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ANALYSIS OF TEXTILE CIRCULARITY POTENTIAL

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Abstract – Global annual textile consumption has doubled in the last two decades and is expected to keep increasing. Since the textile system operates primarily in a linear way, it is highly polluting and creates a lot of waste. Nevertheless, it has a high potential for circularity, since most textile products can be recycled or reused. Today most of the waste ends up in landfills, and less than 1 % is recycled back into textiles. This study aims to gather information and evaluate which textile product group has the highest potential for circular economy growth. It covers three main textile product streams: fashion, home, and technical textiles. The groups were compared using fifteen criteria: environmental impact, washes, landfilled waste, recycled waste, synthetic materials, projected lifetime, market demand, production, international trade, labour productivity, value added, technology energy efficiency, innovation capacity, employment, and enterprises. Indicative values have been found for each sustainability indicator by using and mathematically transforming data from the scientific literature. The evaluation method used in this study was multi-criteria decision analysis. The results indicated that the fashion textile group has the most significant potential for circular economy development.

Keywords – Apparel; circular economy; home textiles; multi-criteria decision analysis (MCDA); technical textiles; TOPSIS

