

INVENTING A NEW ECOSYSTEM OF WATER FILTERS

The Springboard Initiative

PATH’s platform helps companies offer better water filters to poor consumers

Nearly two billion people still lack access to safe drinking water despite decades of effort. **But change is happening.** Thousands of people are enjoying safe water from a new generation of water filters that deliver higher levels of user experience, performance, and affordability.



Photo: PATH

PATH’s Springboard Initiative has produced a new ecosystem of interchangeable water-filter products from a range of companies and given impetus to multimillion dollar investments by major multinational companies.

OUR AMBITIOUS GOAL TO HARNESS COMPETITION

PATH aimed to raise the level of competition in the water-filter category. To do so we encouraged and guided companies’ market-entry efforts by validating demand and making it much easier for any company to design or source *water filters that consumers want to buy and love to use.* Indeed, purchase and consistent use drive health impact. They also directly underpin scalability and sustainability.

RESULTS—SPRINGBOARD’S GROWING ECOSYSTEM

The water filters in the Springboard ecosystem significantly improve on previously available filters (see chart).

- *Low cost.* Filters cost just pennies per person per day, including the cost of replacement cartridges.
- *User-preferred.* Typically, over 80 percent of users would recommend to a friend after three months of use.
- *Good water quality.* Filters meet guidelines set by the World Health Organization.
- *Breakthrough ceramic cartridges.* These include one with a user-friendly flow rate 2–3x faster than normal and another with bacteria reduction 100x normal.
- *Robust supply base,* with multiple manufacturers and factories in China, the United States, and India.
- *Strong distribution prospects* via multinationals’ global networks and partnerships with local brands and nongovernmental organizations (NGO).

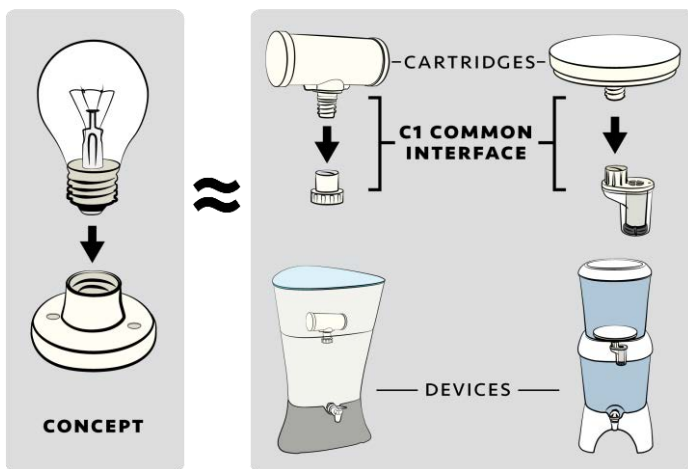
Recent launches by two major multinationals—Imerys SA (Paris, France) and the Kohler Company (Wisconsin, USA)—represent important milestones for the ecosystem.

OUR STRATEGY

PATH knows big problems require multifaceted solutions that engage commercial partners. First, we crafted the technical and commercial essentials for market entry. Then *we provided these at no cost to companies big and small* so they can offer better water filters to poor consumers.

- *For their designers,* we created and shared publicly the first user-driven [design guidelines](#) for this product category, based on 600 hours of in-home observations and research with over 10,000 consumers.

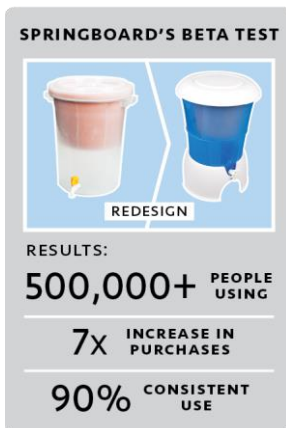
| SUCCESS FACTORS | EXISTING PRODUCTS | | NEW SPRINGBOARD ECOSYSTEM | | | |
|-------------------|---|------------|--------------------------------|---|--|-------|
| | Various models Previous commercial filters | NGO filter | 2011 Redesign of NGO filter | 2012 Products premiere C1 Common Interface | 2015 Multinationals launch with C1 Common Interface | 2016 |
| Cost | Red | Green | Green | Green | Green | Green |
| User experience | Red | Green | Green | Green | Green | Green |
| Field performance | Yellow | Green | Green | Green | Green | Green |
| Desirability | Green | Red | Green | Green | Green | Green |
| Lab performance | Green | Yellow | Yellow | Green | Green | Green |
| Distribution | Green | Red | Yellow | Yellow | Green | Green |



- *For their engineers*, we invented the C1 Common Interface—the common connection point and platform solution at the heart of Springboard’s open ecosystem of next-generation water filters (see figure above).
- *For their product managers*, we made available PATH-designed filters to supply pilots, field evaluations, and customers when our partners launched products.
- *For their supply-chain experts*, we assembled a one-stop [guide](#) to filters with the C1 Common Interface.
- *For their marketers*, we validated market demand through development of the world’s first successful

market-based distribution model to sell water filters in poor rural areas. This used a redesigned device for the local Cambodian market. Its high market acceptance validated a key assumption—poor consumers paid more for a more desirable product.

For their lawyers, we posted online a no-cost license for the C1 Common Interface design so anyone can create filters for this ecosystem.



To broaden the market for these filters, supply competing brands, and thereby drive economies of scale at the ecosystem level, we also invested in early-stage R&D on bromine-based technology for optional second-stage cartridges. Aimed at both lower- and lower-middle-income consumers, these cartridges can enhance the (already good)

performance of the primary, ceramic cartridges. Imerys is field-testing prototypes and plans launch by 2017.

THE C1 COMMON INTERFACE

Products are standardized on the PATH-developed C1 Common Interface to create a “light bulbs and sockets” scenario so that different brands of products can work together. This improves choices for both consumers and brands. The interface allows for easy attachment of upper and/or lower cartridges and includes built-in safeguards to prevent errors such as upside-down cartridge installation.

FIELDWORK AND EVALUATION

Most filters in the Springboard ecosystem are variations on a PATH prototype design developed through sustained, intensive fieldwork. A commercial pilot (~15,000 people) and smaller NGO pilot in Odisha, India, measured high acceptability over the pilot periods of 3 to 6 months. PATH funded an ongoing 9-month independent study by Tufts University to evaluate the PureEasy device and Imerys prototype cartridges with 150 households in Haiti and Kenya. The study publication is expected in 2017.

RESOURCES

PATH’s Springboard Initiative offers interested readers an array of additional resources online, via our resource page (<http://sites.path.org/water/hwts/technology/new-water-filters-resources>):

- [Guide to Water Filters With the C1 Common Interface](#).
- [Design guidelines](#) for water filters.
- [No-cost license](#) to the C1 Common Interface.
- [Demand validation](#) and “beta test” filter re-design.
- Springboard Initiative [resources page](#).

The *guide* includes manufacturers’ contact details. For more information on Springboard: springboard@path.org.

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www.path.org

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