



# LOTUS TEC®

by SAMATOA LOTUS TEXTILES

SAMATOA LOTUS TEXTILES has been developing fibres and fabrics that improve environmental conditions and provide employment opportunities for women in rural areas for many years. Currently, the company produces a broad range of textiles for the luxury market, made from environmentally sustainable Lotus stems.

However, SAMATOA seeks to expand its impact with the development of the Lotus Tec®, a revolutionary composite fibre made from our production waste – the Lotus stems – and plastic bottles, creating a perfect circular economy.

With over 400 tons of disposable Lotus stem waste generated by our existing manufacturing process, we could create over 150,000 meters of affordable, revolutionary and technical composite textile.

Why plastic bottles? This idea is based on a simple observation: in Cambodia, there is an uncontrolled accumulation of plastic bottles. They litter virtually every roadway, river and agricultural area. Since the total decomposition of a plastic bottle takes between 100 and 1,000 years, over-consumption and poor management of plastic bottles waste have a serious and negative impact on the natural landscape while causing serious environmental and health issues.

With this new product, SAMATOA offers an ecological alternative to current standardized textile manufacturing, while ensuring equitable community development. Moreover, the combination of sustainability, fair-trade and performance converge to elevate the standards of the apparel market and help lead the transformation of the textile industry.

## ***A SOLUTION THAT PROVIDES ENVIRONMENTAL AND SOCIAL BENEFITS***

Over the last ten years, SAMATOA has striven to develop high quality eco-fabric friendly. This tenacity has been rewarded in 2015 by the “France commits to the South” contest (*La France s’engage au Sud*), launched by French President François Hollande. This prize has recognized our positive social and environmental impact through the ecologically beneficial production process and the economic empowerment of women in rural areas.

We now want to go further. The Lotus Tec® project, once funded, will address key environmental and social issues at each stage of the value chain process.

First, the development of raw fibres utilizes wastes and up-cycled materials, providing a solution to environmental concerns. Every plastic bottle thrown into Cambodian countryside consumes energy, generates greenhouse gases. To produce 1 ton of PET, 500 to 1,600 kg of equivalent carbon is generated. By up-cycling plastic bottles, we avoid the production of 300 tons of PET and at least 150,000 kg of equivalent carbon. Notably, Lotus Tec® generates less than 2 kg CO<sub>2</sub> per ton produced compared to virgin polyester, which generates 10 kg CO<sub>2</sub>; it requires 100 times less water than virgin polyester,



150 times less than organic cotton. Moreover, this plastic is combined with the Lotus stems waste, which already benefits from the process of a green-house gases emissions free production.

Then, the manufacturing of textiles does not require electrical energy or harmful chemicals as it is handmade. This process ensures dependable employment opportunities for women in rural areas, providing decent wages and long-term economic empowerment.

Our fully integrated process is inherently green since from the stems to finish products, we control the whole production chain and guarantee an up-cycled, chemical free finished product. Future plans include developing solar energy production facilities, water treatment systems, reduced plastic-based packaging.

Simultaneously, SAMATOA supports vulnerable Cambodian women in rural areas. In 2 years, over 30 women have acquired valuable trade skills that have provided them with new opportunities for employment as well as financial independence. In the coming year, we plan to double this number and therefore the impact of our company's social mission. Finally, marketing our products raises awareness of the social impacts of environmental preservation and the needs of rural communities.

Customers benefit from an innovative process that offers designers an opportunity to create custom-made fabrics, incorporating specific desired properties through different yarns combinations. Weaving is based on demand and quantity required, eliminating overproduction. Our full-circle value chain model creates a viable alternative to current standardized textile manufacturing by capitalizing on ecological benefits of this environmentally conscious production process.

## ***LOTUS TEC® , A UNIQUE PRODUCT***

SAMATOA already benefits from a unique know-how, developed over the past 10 years. Unique because, following rigorous tests carried out in 2016, the French Institute of Textile and Apparel discovered that Lotus fibre is the first natural Microfiber known worldwide, offering Lotus fabric exceptional properties. Better than synthetic microfiber, Lotus is highly absorbent, providing exceptional comfort. This offers Lotus fabric exceptional properties, as being highly absorbent and providing exceptional comfort.

By using our valuable know-how, state-of-the-art technology and by developing effective partnerships with professionals in recycling, agro-ecology and the fashion industry, we will create a revolutionary and sustainable fabric at an affordable price.

For the first time in the textile industry, we will not provide our customers with a catalog of fabrics already designed, but will create, on demand, a fabric that incorporates all the desired properties requested from a wide range of fibres. This innovation offers textile and fashion designers the first custom-made fabric, based on their specific requirements. Designers can take advantage of the features inherent in the fibre according to their budget, quantity and timing needed. By blending and weaving the right combination of yarns, retailers can order the perfect fabric for their clients' needs while avoiding surplus inventory.

The range of special features is nearly endless. By varying the percentages of Lotus and plastic, we're able to produce rigid or soft fabric, waterproof or absorbent materials, and textiles suitable for anything from underwear to outdoor furniture. Different blends would also consider the cost structure of the customer in order to meet their profit margin objectives.



## ***WHERE DO WE STAND TODAY IN THE IMPLEMENTATION OF THE PRODUCT?***

Currently, we've created a prototype of our new fabric for initial testing and promotion. To improve this prototype and our technology, we're working in collaboration with the Institute of Technologies of Cambodia (ITC), who provides input and expertise on agro-ecological and vegetal textiles development.

Further, UNDP Cambodia, French Development Agency and Impact Hub Phnom Penh have formally recognized the potential of our project. They provide daily support in the implementation of our strategic plan, including marketing, communication and financial supervision.

And what about our strategic plan?

We are currently in the proof of concept phase. As with our current production process, we plan to develop on a small scale to establish a viable and marketable product. Once initial production has begun, we will implement scalable manufacturing methods that ensure market availability and growth while fulfilling our mission to provide opportunities for women in rural areas. This is year one outcome.

Moreover, over the past two years, we've developed a solid network of luxury and eco-friendly enterprises that have followed us from the beginning and are now pledged to purchase and market products based on this new technology. Initial partnerships include an R&D and commercial arrangement with Burberry and H&M, as they are both very interested in our eco-friendly and affordable fabrics.

We will then scale and increase our production according to demand while reducing our fixed costs proportionally to total costs, at breakeven point stage. We will target decreasing marginal costs. We expect to meet this milestone by year two.

Third, we plan to expand market share. Based on our strategic marketing plan, we'll increase our marketing communications and outreach efforts to capture the growing demand for eco-friendly products. Activities will include global public relations campaigns, trade shows, celebrity endorsements, and cross-marketing with major international retailers. We plan to begin this process immediately, milestones will be measured quarterly.

Fourth, we plan to duplicate the small-scale workshop environment, while increasing our production capacity. Scalability of the manufacturing process will be critical in order to be responsive to large orders from global vendors. Maintaining small production teams will ensure productive collaboration, proper monitoring of decent working conditions and a coordinated team spirit. This model will provide hundreds of women with dependable employment and ensure that craftsmanship remains in the country.

Finally, we will file patents on our manufacturing process and promote our certifications including Global Recycling Standard and SA 8000 through consistent labelling.

## ***HOW IS COMPOSED THE MARKET WE ARE ABOUT TO ENTER?***

Our business model is based on a B2B client relationship. Currently, SAMATOA manufactures fabrics (80% of the production) and fashion accessories (20% of the production) for luxury brands, designers and concept stores. Our market is within the "super luxury" niche with a price range of 200 to 320 USD per meter for Lotus blended fabrics, products unfortunately not accessible to everyone. Given our price range, we are facing a duopoly market, with one sole competitor: Loro Piana, a luxury textiles company (LVMH Group), which sources Lotus fabric in Myanmar.



However, the new Lotus Tec® product will allow us to greatly diversify our target audience. Through the development of a more affordable and market friendly yarn that maintains the high quality and handmade features of the fabric, we can widen our reach with key eco-friendly brands and independent eco-designers. Further, we will be able to expand our growth with socially responsible brands, as our activities provide essential economic empowerment opportunities for women in rural areas.

The market for ecologically sound products that help limit the effects of global warming is growing fast. For instance, H&M has announced a new objective: eliminate the use of virgin polyester by 2025. This alone ensures strong growth potential in the textile market.

With this new project, we're also expanding the industry we work with. Indeed, our products are no longer reserved for luxury or high-end fashion, as we can now target the broader sportswear industry. By combining Lotus fibre and recycled plastic, we can develop new properties that will be beneficial for the expanding industry.

In parallel, and as a consequence, the number of our competitors will increase. At the lower price-point, we will compete primarily with eco-friendly and natural fabric suppliers, such as organic cotton suppliers or plant based fabrics (banana, pineapple, hemp), as well as with high-technology plastic fabric suppliers throughout Asia, such as recycled polyester fabric suppliers.

However, with Lotus Tec®, we propose a product with a considerable competitive edge. Although plastic and vegetal blended fabrics already exist on the market, none are produced with the unique properties of Lotus stems. Lotus fibre is notable for its light weight, breathability, stain and wrinkle resistance, and moisture absorbency. No other natural fibre offers all of these special benefits in one composition.

### ***WHO IS ACTUALLY BEHIND THIS PROJECT?***

Awen Delaval was exposed to poverty in Cambodia during a trip in Asia many years ago. This experience inspired him to dedicate himself to address economic empowerment for the people in the region. He decided to set-up a new industry, manufacturing eco-fabrics while supporting vulnerable women in rural areas. After 10 years of building multicultural teams of experts in eco-friendly textile development, and following the discovery of the Lotus fibre and its exceptional properties, in 2016, he successfully created a company to address the greater social needs of Cambodia.

Over the years, Awen allied himself with a talented and dynamic multicultural team.

Two years ago, he recruited Kol, who became the indispensable General Manager of Samatoa Lotus Textiles. With its 15 years of experience in Cambodia in the fields of management, finance or education, he successfully manages the day-to-day operations of the company.

Savin is the Production Manager. From the creation of the company, she supervises daily the Siem Reap Lotus Farm. She is also in charge of Research and Development operations of the Lotus Farm, including all test and experiments with natural fibres such as pineapple or water hyacinth.

As for Khemry, she is Finance Manager. For two years she has been dealing with accounting and relationships with investors and the Cambodian tax department, ensuring the company's financial stability.



The managerial team is finally composed of Clélie, Project Manager. She joined the team recently to focus on Lotus Tec®. She is in charge of planning, procurement and execution of the project.

This management team works daily with 30 Cambodian spinners and weavers in Siem Reap and Battambang. Together, we have succeeded in developing the most ecological fabric in the world, and are ready to expand our impact in the global market.

**SAMATOA LOTUS TEXTILES is proud to present its new Lotus Tec®  
a revolutionary composite textile!**



## **SAMATOA LOTUS TEXTILES**

11 road 63, Kolkran Village, POBOX 160  
SIEM REAP, CAMBODIA

(855) 92 52 9001

[contact@samatoa.com](mailto:contact@samatoa.com)

[www.samatoa.com](http://www.samatoa.com)

