Innovation Awards transmit textile innovations and buying motivation

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Textile innovations and technologies provide impetus for many branches of industry and promise market and sales success far beyond their own sector. 9 winners from 7 categories were honored on June 21, 2022, at the leading international trade fair for technical textiles and nonwovens Techtextil in Frankfurt/Germany.

1st woven heart valve without postfabrication
In the "New Product" category, the Techtextil Innovation Award goes to the Institute of Textile Machinery and High Performance Material Technology (ITM) at the Technische Universität Dresden/Germany. Together with medical product manufacturers and heart surgeons from the Cardiovascular Center Würzburg/Germany and the Universitätsklinikum Würzburg, textile researchers from the ITM have succeeded in developing the world's first woven heart valve that does not require a single seam or other joining technique.

Reuse of waste from a natural source
In the "New Material" category, RBX Créations (France) receives the Innovation Award for a novel cellulose fiber made from hemp waste. The material, named Iroony, was developed with regard to the following question: Hemp is now grown either to make fiber or to produce hemp oil - but could not the two be combined? RBX Créations has now succeeded in developing a process for extracting cellulose from the waste of oilseed hemp. Spun into textile fibers, it can be used to produce sustainable textiles, packaging and other "green" products.

Fiber shielding technology for hospitals, electric cars and server farms
The Techtextil Innovation Award in the "New Technology" category goes to Aachen-based FibreCoat GmbH and Deutsche Basalt Faser GmbH (both Germany) for the joint development of an aluminum-coated basalt fiber. It combines the strength of basalt with the electrical conductivity of aluminum. According to FibreCoat, electromagnetic shielding as wallpaper in buildings in hospitals or server farms, among other places, should be up to 20 times cheaper than with conventional aluminum foil thanks to the new development. Another attractive and particularly fast-growing market is shielding solutions for electric cars.

More sustainable hygiene products such as diapers
Kelheim Fibres GmbH and the Saxon Textile Research Institute (STFI) (both Germany) receive the Techtextil Innovation Award in the "New Concept" category for the development of novel, thermally bonded nonwovens based on cellulose for the production of reusable products with high absorbency. Consumers should no longer have to choose between high-performance or environmentally friendly products. Nature and performance of hygiene products go hand in hand thanks to the innovation of Kelheim, STFI and the Berlin-based start-up SUMO.

Waste from the automotive industry as a resource
Another Techtextil Innovation Award in the category "New Approaches on Sustainability & Circular Economy" honors a process that uses natural leather waste from the automotive industry to produce innovative textile coatings. It was developed by CITEVE, the Technology Center for Textile and Clothing in Portugal, and partners ERT Têxtil Portugal, CeNTI and CTIC (all Portugal). After CITEVE researchers discovered that cutting operations in the automotive industry generate a large amount of natural leather classified as waste, they sought a solution to reuse it.

Compostable textile coating
The Techtextil Innovation Award in the category "New Approaches on Sustainability & Circular Economy" goes to the textile research institute Centexbel (Belgium) for a bio-based and compostable dispersion for textile coatings and printing inks. The new development does not require solvents and brings a completely new type of polymer for coatings and printing inks to the market.

Fashion from pineapple peel
The Italian company Vérabuccia is honored in the "Performance Fashion Award" category for an innovative production process for the fashion and design sector. The patented process is designed to transform fruit waste into fashion highlights. A first material is the so-called "Ananasse". According to Vérabuccia, the special feature of this is that unlike other plant leathers, which tend to imitate real animal leather, it retains the original appearance of a pineapple skin; this emphasizes the origin of the raw material.

100 % compostable binder for nonwovens
In the "New Technology" category, the company OrganoClick (Sweden) receives the Techtextil Innovation Award for the development of a 100 % bio-based binder for nonwovens applications that is made from waste components and is therefore said to be fully compostable. The innovation is designed to replace plastic-based binders. Because nonwovens are often made from non-degradable plastics, the Swedish company specializes in developing compostable material alternatives from wheat bran, fruit or crab shells, among others.

Formaldehyde-free & bio-based coating system
The 3rd award in the category "New Approaches on Sustainability & Circular Economy" goes to the German Institutes of Fiber and Textile Research (DITF) and the company TotalEnergies - Cray Valley (France). Together, they have developed a novel, formaldehyde-free coating system. It is based on non-toxic hydroxymethylfurfural (HMF) derived from biomass waste. These HMF-based dip formulations are capable of replacing formaldehyde-based adhesion promoters on a one-to-one basis. For background: in tires, conveyor belts or V-belts, rubber materials are reinforced by cord. The quality of such cord composite systems with high-strength fibers such as polyester, aramid or polyamide and rubber is determined by the adhesion properties of the fibers to the matrix. In the established manufacturing process, adhesion promoters made of resorcinol-formaldehyde-latex (RFL) are used. However, formaldehyde has been classified by the EU as a proven carcinogen and mutagen since 2014.

With their new products, materials, solutions and processes, the award winners demonstrate exemplarily how textile innovations can meet the challenges of the present and become sales successes of the future.

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