



Active Odor Control

Polygiene inhibits the growth of bacteria, and as a result, it eliminates the cause for odor – for the lifetime of a garment.

page 2



The Recycled Alternative

Thinsulate™ Insulation with recycled fibers is a positive step towards a more sustainable environment.

page 3



Ultra Low Power Bluetooth

Wireless technology with low power consumption and tremendous battery life for sports applications.

page 3



Ventilated Motorcycle Jacket

ENTRAK is expanding its range of innovative personal cooling apparel with its [ventilationWear] range.

page 4

Forward-thinking topics for early movers



Daily panel discussions at the WT area (hall A6/booth 118) each held at 12:00 p.m.:

Sunday, 01.27. Wearable Technologies & Motion Sensor Technology – New trends in the use of movement sensors in sports

Monday, 01.28. Mobile Entertainment and Sports Meet Wearable Technology (in cooperation with the Bluetooth SIG)

Tuesday, 01.29. Navigation in the WT Market – A crucial trend for specialist retailers

Wednesday, 01.30. Green WT – Ecologically correct WT products

Creating new potentials

Dear ispo sports community,

what would sport be without new technologies and innovative materials? From the booming market for GPS devices as well as accessories themes like headlamps through to heatable shoes, jackets and gloves.

Wearable Technologies – WT for short – has firmly established itself at the ispo and we are pleased to be able to present to you the latest technologies and materials in our outdoor hall A6.

The WT show demonstrates how real added-value is generated for the customers from the combination of sport, fashion and lifestyle with current trends from the electronics and material industries and how new revenue potential is created.

The WT platform has established itself as a market place for networking and exchange of experiences not only for the specialist sports trades and the sports industry, but has also achieved completely new exhibitor potentialities. So for the first time at this ispo, "Analogue Devices", one of the leading semiconductor manufacturers in the world, will present new applications for motion sensors, and the

Bluetooth Special Interest Group (SIG) will present a new "low power" transmission standard especially for the sports market.

Of great interest for the sports industry is certainly also the subject "Green WT". To this end 3M will present its new product "Thinsulate™ Insulation with Recycled Fibers" and the ispo winter 08 is devoted to this subject additionally combined with the partner project "ECOONE" in direct proximity to the WT area.

Also use the daily top-class panel discussions at the WT area in order to limber up for the direct dialogues for the coming business.

The retail trainees will also be introduced to the subject of Wearable Technologies through the ispo trainee project. The specialised trade will thus be deeply strengthened in its expertise and can also hold its ground with new technological subjects by means of good advice versus price aggressive competitors.

I am pleased to be at an exciting ispo winter 2008 with you and wish you a successful trade fair visit.

Yours, Tobias Gröber
Head of ispo Group



3M

Thinsulate™ Insulation with recycled fibers contains 50% (±3%) recycled polyester fibers made from post-consumer waste.

WTnewsflash

Complete heating systems for sports apparel

Sefar PowerHeat fabric is a quick heating, particularly light and air permeable fabric, suitable for a wide variety of applications. The fabric is washable and the circuitry is also completely insulated. Recently Sefar has offered one stop shopping by supplying a complete heating system, including battery, temperature control, connector cables and charger.

<http://powermatrix.sefar.com>

Magellan reinvents handheld GPS

The Magellan Triton 2000 was designed to be the ultimate handheld device for any adventurer. Ready to use out of the box with built-in base maps, the Triton 2000 features a newly redesigned user interface with color, 2.7-inch QVGA touch screen that enables the easy selection of routes, waypoints and other features.

www.ppm-gps.de

Measure your jumps

Microsport's AirtimeSensor measures the duration and the quantity of jumps of snowboarders and skiers on ski jumps and in a halfpipe. Analog Devices' ADXL322 iMEMS® accelerometer detects the jump and the landing with an accuracy of 1/100 of a second. The AirtimeSensor is worn on your thigh with an elastic strap. All data can be easily reviewed on the display with backlight of the device.

www.microsport.de
www.analog.com

Where fashion meets technology!

WT

WEARABLE TECHNOLOGIES

WT conference '08

Applications, Sales & Opportunities

JULY 7, 2008 at ICM

SEE YOU AT ISPO SUMMER!
JULY 6 - 8, 2008

Polygiene® Active Odor Control boosts wearer confidence

Wearer confidence just as important as wearer comfort

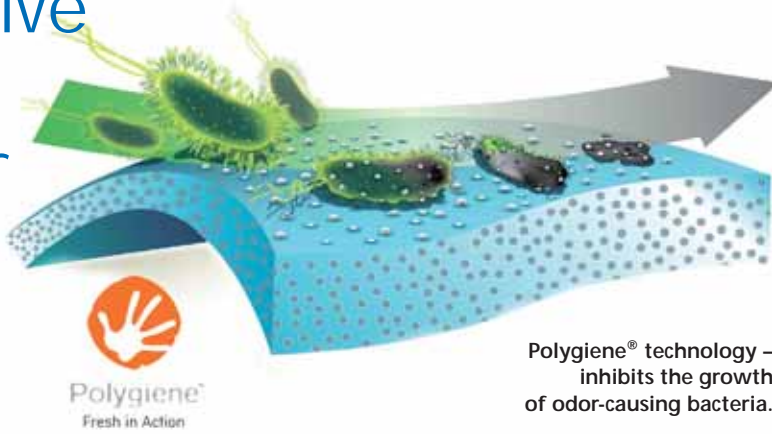
Pioneer and worldwide supplier of antimicrobial solutions Polygiene AB introduces Polygiene® Active Odor Control, a new eco-friendly product that inhibits the growth of odor-causing bacteria on high performance active wear fabrics. This innovative solution keeps apparel, shoes and gear odor-free and gives wearers fresh-all-day confidence.

Hygienic, odor-resistant fabrics are fast becoming the next-generation sensation for functional high performance active wear and gear, thanks to Polygiene® Active Odor Control.

Clothing, footwear and gear usually start to smell after a workout. That's not because the sweat itself smells but because warm, moist fabrics – even when enhanced with a moisture control system – are the perfect breeding grounds for odor-causing bacteria. Polygiene® Active Odor Control renders virtually any fabric type odor-free.

How it works

Polygiene's active ingredients are natural silver salts that have long been used as antimicrobial agents in healthcare products, such as eye drops and bandages. Coating threads and yarns, fabrics with this environmentally friendly solution creates a natural shield that prevents odor-causing bacteria from settling into the fabric structure. Finished garments and gear can also be treated to achieve the same effect.



Fresh-all-day confidence thanks to Active Odor Control

Polygiene's odor-inhibiting properties remain part of the fabric structure itself, do not alter the fabric's original characteristics and last the lifetime of the product. The antimicrobial solution is also available as a convenient spray and wash-in solution for untreated garments and gear.

Safe and eco-friendly

Polygiene is on the Oeko-Tex list of accepted bioactive substances. An ecologically sound product, it has received high marks in stringent third-party allergy and skin tests and does not contain any harmful substances. Plus Polygiene recycles silver salt particles used in our manufacturing processes to minimize any negative impact on the world's natural resources.

> www.polygiene.com
> WT show hall A6 booth 118

WTnewsflash

> 72 clicks – 360 degree visibility

The new 3M Scotchlite Reflective Material Spoke Reflectors cater for the improved visibility of cyclists in the dark. With one click the 72 small tubes can be easily clipped to the individual spokes of the front and rear wheel. Conventional yellow spoke reflectors only reflect the beam of the headlights in places and around a distance of 80 m. A bicycle equipped with the 3M product, by contrast, is already visible at a distance of up to 160 m – and this from all sides.

www.3m-scotchlite.de



Why it is important to be visible

Every year people in Germany are injured or even killed in road traffic accidents because they are just not seen or not seen in time. The prevention of such accidents by means of clothing with retroreflective materials can significantly help to reduce the risks of such accidents.

Retroreflective materials are very different in their effectiveness from normal diffuse reflection, as we usually encounter them in everyday life. The special product composition allows the striking light to be exactly reverberated to the light source. Its effectiveness can only be recognised when the observer possesses a light source in the immediate direction of their line of vision.

When driving a car, for example, this is the headlight. This effect of the retroreflection is only ensured by means of very technologically elaborate production facilities.

It is also important that the contrast, when looking, is as high as possible. Blue or red reflective materials can not generally perform

and are considerably darker than white (silver that reflects the white) or yellow.

360° visibility

As a leading supplier of reflective functional materials, 3M has developed the "360° Visibility" concept on the basis of current studies. It supports this concept from the development of the design up to the successful marketing of fashionable leisure, sport and children's clothing with the CE certified added benefit of "visibility in twilight and darkness". 360° visibility means here the optimal all-round visibility of the wearer of the article of clothing.

> www.scotchlite.de
> WT show hall A6 booth 118



SPRING-CHECK Running shoe inspection

- still supports
- still cushions
- exchange for new shoe
- free inspection



achillex
www.achillex.net

Do not hesitate to consult our staff.

Unique – worldwide: Achillex shoe-check system

Gait analysis at sports medicine's highest standard

Achillex is the first system ever to detect wear related loss of function of running shoes. The original data of the shoe is stored as a benchmark for periodic service check-ups. The check-up ensures that any changes and wear symptoms are detected for timely and appropriate action and replacement.

Shoes have a lifespan of approximately 800-1000 running kilometers. When used beyond this range the material starts to lose stability, thus considerably increasing the risk of injury. Outward signs of material fatigue only become visible after a far greater mileage.

Achillex is the first system worldwide to be able to test a shoe for stability and thus detect material fatigue at an early stage. Check-up measurements are performed directly at the retail store. The original reference data can then be compared at regular in-

spections with the current data and any loss of function can be calculated.

This unique service represents real added value for all existing and potential customers – the value that lies in protecting their health.

The way you move is as individual as a fingerprint. Clearly, the features of a sports shoe have to match the runner's personal motion profile. One normally does not detect a mismatch until pain develops, and that is too late. Achillex evaluates shoes from different manufacturers and finds the one which optimally supports your own running style.

Achillex tests a shoe for stability and detects material fatigue at an early stage.



Ultra low power *Bluetooth* technology:

The new wireless frontier



Mike Foley, Executive Director, Bluetooth SIG

The wireless revolution sweeping consumer electronics has manufacturers of devices that need long life from a small battery struggling to find a complementary wireless technology. Makers of sensors for sports, health and fitness are in this camp, while manufacturers of products like watches have never even considered going wireless because of the limited options available.

Several wireless technologies have tried to address the needs of the long-battery-life market, but most have been proprietary and have garnered little industry support. ZigBee, with a consortium of manufacturers behind it, is one of the few exceptions. However, none of these technologies let smaller manufacturers plug in to a global standard.

What's more, today companies that want to make their small devices wireless must also build and sell either a

dedicated display unit or an adapter that connects to a computing platform such as a mobile phone, PC or iPod. There have been few successful products that have followed this route to market.

A new flavor of *Bluetooth* technology might be just the answer

With more than 1 billion *Bluetooth* enabled devices shipped, including more than 50% of mobile phones sold worldwide, *Bluetooth* wireless technology is the solution of choice for connecting consumer electronic devices. Over half of consumers in many European and Asian countries already own at least one *Bluetooth* en-

abled device, and the brand is recognized by a majority of consumers worldwide.

Bluetooth wireless technology has established the standard for usability, ease of setup and compatibility across all manufacturers. A well-established set of *Bluetooth* profiles define the communication needs for a wide range of applications, making it easy for a manufacturer to add *Bluetooth* wireless connectivity to new devices – from phones to headsets to printers – with a minimum of programming and testing work.

Bluetooth technology's years of software development, testing and validation experience, and consumer brand recognition are a tremendous advan-



Bluetooth technology is creating a vast market for sensors, watches and other sports applications.

tage for any device that bears the *Bluetooth* logo. The current *Bluetooth* radio delivers a combination of fast data rate and low power consumption that has proven to be right for a range of mobile phone and PC applications, including hands-free communication, streaming music, printing and file transfer. But its speed is wasted in applications that require only small bits of information to be sent.

Mobile phone is becoming the computing hub of the future

The Bluetooth Special Interest Group (SIG) recognizes that no single radio design will ever offer both maximum data rate and maximum battery life. With this in mind, the Bluetooth SIG has focused efforts on uniting several wireless technologies under a single *Bluetooth* wireless umbrella.

At the same time the SIG was focusing on unification of wireless technologies, engineers at Nokia were developing a complementary radio technology called Wibree that uses a small fraction of the power consumed by the *Bluetooth* radio. Wibree shares many similarities with the *Bluetooth* radio and is easily made compatible with *Bluetooth* radio chips.

In June 2007, the Bluetooth SIG announced it would bring Nokia's Wibree under the *Bluetooth* umbrella to create an ultra-low-power version of *Bluetooth* wireless technology. The result: a wireless technology with the same low power consumption and tremendous battery life as ZigBee, but able to communicate with the hundreds of millions of *Bluetooth* devices being shipped each year.

Development of ultra low power *Bluetooth* technology is currently under way, and the Bluetooth SIG expects to announce the first version of

the specification in early 2009 with chip shipments following closely behind. Consumers should be able to purchase the first ultra low power *Bluetooth* enabled products later in 2009.

In addition to creating a vast market for sensors, watches and other existing devices, ultra low power *Bluetooth* technology's ability to connect low power devices to the mobile phone will open new applications. The mobile phone, after all, is quickly becoming the computing hub of the future, combining entertainment, connectivity and data storage in a single device.

Mike Foley is executive director of the Bluetooth SIG. He can be reached through his blog at programs.

▶ www.bluetooth.org/mikesblog

For more information visit

▶ www.Bluetooth.com

▶ WT show hall A6 booth 118

With ultra low power *Bluetooth* technology, for example, it will be possible for mobile phones to support location-based services, allowing users to download schedules from bus stops, product information from a store aisle, or airline schedules from the airport gate.

In the home, the mobile phone could serve as a remote control for the TV, thermostat and even household appliances, or simply direct a smart home to power up or down according to the presence of occupants.

The demand for embedded wireless technology capable of long-lasting, power-independent functionality has existed for some time. Ultra low power *Bluetooth* technology promises a new answer, one with a proven global standard at its heart.

WT news flash

▶ Fabrics made out of recyclable polyester yarns

The rising interest in environmentally sustainable products has also had an effect on the textiles industry. The Swiss knitwear spe-

cialist, Christian Eschler AG is presenting several fabrics which are made out of recyclable polyester, i.e. the so-called "PCR yarns" (post consumer recycled) in its current collection.

www.eschler.com

Achillex' electronics are embedded in clothing. This ensures that these high precision sensors are located at the accurate location on your body.

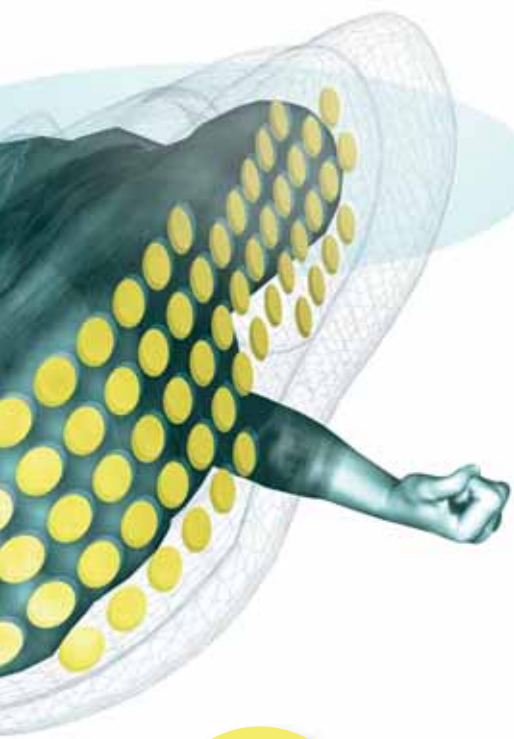
Achillex captures the individual motion via several precise sensors 400 times per second. No detail escapes. Compare this to popular video analyses which usually produce 25-30 pictures per second. Another significant advantage: You wear Achillex on your body and jog as you would off-track. This is important as most people run differently on a treadmill than they do on solid ground.

"Thank you, your run was successful"

The captured data is transmitted to the vest with its integrated microcomputer, graphics display, electronic chip reader and voice output. "Thank you, your run was successful", says the vest, when the required number of steps is reached. It only takes two minutes to complete the measuring.

The dynamic measuring technique guarantees, that the complex coordination between shoe and runner's foot are captured in unadulterated conditions and assessed automatically. The output: A scientifically founded running style analysis and the fitting shoe recommendation.

▶ www.xybermind.net



See you at
hall C3
booth 101C

achillex
www.achillex.de

The Recycled Alternative

Thinsulate™ Insulation with Recycled Fibers

3M has launched a new insulation material to global specifiers. This product contains a blend of recycled polyester staple fibers and olefin microfibers. These unique microfibers help to keep you comfortably warm without the bulk of down.

Thinsulate™ Insulation with recycled fibers will better allow specifiers to design environmentally friendly

products that will directly appeal to over 60% of their target consumers. Using recycled fibers developed from

waste material such as soda bottles and water bottles, Thinsulate™ Insulation with recycled fibers gives new life to resources that might otherwise end up in a landfill. Recycling helps the environment by reducing the need to manufacture virgin materials, which involves greater energy consumption and more air and water emissions. This insulation contains 50 percent (±3%) post-consumer recycled polyester fibers. It contains no harmful substances according to Oeko-Tex Standard 100 and has been awarded the Oeko-Tex Certificate by Hohenstein Institutes.

The global launch of Thinsulate™ Insulation with recycled fibers supports 3M's commitment to sustainable development through environmental protection, social responsibility and economic progress. 3M is committed to pursuing corporate sustainability through environmental protection, social responsibility and economic progress. For more than 30 years,

3M has been working to find ways to prevent pollution in its operations to enhance our environment. The 3M Foundation has contributed millions of dollars to support environmental projects around the world to conserve lands and waters.

▶ www.3M.com/Thinsulate

▶ WT show hall A6 booth 118



Innovative Cooling Technology by ENTRAK

Ventilated sports and leisure clothing

[ventilationWear] for improved physical performance and comfort

ENTRAK based in Wendelstein, Germany, is expanding its range of innovative personal cooling apparel with its [ventilationWear] range and is now demonstrating concrete examples of clothing for the sports sector. Five such examples of ventilated sports clothing can be viewed at the ispo winter 08.

Alongside ENTRAK's core product, the ventilated motorcycle jacket, the Wearable Technologies area at ispo winter 2008 will display ENTRAK's ventilated trekking jacket, outdoor vest, rain jacket, and cross-country skiing jacket.

High outdoor temperatures when performing physical and sporting activity result in reduced physical performance, because the human organism cannot sufficiently compensate for the stress caused to the body by internal and external heat. Research has shown that in high temperatures, it is beneficial to take steps to reduce this thermal stress. [ventilationWear] is a very effective and highly practica-

ble means of cooling the body, increasing its performance during hot and cold weather alike.

Supporting the body's own thermoregulation system

The cooling system is extremely simple and highly effective: The clothing's inner material is constructed from a three-dimensional, non-collapsible spacer fabric. Depending on the wearer's cooling requirements, each piece of clothing is fitted with either one or two air units in the exterior pockets. These air units are connected with the spacer fabric construction and are activated



Extremely simple and highly effective cooling system



at the touch of a button to distribute air evenly through the spacer fabric. The air is circulated to the wearer's entire upper body. Sweaty, damp air is transported away from the surface of the skin and is exchanged with air from outside, supporting the body's own thermoregulation system by increasing the evaporation cooling.

Unlike other personal cooling systems, the cooling can be activated when required and set to suit the wearer's level of physical activity and personal preference. Up to 400 litres of air can be circulated per minute. With just a few hundred grams of additional weight, the units can supply up to nine hours of cooling, allowing the wearer to keep a cool head, concentrate better, and perform better.

Ready for the market: a ventilated motorcycle jacket

ENTRAK is looking at two distribution channels for its range of clothing:

The first is to offer the products listed above directly through retailers, for which ENTRAK will supply the finished products to be sold.

The second involves ENTRAK selling the technical components and licenses required to manufacture the products to third-party manufacturers, which will then handle their own manufacturing and sales of the clothing. This would mean no limits to the variety of clothing manufactured and sold, as the system can theoretically be used in any type of clothing. The first partner that has signed on with the second distribution model is Lodenfrey Service GmbH, based in Garching, Germany, which will manufacture and sell ventilated motorcycle jackets.

► www.entrak.de

► WT show hall A6 booth 118

WTnews flash

► G-CELL Free Motion Communication

The communication glove from Swany, which has been developed together with Teksys GmbH, allows hand-free telephoning on the slopes. The G-CELL is wirelessly paired with your mobile phone via Bluetooth™ and can be tucked away in your ski jacket protected

from the wind and the cold. A flashing LED and a vibration alarm on your wrist informs you of incoming calls. A simple press of a button on the accept call button on the glove is enough to connect you to your caller. A speaker and microphone are found directly in the glove and on the outside of the thumb.

www.teksys.de

SportsCurve – realtime tracking by sport Timing AG

The smallest GPS tool with integrated internet access via GPRS and position request exact to the second. The travelled route is tracked directly over Microsoft Virtual Earth in real time on any map. It allows event organisers and moderators to visualise lengthy routes (e.g. long ski races, marathons) live for audiences and to create exciting moments with the help of important information like speed, altitude difference, top speed and position. The small device is worn directly on

the body or in a jacket pocket. With a battery lifespan of 8 hours, the longest races can also be visualised. A "must-have" for professional event organisers and professionals.

www.sportcurve.com



Race, track, view – more e-motion

FALKE ESS is putting the heat on and measures your activity

See you at
hall B2
booth 406

The first seamless heatable kidney warmer

Extreme weather conditions, low outside temperatures and hour-long constantly changing conditions: winter sports enthusiasts, in particular, require functional clothing that guarantees optimal protection, perfect thermal insulation and good moisture management during the cold season.

With its innovative high-tech kidney warmer, FALKE Ergonomic Sport System is introducing a technical highlight that is individually adjustable, thereby guaranteeing optimal thermal protection for the sensitive kidney area.



Seamless kidney warmer with removable heating element

FALKE ESS kidney warmer features a thin textile-based heating element which is located inside a pouch at the back of the warmer. This is connected via a fine cable, which has been integrated into the material, to a battery in a second side pouch and can thus be heated when required. The wearer can effortlessly remove the heating element and battery, so that the easy-to-

handle warmer can also be worn without the heating function, making cleaning convenient and problem-free.

Thanks to the fine processing using FALKE seamless technology, rubbing and uncomfortable chaffing points are prevented. The special material composition of polyamide and elastane ensure optimum moisture management: sport-induced moisture is carried away from the body via the outer clothing layers. Moreover, elastane provides slight compression and also ensures the perfect alignment to the wearer's body size.

Running tights measure muscle activity

A prevalent area of application for intelligent apparel is the performance analysis in mass sports. While hitherto mainly motion sequences like step counter and step length or the pulse rate have been researched, FALKE now includes another important source of information: the muscle activity.

The intelligent FALKE running tights was elaborated in co-operation with the chair for embedded systems at the University of Passau and the institute for travel and altitudinal medicine at the UMIT in Hall i.T.

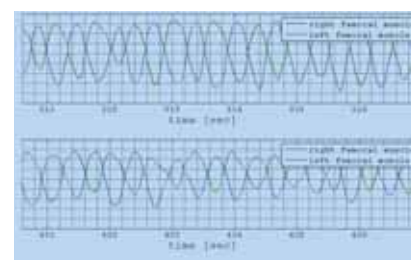
The prototype presented here provides a first insight into future mobile data acquisition systems integrated into sports apparel which will enable the athlete to acquire information on the own muscle activity during sports.

Fine sensitive pressure sensors are integrated into the leg end of the pants and measure the contraction of the various leg muscles and communicate this to an emitter in the trouser waistband. This emitter transmits the data by radio signals to a computer.

That way is not only possible to record the type of movement but also to receive information about the physical strain or exhaustion during sports activities. The FALKE running tights thus make an important contribution towards specifically optimizing and decisively improving training sessions.

► www.falke.com

► WT show hall A6 booth 118



Contractions of leg muscles are measured and transmitted to a computer for individual analysis.



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