

Press Release

Better quality of life and higher safety standards for diabetes sufferers

New glucose sensor technology designed specifically for children and adolescents

Graz, March 11th, 2013: In Europe, 55 million people suffer from diabetes mellitus (Source: International Diabetes Foundation). Dealing with diabetes as part of daily life is not easy. The devices used for monitoring blood glucose and dispensing insulin are bulky and awkward to handle, particularly for adolescents and children. A more serious problem is that the devices sometimes produce inaccurate measurements or delivery errors. This can lead to life-threatening complications resulting from low blood sugars known as hypoglycaemia or high blood sugars known as hyperglycaemia.

Thanks to a multi-disciplinary consortium centred around JOANNEUM RESEARCH HEALTH - Institute for Biomedical and Health Sciences, there is potential for significant innovation for diabetes treatment: a "single port instrument" will be developed to simultaneously measure glucose and administer insulin. Professor Thomas Pieber – a well-known expert in the diabetes research community – coordinates the EU project SPIDIMAN (**Single-Port Insulin infusion for improved Diabetes Management**), which has a total budget of almost EUR 6.4 million. The project is based on novel glucose-sensing technology developed by JOANNEUM RESEARCH and the Technical University of Graz. The single-port device that will be developed in the SPIDIMAN project will improve glucose measurement and insulin delivery, which will lead to better glycaemic control in patients with insulin-dependent diabetes.

The aim is to make living with diabetes much easier for all but with more emphasis on children and adolescents – the special target groups of this project. *"The new device, with its improved sensor accuracy, faster response time, wider dynamic range and a better signal stability, has the potential to ease the daily lives of diabetes patients, especially during childhood and adolescence,"* says Dr. Martin Hajnsek, who has worked intensively with medical sensors for over 13 years.

The ambitious goals of the consortium can only be achieved through active research collaboration among these international network partners with their complementary expertise. The project brings together small and medium enterprise companies (SMEs), universities and hospitals. Rescoll (SME, France) will develop the coating technology for measuring glucose. Quality control in the standardisation of the coating will be the responsibility of AKIRA Technologies (SME, France). Pyro Science (SME, Germany) will develop the optical glucose reader for use outside the human body. The University of Cambridge will adapt existing algorithms for controlling blood glucose in the new system, with particular emphasis on the needs of children and adolescents. JOANNEUM RESEARCH is responsible for integrating the different components into a complete system for regulatory compliance and patient safety. At the Profil Institute for Metabolic Research (SME, Germany), the Medical University of Graz and the Centre Hospitalier de Luxembourg, the new technologies will be tested in adults and children with diabetes. Austria's BioNanoNet manages the project administratively.

Facts & Figures

♣ Through the EU project SPIDIMAN, a new glucose sensing device will be developed, which will enable more accurate measurements, faster response times and more accurate insulin delivery.

♣ 9 Partners: JOANNEUM RESEARCH, Medical University of Graz, Rescoll, AKIRA, Pyro Science, Profil Institute for Metabolic Research, University of Cambridge, Centre Hospitalier de Luxembourg, BioNanoNet

♣ Project volume: EUR 6.4 million

♣ Project duration: November 2012 – October 2016

♣ The improved technology will make daily life easier for diabetes patients, especially children and adolescents.

♣ web: www.spidiman.eu

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