Anteneh Engineering

Give us your high-level pitch
Describe your business in 7 words or less.
Smart Green washer

Check category
Choose only one category that best represents your innovation
Waste reduction, avoidance and recycling

Briefly describe your innovation
Filtration of microfiber from the wastewater can be achieved by integrating a heater with a washing machine. After the end-user washes the cloth there will be wastewater containing microfiber. The wastewater will be directed to a heating chamber. When the heater is activated the water will evaporate and the microfiber will remain in the chamber since microfiber does not evaporate. The evaporated water will be directed into a small tank for condensation. This water will be used for reuse. Then after some interval, the microfiber can be collected to be sold to clothing manufacturing companies to be recycled and reused. As seen in the above figure the red part is the heater and the green is the small tank that will hold the condensed water. There will be non-returnable valves in preheating and after heating pipes so that the water does not return into washing chamber and heater respectively.

How does your innovation address marine plastic pollution?
Most of us wear synthetic fabrics like polyester every day. Our dress shirts, yoga pants, fleeces, and even underwear are all increasingly made of synthetic materials plastic, in fact. But these synthetic fabrics, from which 60% of all clothing on earth is made, have a big hidden problem: when they're washed, they release tiny plastic bits called microfibers that flow down our drains, through water treatment plants, and out into our rivers, lakes and oceans by the billions. If there is a mechanism that can collect all these microfibers, cloth manufacturing companies can reuse the microfibers to make new clothing like tough, very soft-to-the-touch materials for general clothing use. This collection can be done using newly designed washing machine. A washing machine (laundry machine, clothes washer, or washer) is a device used to wash laundry. There are many washing machines that filter the water for reuse but they can not filter microfiber because they are too small. These microfibers are consumed by aquatic animals like fishes then eaten by us. There has been many reports on existence of microfibers and micro plastics in humans internal organs that come from waste water from washing our clothes.

What is the impact of your innovation on marine plastics, over what period of time?
Please be as specific as possible and describe your metrics. We are looking for estimated impacts on eco-system degradation, public health, waste mitigation, impact on the ocean or other.
Approx. 2 out of 7 people in the world have access to washing machines, this means if we can manage to install this mechanism in every washing machine we can save a massive amount of microfiber entering into the oceans. This is a very big amount of microfiber because there will be at least more than 700,000 microscopic fibers could be released into wastewater during each use of a domestic washing machine, with many of them likely to pass through sewage treatment and into the environment, according to new research. So, imagine the total. This will assist in making our oceans clean of microfiber. Since aquatic animals are one of the main food source of the world and there has been many finding on existence of micro fiber in peoples who consume fish on daily basis, this project impacts public health big time globally.

We are looking for innovations with strong market potential. Tell us about your target market: size,

assessment, trends, dynamics

Please be as specific as possible.

The market will be global because it impacts on improvement of aquatic food safety all over the world, assist in recycling of micro fibers which the world has not done much progress on, add value to washing machine end users on gaining benefit when washing their cloth and increase the standard of washing machines towards green technology for washing machine manufacturers. Just over 100 million tonnes of fish are eaten worldwide each year, providing two and a half billion people with at least 20 percent of their average per capita animal protein intake. This is very large numbers and that means all those people are in the risk of health caused by consuming micro fibers in their systems. So, this project has strong market potential.

Tell us about your customers - describe demographic, geography, market segment, size of the customer base

Please be as specific as possible.

The end users are owners of washing machine device all over the world. The end customers could be household, hotels, clothing manufacturing companies and so on that use washer to clean clothes.

What are the critical needs ("pain points") that your product or service is fulfilling for your customer? What is your compelling value proposition?

There are many critical selling points for this product to end users but the main selling point for end users is buying this product is not an additional cost but a means to get income when the end user washes cloth. The end users can sell the separated microfiber based on their weight to textile companies and cloth manufacturing companies. And they will gain cash profit from washing their clothes. The second selling points for the end user is water saving resulting in lower waster expense. This is because since the separation of the microfiber and waste waster involves in converting the wastewater into water vapour, this process can act as water filtration to be used for other purposes. The third selling point is that by using this product end users are preventing micro fibres enters into the oceans that will be eaten by the fishes which end up in their plate at the end. The other selling points are end users feel responsible for the preservation of the oceans and the natural world, modernization and upgrading way of life and so on.

What is your revenue generation plan? What is your business model?

My income will be from selling the product to end users and advertisement. Based on my current prototype design analysis the product for small washing machine waste water out put less than 30.00 USD. When the product is reaches in mass production stage the sot will be much cheaper which is less than 20.00 USD. Currently, I have done all the ground work that is needed to make the invention successful. This include doing detailed design of the product for small washing machine waste waster out put, doing cost analysis, search for potential customers and data gathering on end user cost preference. The research has shown me that this product will be one of the projects that will aid on healing of our world and can generate big financial profit.

How do you plan to "exit" the investment?

If I could not manage the business by myself the next plan is selling the IP to washing machine manufacturing companies after I built the prototype.

What is your target market: domestic? International? Describe the growth trends and market dynamics? What are the barriers to enter this market?

The market target is international. As stated above since the end users are all over the world and and the positive impact which the project makes is global. At this time the main market dynamics research I have done is on the supply, demand, price and the quality of the product. As stated above, there is no doubt that the world needs this kind of products which indicates the high demand level. I have checked similar devices and I have confirmed that there is no similar or no devices to this invention indicating that there is no supply so far and when this project succeeds, I will be the only suppler. I have collected data from 100 peoples who owns washing machine and I have received very promising data on the cost and willingness to purchase the product. The quality of the product depends on the level of funding I recive and support I get from my supporters on some technical assistance. Assuming I receive all the support I need, the product will be very good quality and will work as intended perfectly.

Provide a short description of the origins of your innovation: history, goals and objectives, vision

and mission. Tell us about the executive team.

I have dedicated my life for invention and research because not only I have big dreams but also it is my only way out of poverty. We all have a talent we know or did not find out yet. Mine happens to be inventing. I discovered this talent of mine when I was in a second-year student during my university life. Starting from that point everything seemed not important except creating new ideas. So, until now I have invented more than 50 inventions which are new to the world and the rest are intended for Ethiopia that will change the life of many people including mine. But because of poverty, theft and many reasons I could not manage to make it. But all that matter is I will never give up. I will invent until and after I become successful. That makes me a strong entrepreneur. My skills are aided with a mechanical engineering degree on design, production and sales expertise. You can find more about my work via https://contest.techbriefs.com/profile?user=89682 AND https://www.herox.com/crowdsourcing-community/antenehgashaw-123126 and https://conservationx.com/challenge/invasives/ohia/projects I invent this product because I am committed to solving big world challenges. My goal is contributing to something good and big our world and do my part as a researcher.

Describe the experience and credentials of the team. From what additional resources do you have commitment? (e.g., Board of Advisors, Technical Advisors, Legal Counsel.) Provide details on the names, affiliations and expertise of these resources.

What specific experience does the team lack and how will this be addressed.

Currently, I am the only person who is pursuing this project. You can find some of my inventions on the links below https://contest.techbriefs.com/profile?user=89682 https://www.herox.com/crowdsourcing-community/antenehgashaw-123126 https://conservationx.com/challenge/invasives/ohia/projects

Do you have a website for your innovation? Please share.

https://contest.techbriefs.com/2019/entries/electronics-sensors-iot/9471

How will you take your innovation to market – please describe your plans for MVP, scaling up, manufacturing, marketing, sales, etc

The key element for successful marketing is a successful prototype. So the first step is building the prototype. To build the prototype and show my invention to the world, I applied in many innovation platforms including this one like consevationx.com, herox.com, contest.techbriefs.com and so on. The project has been accepted in many sites and the link for this project are https://contest.techbriefs.com/2019/entries/electronics-sensors-iot/9471 https://conservationx.com/project/id/340/smartgreenwasher https://www.herox.com/plastika-reparabilis/round/346/entry/21820 After I build my prototype, the next step is advertising the product on media to find partners that will help me scale up the manufacturing scale to mass production. If the partners are manufacturers of washing machines, that will make the process be easier because the device can be manufactured to be fixed inside the existing washing machines and I do not need to manufacture different type of sorting device for the different capacity of washing machines. The sales, manufacturing procedures depend on my partners because as said if the current washing machine manufactures share the same interest as mine we will enter into the market together. My primary design problem is how to meet different models and specifications in different companies and countries. Well, the way I see it, I have two options. 1. Make some kind of arrangement with major washing machine manufacturers and make the dive assembled in every product that will be sold in the future. 2. Build different model based on the different output of wastewater which contains the micro fibres.

How will your innovation leverage global knowledge, learning and collaboration?

The best point about this project is it ties different departments or fields together for one goal. Meaning, securing aquatic food health, electrical enginering or electronics and textile industries has big knoweldge gap and this project will give the opportunity on new knowledge exchange between all sectors. I am working on interconnecting many conservation platforms via my project to assist in the better linkage between researchers https://conservationx.com/project/id/340/smartgreenwasher, https://contest.techbriefs.com/2019/entries/electronics-sensors-iot/9471, https://www.herox.com/plastika-reparabilis/round/346/entry/21820 Also, this project will be a gateway to make my more than 50 inventions successful. Because, as I said I have more than 50

inventions which you can see via https://contest.techbriefs.com/profile?user=89682 but since I do not have the resource and connection to build my prototype and scale up my inventions, all of them are pending and waiting for funding. So, Funding me will contribute not only on one project but more than 50 inventions which have a postive impact on the world.

How will you deploy the funds from the award (if you win.) How will you use the accelerator training, capacity and access to investors and innovation labs?
The funds from the award will be used on the project 100%. The funds I get will be used to manufacture the prototype and advertise the prototype. As said from above since I have more than 50 inventions if there is any left of the funding all the money will be used to build other inventions of mine. I would like to take training on marketing on the global stage that will help me with scaling all of my projects. (https://contest.techbriefs.com/profile?user=89682) I will use the award to get access to big investors that will help on talking on the potential partnership on more than my 50 inventions. To put it in simple words, this award will change the lives of many peoples including mine.