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Industrial Sustainability: Brands That Adopt Upcycling and Other Green Practices

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Abstract: ***Upcycling is a design technique that employs pre- and post-consumer waste from clothing producers or clothes that have been disassembled to create new fashion, offering a sustainable design option to remove textile waste from landfills. The textile industry is benefiting from modern technology, which are reducing time and resource waste and boosting production. Although upcycling may only provide a short-term solution, it may assure the complete eradication of pollution from plastics. While enacting dynamic changes, efforts are being made to adopt eco-friendly and secure products. With many firms presenting collections made of recycled plastic or other synthetic materials, sustainable fashion has become mainstream. And other companies are going above and beyond by including upcycling into their annual collections. The primary distinction between upcycling and recycling is that upcycled clothing is constructed from previously used items, whereas recycled clothing is created from materials that have already been broken down.***

According to the non-profit organisation WRAP (Waste and Resources Action Plan) in the UK, clothing has the fourth largest environmental impact (behind housing, transportation, and food), and upcycling is great for the environment because the textile industry uses a lot of water, energy, chemicals, and other harmful materials. Investing in research and development to use sustainable raw materials and creating environmentally friendly goods are all necessary for the textile sector to advance responsibly without further damaging the environment. The following review is about the various articles about the sustainable ways of approach in textile industry.

Keywords: eco-friendly, recycled plastic, reuse, sustainable fashion, sustainability, upcycle.

I. INTRODUCTION

Sustainable means recycling, reducing, and reusing while being environmentally friendly. For the first time, information regarding the lifetime and sustainability effects of fashion and textiles is brought together with sustainable textile and fashion design. Preconceived beliefs regarding the scope and viability of considering human needs, locally sourced items, slow fashion, participatory designs, and material knowledge are challenged. The trash that pollutes the environment the most are made of plastic. They wind up in landfills, where they can take up to a thousand years to decompose. However, unwanted plastics are now being retrieved from landfills and utilized to create useful items owing to upcycling. In the industrial world, textile pollution is a distressing concern.

The future of fashion is not, however, as bleak as it may appear because major fashion firms are demonstrating to the world how successful and sustainable fashion can be. To develop sustainable fashion, the designers use the least amount of textile waste possible when making clothes. [1,2]

II. PROBLEMS WITH AN UNSUSTAINABLE INDUSTRY

According to the United Nations, the fashion industry produces 20% of all wastewater and more than 8% of all greenhouse gases annually. In contrast to being recycled or upcycled into new apparel or items, which might promote sustainability in the industry, 85% of textiles are left unused.

Whether it is new or recycled, if we do not have the infrastructure to recycle it properly, it ends up in the landfill. Inadequate trash disposal and excessive demand have led to an array of grave environmental, social, and economic issues. According to data from the UN (2015), trash contamination affects 40% of the oceans and carbon dioxide emissions have increased by over 50% since 1990.

The textile industry has taken several steps to reduce carbon footprint and protect the environment, including increasing the use of renewable biodegradable fibers, producing fibers from renewable sources, using single fibers more frequently for easier recycling, and modifying renewable materials through microbial processing, among other things. [2,3,4]

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A. Solutions In Hand

A growing number of consumers who are environmentally conscious, fashion designers and clothing companies taking responsibility for protecting the environment, and progress in technology all work together to make fashion more sustainable. The designers are using the least amount of textile waste possible to produce sustainable clothes. The fashion and textile industries now recognize how urgently the way that clothing is made needs to change. The fibers ought to be more economical and less resource-intensive. So, choosing clothing and fibers carefully can significantly lessen the harmful effects on the environment, animals, and people. Additionally, reducing the amount of electricity, water, and chemicals used as well as minimizing inefficient operations will help. The textile and fashion industries' recent revolutions ensure that sustainable fashion has a bright future. By changing their own consumption patterns and ceasing to buy and throw away clothing, customers can have an impact on the fashion industry. When possible, fix, reuse, and repurpose clothing. One of the unexpected ways to promote sustainable fashion is through upcycling, which brings creativity and sustainability to a whole new level. [2,3]

III. BRANDS THAT UPCYCLE

To increase their green credentials, fashion companies like Prada, Stella McCartney, and Adidas are gradually incorporating recycled plastic. Recycling, according to Oceans founder Cyrill Gutsch, is the current solution and the band-aid, even if it is undoubtedly superior to virgin plastic. Recycled plastic is currently in style, whether it be in eco-trainers or luxury labels' ready-to-wear. By 2021, Prada intends to use only recycled nylon. Additionally, Zara's parent company, Inditex, promises to employ only recycled polyester by 2025. By 2020, H&M plans to employ 25% more recycled polyester than it does now. In order to knit its iconic shoes, the US shoe company Rothy's turns plastic bottle waste into thread. Adidas’s Futurecraft. Loop trainers are designed to be recycled again which is primarily made of virgin plastic. [5]

A. Challenges In Recycling/Upcycling

However, not all plastics are appropriate for consumption due to the difficulties involved. It is also crucial to make sure recycled plastic is acquired ethically. We cannot take advantage of people and then claim to care about the environment. Another consideration for the environment is the amount of carbon discharged during the recycling process. While you do not want to increase emissions, it is also very harmful to the environment for plastic to wind up in landfills. [5]

B. Re-Recycling the Plastic

What happens to recycled plastic at the end of its useful life is one of the main issues with using it to make new things. According to a 2017 survey, only 9% of the total amount of plastic produced has been recycled. Whether it is new or recycled, if we do not have the infrastructure to recycle it properly, it ends up in the landfill. Utilizing recycled polyester, which can be purchased for a low cost, is for some companies an easy method to boost their green credentials at a time when consumer awareness over sustainability is rising. Some companies use recycled polyesters and work hard to improve their operations, while others use it as a greenwashing marketing tactic.[5]

C. Upcycling In India

Ecokaari and re-Charkha are social efforts that take consumer plastic and repurpose it in order to reduce plastic waste and benefit handloom weavers and artisans along the way. These initiatives incorporate donated plastic into handwoven, modern designs using the conventional "charkha" technique.

In addition to collecting consumer-donated domestic plastic waste, the group also donates plastic that cannot be recycled to businesses who turn it into fuel. Their project also works with local women artisans and young people to create their cutting-edge designs, with the goal of combating challenges with waste management and plastic pollution brought on by difficult-to-recycle plastic waste.[6]

1) *Ecokaari:* The company is re-establishing old ways of upcycling, material optimization, and waste minimization by upcycling plastic trash into handcrafted bags, sleeves, and home decor, demonstrating the interconnected and symbiotic link between craftsmen and the environment.[6]
2) *Re-Charkha:* Re-Charkha is an eco-social initiative founded on the notion that empathy is necessary for sustainable growth. Their assortment of recycled hand-woven goods, including handbags, fashion accessories, office supplies, and home décor items, are made using the donated plastic.[6]

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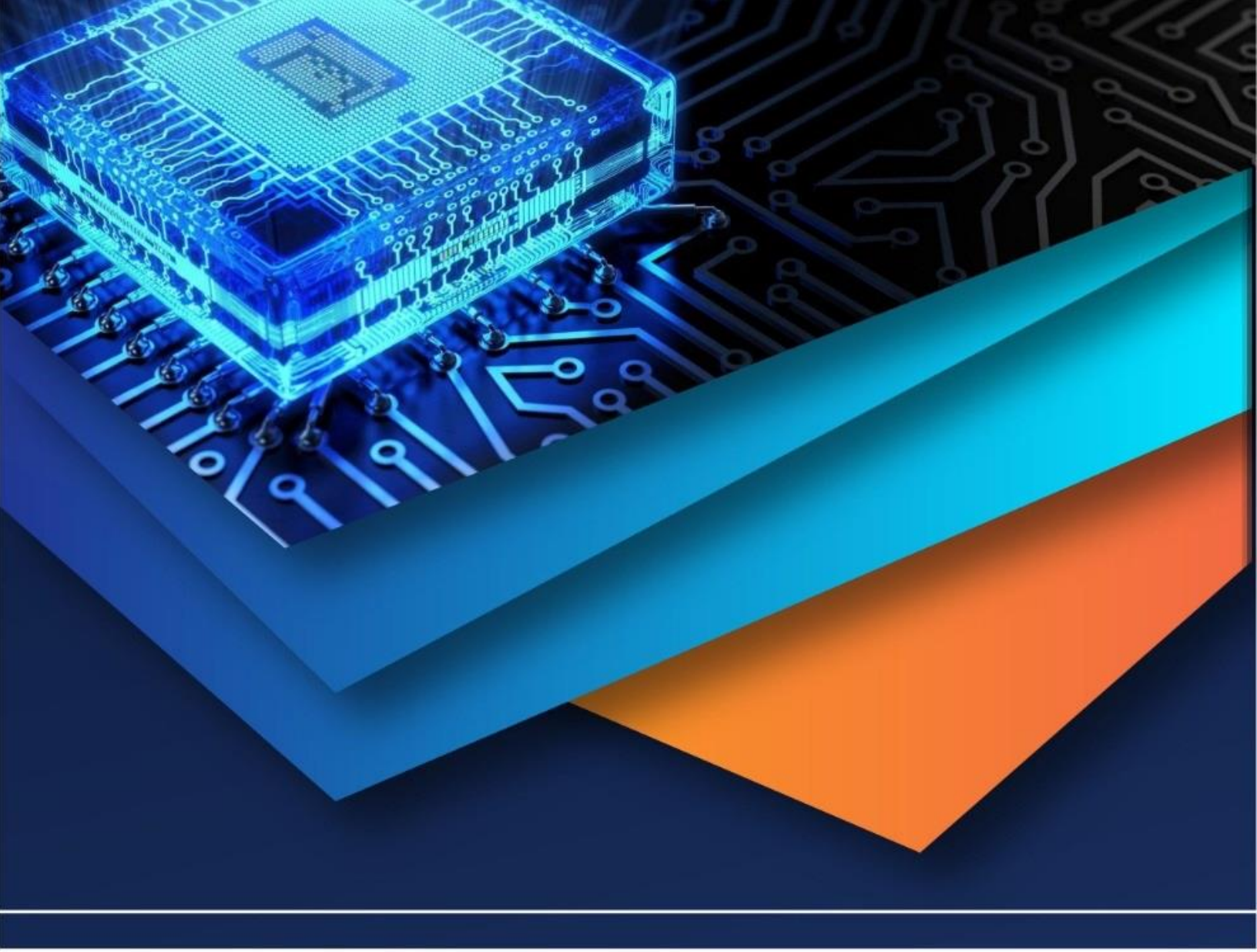
IV. CONCLUSION

In a nutshell, upcycling involves giving a product a longer shelf life, or better yet, a second shelf life. This safeguards the environment and offers improved living conditions to employees, clients, and suppliers in all facets of the fashion business from location to location, which necessitates continuous improvement to achieve long-term sustainability. Fashion's future lies in a well-rounded strategy where the industry's top priority must be sustainable fashion.[2]

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