NEWCOMERS: CES LAS VEGAS 2019

Every January, CES kicks off the new year with its famous conference celebrating the absolute latest in consumer technologies. Dating back to 1967, this is where many attendees had their first exposure to the videocassette recorder (RIP, trusty old VCR), compact discs, Microsoft Xbox, high-definition televisions, 3D printers, electric cars, and virtual reality.

Wearables at CES: a round-up of our favourites

by Shari Shallard

For the performance and sports materials market, CES has held increasing importance and appeal in recent years, as technology and apparel converge into a growing market of wearables. We combed through the pioneers taking part in this year's event — as award winners, speakers, or exhibitors — and present the most standout examples of how innovative apparel could be changing the sportswear market this year.

But first, what is CES?

Originally called the Consumer Electronics Show, CES is now known solely by its acronym. The conference is produced by Consumer Technology Association, a technology trade association representing the United States' $398 billion consumer technology industry. The massive event welcomes some 182,000 attendees from around the world, who gather to see some 4,400 exhibitors who develop, manufacture, or supply consumer technology hardware, content, and technology delivery systems.

Organisers state, without hyperbole, that this has become the "largest and most influential technology event on the planet".

A skier's dream come true: I-Thermic

In November, CES announced its 2019 Innovation Honorees — products chosen by a panel of designers, engineers, and media, based on each one's design, functionality, consumer appeal, engineering, and how products compared with competitors. This is why we knew, before the doors of CES 2019 even



I-Thermic smart midlayer, a collaboration between Odlo, Twinery, and Clim8, received a 2019 CES Innovation Award.

Clim8

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opened, that one of our favourite products would be the I-Thermic midlayer, winner of a CES Innovation Award in wearable technologies.

I-Thermic addresses a universal truth known both by elite skiers crossing the Swiss Alps and children rolling snowmen in their front gardens: despite freezing temps, it can get awfully hot under all those layers.

The solution lies in I-Thermic's intelligent heating performance midlayer. Providing warmth during periods of inactivity, then adjusting as the wearer becomes more active, I-Thermic removes the need for bulky layers. The unique creation is a collaboration between Odlo, a cutting-edge sportswear company; Clim8, known for its intelligent thermal technology; and Twinery, the innovation source for apparel manufacturer MAS.

Twinery's integrated heating technology works at the yarn level, providing warmth in a garment that stretches, breathes, and can be washed. Clim8's intelligent technology and platform, including a lightweight battery, responds to fluctuations in skin temps and activity levels — combined, individuals are able to keep control of their personal microclimate.

"We believe we have created the soundest and most comfortable next-to-skin heating garment in the market today," Florian Miguet, CEO of clim8, tells *WSA*. "We do not only keep the traditional textile properties, but we are also able to deliver smart and intuitive temperature control thanks to the seamlessly integrated technology."

Fashionable Function Every Day: Seismic Powered Clothing

To deliver the opening keynote for the CES Wearables Tech Summit, Sarah Thomas was asked to focus on the role of fashion in the future of wearables. Ms Thomas, vice president of commercial strategy for Seismic, makers of Powered Clothing, considers this convergence of fashion and function to be a natural fit.

"The emotion evoked by a beautiful piece of clothing, that fits so well against our bodies, effortlessly adds colourful joy and delight to our day," she tells *WSA*. "As we create the next generation of wearables, they too should be comfortable, beautiful and delightful."

This might seem an unusual angle for a company whose origins lie in military-funded research to reduce injury risk and enhance soldier endurance. But listening to Ms Thomas, it quickly becomes clear that every aspect matters.

Powered Clothing consists of three layers. The baselayer, which has interior pockets to hold removable hardware and rechargeable batteries, combines stretch knit and woven fabrics and can be worn as an undergarment or as activewear. The strength layer contains on the outer leg robotic components, up to the hip area and lower back, replicating the functionality of muscles, tendons and ligaments. Robotic "muscles" contract and relax to assist with motion. Sensors on this layer also track body orientation. The intelligent layer is essentially an external pack, worn on the lower back, and includes an onboard computer gathering data from sensors throughout the suit, wireless connectivity, and programmable controls.

"Our clothing is focused on providing core strength, or 'intelligent wearable strength' as we call it," says Ms Thomas. "We have the technical sophistication of onboard computing, advanced sensing capabilities and electric muscles interwoven into the suit to assist with movement." Aimed at anyone from the nine-to-five office worker to retirees out hiking in the hills, the Powered Clothing suit can help minimise discomforts that come with muscle fatigue and doing anything — sitting, standing, lifting, or carrying — for long periods of time.

Ms Thomas was among the speakers interviewed for a live CES event, conducted by well-known US journalist and television host, Katie Couric. During the interview, Ms Thomas said the Powered Clothing strength layer provides 30 watts of power to the hips and back to provide strength at the core, augmenting the strength of wearer. "Their own human strength is still active," Ms Thomas explained, "but really engaging the hip and the core to augment the core strength and core wellness."

During the interview, a male model was demonstrating the apparel, and Ms Couric asked him what Powered Clothing felt like. "It feels like a general push when you're moving," he said, "like if you're walking up stairs and somebody is assisting you up the stairs."

But back to why Ms Thomas' embraced fashion as part of her keynote talk: this fusion of functionality and fashion is critical to Powered Clothing's appeal. At CES, she tells us, the audience was "most impressed with the design; our apparel experts have designed the garments to be functional and beautiful."



Powered Clothing from Seismic gives wearers 'intelligent wearable strength'.
Seismic

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The Scania C-Me Vest calls for help if the wearer falls down.

Scania

A safer driving experience: the Scania C-Me vest

Professional truck drivers must contend with all the risks of being on the road, but a different breed of potential accidents arises when the vehicle is parked. Remaining visible outside the vehicle, for example, can be a challenge. And, as drivers typically operate on their own, a simple fall while unloading cargo can prove to be catastrophic if nobody is around to help.

Scania, a global manufacturer of commercial vehicles, knows these threats all too well, which is what compelled the company to develop the Scania C-me connected safety vest. The vest has built-in communication features, including automatic lighting when a driver exits the cab at night, and alarm alerts that connect to the wearer's phone via Bluetooth. If, for example, a driver experiences an abrupt action followed by inactivity — as would happen in the case of a fall — the vest triggers a call for help. (Help can also be called manually, and an app allows more detailed configurations.)

Peter Hellberg, Scania's product manager for vehicle accessories, acknowledges that individual drivers will have varying levels of comfort with the monitoring capabilities of the vest and can programme their vests accordingly. But, as he says in a press statement: "I'm convinced that anyone who falls from their truck during loading would appreciate fast emergency help."

On-the-go blood pressure monitoring: SKIIN smart shirt

Myant — which calls itself a 'textile-computing company' — had no trouble attracting visitors to their exhibit. "People wanted to know how it was possible," Milad Alizadeh-Meghrazi, Myant's director of R&D, tells *WSA*. "Continuous, non-invasive blood pressure measurement from a polo shirt seemed too good to be true."

CES was the perfect place to unveil the high-tech polo shirt Mr Alizadeh-Meghrazi describes. It's the newest development from Myant's end-to-end IoT [Internet of Things] textile computing platform, SKIIN, which combines sensors and actuators into the fibres and yarns of their wearable smart fabrics. "They had to see it to believe it," he says.

The new SKIIN blood pressure monitoring shirt looks, feels, and can be treated like a typical polo shirt — and yet it is capable of continuously monitoring blood pressure, has bidirectional functionality, and can share information with



The SKIIN smart shirt from Myant conducts continuous blood pressure monitoring.

Myant

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healthcare providers. (The platform already offers a heated baselayer as well as a knee brace that combines electric stimulation and heat therapy, and the company says SKIIN smart underwear is coming soon.)

And, crucial to widespread adoption, the shirt is stylish, washable, and comfortable.

The future of The North Face: FutureLight

The last of our favourites from CES 2019 is found in the high-end outdoors space. When The North Face sets its sight on a problem, the results are usually pretty exceptional — which is what makes the company's CES unveiling of FutureLight so exciting. Planned for launch in autumn 2019, this new breathable waterproof material uses nano-spinning technology to take breathability of waterproof outerwear to a new level.

"Right now, the expectation from a waterproof product is something loud, crunchy, muggy and unpackable," global general manager of mountain sports, Scott Mellin, has said. "With FutureLight we can theoretically use the technology to make anything breathable, waterproof and, for the first time, comfortable."

The compelling CES presentation of FutureLight was the result of The North Face partnering with a design agency to set up a physical and virtual reality experience to demo the fabric's capability. Attendees described the jackets — one of which has been worn by Alpine skier Jim Morrison to summit and ski down Mount Everest — as feeling as light as bedsheets.

We'll be revisiting FutureLight in greater detail in a following issue.



The North Face partnered with Designworks to demo FutureLight with physical and virtual reality experiences.

PRNewsfoto/The North Face

