1.0 Case Study: Fibre Fragmentation from Textiles

Formation of The Microfibre Consortium, a **textile research** led, NGO

Why?

The topic of 'microfibre loss from textiles' was starting to emerge within the clothing sector in 2016, at a time the agenda was being led by marine biologists and solutions focused around washing machine filters.

A textile specific understanding was required that identified the triggers of loss, across an aligned supply chain and bridged deep academic research with commercial brand based solutions.

There was a clear need for a topic agenda and common methodology, on which to facilitate the clothing sector in mitigating the impacts created by this problem.

What?

A global commitment to work towards zero impact from fibre fragmentation from textiles to the natural environment by 2030.

How?

The Microfibre Consortium work is focused around three pillars:

1. Aligning the sector
2. Understanding fragmentation
3. Mitigating fragmentation

The Outcome

The Microfibre Consortium (TMC), was legally formed in 2018, and was shortly followed by the dissemination of the Microfibre 2030 Commitment and Roadmap in 2021.

TMC released its first progress update in October 2022, demonstrating the collective outputs of the Microfibre Roadmap to date.

> *"The microfibre Consortium is an incredible resource for facilitating collaboration with our industry peers and guiding us on best practices.*
>
> **Katie Johnson** Patagonia

1.1 Case Study: Fibre Fragmentation from Textiles

Don't Feed the Fish: *Crowdfunded research to identify triggers of microfibre shedding from textiles*

Why?

Microfibres released from clothes during both the manufacturing and the consumer wash and wear stages, have been found to have detrimental environmental effects.

Although by 2016 there were increasing amounts of research from a marine biology perspective, the lack of textile derived research made it impossible to see how textile engineering changes could be made to influence reductions at source.

What?

- The #DontFeedTheFish Campaign was launched, to raise awareness at the industry and consumer levels
- Crowdfunding enabled the finance generation required for the the cost of laboratory-based, controlled research

How?

- Industry-based support spearheaded by the European Outdoor Group, and key brands including The North Face, Mammut and Finisterre
- A hypothesis created substantiated by desk-based research
- Work looked to identify triggers of fibre fragmentation from a sample portfolio of 40⁺ polyester filament yarn samples provided directly from suppliers

The Outcome

Industry interest generated from #DontFeedTheFish spear headed the formation of The Microfibre Consortium.

Early Research Findings

- *UV was found to be a significant trigger on lowering tenacity in polyester*
- *After 72 hours UV exposure a 42% tenacity reduction was found*
- *Topic awareness grew through media attention including but not exclusive to Sky News, Ecotextile News and BBC Radio 4 Costing the Earth*

"The pioneering research performed in the #DontFeedTheFish campaign plays an important role in our industry's collaborative endeavor to grasp the Microfibre issue in its full complexity and develop effective solutions."

Peter Hollenstein, CR-Manager, Mammut

2.0 Case Study: Biobased Synthetics for the Clothing Sector

Set up and led an industry working group on the topic of Bio Synthetics

Why?

Bio synthetics were causing a buzz across the industry with no industry specific agenda.

Textile Exchange members were asking for further information on this topic to help make informed business decisions within their material portfolios.

What?

A cross industry working group comprised of brands, retailers, industry organisations and suppliers, from the chemical building blocks to final product level.

How?

- The Bio Synthetics working group kicked off in 2016 at the Textile Exchange annual sustainability conference in Hamburg, with work sponsored by H&M and Nike.
- The agenda for the group was focused around addressing the key questions coming from industry and appraising and targeting work against the gaps and opportunities highlighted.
- The working group was able to leverage the collective cross industry knowledge, connections and supply base, to support progress back to the industry.

The Outcome

- *The facilitation of cross industry stakeholder topic conversation and collaboration*
- *Development and launch of the aboutbiosynthetics.org microsite*
- *Annual Bio Synthetics Roundtables to convene stakeholders and drive topic progress*

2.1 Case Study: Biobased Synthetics for the Clothing Sector

Development of a microsite on the topic of Bio Synthetics

Why?

As identified within the Textile Exchange Bio Synthetic working group, there was a clear need for an aligned cross industry communication on Bio Synthetics.

At the time, the topic was gaining industry traction, but there was much confusion around its sustainability metrics, how it could be used into material strategies, and the sourcing of materials.

What?

An online, open-sourced cross industry platform, that provides an entry level understanding on the topic, covering areas such as:

- Terminology
- Feedstocks
- Different biopolymers
- Uses in the apparel industry
- Benefits
- Resources

How?

biov8tion developed technical content, liaising with cross industry contributors to ensure accuracy, the internal Textile Exchange team for the execution, and working group members for content relevance.

The final site was launched at the Textile Exchange Sustainability Conference at the Bio Synthetics round table.

The Outcome

- *The microsite https://aboutbiosynthetics.org went live at the Textile Exchange Conference in Washington DC (2017)*
- *A biosynthetic infographic, demonstrating the circular cycle from raw material to finished product*