

TITAS presents the future of Taiwan textile innovation

By Fiona Haran 16 October 2019

Taiwan has entered a 'new chapter' in functional garments, sustainable technology and fashion, digitalised production and intelligent weaving – the results of which could be seen at the annual TITAS event, which returned to Taipei for its 23rd edition on 7-9 October.



TITAS organisers introduce the four key themes at the opening ceremony

Organised by Taiwan Textile Federation (TTF) and under the auspices of the Bureau of Foreign Trade, Ministry of Economic Affairs, TITAS featured more than 100 representatives from international outdoor and sports brands, who participated in more than 1,000

business meetings. The number of exhibitors reached 423 from 12 nations/regions, spread across 1,058 booths – making this year’s event the largest in scale.

Four key themes were in the spotlight this year: Functional applications, sustainability, smart textiles, and intelligent manufacturing.

FUNCTIONAL APPLICATIONS

According to organisers, some of the highly demanded products and innovations currently trending deliver functions such as windproof, water repellence and moisture wicking, super lightweight, downproof, tearproof, and durability.

Such features, they add, have “enabled a brand new lifestyle” that crosses over sports, outdoor, fashion and healthcare. One example from Taiwan is **Sunmor by Erixtex** – a “game-changing” fabric that provides UPF 50+ UV blocking ability with great ventilation, moisture-wicking and anti-odour abilities. According to Erixtex, it protects skin from 98% of the sun’s harmful rays and blocks out 75% of infrared radiation by utilising special yarn and structure. “This sun-blocking ability not only prevents skin damage and ageing but regulates body temperature. Moreover, it’s permanent,” the company says. In addition, Sunmor is lightweight and offers air permeability >200 CFM as well as unidirectional moisture transport. Plus, the product’s anti-odour technology stops 99% of odour-causing bacteria.

“It is way easier and more efficient to wear Sunmor than it is to use sunscreen,” the company adds.

Another example is **Makalot Industrial**, a leading Taiwanese garment manufacturer. Its ‘Live no Limit!’ series presents the athleisure movement in its “finest form, combining ultimate performance features and exquisite design details”, the company says.



Makalot focused on its Live No Limit! series for the athleisure sector

The series, which can be divided into street style, outdoor and urban wear, stems from the boundaries between outdoors and cities collapsing by the style of 'urban active': "Exercise is a way of life instead of an item to be checked on the list," says Makalot.

SUSTAINABILITY

According to organisers, when it comes to sustainability, Taiwanese companies are "learning, sharing and exchanging their concepts, experiences and technologies in green and circular textiles to reengineer, redesign and redefine the textile product chain", and adopting a new kind of business model that can "optimise resource efficiency, cut waste and prevent pollution".

From recycling PET bottles to reusing fishnets and waste materials from the ocean, the latest advancements help to eliminate and recycle to produce textiles for circular economies.

TITAS exhibitor **Nan Ya Plastics**, for instance, has introduced GreenOne to the market – biodegradable polyesters that can be totally degraded within three to four years. Tested by ASTM D5511, the polyesters showed a 20% biodegradation in 200 days, according to the company. GreenOne can be combined with recycled PET bottles, bio-based and heavy metal technologies to achieve additional degradation results.

Meanwhile, **Far Eastern New Century (FENC)** has pioneered the use of supercritical carbon dioxide for a water-free dyeing process for polyester and nylon since 2013. The world's first water-free dyeing technology for nylon was launched by FENC in 2018. The technology not only eliminates wastewater but also significantly reduces the energy, chemicals and time required to dry fabrics, the company says.

At TITAS, FENC also presented its TopGreen membrane – the world's first post-consumer recycled (PCR) hydrophilic polyester membrane. Made from GRS-certified eco-friendly material, the membrane is 100% recyclable. Turning recycled PET bottles into rTPEE membrane, TopGreen membrane delivers 'uncompromising performance' of waterproofing and breathability where users need it most, adds the company.

Yi Jinn presented the latest product from its collaboration with BioSphere Plastic – BioPro – an environmental polyester that improves upon the hydrophilic properties of polyesters. According to the company, BioSphere biodegradable additives enhance the ability for a plastic product to decompose by microorganisms. Enzymes that decompose the plastic compositions will further decompose into simple monomers, which will stimulate further decomposition into anaerobic and aerobic environments, water and remaining bio-weights.



Yi Jinn's stand at TITAS 2019

Intrinsic Textiles Group presented its first product, named CiCLO, in Taiwan. It is a patent-pending textile technology that reduces synthetic microfibre pollution caused by washing and minimises plastic accumulation in landfills due to the discarding of unrecycled

textiles. By partnering with brands, the company offers a biomimetic approach and sustainable solutions for them to easily integrate into their supply chain.

CiCLO technology allows plastic-based fibres like polyester to biodegrade more like natural fibres in marine environments, wastewater treatment anaerobic digesters, and in soil and landfill conditions. Ultimately, textiles embedded with CiCLO become valuable sources of soil matter and biogas, which is captured for energy at wastewater treatment plants and modern-day landfills, according to the company.

GrandeTex is also focusing on the reduction of plastic waste through its signature RICH-y technology, to create the eco-friendly yarn ECO-RICH-y. Besides its sustainable credentials, the yarn is widely renowned for its antibacterial, odour proof and anti-UV qualities that are embedded during the production process instead of using additives, making it long lasting. GrandeTex has expanded its portfolio by introducing RICH spun yarn – cost-effective yarn with high value-added choices.



GrandeTex is tackling plastic waste with its recycled yarn solutions

Another product highlight from GrandeTex is its Recycled Nylon Solution Dye Yarn made with scads from the production process. Through a GRS-certified process, the scads are melted, filtered and coloured before spinning, so no further dyeing is needed. The process saves more than 80% of water consumption and cuts down carbon emissions by 18%, according to the company. GrandeTex

has combined the yarn with DuPont's bio membrane to produce two and three-layer functional fabrics with waterproof and emollient features – “perfect for outdoor brands that seek eco-friendly and functional products”, the company adds.

SMART TEXTILES

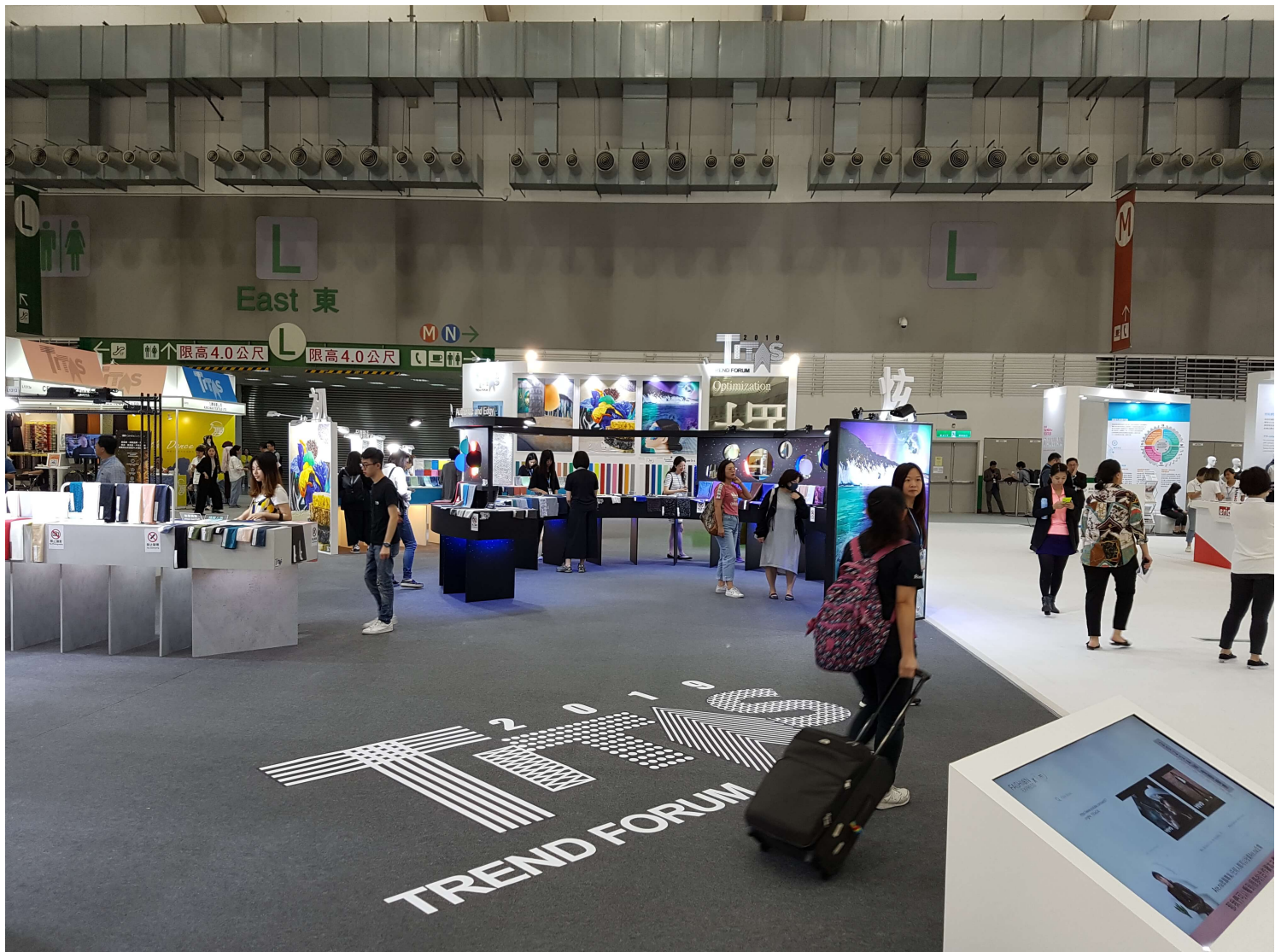
Many exhibitors at TITAS are using innovative fibres or wearable devices, cloud data and wireless transmission devices to integrate temperature control functions for textile products and smart garments that are comfortable and functional. Examples of these devices include A+ Smart thermoregulation clothing and iQmax.

The former innovation, developed by **Formosa Taffeta (FTC)**, is the result of industry collaboration supported by the Taiwanese government. A+ Smart thermoregulation clothing offers comfortable and naturally soft touch along with thermal and light-emitting components. These materials can be monitored through mobile devices including smartphones. The clothing emits even heat, heats up rapidly, is safe to wash, and is ideal for extreme sports or cold climates, according to FTC.

Meanwhile, iQmax by **Asiatic Fiber Corporation** combines fibres with electronics, offering a functional innovative product for use in apparel for a variety of markets. “With this smart textile innovation, we aim to step into the world of wearable technology, such as pressure, temperature and touch sensing elements that can help make garments more interactive and responsive,” the company says.

INTELLIGENT MANUFACTURING

The development of technologies and facilities for Industry 4.0 will help the garment industry step up to automated production and intelligent manufacturing. Technologies presented here include intelligent spreading systems that consolidates all production stages in one stop and technologies that integrate digital applications for online enterprises and database systems.



TITAS demonstrates the latest innovative textile solutions at its Trend Forum

A specialist in this area, **Oshima**, says that artificial intelligence, big data, and digitalisation are utilised to increase production flexibility so the production lines can fully respond to short lead times in order to meet order deadlines quickly. “Advanced production facilities link up the production value chain and result in more professional and flexible services. That is why production technologies have become increasingly important for the textile industry. It’s the key to staying ahead of the competition and driving growth of economic value,” says Oshima.

DATE FOR THE DIARY

The next edition of TITAS will be held on 6-8 October 2020. Taiwan Textile Federation says it will continue to expand the programmes and exhibition scale.

To find out more, visit <https://www.titas.tw/2019/eng/>

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