ABSTRACT SUBMISSION
-FOR INVITED SPEAKER ONLY

Study on the biobased material and traceability management in the textile materials and products

Qing Zhu[1], An Wang[1],
[1]SGS Shanghai, No. 889 Yishan Road, Shanghai, 201620, China
[*]Presenter's email: Nicole.zhu@sgs.com

ABSTRACT

With sustainable development and circular economy becoming a global development trend, the textile industry is experiencing a profound transformation. Among the most promising pathways are the innovative application of biobased materials and the implementation of traceability systems, which together pave the way for reducing environmental footprints and enhancing the transparency across the supply chain.

Biobased materials derived from plant fibers, agricultural by-products, and other renewable resources, provide an alternative to partially replace fossil-based raw materials. Their large-scale adoption not only significantly reduces dependence on petroleum-based resources but also aligns seamlessly with the core principles of the circular economy: reduction, reuse, and resource recovery. This innovation directly addresses the growing consumer demand for eco-friendly products, injecting natural momentum into the industry's green transition. Beyond environmental benefits, biobased materials represent a strategic opportunity for brands to differentiate themselves in a market increasingly shaped by sustainability expectations.

Equally vital is the role of traceability in reinforcing the credibility and verifiability of sustainability claims. As global regulatory frameworks tighten and consumer awareness deepens, brands face mounting pressure to demonstrate transparency from raw material sourcing to finished products. Advanced traceability systems—powered by digital platforms, blockchain, and data analytics—enable stakeholders to track fibers and materials throughout their entire lifecycle. This capability builds a bridge of trust between brands and consumers, while helping companies manage compliance risks, enforce ethical sourcing practices, and minimize environmental impact. In an era where accountability defines competitiveness, traceability is no longer optional—it is essential.

By combining biobased innovation with traceability-driven transparency, the textile industry can embark on a new journey of high-quality development that is both sustainable and responsible. This transformation resonates strongly with global ESG strategies and carbon reduction targets, while meeting the deeper expectations of modern consumers for responsible products. Ultimately, these efforts inject lasting momentum into the industry's sustainable future, positioning businesses to thrive in a market where environmental stewardship and social responsibility are paramount.