Press release

Two digit growth rates expected for electronic devices worn close to or at the body

The Wearable Technologies Show presents the latest technologies and innovative products at the MEDICA, November 14-17, Messe Duesseldorf

Herrsching, 25.10.2012 – Electronic devices worn at or close to the body are expected to grow in the two-digit range over the next few years. According to researchers those technologies have the most potential for groundbreaking innovations.

These numbers were released quite recently by IHS IMS Research, the official research partner of Wearable Technologies. Christian Stammel, CEO of Wearable Technologies Service GmbH thinks that the partnership with this research institute for the electronic industry complements the WT research perfectly: “For the Wearable Technologies Community and its world leading B2B market place it adds enormous value, that such a reputable research institute like IHS IMS included the growing market of Wearable Technologies into their portfolio of professional market research.”

Theo Ahadome, Senior Analyst at IMS Research considers healthcare the most important application area: “Wearable health monitors meet the needs of healthcare providers for reliable and actionable patient data that can assist in improving patient outcomes. There is increasing clinical evidence of the value of continuous physiological data in managing chronic diseases and monitoring patients’ post-hospitalisation. As a result, a growing number of medical devices are becoming wearable, including glucose monitors, ECG monitors, pulse oximeters and blood pressure monitors.”

The latest figures speak volumes: According to Ahadome “The world market for Wearable Technology in healthcare and medical is projected to exceed $2.9 billion in 2016, accounting for at least half of all wearable technology sales.”

"Mid-range forecast. Note that the size of bubble indicates the projected size of the application market in 2016"
Christian Stammel supports those detailed figures and observes this trend in medical technology for several years. The Wearable Technologies Show will take place at MEDICA for the third year in a row with a booth full of novelties. Together with its partners it shows what is already possible in healthcare today.

Both established companies as well as newcomers to the industry use the unique B2B marketplace to present their latest developments in the field of healthcare. Therefore not only market-ready products, but also prototypes and research projects will be shown.

Partners of this year’s Wearable Technologies Show at the world’s leading medical trade show MEDICA are:

**4DForce: Control your body with your mind**

4DForce presents a unique technology to control biological processes with your mind. The reduction of stress allows us to lead a more relaxed, and thus healthier, life.

The company uses an established technology known as biofeedback, which has already proven successful in the treatment of diseases like ADHS, depressions, epilepsy, migraine and other neurological disorders. The technology is now available for other applications also.

**9Solutions IPCS: Cloud based RTLS, real-time locating solution and application platform for healthcare and security segments**

9Solutions manufactures and sells 9Solutions IPCS - a wireless Bluetooth and cloud based real-time locating solution and application platform for healthcare and security segments.

IPCS enables advanced indoor tracking of people and objects with wearable IPCS Tags, mobile phones and other Bluetooth devices. IPCS offers efficient assets utilization, improved employee safety, process data collection and location-based communication. 9Solutions IPCS has an open API for integration with legacy solutions.
**AiQ Smart Clothing BU of Tex Ray Industrial Co. Ltd: BIOMAN**

AiQ focuses on smart textiles and ICT vertical integration for healthcare as well as fitness systems and instrument development. The durable conductive textile makes BioMan™ – a continuous vital sign monitoring solution combined with fashion and style. AiQ provides a complete solution including smart clothing and sensing devices as well as application software to any potential customer.

The latest smart sleeves design not only obtains heart rate, respiration rate and skin temperature but also sustains a long wash cycle to make smart clothing a tangible solution to customers.

Additional Electrophysiological signals like ECG, EEG or EMG as well as skin hydration and HRV can be incorporated into BioMan™ to fit customers’ applications. AiQ also carries other smart clothing based on further applications like lighting, heating, shielding as well as many other safety and fitness related developments.

**AVERY DENNISON MEDICAL SOLUTIONS: Metria™ Wearable Sensor Technology**

Metria™ Wearable Sensor Technology is a new platform of patch-based wearable sensors for remote personal monitoring that track and deliver physiological data. Applications include health and wellness, sports and fitness, and cardiac monitoring.

**BODYTEL: GlucoTel, PressureTel und WeightTel**

BodyTel products support patients with home diagnostics for chronic illnesses, prevention, and lifestyle changes advised by medical professionals. The BodyTel products GlucoTel™ (blood glucose meter), PressureTel™ (blood pressure meter), WeightTel™ and WeightTel™ Pro (scales) are based on a central infrastructure. All devices possess an integrated Bluetooth module, which allows them to automatically and wirelessly send the measured body values to a transfer station (patient’s home gateway or cell phone). This station fully automatically forwards the received values then to a secure online database, using a protected
internet connection (SSL encryption). The entire transfer process takes place automatically and in real time, without the patient having to do anything. In addition to the simple viewing of data, all support persons have the option of actively having an alarm sent to them under defined conditions. As soon as a transferred value exceeds or falls below a pre-defined threshold, the support person is informed in the desired way (e.g., by text message, e-mail, or fax). This enables, for example, a fast reaction in the event of a risk of hyperglycaemia or hypoglycaemia in a patient with diabetes.

**CSEM: Patient-monitoring technology**

Today’s medical device technology is able to measure physiological parameters such as ECG, blood pressure, body core temperature, SpO₂, cardiac output etc., at a clinic or physician’s practice. It generally remains highly challenging however to measure them non-invasively and unobtrusively under ambulatory conditions - e.g., during daily activities or exercise.

CSEM’s patient-monitoring technology integrates innovative sensing and processing technologies into wearable devices and smart clothes. The key to its success resides in advanced signal processing concepts on embedded low-power platforms, providing continuous assessment and feedback of personal health status. The combination of CSEM’s patented multi-parameter sensor technology and cutting-edge data transmission techniques provides the potential to assess, 24/7 in real time, the user’s health status, with full consideration for comfort and ergonomic standards.

**Danfoss: PolyPower Sensor**

Danfoss PolyPower A/S is a start-up company within the Danfoss group, focused on development and commercialization of its novel proprietary electroactive polymer technology. The first new design based on PolyPower technology is unique large strain stretch sensors enabling safe and precise measurements of displacement on or close to the human body, such as motion, breathing, swelling, gait, posture etc.

The capacitive principle of the sensor enables high accuracy and repeatability. PolyPower sensors feature a robust and unobtrusive design and are easy to integrate with textile and wearable devices, making the sensors a perfect match for many applications within medical and sports. Danfoss PolyPower is interested in developing sensor solutions for specific applications and forming partnerships with manufacturers within the field of Wearable Technologies.
**DUALIS MedTech: Space for medical Innovation**

DUALIS MedTech GmbH is an innovative medical technology company based in Germany, and certified according to EN ISO 13485. The company specializes in mechatronic miniaturized systems, functional surfaces, as well as pump-, membrane-, and wireless technologies in the area of intelligent implants. DUALIS offers research and development services, as well as technologies developed in close collaboration with the German Aerospace Center. As a full-service partner, DUALIS offers other companies in the industry comprehensive services, from concept to the approval of medical technology products.

**EXEL: Inertial sensors based on MEMS technology and wireless communication (Bluetooth™) made for the monitoring of movements**

EXELs is a family of inertial sensors based on MEMS technology and wireless communication (Bluetooth™) made for the monitoring of movements. They’re particularly suitable for use in the medical field as a wearable device for the analysis of body movements.

Other areas of application include scenarios of virtual reality, multimedia interactions and monitoring of industrial plants. The integrated Bluetooth technology allows the immediate interface with a wide range of devices (PC, Tablet, Smartphone) without any additional hardware. The data can be transmitted via radio to a distance of 10 meters indoor and / or stored on the internal flash up to 1GB. Algorithms for collision detection, correction of the positioning, orientation estimation, and motion analysis can be implemented on-board.

**HMM Diagnostics GmbH: hLine-Online.com and hFon plus Touchscreen Smartphone with integrated blood glucose measuring instrument**

hLine-Online.com is a telemonitoring complete system and a suitable infrastructure at the same time: Vital data for different interests are determined with a wide portfolio of smartLAB measuring systems. The new generation of the telehealth smartphone hFon measures blood glucose with an unremarkable integrated measuring instrument. The measured data are automatically shown by hFon plus and transferred to the diabetic diary in hLine-Online.com.

A specific feature of hLine-Online.com is the mentor function which allows family members or doctors simply to support persons with chronic illnesses.
A mentor is a responsible person, who accompanies the patient (the mentee) to reach a better wellness. A mentor can support several mentees. With the mentor function a family member or a doctor can check the vital data of the patient. Besides, a mentor can take over all settings, as for example for medications, measurements or devices.

**Imec: Wearable, low power EEG headset and ECG Patch**

Imec will highlight latest achievements in technology for wearable body sensors. In particular, Imec will demonstrate a prototype of a wireless body sensor that integrates an ultra-low power electrocardiogram (ECG) system-on-chip and a Bluetooth 4.0 radio. The system measures ECG and includes 3D-accelerometer. It also simultaneously measures the electrode-tissue impedance, which provides real-time information on the contact quality and can be used for motion artifact filtering. The heart rate is computed locally in the system using proprietary algorithm and ultra-low-power DSP, achieving reliable heart rate measurement at extreme low-power.

Heart rate and 3D-accelerometer data is stored in the system, or streamed to a smart phone. Proprietary algorithms are then used to extract energy expenditure, with 90% accuracy when compared to reference system (indirect calorimeter system). Imec will also demonstrate a prototype of a wireless EEG headset enabling reliable high-quality wearable EEG monitoring systems. The system combines ease-of-use with ultra-low power electronics. Continuous impedance monitoring and the use of active electrodes increases the quality of EEG signal recording compared to former versions of the system. The data are transmitted in real-time to a receiver located up to 10m from the system.

**LAIRD: Bluetooth® Enhanced AT Data Module (BTM44x series) with Health Device Profile**

Laird Technologies designs and manufactures customized, performance-critical products for wireless and other advanced electronics applications. The company is a global market leader in the design and supply of electromagnetic interference (EMI) shielding, thermal management solutions, wireless automation and control systems, signal integrity components, telematics solutions, antenna solutions, and embedded wireless solutions.

Laird Technologies has a global presence with 46 engineering, manufacturing, and sales facilities located in 16 countries across North and South America, Europe, Asia and Africa.
Embedded wireless solutions from Laird Technologies include Summit Wi-Fi radio modules, a full line of Bluetooth® radio modules, and innovative Range-Amplified MultiPoint (RAMP) radio modules. These modules provide secure and reliable wireless connectivity for millions of devices in challenging environments including hospitals. Increasingly, medical device manufacturers are turning to Laird Technologies for embedded wireless solutions that meet and even exceed the most stringent requirements.

**Moticon: World's first fully integrated and wireless sensor insole**

The sensor insole of the Moticon GmbH can be used in any shoe, and measures the pressure distribution and further motion parameters of patients and athletes. It is currently used for everyday patient monitoring, for rehabilitation measures (e.g. after osteosynthesis) and for training analysis in top-class sports (e.g. skiing). Together with powerful firmware and PC software, the sensor insole is offered as ready-for-use measurement system OpenGo science.

The software has outstanding functionality and ease of use, and does not require specifically trained personnel. Moticon aims at supporting patients and athletes by providing audio feedback. Such applications target the end customer market. Moticon has gathered broad expertise in this field during the past years. In 2010, Moticon was awarded the international innovation award brandnew as product of the year by the ISPO sporting goods trade fair.

**NUUBO: New-generation dynamic, wireless and remote cardiac monitoring platform**

Nuubo provides a new perspective on cardiac remote monitoring. The company designs, manufactures and sells a portfolio of innovative wearable medical technologies for cardiac prevention, diagnostics and rehabilitation solutions. It is based on a wireless dynamic ECG remote monitoring platform that incorporates proprietary biomedical e-textile technology (*BlendFix® Sensor Electrode Technology*). This portfolio allows for an improvement in the lives of cardiac patients while it optimizes key resource (facilities and practitioners) utilization by the healthcare provider.
**TmG-BMC: Monitoring local muscle fatigue while performing exercise – MC sensor**

TMG-BMC presents the new MC muscle contraction sensor. The MC sensor measures muscle mechanics directly and selectively under different loads and during exercise. It provides crucial information about individual muscle function in terms of muscle contraction and relaxation speeds and produced force. Direct selective muscle assessment offers a totally new approach to injury prevention, rehabilitation monitoring and training optimization particularly in speed development, where it directly measures local muscle fatigue as muscle function deteriorates.

**VARTA Microbattery: VARTA CoinPower**

VARTA Microbattery GmbH presents rechargeable primary batteries for high demands. The portfolio ranges from special power pack solutions for medical products to Hydrogen Gas Generating Cells for analytics or sensing, reliable Silver Oxide Button Cell batteries and the new Nickel Zinc Cells. Those button cells are the ideal supplement and an alternative solution to silver oxide technology. Besides that the leading battery manufacturer VARTA shows the rewarded VARTA Lithium Ion Battery “CoinPower” representing an ideal battery solution for medical devices like insulin pumps.

For more information about our exhibitors please visit our stand at: **Wearable Technologies Show, hall 15, booth C03**

or request contact communications manager:

Wearable Technologies Service GmbH  
Frau Sonja Grondey  
Madeleine-Ruoff-Str. 26  
82211 Herrsching  
+49 8152 90 99 047  
s.grondey@wearable-technologies.com