Abstract:

Given the emergence of the coronavirus pandemic and the ensuing obligatory usage of face masks, the number of used face masks being dumped in the environment, landfills and incineration sites has become a significant issue. In this project, a service-product has been proposed to enable efficient handling of used face masks with respect to the environment but also in such a way that benefits disfavored people. Therefore, the two primary objectives of this project are the reduction of environmental pollution and improvement of the living conditions of underprivileged individuals who have no place to stay. The methodology proposed to achieve these objectives consists of three main stages; the first step is mask collection, followed by recycling the masks and finally the reproduction of new product from the recycled raw materials. In the first stage, used face masks are gathered from by pharmacies through providing citizens with financial incentives. Consequently, the collected face masks are sent to recycling centers to first apply disinfection method and second extract the raw materials i.e. polypropylene, and afterwards these raw materials are sent to production centers for the production phases of proposed design. Finally, after achieving the objectives of this project, BioBuild tent has been designed and will be distributed through the use of intermediaries such as NGOs, charities and volunteers to disfavored individuals in Barcelona.

Keywords: Surgical face mask, sustainability, revision, non-woven fabric, recycle, discarded face masks, disfavored individuals, rough sleepers, portable tent, sleeping tent, temporary shelter.