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Webinar

Promoting Circular Economy and SCP in the Technical Textile Sector

17 OCTOBER 2022 | 14:00-16:00 (ICT) (GMT+7)

Agenda

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Time	Programme
14:00 (GMT+7)	Welcome
14:05 (10 min)	Overview of the technical textiles sector
14:15 (10 min)	Challenges, drivers, and trend setters in the technical textile sector
14:25 (10 min)	Circularity economy and sustainable production and consumption concepts explained
14:35 (35 min)	**Panel Discussion I:** Critical factors in technological innovation and business approaches toward a sustainable and circular technical textiles industry
15:10 (35 min)	**Panel Discussion II:** Policy framework and innovation ecosystems for more circular and sustainable technical textiles
15:45 (5 min)	Final Thoughts
15:50 (10 min)	Wrap and closing remarks
16:00	Event closes

Webinar

An Overview of the Circular Economy in the Technical Textile Sector

17 October 2022

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INTRODUCTION

- Technical textiles have a significant part in virtually every social and economic activity, from home decoration & furniture to transport, medical, sports, and industry, among others.

- The market is expanding rapidly, thanks to rising demand, 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 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.

INTRODUCTION

- **Europe is the largest consumer** of technical textiles, followed by North America, while consumption in large Asian markets (e.g., 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 EU countries and in the Asia-Pacific; this trend is expected to continue over the coming years.

- **Asia-Pacific Region is the largest producer of technical textiles**. China produces 30% of the world's woven and non-woven technical textiles, followed by the Americas (19%), India (18%), the EU (16%), and the rest of the world (17 percent).

- **High-performance fibers** are produced in the U.S., Japan, Canada, and a few European countries, and some in India, China, and South Korea as well as Thailand.

INTRODUCTION

- 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.

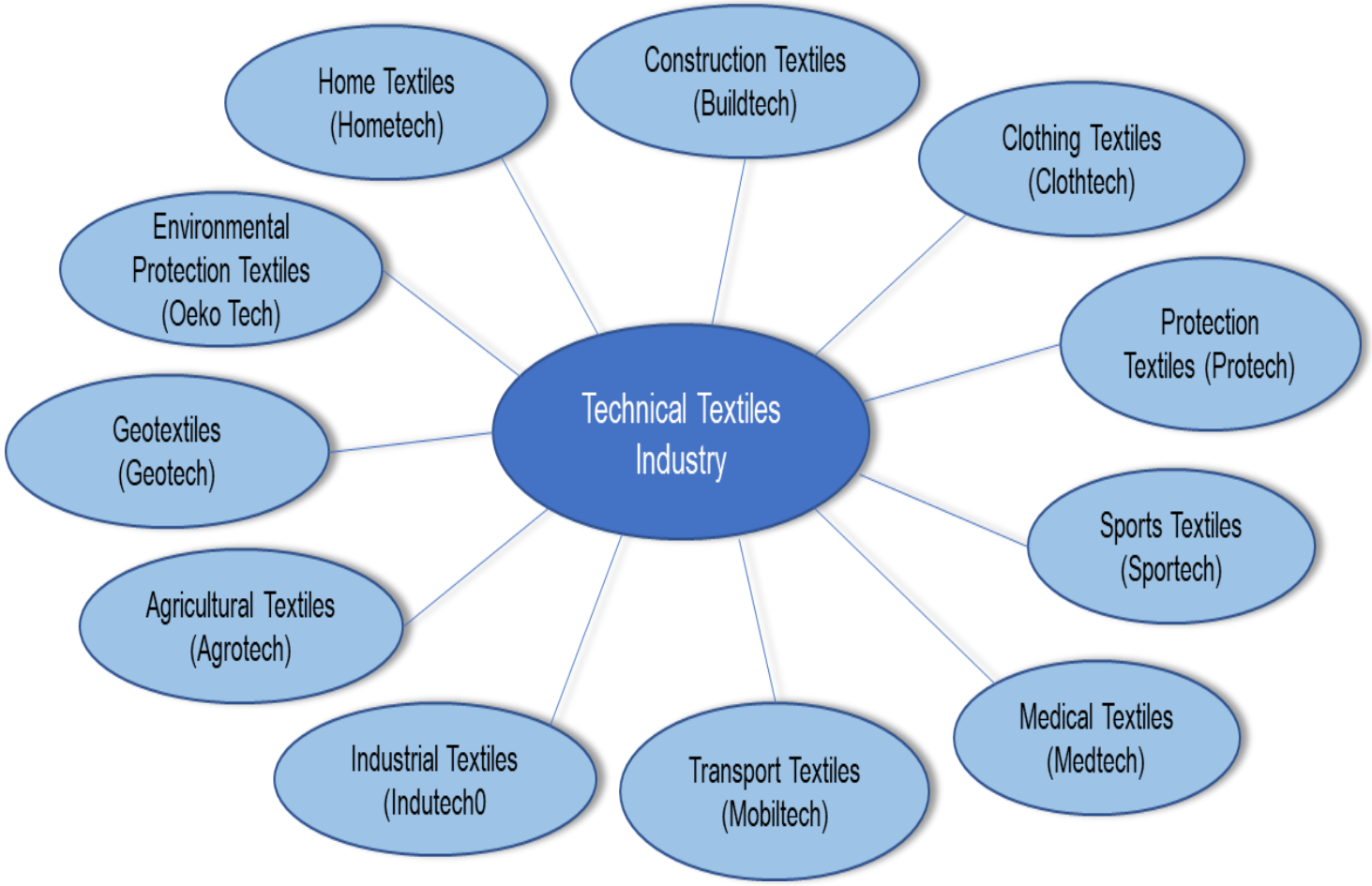
- The complex processes required for producing technical textiles have contributed to **pollution, high energy intensity, and greenhouse gas emissions**. Recycling and disposal of used technical textiles are difficult to impossible, leaving only incineration and landfill disposal as viable options.

- While these impacts are well documented for the fashion industry, **much less attention has been given to the technical textiles** for which demand is growing rapidly in recent years.

- In response to these issues, the EU has issued a directive, strategy, and guidelines aimed to achieve carbon neutrality by mid-century. **The EU Strategy for Circular and Sustainable Textiles** outlines how the textile industry could respond.

- 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.

DIFFERENT TYPES OF TECHNICAL TEXTILES



PRIMARY MATERIALS

Natural
- Cotton
- Wool
- Sisal
- Hemp
- Jute
- Bamboo
- Flax
- Ramie
- Kenaf
- Abaca
- Protein fibre

Sythetic
- Polyester
- Polyolefin
- Polyamide
- Aramid
- Carbon
- Acrylic

Regenerated
- Viscose Rayon
- Acetate Rayon

Mineral
- Glass
- Ceramic
- Asbestos

Metal
- Silver
- Steel
- Aluminum
- Gold
- Metal coated fibres

Progression and Prospects

Circularity Gap Report 2022:

- About half a trillion tonnes of virgin materials have been used over the past 6 years to make products and services that we all rely on, but less than 10% are retrieved and fed back into the economy.
- In only two years (2018-2020), global circularity dropped from 9.1% in 2018 to 8.6% in 2020
- Our ‘take-make-waste’ economy consumes 100 billion tonnes of materials (e.g., minerals, ores, fossil fuels and biomass) a year and wastes over 90%, and the trend continues to grow
- In only 50 years, global use of materials has nearly quadrupled—outpacing population growth.

When it comes to a circular economy, we are all developing countries. No country, as of yet, satisfies the basic needs of its citizens within the ecological boundaries of the planet,
Circle Economy

Progression and Prospects

2022 Sustainable Development Goals Report:

- Domestic Material Consumption (DMC) rose by more than 65 percent globally, amounting to 95.1 billion metric tons in 2019. That translates to 12.3 tons per person.
- About 70% of the global DMC are in Asia, Europe, and North America with East and South-East Asia experiencing the steepest growth from 31% in 2000 to 43% in 2019.
- Renewable energy is growing in developing countries overall, but the poorest countries lag behind.
- Fossil fuel subsidies remain alarmingly high, despite a temporary drop in 2020.

Textile Circularity in Progress

Circular Strategies

- **Energy and waste reduction**, as well as the **substitution of fossil fuels with renewable energy** (e.g., solar, biomass) are practiced by certain textiles manufacturers.
- Some manufacturers have emphasized the **recycling of textile and non-textile materials** to create new products.
- **Some home textile products**, such as curtains, carpets, and rugs, **contain regenerated materials**.
- **Recycled polyester and nylon are made from pre- or post-consumer or pre- or post-industrial waste** such as PET plastic bottles, garments, or nylon fishing nets.
- **Cotton** is another typical fibre type that has been **regenerated to make new textile products**.

Examples

- **Home Textile**
  - Carpets Inter , EgeCarpets, Alma Green Design, Burrow
- **Sports Textile**
  - Licia Florio, Adidas, Brooks
- **Geo Textile**
  - Wallbarn, Geofabrics Australia Kaytech, Re-Gen Enterprises

Textile Circularity in Progress

Circular Innovation

- Put emphases on (i) products, materials & technologies, (ii) business models, and (iii) consumption patterns and lifestyle.
- **Examples** may include **eco-design**, **recycling technologies**, **use of eco-friendly/recyclable materials**, **take-back program**, **reselling**, **renting**, **repairing**, **improved product quality**, and promotion of **low carbon lifestyle**, among others.
- Various approaches are practised to implement incremental (e.g., process-related, campaigns etc.) or disruptive innovations (e.g., new business models).

Examples

- Home Textile
  - AlmaGreen Design
- Sports Textile
  - Picture, Organic Basics, Mandala, Hylo Athletic, Allbirds

Textile Circularity in Progress

Circular Enablers (Policy, strategy, regulations)

- EU Green Deal
- 2020 Circular Economy Action Plan
- 2021 EU Industrial Strategy
- EU Strategy for Sustainable and Circular Textiles
- Regulation N°1007/2011 on textile fiber names and the marketing of the fiber composition of textile products
- Best Available Techniques (BAT) Reference Document for the Tanning of Hides and Skins
- Industrial Emissions Directive 2010/75
- General Product Safety Directive (2001/95/EC)
- REACH Regulation 1907/2006

Circular Enablers (Education)

- CLEANTEX Project
- Sustainable Textile School
- Hong Kong Research Institute of Textile and Apparel
- Circular Apparel Innovation Factory (CAIF)

Circular Enablers (Consumer)

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