available in minutes with minimal operator involvement.

About Siemens Healthcare
The **Siemens Healthcare Sector** is one of the world's largest suppliers to the healthcare industry and a trendsetter in medical imaging, laboratory diagnostics, medical information technology and hearing aids. Siemens offers its customers products and solutions for the entire range of patient care from a single source – from prevention and early detection to diagnosis, and on to treatment and aftercare. By optimising clinical workflows for the most common diseases, Siemens also makes healthcare faster, better and more cost-effective. Siemens Healthcare employs some 48,000 employees worldwide and operates around the world. In fiscal year 2010 (to September 30), the Sector posted revenue of 12.4 billion euro's and profit of around 750 million euro's. For further information please visit: www.siemens.co.uk/healthcare.

About Siemens in the UK
Siemens was established in the United Kingdom 168 years ago and now employs around 16,000 people in the UK. Last year's revenues were £4.1 billion. As a leading global engineering and technology services company, Siemens provides innovative solutions to help tackle the world's major challenges, across the key sectors of energy, industry and healthcare. Siemens has offices and factories throughout the UK, with its headquarters in Frimley, Surrey. The company's global headquarters is in Munich, Germany. For more information, visit www.siemens.co.uk

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About the Science Museum
For 100 years, the Science Museum has been world-renowned for its historic collection, remarkable galleries and inspirational exhibitions. With around 15,000 objects on public display, the Science Museum's collections form an enduring record of scientific, technological and medical

change from the past few centuries. Aiming to be the best place in the world for people to enjoy science, the Science Museum makes sense of the science that shapes our lives, sparking curiosity, releasing creativity and changing the future by engaging people of all generations and backgrounds in science engineering, medicine, technology, design and enterprise. In 2008/09 the Science Museum was proud to have been awarded the Gold Award for Visitor Attraction of the Year by Visit London and a Silver Award for Large Visitor Attraction of the Year by Enjoy England. The Science Museum works with a number of partners and retains editorial control over all gallery content. www.sciencemuseum.org.uk