

Innovative recyclable paper-based transfer medium for textile printing as an alternative to PET films

Summary

Profile type	Company's country	POD reference
Technology offer	Türkiye	TOTR20250828002
Profile status	Type of partnership	Targeted countries
PUBLISHED	Commercial agreement with technical assistance Research and development cooperation agreement	• World
Contact Person	Term of validity	Last update
<u>Enrico FRANZIN</u>	28 Aug 2025 28 Aug 2026	28 Aug 2025

General Information

Short summary

A Turkish SME specialized in paper and printing technologies has developed an innovative recyclable paper-based transfer medium for textile printing, designed to replace non-recyclable PET films used in Direct-to-Film (DTF) processes. The solution provides lower carbon footprint, prevents plastic waste generation, and ensures high-quality textile transfer performance. The company seeks commercial agreements with technical assistance and research cooperation with textile and printing partners.

Full description

Canapa Ka it Tekstil ve Baskı Teknolojileri San. Tic. A. ., a Turkish SME, is active in the field of paper, textile and printing technologies. With strong R&D capabilities, the company has developed Direct-to-Paper (DTPaper) transfer medium, a recyclable paper-based alternative to PET films widely used in Direct-to-Film (DTF) textile printing.

Conventional PET films generate significant amounts of non-recyclable plastic waste (100,000 tons annually worldwide) . DTPaper, by contrast, is recyclable within standard paper recycling streams. Independent testing by Yıldız Technical University (GETAM) confirmed that the adhesive layer can be separated via solvent extraction and that the plastic content is below 5% of the product weight, classifying the material as recyclable according to CEPI (Confederation of European Paper Industries) and 4evergreen guidelines.

Environmental benefits are demonstrated by a Life Cycle Assessment (LCA) study showing:

- 60% reduction in CO₂ emissions (Cradle-to-Gate) compared to PET films.
- 75% reduction (Cradle-to-Grave, incl. end-of-life) when recycling is considered.
- 100,000 tons of PET plastic waste avoided per 1 billion m² adoption.
- 20% energy savings during textile transfer due to lower transfer temperature (120°C vs. 160°C for PET)

Third-Party Verification status:

The Life Cycle Assessment (LCA) results provided are based on an internal indicative study in line with ISO 14040/44 methodology. Third-party verification has not yet been performed but can be carried out upon request.

In addition to its environmental benefits, DTPaper demonstrates strong technical performance in textile printing, including:

- Efficient color transfer with validated white ink carrying capacity
- Full compatibility with all separation modes (hot, warm, and cold peel), confirmed in application tests
- Improved stretch resistance compared to conventional PET-based media
- Wash fastness performance maintained under standard textile durability tests

Canapa is seeking partners in the textile, printing and fashion sectors for commercial agreements with technical assistance to implement the technology, and research cooperation agreements for further development and scaling.

Advantages and innovations

- First recyclable paper-based transfer medium designed for DTF applications.
- Proven recyclability according to CEPI and 4evergreen protocols.
- Verified CO₂ footprint reduction of 75% over PET films.
- Lower energy use due to reduced transfer temperature (120°C).
- Eliminates reliance on PET-based plastic substrates.
- Demonstrated technical performance in textile transfer applications.

Technical specification or expertise sought

Stage of development

Available for demonstration

IPR Status

Secret know-how

IPR Notes

Sustainable Development goals

- **Goal 12: Responsible Consumption and Production**
- **Goal 15: Life on Land**
- **Goal 6: Clean Water and Sanitation**
- **Goal 8: Decent Work and Economic Growth**

Partner Sought

Expected role of the partner

The company seeks:

Textile and garment manufacturers for large-scale adoption of recyclable transfer paper.

Printing technology integrators and distributors to introduce DTPaper in international markets.

Research partners (universities, labs, consortia) for further eco-design and application development.

Type of partnership

Commercial agreement with technical assistance

Research and development cooperation agreement

Type and size of the partner

• **SME 50 - 249**

• **Big company**

• **SME <=10**

• **SME 11-49**

• **University**

Dissemination

Technology keywords

• **03005004 - Finisher related to Textiles Technology**

Market keywords

• **09004007 - Printing and binding**

Targeted countries

• **World**

Sector groups involved

• **Textiles**