





## CIRCULAR ECONOMY BUSINESS CASE STUDIES IN SOUTHEAST ASIA



## SMATERIA

-  Phnom Pehn, Cambodia
-  Fashion/bags
-  smateria.com
-  Analysis period: 2020-2023

## Upcycling and Sustainable Design Applied to Accessories

## Business Spotlight

Smateria, founded in Cambodia by Italian entrepreneurs Jennifer Morellato and Elisa Lion, stands as a prime example of innovation in the circular economy within the fashion industry. Established as a self-funded social enterprise, the company specialises in producing durable, stylish, handmade bags and accessories using recycled and upcycled materials such as industrial plastic bags. Smateria combines a commitment to environmental sustainability with ethical labour practices, ensuring fair wages and safe working conditions for employees.

Their circularity contribution comes from transforming waste materials into high-quality, fashionable products. The IKI collection stands out for transforming clear plastic bags into 'eco-leather-like' products, which reduces the environmental impact associated with using virgin materials. Smateria endeavours to contribute to waste reduction while achieving business growth and international sales to the USA, Germany, Southeast Asia and Japan. Looking ahead, the company aims to expand its sustainable product lines and increase its presence in global markets.

 **Keywords**

Upcycling, Ethical fashion, Sustainable design

 **Innovation**

Manufacturing, End of life management, Resource circularity



### Context and baseline

The fashion industry is an important contributor to Cambodia's economy and export earnings; however, it is also a significant source of industrial waste. The garment sector, being the country's largest industrial employer, is responsible for producing approximately 90,000 metric tonnes of textile waste every year, although recent estimates suggest this number might be as high as 140,000 tonnes.<sup>1</sup> Experts have highlighted the pressing need for more sustainable practices and waste management solutions to lessen the environmental impact of this sector.

While these complex challenges cannot be tackled by individuals alone, various initiatives can play a pivotal role in promoting awareness and encouraging a shift towards more sustainable and conscious fashion choices. Smateria, a social enterprise, was founded on the innovative concept that high-quality, distinctive, and modern designed products (bags, accessories and home decor items) can be crafted from recycled and sustainable materials. This initiative sprang from its founders' shared vision of making a positive impact on the environment and society, offering a sustainable alternative to mass-produced items for large volume markets. The brand name 'Smateria' signifies transformation, embodying the idea that no material is created or destroyed; instead, everything is transformed or 'smaterialised.' Moreover, Smateria places a significant emphasis on ethical labor practices and environmental sustainability, adhering to principles that guarantee fair wages and safe working conditions for the employees.

### Innovation

Smateria regularly explores various waste materials, textures, colors, and designs to craft unique, eco-friendly fashion products. Such explorations have uncovered and created 'novel' recycled materials, which are an innovation in the end-of-life management of previously discarded waste. The company also designs new fashion products employing these novel materials, an innovation in product design.

Smateria's landmark innovation is the development of a leather-like recycled plastic material which features prominently in the company's leading IKI collection.

This innovation involves transforming clear plastic bags – a common industrial packaging by-product from Phnom Penh factories used to wrap clothes – into stylish, eco-friendly accessories. The process

uses an innovative plastic fusing technique, where discarded packaging plastic sheets are layered and melted together with a color layer, which repurposes the waste plastic material into a durable, leather-like material. This breakthrough is the result of extensive experimentation to achieve a quality and texture comparable to leather.

This process also introduces an innovative recycled material to the fashion industry, addressing the critical need for sustainable alternatives to leather.

In 2023 Smateria was recognised with an innovation award at the EuroCham garment industry Corporate Social Responsibility (CSR) awards for 'developing an innovative collection based on upcycled waste materials from other factories.' As part of the competition, Smateria underwent a rigorous inspection by Bureau Veritas, which visited the workshop to thoroughly verify the claims made in the application, particularly regarding the material transformation processes.

### Circular Economy impact

Smateria experiments with, processes and transforms waste materials into novel textile- and leather-like materials or products for some of their collection lines. This work is exemplary because it is circulating materials back into a new product lifecycle, thus promoting resource circularity which is one of the principal strategies for a circular economy transition.

Smateria gained widespread recognition following the introduction of its IKI collection in 2020. However, it was not the first time that the company succeeded in upcycling and experimenting with various discarded materials to lessen the environmental footprint of its products and create positive awareness narratives.



<sup>1</sup> <https://www.ecotextile.com/2023121831528/materials-production-news/gfa-updates-on-cambodia-textile-waste-project.html>

**Upcycled Collections:** For its Diva collection, Smateria sourced leftover leather scraps from sofa factories. Each piece undergoes multiple manual processes before being assembled as a bag in a puzzle-like fashion. In their Remix collection, old plastic bags are cleaned, cut, and transformed into a thread made of small strings, which is then crocheted, knitted, and woven. In this specific project Smateria works with a community of women who were trained to knit the plastic thread. The women also collected the plastic waste and earned additional income for each piece produced. Another example was the SMOTO capsule collection, which utilised discarded motorcycle seats; however, this collection was discontinued after the material failed to meet certain export standards.

**Circular and Recycled Collection:** The IKI collection stands out for its substantial circular impact. 'IKI,' a Japanese concept signifying aesthetics, sophistication and simplicity, clearly reflects the founders' values. By repurposing waste plastic bags, Smateria reduces the demand for leather and recovers plastic waste materials from landfill or incineration. The manufacturing process is designed to be energy-efficient and avoid pollution. From 2020 to 2023, the IKI collection recycled 4526 kg of plastic waste.

To bolster transparency for their customers, Smateria provides the estimated carbon emission savings for each handbag based on publicly-available international reference data. The brand communicates its sustainability goals clearly, with each IKI collection accessory featuring a unique number tag that indicates the amount of plastic waste recycled and the environmental benefits achieved. Meticulous craftsmanship ensures the quality of each piece.

Smateria is currently pursuing international certification through the Global Recycling Standard (GRS) to certify the recycled content of its products.



## Business and market impact

Smateria identifies itself as an advocate of slow fashion, with a solid medium- to high-end customer base, predominantly among tourists and foreigners living in Cambodia, as well as an international clientele. The brand is now focusing on expanding its share among Cambodian customers, recognising that building local awareness about the value of upcycled quality products takes time.

Exporting has been a fundamental component of the business strategy from the start. Smateria exports 40%–60% of its products, influenced by special orders. For instance, a corporate collaboration with Viaggidea and Turisanda, Italian tour operators and travel agencies, led to the creation of over 50,000 travel bags as customer.. The COVID-19 pandemic posed challenges due to border closures, but it also prompted Smateria to reevaluate and adjust the sales and distribution model, resulting in fewer but stronger distributors. The USA and Germany have emerged as the largest export markets, followed by Southeast Asia, Hong Kong, and Japan.

Creating attractive products that incorporate sustainability and ethical practices is costly, and consequently Smateria's products fall in the medium to high price range. Storytelling plays a crucial role in finding the appropriate angle and communication channels, and Smateria is diligent about not misleading the customers. For instance, the iconic NET collection utilises industrial netting normally used in construction or in fishing to create stylish bags. The company takes care to explain that the netting has not been recycled.

These initiatives underscore Smateria's ability to scale and adapt to market changes. The transition to e-commerce in 2020 opened up new markets, notably in Australia and New Zealand, despite initial challenges with payment methods and high shipping costs.

## Stakeholders

Smateria's achievements are significantly linked to a positive impact on the community, especially among local women, who make up 80% of its workforce. The company offers fair and competitive wages, bonuses, and safe working conditions, as well as opportunities for professional development through language and vocational training. Additionally, Smateria provides complimentary on-site childcare, preschool, and nursery schooling to support working mothers. Currently, Smateria employs around 70 people (down from 140 before COVID-19), aiming to offer not just employment but also a space for collective growth.

Furthermore, Smateria has engaged a group of women from the outskirts of Phnom Penh for knitting and crochet work, particularly for their Remix collection. These women, who might otherwise struggle to secure steady employment, find valuable opportunities through this collaboration.

Regarding ethical labor practices, Smateria has recently applied to get the WFTO (World Fair Trade Organization) certification. The monitoring audit has already taken place and the certification is expected to become official in mid 2024.

By ensuring that its environmental objectives align with social responsibility, Smateria underscores the inclusive ethos of its business model. This approach not only aids in achieving sustainability goals, it also enriches the local community by fostering job creation and skills development.



## Implementation

Smateria's journey highlights both the complexities and opportunities associated with adopting ethical and sustainable business practices.

Navigating the challenges of recycling waste materials and adhering to international standards poses distinct challenges. For instance, Smateria stopped using leather scraps when their primary supplier shut down; another reason was the lengthy and time-consuming production process working with patches of leather. Additionally, the innovative collection featuring recycled motorbike seats was halted because the material (PVC) faced export restrictions. The industrial net used in the Net Collection is not recycled but is rather utilised for other purposes that had not been foreseen by the net manufacturer. Finally, Smateria is actively seeking to source more clear plastic bags for the IKI collection. Convincing large factories to contribute to this sustainable initiative has proven difficult, underscoring the need for flexibility and innovative thinking in making strategic business decisions. In addition, Smateria is working on launching a campaign focused on recycling waste such as discarded event banners from various local companies.

Adapting communication strategies to international markets is also crucial. Different countries often have separate channels for fashion and fair-trade products, and ethical fashion items typically must navigate one channel or the other. However, a few countries, like Germany, more readily integrate both concepts.

International sales entail ensuring that the premium price of Smateria's products is justified by consistent quality standards. Procurement challenges in Cambodia, such as limited order quantities, sometimes necessitate importing components like quality zippers from Vietnam. Logistics present another hurdle, as shipping from Cambodia can be prohibitively expensive, complicating the expansion of e-commerce.

## Takeaways

Smateria exemplifies how integrating sustainability and ethical practices into business operations can be both feasible and rewarding. 'Bags with a soul' reflects the company's ethos, where passion and responsibility drive innovation and success.

Their collections aim to redefine the boundaries of eco-fashion, setting new standards and motivating conscious buyers worldwide. Transparency is important for Smateria's customer base. Gaining trust through official recognitions like the EuroCham Innovation awards, or pursuing certifications such as the Global Recycling Standard (GRS), can help in establishing credibility for Smateria's products.

Navigating supply chain ethics and expanding to international markets required innovative strategies and adaptations. Developing an e-commerce platform and diversifying distribution models were positive moves.

Finally, at the core of Smateria's strategies are its people. The founders have always prioritised creating an inclusive business that not only focuses on social values but also ensures financial sustainability for long-term impact. The founders take pride in having nurtured a strong team over the years, and this has obviously been instrumental to the business success.



## Acknowledgements

This business case study was prepared within the framework of the Technical Advisory project: Mobilising Business Action for Circular Economy in the ASEAN countries under the EU SWITCH-Asia Policy Support Component for the sole purpose of documenting and analysing business experiences with the circular economy. The case study was produced by Ratana Phurik-Callebaut (national expert, Cambodia) and reviewed by Rene Van Berkel and Thomas Thomas (regional experts) on the basis of information provided and validated by Smateria, Cambodia.

## Disclaimer

The content of this publication is the joint responsibility of Smateria, Cambodia and the expert team. This publication does not constitute an endorsement of Smateria, Cambodia by the European Union nor any of the partners of the SWITCH-Asia Policy Support Component, nor necessarily reflect their views.



[www.switch-asia.eu](http://www.switch-asia.eu)



**EU SWITCH-Asia Programme**  
@EUSWITCHAsia



**SWITCH-Asia**  
@SWITCHAsia



**SWITCH-Asia Official**  
@switch-asia-official