

**Problem:** What is the customer need the innovation will address? Is there a social or environmental challenge the team aims to take on? (40 words)

The innovation addresses the public's unawareness of microplastic consumption through water sources, the lack of data-driven policy regarding the operations of water infrastructure, and the unintended health problems, such as the increased risk of cancer, dementia, and gut microbiome imbalance.

**Existing Alternatives:** How is this problem solved today? Consider other products in the market. (40 words)

Current solutions to microplastic health risks center on avoiding plastic products, but this is inconvenient for consumers and ignores inevitable microplastics in water. These approaches also fail to generate the data required for tangible, evidence-based initiatives and effective regulation.

**Solution:** What are the key characteristics of innovation? (40 words)

Our inline water monitoring device uses multi-modal detection (fluorescence + optical scattering) with AI analysis to continuously detect microplastics in real-time. Features clip-on filter activation when thresholds are exceeded and automatic data transmission for research and policy development through mobile app.

**Key Metrics:** What are the most important numbers that track the innovation's success? (40 words)

The key metrics for measuring success will be the number of users and data points collected that can be used for meaningful research, overall geographic coverage of data, and number of distribution partnerships (researchers, policy makers, etc.).

**Unique Value Proposition:** What makes the innovation different from what's already in the market? (40 words)

In contrast to expensive remote lab equipment, we offer a low-cost field device with a wide geographical range. By detecting before filtration, we not only address health, but the lack of field data by providing information to locate problematic sites.

**High Level Concept:** What is the tagline of innovation? (10 words or less)

See the Unseen. Drink safely.

**Sustainable Advantage:** Why will it be difficult for others to copy this innovation? (40 words)

Our advantage combines proprietary AI algorithms trained on diverse water sources, network effects from crowd-sourced data creating valuable geographic insights, a first-mover advantage

in building comprehensive contamination maps, and established partnerships with researchers and policymakers who depend on our data.

**Channels:** How will the innovation be sold to customers? How will it be delivered? (40 words)

It will be sold through ecommerce platforms, our website, and appliance retail stores. If ordered from our website or ecommerce platforms, we will fulfill orders and ship to the customer directly. Bulk orders will be sent to desired retail stores.

**Customer Segments:** Who is the target audience that is served by the innovation? Describe them. (40 words)

The target audience includes households seeking to drink cleaner water. Environmental groups can utilize our product to advance their efforts, while governments and researchers can use the data to develop policies addressing location-based microplastics, ultimately benefiting anyone who consumes water.

**Early Adopters:** Who will be the very first customers? Describe them. (40 words)

We will kickstart our product locally, selling it to customers in our area. This customer base is located in suburbia and is middle to high income. They have an interest in health and wellness, purchasing related products regularly.

**Early Adopters:** What are the most significant costs? (40 words)

The most significant costs include hardware components such as the UV LED (\$5–10), Raspberry Pi (\$60–80), ESP32-CAM (\$10–15), and optical bandpass filter (\$30–50), along with OpenAI API usage fees (\$20–50 per month), totaling approximately \$125–205 per device.

**Revenue Streams:** How will the innovation make money to fund the operations on an ongoing basis? (40 words)

The product generates revenue through initially selling the physical device. To create ongoing revenue via add-on services, such as community forums and health tips. Data will be clustered by area and sold to researchers for insights on improving water quality.