

## Case Study Kamilo

### Challenge

The presence of plastics in the world's water systems is a critical environmental and health crisis. They cause pollution by entering natural ecosystems from a variety of sources, including cosmetics, clothing, and industrial processes. Compounding on the threat of plastics is inefficiencies in current recycling practices. Our current model for recycling relies on consumers to recycle. According to the Environmental Protection Agency (EPA), Americans generate more than 267 million tons of solid waste every year. In 2017, only 94.2 million tons (35%) of that waste was either recycled or composted and only 8% of discarded plastics were recycled that year.

### Solution

Kamilo, a Public Benefit Corporation dedicated to the reduction of global plastic waste, has partnered with Innovate to track the journey of plastic from waste to a recycled product. Kamilo ensures that the plastic they track is actually recycled/reused. Leveraging the power of geographic information system (GIS), Kamilo creates a verifiable link between plastic recovered and its actual re-use through global supply chain tracking. This model provides businesses that sell recyclable plastic (e.g., bottles) a way to guarantee that their plastic output is matched in recycled material via real-time geospatial verification of source and successful recovery. This innovative technology brings much-needed transparency and accountability to the global plastics supply chain and recycled plastics markets.

Innovate is helping Kamilo's data be transparent and verifiable by storing their data in a ledger database that provides a transparent, immutable, and cryptographically verifiable transaction log. This blockchain-like data model ensures indisputable evidence that the plastic asset existed and tracked to its final resting place. This is a unique solution because it merges GIS data with a blockchain-like data model.

Innovate staff also customized and extended **Esri's Survey123** application to allow Bluetooth device scanning. When an end user is using this customized application, they can scan for Bluetooth devices within reach and capture their unique IDs. The use case is a Bluetooth device attached to an asset for chain of custody tracking. As that asset moves from place to place, it can be scanned via Bluetooth to identify it. The results are submitted to a database and mapped for viewing in the office.

### Benefits

- Offers businesses a way to take ownership of their plastic footprint in the environment and deter plastics from entering the world's water system.

