



## Expert Consultation For the Circular and Sustainable Technical Textiles in Asia

Date: 3 October 2022  
Time: 14.00 - 16:00 hours (ICT)

### INTRODUCTION

Technical textiles have a significant part in virtually every social and economic activity. A combination of technology and textile materials provides a vast array of options for numerous applications. The textile sector, however, accounts for roughly one-fifth of global industrial water pollution, uses a vast array of hazardous chemicals, and emits substantial greenhouse gas emissions, especially during the production and finishing stages. While these impacts are well documented for the fashion industry, much less attention has been given to the technical textiles for which demand is increasing rapidly in recent years.

A need to transition to a circular production and consumption system for technical textiles is clear. And partnerships play a crucial role in developing more resilient technical textile supply chains in Asia. This proposed expert consultation session, jointly organized by the Asian Development Bank (ADB) and the EU SWITCH-Asia SCP Facility, will examine the current trends, challenges, opportunities, and game changers to move the technical textiles industry toward a circular and sustainable value chain, with a particular focus on identifying leverages and trigger points for transformative change of the sector.

### OBJECTIVES

The expert consultation aims to contribute to a deeper understanding of critical factors facilitating circularity of the technical textile sector in Asia. It will focus on the discussion of (a) circular-economy-related practices that contribute to the sustainability of materials and used in the region and (b) critical factors that influence the development of circular supply chains.

## TENTATIVE AGENDA

Agenda	Programme
14:00 (GMT+7)	Introduction & Welcome Remarks
14:05 (10 min)	Presentation on the draft policy paper on “Achieving a circular economy and sustainable consumption and production in the non-apparel technical textiles sector”
14:20 (10 min)	Circularity Economy and Sustainable Production and Consumption Models
14:30 (30 min)	Exploring critical factors in technological innovations and business models toward the circular and sustainable technical textiles sector
15:00 (30 min)	Defining policy framework and innovation ecosystems to optimize circular and sustainable textiles
15:30 (15 min)	Final Thoughts
15:45 (15 min)	Wrap and closing remarks
16.00	Event closes

## TECHNICAL BACKGROUND

Technical textiles often have greater performance characteristics than conventional textiles<sup>1</sup>. They are made from synthetic and natural fibers. The synthetic fibers used in these applications are produced by combining various natural fibers with special chemical processes to impart their new properties. These fibres have greater or different qualities than regular fibres, and as a result, they are widely used not only for clothing, but also for medical, automotive, home furnishings, construction, agriculture, and other applications.

The market for technical textiles is expanding rapidly as a result of rising demand from both developed and developing nations, technological advances, and government investments. Global consumption of technical textiles was approximately 42 million MT in 2021 and is expected to reach 67 million MT by 2032, an increase of 59%. The global technical textile market size is projected to grow from USD 164.6 billion in 2020 to USD 222.4 billion by 2025, at a Compound Annual Growth Rate (CAGR) of 6.2% between 2020 and 2025<sup>2</sup>. *Technical textiles are projected to account for about 43 percent of global textile sales by the end of this decade.*

Europe is the largest consumer of technical textiles, followed by North America, while consumption in large Asian markets, such as China and India, is primarily for medical, infrastructure, and construction applications. Medical applications are one of the primary drivers of demand and consumption of these textiles in the European Union countries and the Asia-Pacific Region. Since the onset of the Covid-19 pandemic, the demand for medical textiles has increased significantly, and this trend is anticipated to continue in the coming years (See Box 1).

### Box 1. Impact of pandemic on growth in technical textile

The COVID-19 pandemic has affected the textile industry's demand and supply. The chemical industry supply chain has been severely disrupted, which has had a significant impact on the procurement of raw materials for technical textiles. However, the pandemic also caused a sudden increase in demand for gowns, masks, and others, which had a positive impact on the demand for medical textiles (Medtech). As a response to the pandemic, technical textile manufacturers around the world are increasing their production capacity and investing in machinery to produce healthcare essentials. Demand for disposable hospital supplies and nonwoven materials is projected to rise from 2020 to 2025 due to an increase in the number of cases worldwide and the need for more healthcare professionals. Hygiene is anticipated to be the largest application segment in the technical textile market over the coming years due to continuing COVID-19 spread. Nonwovens are used as an alternative to conventional textiles in hygiene products due to their superior absorbency, softness, smoothness, strength, comfort & fit, elasticity, and cost-effectiveness

The majority of technical textiles are made in the Asia Pacific Region. China is the largest producer of both woven and non-woven technical textiles in this region and is currently responsible for 30% of global production, followed by the Americas (19%), India (18%), EU (16%), and the rest of the world (17%). China's lead is supported by a large number of suppliers, access to advanced technology, and experiences, coupled with steady domestic demand.

<sup>1</sup> Yet, with development of textile technologies in apparel sector, this difference might be minimal or non-existent. In some cases, it is reasonable to talk about application of textile materials to different areas rather than differentiating between technical and non-technical textile.

<sup>2</sup> www.marketsandmarkets.com

Governments of countries in the European Union (EU) and the Asia Pacific are also supporting the development and manufacturing of technical textiles, which will allow both regions to increase production and give them access to more advanced technology and practices.

As a result of the sophisticated procedures used to manufacture technical textiles for specific purposes, post-consumer disposal and/or recycling are frequently viewed as highly difficult to almost impossible, leaving only incineration and landfill disposal as feasible possibilities. As a result of increasing pressure from the government and the society, including from the side of international buyers, stricter regulations are being imposed to reduce the high environmental impacts and resource consumption throughout the supply chain of technical textiles.

Given the anticipated rapid increase in demand for technical textile products over the next decade, it is crucial to implement transformative sustainable consumption and production models and circular business technologies in the non-apparel and technical textile industries. Sustainable Consumption and Production is viewed as a steppingstone for the transformation of the textile industry into a circular economy. Companies that are able to maintain their sustainability programs

## SCOPE

The expert consultation aims to determine the extent to which 'circular strategies' (e.g., resource circularity, resource efficiency, and resource switch), 'innovation' (e.g., products, materials, technologies, business models, consumption patterns, and lifestyles), and 'enablers' (e.g., education/behavioral change, public policy, market) can facilitate development of the technical textile sector towards circularity.

Key initiatives supporting or strengthening circular strategies, innovation, and enablers in the sector will be discussed, especially in the following areas:

- 1. Technology & Processing** including waterless dyeing, efficient dyeing solutions, circular textile (based on design of the fibre), less harmful dyes, recycling/upcycling, energy efficiency and switch, resource circularity, etc.
- 2. Business models** including the exchange of used items, the sharing model, and the collection and sorting systems for recovered materials.
- 3. Market & Behavioural Change** including awareness campaigns (for consumers and value change actors), market outlook, and sustainability trends.
- 4. Policies & Regulations** including sustainable programmes, global ambitions & commitments, international and national regulations, etc.

and commitments while managing the crisis will gain a long-lasting competitive advantage and be able to rebuild a more sustainable textile and apparel industry after COVID-19. The circular economy, which necessitates new relationships between natural resources, customers, and markets, paves the way for the development of new business models and technologies. Also required are policy frameworks that facilitate business innovation.

### Box 2. Policy directions in the European Union

The European Union has already begun investigating the issue by introducing a series of directives, strategies, and guidelines to assist bloc members in achieving carbon neutrality by mid-century. Specifically, the EU Strategy for Circular and Sustainable Textiles provides guidance on how the textile industry, the fourth largest contributor to greenhouse gas emissions, can better respond to the situation. The strategy will inevitably affect countries that manufacture textile products for the European Union market. In addition, national government policies and regulations play a crucial role in leveling the playing field and facilitating manufacturers' compliance with social and environmental standards while remaining competitive on the global market.

## OUTCOMES

Expected results of the expert consultation include:

- Better understanding of the critical factors and players facilitating circular technical textiles for Asian markets.
- Identified issues and factors for market transformation (policies, finance, technology development, etc.) towards sustainability and circularity in the technical textile value chain.
- Increased knowledge of key initiatives toward sustainable and circular value chain in the technical textile industry and understanding of how to scale up such initiatives through policy support and collaboration and partnerships.
- Increased collaboration between concerned partners.

## TARGET PARTICIPANTS

Representatives from the manufacturers, brand owners, knowledge institutes, and development partners as well as respective staff of the Asian Development Bank and SWITCH-Asia Programme.

## PANELIST PROFILES



### **Ms. Katharine Thoday**

*Principal Environment Specialist, ADB*

Katharine is a principal environment specialist at the Asian Development Bank (ADB) who focuses on increasing public and private climate and nature positive investments in ADB operations. In support of ADB's Healthy Ocean Action Plan she has been developing opportunities in the regenerative aquaculture space as well as supporting the development of thematic bonds.



### **Dr. Sunita Dasman**

*Resource Efficient and Cleaner Production Specialist*

An expert in textile quality, production, product development, R&D, and resource efficient and cleaner production (RECP) with years of management experience with the United Nations Industrial Development Organization (UNIDO) and the Indonesia Cleaner Production Center.



### **Ms. Piyaporn Phanachet**

*CEO, TCM Corp*

TCMC is a global holding company investing in sustainable living related businesses, from upholstery (under Alexander & James, and Ashley Manor brands), carpeting and flooring (under the Royal Thai and Carpets Inter brands), acoustic surface, and automotive carpets and upholstery



### **Mr. Schle Wood**

*Founder, Pasaya*

A socially and environmentally responsible Thai brand owner of healthy & green home textiles and lifestyle products with vertical inhouse R&D, manufacturing to marketing and retailing.



### **Mr. Chanchai Sirikasemlert**

*Executive Director, Thailand Textile Institute*

Thailand Textile Institute (THTI) is a non-profit organization with a main duty to support and develop Thai textile and garment industries toward sustainable progress and competitiveness in the world market.



### **Mr. Supoj Chaiwilai**

*Executive Vice President, Thai Traffeta*

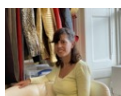
Thai Traffeta is a vertical textile producer that employs eco-friendly business practices to make innovative fabrics for a variety of products (e.g., outdoor gears, sportswear, combat outfits, clean room outfits, life vests) for global brands.



### **Mr. Chaiyos Rungcharoenchai**

*CEO, Perma Corp.*

Perma is a producer of functional fibers that have permanent anti-bacterial with environmentally friendly method for medical textile, hygienic wear, innovation home textile, and innovative food packing.



### **Dr. Raquel Prado**

*Head of Research and Sustainability, Ananas Anam*

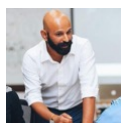
Ananas Anam manufactures and sells Piñatex. The company is orientated to ethical and responsible business practice. Ananas Anam meets the challenges of our times by developing products in which commercial success is integrated with, and promotes, social and cultural development.



### **Ms. Lei YAO (Gloria)**

*Director, Project Development, Hong Kong Research Institute of Textiles and Apparel*

Hong Kong Research Institute of Textiles and Apparel conducts applied research to support the textile and apparel industry.



### **Mr. Venkat Kotamaraju**

*Director & Partner, Circular Apparel Innovation Factory (CAIF) and Climate Solutions, Intellectap*

CAIF is an initiative that brings together a variety of stakeholders in the India's apparel industry to work toward a circular industry.



### **Ms. Thamonwan Virodchaiya (Amm)**

*Co-founder Moreloop Co.,Ltd.*

A company with a vision to make circular economy a reality by managing industrial waste databased using digital platform as a tool. We curate quality surplus fabric from garments and textiles manufacturers, put them up online so others have chance to use an existing at it efficiency instead of producing new material.