TG62-REPURPOSE Solution Brief

The Problem

US fashion apparel is roughly a $800 billion market with an estimated $120 billion of leftover, unused and perfectly good fabric goes to waste annually. These raw materials could easily be repurposed in a variety of ways.

Queen of Raw created a marketplace to buy and sell sustainable and deadstock fabrics and textiles for students, clothing manufacturers, designers, upholstery and more.

99Bridges wants to be a part of the solution.

Why not complete the full circle? – what if we can provide visibility of the fabric from material to consumption and end of life? 99Bridges is enabling Queen of Raw to complete the circle, creating a closed loop for garment made of fabric from Queen of Raw.

Our Solution

Queen of Raw created a business to repurpose unused fabrics so they don't go to landfill. With TG62-REPURPOSE, we are enabling a full circular consumption model from material to product to end of life. Each participating brand, such as Nike, Gap, or H&M, purchasing the repurposed fabric, Queen of Raw will be supplied fully washable smart tags for the manufacturers to put on their products. Each smart tag has an RFID chip and a QR code. Once you, the consumer, registers the tagged garment to the mobile app – MOSAIC, you will get reward points every time you wear the garment to the participating store. It is automatic. There is nothing you need to do. The mobile app simply keeps track of everything. When you are ready to recycle the tagged garment, simply put it in the recycle bag provided by the participating city; or bring it to the recycle station at the participating store to receive reward points. As you accumulate reward points, different levels of Sustainability Badges will be awarded to you on the app's personal dashboard.

All the REPUROSE actions are converted into a personal sustainability score based on greenhouse gas emission (CO_2e) reduction. Each person becomes aware and accountable to their sustainability actions and know how their actions contribute to a more sustainable future.

TG62-REPURPOSE can operate as a standalone system, but it is far more effective and powerful when combined with 99Bridges solutions. Together, they create a network effect that accelerates the transaction to a more sustainable living. The solution consists of the following components:

1. **TG62-REPURPOSE-TAG** – fully washable smart tag equipped with both RFID and QR code to maximize its trackability while minimizing human interventions for data collection.
2. **TG62-EDG-RFID** – Edge Data Guardian (EDG) is a digital appliance, a hardware and software edge computing device. In the TG62-REPURPOSE configuration, the EDG is equipped with a RFID scanner to detect and read the data from the smart tags at participating stores.
3. **TG62-MOSAIC** – a consumer mobile application called MOSAIC designed to encapsulate our REFILL, REUSE, and RECYCLE solutions seamlessly into a single social app. It is used for user profile, account management, order processing, item inventory, rewards tracking, social network, and user support.
4. **TG62-MOSAIC-CONTROL-CENTER** – a web-based app for the participating brand to operate the solution. It has a DASHBOARD to give vital statistics and analytics to the participating brand about the REPURPOSE operation. It covers essential functions to securely keep track of PEOPLE, THINGS, and PLACES data in the entire ecosystem.

Benefits of our Solution

TG62-REPURPOSE creates a circular economic model that is both engaging for consumers and sustainable. It is a fully digital and frictionless experience integrated seamlessly into the user's everyday life.

1. The Queen of Raw labeled smart tag enables digital tracking and data collection for analytics and modeling
2. Each tagged garment registered to individual's mobile app creates awareness and accountability for sustainability actions
3. The sustainability social network on the mobile app promotes friends & families and community level engagement to make wearing a Queen of Raw tagged garment fun, engaging, and rewarding for consumers
4. The reward points and sustainability achievement badges built into the mobile app encourages responsible behavior for everyday living, and build brand loyalty for participating retailers
5. The in-app marketing features such as coupons and ad banners enable retailer direct access to customers local to their precinct
6. Reuse actions are converted into greenhouse gas emissions (CO_2e) reduction metric, giving participants meaningful data on how they are contributing to a more sustainable environmental future

Who are the target customers?

TG62-REPURPOSE solution is designed for clothing manufacturers with retail presence such as Nike and H&M or department stores such as Nordstrom and Macy's. By purchasing repurposed fabrics from Queen of Raw's digital marketplace, we are offering the clothing manufacturers the ability to create a closed loop circular business to raise their sustainability level while building brand loyalty with the socially conscious generations – the Millennials and GenZ consumers. Our solution brings IoT technologies and mobile app into the process to create a game changing way to engage the target generations.

Cities and municipalities looking to accelerate their sustainability initiatives beyond RECYCLE, REUSE, and REFILL can add REPURPOSE to create additional network effects with their programs, further accelerating their sustainability goals.

The role of TG62 Distributed Data Exchange

Participating retail stores are equipped with our Edge Data Guardians for real-time collection of data from the REPURPOSE smart tags. All data captured and processed are safely encrypted and sent to the operator's data center or private cloud. The Edge

Data Port at the operator's data center or private cloud will then aggregate, anonymize, and further process the data to create a data catalog for external sharing with the operator's approved data subscribers. The subscribers are individuals who need to use the data to perform data analytic functions, such as planning, forecasting, behavioral analysis, demographic preference, etc. They could range from employees of the operator's ecosystem partner to marketing companies looking to analyze behavioral patterns, or even governmental agencies. All data, sensitive and anonymized, are securely stored at the operator's data center or private cloud. The Edge Data Bridge is the only component exposed to the outside world for the purpose of sharing the data catalog.