

INNOVATION Forum Milano Unica, 9-11 July 2024

For several editions now, the TexClubTec Section of SMI has been offering an exhibition Forum dedicated to Innovation with the aim of presenting new ideas and solutions that meet new needs or already existing needs.

In the Forum which will be set up in Hall 3, hundreds of products belonging to the entire textile supply chain will be presented with particular performance or sustainability characteristics as well as AI technologies applicable to the fashion and sports sectors.

Brief introduction to the items on display, grouped by macro product type.

Zippers

Zippers and sliders have evolved into indispensable components of modern clothing, playing a major role in both functionality and fashion. An efficient closure, is not only a convenient means of fastening garments but improves the wearability and practicality of a wide range of clothing items as well as contributing to the aesthetic appeal of the garment itself, allowing designers to incorporate visually striking elements into their creations as contrasting colors, or asymmetric placements rather than being used , for example, as expressive accessories of a certain style etc.

With increasing emphasis on sustainable fashion, zippers and sliders are undergoing innovations in materials and manufacturing processes. Eco-friendly alternatives and recyclable materials are being explored, aligning zipper technology with the broader industry shift towards more environmentally conscious practices.

Furthermore, in end uses where a higher level of performance is required such as sports or workwear, even more advanced materials and technologies are used.

Different types of high-performance zippers in flame-retardant, waterproof and highly resistant or sustainable materials will be exhibited at the Innovation Forum, as well as a garment made entirely of recycled mono-material in regenerated Nylon, accessories included.

Yarns

It will be exhibited:

- Polyurethane yarns with excellent resistance to abrasion, hydrolysis, solvents, oils and greases, UV rays and ageing, permanently antimicrobial. Sustainable, 100% recyclable, solvent-free, and dyed with water-free technology.
- High modulus polyethylene thread for super light shoe applications with high cut and abrasion resistance and protective underwear.
- Recycled yarns and fibres generated from textile waste from the production processes of the textile chain and end-of-life textile products. Favouring zero waste production systems, which allows to move from a linear to a circular economy.

Nets and sewing threads

- Sustainable sewing threads made with recycled high tenacity polyester yarn, GRS 4.0 certified, with a view to a circular, regenerative, zero waste economy.
- Nets made with recycled yarn, GRS 4.0 certified, raw and dyed for both fashion and technical applications; nets in different thicknesses and meshes, treated with special finishes.

Fabrics

Dozens of both flat and knitted fabrics for functional clothing will be presented focusing mainly on characteristics such as: comfort, temperature regulation, moisture management and overall functionality.

Well-fitted and comfortable clothing facilitates unrestricted movement, preventing chafing and discomfort. The choice of fabrics and designs also contributes to temperature control, either by providing insulation in cold conditions or promoting ventilation in hot weather.

Moisture-wicking fabrics are essential for drawing sweat away from the body, maintaining dryness, and avoiding discomfort. Compression clothing can offer support to muscles, reduce vibration, and potentially decrease fatigue during physical activity. Compression garments can enhance blood circulation and muscle support, potentially improving endurance and reducing muscle fatigue.

Compression can be modulated according to the specific needs of the garment, improving fit and functionality.

Various types of fibers used (natural, synthetic, recycled) as well as various structures (flat, knitted or with 3D effects).

Retro-reflective Fabrics

Visibility is crucial, especially in outdoor activities, where bright and retro-reflective clothing enhances safety, particularly in low-light conditions.

Technological advancements have led to the integration of smart fabrics that monitor moisture levels or regulate temperature, contributing to enhanced performance and comfort. Other innovative characteristics are: elasticity, use recycled fibers and bio-resins, high abrasion resistance.

Paddings

Different types of padding:

- made of high-quality recycled polyester from textile waste or one of the most underrated raw materials on earth: plastic bottles certified by Ocean Bound Plastic.
- made of high quality recycled denim certified Global Recycling Standard (GRS).
- in recycled wool-recycled polyester blend. The raw material is Global Recycle Standard (GRS) certified

In particular, a revolutionary textile technology, HeatLock Aero™, will be presented. It is made by combining ultrafine powdered silica aerogel with polyester and ground nanomicro sized clay to enhance the effects. This innovative fiber inherits aerogel's exceptional traits, with remarkably low thermal conductivity. Embodying exceptional attributes of thinness and low density, HeatLock Aero™ offers adaptive performance and insulation that outperforms traditional materials.

Membranes

Membranes are extremely thin films made of polymeric material allowing the passage of water vapor while possessing, at the same time, a high resistance to the penetration of liquids. Various types of membranes will be presented including:

- solvent free membranes made entirely of polyurethane (PU) giving the fabrics advanced technical properties such as water resistance, breathability, wind protection, and thermoregulation, as well as an attractive aesthetic thanks to their lively colouring
- thermosensitive waterproof membranes: 100% hydrophobic PU that change color based on weather conditions and temperature.
- membranes with exceptional breathability and protection from wind and water, to which is added insulating and thermo-regulating wadding to guarantee maximum comfort.

Smart Textiles

Innovative high-performance textile-based impact protection solution based on non-Newtonian materials with dilatant properties known for their impact-absorbing performance.

Torso protectors for American football and MTB pedalable elbow and knee pads for enduro, freeride and trail.

Artificial intelligence

Presentation of a platform designed to facilitate, through Artificial Intelligence, the research and inspiration of motifs and designs for fabrics and prints, capable of generating unique designs in just a few minutes, ready for processing in programs of graphics and CAD.

Application for creating virtual outfits: It is an interactive screen that, thanks to our independent simulation engine, allows you to easily and creatively create and compose various styles of outfits by placing overlapping layers and models already simulated in 3D.