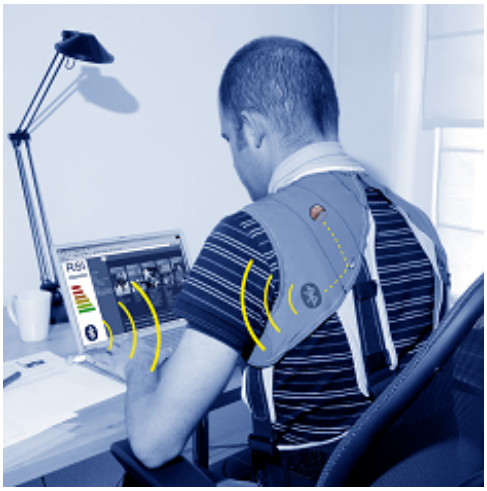
ConText project develops intelligent clothing for preventing muscular disorders and sharpening athletic performance

The Netherlands, September 12, 2006 - A group of European companies and academic institutions today announced that they have joined forces in a new consortium to address one of the most significant work-related health problems in Europe – the high number of work-related musculoskeletal disorders. Member of the consortium are Philips Research, the Textile Research Institute Thüringen-Vogtland, the Netherlands Organization for Applied Scientific Research, Clothing Plus Oy, the Technical University of Berlin and the University of Leuven. In the so called ConText project they will develop preventative solutions in the form of intelligent clothing that automatically warns users of impending muscle strain. The results of their work will also have important applications in other areas, for example, sports and fitness centers, medical institutions, rehabilitation centers and hospitals. The consortium is open to discussion about new application scenarios with interested parties.

To fulfill its mission of providing a comfortable and easy-to-use preventative method of avoiding exertion-induced musculoskeletal disorders, the ConText project will develop ways of integrating electrodes into clothing in order to pick up the electrical potential generated by muscle cells when they contract (surface electromyography), together with the integrated electronics needed to analyze and interpret these electrical signals. Because they are an integral part of the clothing, these electrodes do not have to be positioned and attached to the skin by a clinician in the way that conventional electromyography electrodes do.

The result will be comfortable intelligent garments that provide instant feedback to the wearer on whether they are using their muscles correctly and within their physical limits. For workers it will mean continuous 24-hour on-the-job protection against disorders such as pulled muscles, slipped discs and repetitive strain injury (RSI). For athletes, it will give them the ability to continuously optimize their technique without risking serious injury. In hospitals and medical centers it will mean the early identification and improved management of musculoskeletal disorders and better rehabilitation strategies.

“The individual partners provide the technologies that are needed to implement this type of intelligent clothing, such as the weaving techniques needed to incorporate conductive fibers into material and the micro electronics technology needed to analyze electrical activity in the muscles is already known,” says ConText project manager Geert Langereis, senior scientist at Philips Research, “It is our task to integrate all these technologies into effective and easy-to-use solutions.”



Any job or activity that requires either repetitive movements or a fixed posture can result in musculoskeletal discomfort. Persistent strain on the associated muscles and tendons can also lead to psychological stress, which in turn adds both to the risk and the sufferer's perception of physical wear and tear. Musculoskeletal disorders not only put athletes out of competition for months, they also have a significant impact on industrial productivity. In Europe alone, they affect around 40 million workers and account for 40% to 50% of all work-related health problems, with the consequent loss of European GNP estimated at somewhere between 0.5% and 2%.

The ConText project (CONtactless Sensors for body monitoring incorporated in TEXTiles) is partly funded under the European Union's Sixth Framework Programme (IST-2004 027291). The consortium's initial research and development program will run until mid 2008.

About the ConText project

The ConText project is a Specific Targeted Research Project (STREP), partly funded by the IST program of the European Commission's 6th Framework, and will address one of the most significant work-related health problems in Europe – the high number of work-related musculoskeletal disorders. The project has started on January 1st, 2006, and will run for 30 months. The ConText project is carried out by a consortium that consists of two industrial partners, Philips Research (the Netherlands) and Clothing Plus Oy (Finland), two industrial research institutes, the Netherlands Organization for Applied Scientific Research (TNO, the Netherlands) and the Textile Research Institute Thüringen-Vogtland (TITV, Germany), and two university partners, the Technical University of Berlin (TUB, Germany) and the University of Leuven (KUL, Belgium).

More information can be found at:

'(European) Commission asks workers and employers what action should be taken to combat musculoskeletal disorders'. Available at:
http://europa.eu.int/comm/employment_social/news/2004/nov/musculoskeletaldisorders_en.html

European Agency for Safety and Health at Work Report 'Work-Related Neck and Upper Limb Musculoskeletal Disorders'. Available at:
http://agency.osha.eu.int/publications/reports/201/en/index.htm

Project webpage: http://www.context-project.org/

Or contact "Global Technology Public Relations Text100"
http://www.text100.com/