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1. The contents of this entry are the results of my work or, in the case of a team project, the work of current members of this DECA chapter.
2. No part of this entry has previously been entered in competition.
3. This entry has not been submitted in another DECA competitive event.
4. Credit for all secondary research has been given to the original author through the project's bibliography, footnotes or endnotes.
5. All activities or original research procedures described in this entry are accurate depictions of my efforts or, in the case of team projects, the efforts of my team.
6. All activities or original research described in this entry took place between the 2019 Chartered Association Career Development Conference and the 2020 Chartered Association Career Development Conference.
7. I understand that DECA has the right to publish all or part of this entry. Should DECA elect to publish the entire entry, I will receive an honorarium from DECA. Chapters or individuals with extenuating circumstances may appeal the right to publish the entry to the executive committee of the board of directors prior to April 1.

This statement of assurances must be signed by all participants and the chapter advisor, and submitted with the entry, or the entry will be given 15 penalty points. Hole punch and place in front of the written entry. Do not count as a page.

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To the best of my knowledge, I verify that the above statements are true and that the student's (students') work does not constitute plagiarism.

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AQUAsys Inc

Entrepreneurship Innovation Plan
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AQUAsys Inc

EXECUTIVE SUMMARY

About Us

AQUAsys; short form of “Aquatic System”, a company using **microscopic electromechanical components** integrated with software application to solve the problem of poor water conditions on a macroscopic level promptly and bring awareness within the community and globally. Our name helps optimize the core philosophy of our Canadian business solution technological company.

The company plans to shed light on 21st century with a device called **FAMbit** (Fundamental AQUAsys Monitor) that motivates by using “**Global Navigation Satellite System**” (GNSS), “**Machine Learning**” (ML) algorithms and “**Artificial Intelligence**” (AI) technology to help reduce the number of problems faced by contaminated and unsafe water here at home and globally.

Our company implementations water solution hardware and software application which are effective, cost-efficient, unique design and easy to use by consumers, businesses, NGOs and government organizations to help restore safe water quality in all areas in an effective and efficient manner.

Problems

1. Deaths and Illnesses caused by waterborne diseases
2. Lack of water quality information, resources and support
3. Setback with currently available water testing devices

Solutions

1. Preventing Deaths and Diseases
2. Share collected data results with organizations
3. Improved Hi-Tech hardware and software solution

Customer Segments

Primary - Authorized distributors who sells water testers and chemicals, departmental stores such as Walmart, Loblaws, Costco and Homedepot.

Secondary - Outside of Canada; USA, Mexico, Asia and South Africa.

Finance

Total investment of CAD \$10 million can be gathered by finding investors and 10 years term loan from the bank. Monthly payment of Interest, loans and shareholders dividend will be covered by the below resources.

1. Local and Federal Government Grants
2. Support from companies who sells water treatment chemicals
3. Revenue from advertisements

Deaths and Illnesses caused by waterborne diseases

According to World Health Organization, every year more than **3.4 million deaths** from waterborne diseases. Drinking or exposure to contaminated water can lead to various types of diseases, including cholera, and other serious and fatal illnesses such as guinea worm disease, typhoid, and dysentery. Even clear, transparent water may include harmful chemicals which we may consume with no knowledge that the water is unsafe. This water becomes harmful to humans and it's living habitats such as fish and other aquatic life who rely on water to survive.

Also, First Nations reserves across Canada struggle to access clean water. Each year, there are an estimated **90 deaths** and approximately **90,000 illnesses** caused by contaminated drinking water in Canadian indigenous communities. This is an ongoing crisis that many Canadian first nations are going through and no serious action has been taken yet. In developing countries, about 80% of illnesses are linked to inadequate water and sanitation conditions. Most of these waterborne diseases are typically found in third world, developing countries, such as Africa and India, because these countries lack good quality water systems that filter and chlorinate water to eliminate all disease carrying organisms.

Lack of water quality information, resources and support

Different water testers manufacturers produce devices in their own design and there are no measures to share data across different platforms. Also, the software is designed to support their own brand and most of the manufactures wanted to stay secret by not sharing the results data. Especially, there are no water testers to pinpoint the location of the water contamination location with **microscopic** level of accurate testing and water treatment suggestions based on the history.

The current devices require a person with water testing knowledge to test the quality of the water to suggest a treatment. It may be a challenging task for a normal person to perform water test using different chemicals to determine the level of contamination to treat with different chemicals.

Due to lack of support to identify and treat contaminated water, the ongoing water crisis remains exists in First Nations Reserves and 3rd world developing countries. The source of water found in reserves are contaminated with high levels of toxic chemicals such as mercury, or at risk because of faulty treatment systems. More than half of the water systems within First Nations reserves across Canada pose medium or high health risks due to lack of resources and support.

Setback with currently available water testing devices

Currently there are many products available for water testing (see APPENDIX). However, all these products are battery operated and need frequent battery replacement. They also lack multi-language operational instructions, different types of devices produced by different manufactures and no standard consistency, not convenient to carry around and most of the water testers don't have a software built-in to collect data for analytical purposes.



OUR SEGMENTS

All Ages

The primary target market for our water testing product for **ALL** ages and genders; to protect everyone as well as the lives of their loved ones with safe, clean water. **FAMbit** can be worn by kids, youth and adults on their wrist like wearing a wristwatch.

Distributors

We will initially sell **FAMbit** through authorized distributors who sells water testers and chemicals, departmental stores such as Walmart, Loblaws, Costco and Homedepot. Eventually, move on to community centers, clubs, local municipalities and government organizations.

During our first year of releasing our product, we will primarily market across all provinces in Canada, especially in areas identified that needed immediate attention to get clean water including first nations reservoirs.

The reason we choose to release FAMbit in Canada's geographic market because many first nations in Canada do not have clean water yet and Canada is one of the largest geographic markets that need to be addressed first.

International Market

In our second year, we plan on expanding to broaden the market to following international markets such as USA, Mexico, Asia and South Africa. If our product becomes successful and after global expansion, we may consider doing a charitable movement where we visit developing and third-world countries to create zero contamination water.

The goal we strive to achieve with this water testing product is to ensure that everyone has safe water supply which can be well water, tube well, lakes, water tanks, reservoirs, pools, spas, hot tubs and other running and stored water for human and animal use.

VALUE PROPOSITION

Product build with advanced nanotechnology

AQUAsys Inc will partner with its sister company, **MICROSYS** Inc who is in the IT Hardware and Software development business for over 15 years with extensive knowledge of how a hardware equipment is integrated and interfaced with software application on various platforms using Artificial Intelligence (AI), Machine Learning (ML), Global Navigation Satellite Systems globally (GNSS) and nanotechnology.

AQUAsys has access to the world's leading tech giants such as Google, Microsoft, Apple and Facebook to implement our **FAMbit** water tester hardware and software product with advanced nanotechnology to network, analyze data to report accurate results and educate customers, businesses and governments globally to have quality water for drinking and other use.

FAMbit (Fundamental AQUAsys Monitor) Hardware and Software features

- It is nothing but like you are wearing a watch to see the time in addition to build in water test technology to automatically test the water quality when a drop of water touches the surface and alarm if the water quality is below or above comfortable threshold of contamination level.
- It can be set to float in recreational areas such as pools, marine life attraction sites, hot tub or spa. App will provide hourly, weekly water history charts and the data will be shareable for either in-person help or to order chemicals at either our recommended partner pool stores or your own preference pool stores.
- A device that can be used by companies selling water treatment chemicals to treat contaminated water in the 21st century build with advanced technology and multi-language system capabilities.
- Municipalities, cities and provinces can monitor the water quality in lakes, tube well, reservoir tanks where the water is supplied to consumers.
- Health organization can analyze the data collected by AQUAsys **FAMbit** Software from consumers, companies and municipalities to control and avoid any epidemics by water contamination.
- More efficient way to approach things using software apps for Windows, iOS (Apple) and Android (Samsung) tablets and phone products to analyze and track individual and area wide water testing results geographically.
- It will communicate with satellite system to get live update of the location and water quality reading and results if any changes to treatment formula based on the current environment and area.
- It can be programmed to send notification to our distributors or partners 24x7 to advise the water quality and treatment suggestions.
- It will alert you when you need to adjust any chemicals based on the pattern and let you know precisely in advance how much of which chemicals to use. The alerts will instantly notify the owner through notifications on our AQUAsys **FAMbit** app as well as an alarm sound coming from the product itself.
- It will provide the option to scan any supported chemical's barcode from our partner pool stores and the AQUAsys app will calculate exactly how much to add to your water to return the water to a better quality.

Preventing Deaths and Diseases

Everyone will wear or carry our product to test the quality before drinking. The product will test for total alkalinity, water hardness and chemical levels. The instant messaging alerts will caution the customer ahead of time and provide them with easy and accurate dosing directions to return the water to its safe condition. As a result of warning the customers instantly through alarm sounds and automatic notifications, the user can treat the water immediately and even directly contact one of our partner companies to look at their water in person. If they treat the water as soon as possible, they will be able to reduce risks of any fatal diseases caused by poor water circumstances of any living being, whether human.

Our company's slogan is "little drops of water make a mighty ocean". We shed light on our slogan by helping our own First Nations who struggle with unsafe water to make food, drink, or even take a wash. The water from their reserves are contaminated with mercury and lead ions and their issue needs to our company is willing to take a stance on this issue and serve the common good. We also plan on visiting third world countries once a month to provide them with our **FAMbit** monitors. Even small acts of helping our First Nations and third world developing countries will gain more customers to be a part of this movement of making the world a better place.

Share collected data results with organizations

Water tester devices will be built with **GNSS** (Global Navigation Satellite System) to collect water test data from all of our devices to study the water quality pattern geographically to analyze the pattern to identify and treat effectively in an area, region or a particular community.

The **FAMbit** monitors water quality 24x7 and, instantly sends notifications, an alarm sound and directly contacts our water treatment chemical company partners to ensure the water treated and it is returned to its normal conditions as quickly as possible.

Improved Hi-Tech hardware and software solution

Device is powered by hybrid solar system, using nanotechnology, Global Navigation Satellite Systems globally (GNSS), Machine Learning (ML), Artificial Intelligence (AI), multi-language operational instructions, universal tester for all water testing chemical manufactures, easy to carry by wearing around the wrist integrated with software apps that are compatible with Microsoft Windows, iOS and Android devices. Integrated with Google, Microsoft, Apple and Facebook platforms to share the data trend.



ION

Our plan is to introduce AQUAsys in the Canada market by the year 2021. Readily available clean water is necessary for human health, whether it's the water we use for drinking, food production or recreational purposes. Along with improved water conditions and supply, and better treatment of water resources, we can boost our countries' economic growth resulting in poverty reduction. With our FAMbit you'll never have to wonder whether or not your water is safe for your loved ones.

Finance

Total investment of CAD \$10 million can be gathered by finding investors and 10 years term loan from the bank. Monthly payment of Interest, loans and shareholders dividend will be covered by the below resources;

1. Local and Federal Government Grants

Reducing waterborne deaths and illnesses, Health Canada can save money from health care system when there will be reduction in waterborne disease treatment.

2. Support from Chemical companies

Companies can sell and make profit when consumers wanted chemicals to treat water based on the water test results.

3. Revenue from Advertisements

Companies can advertise in our software application and have their name on the **FAMbit** band.

Brand Promise

One dollar from each purchase will go towards a charity where **AQUAsys** will support low income families and third world countries who cannot afford to test water quality to treat contaminated water.

AQUAsys Inc committed to save lives of **humans** from contaminated water.



APHY

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Existing Water Testers in the market



AQUAsys Inc



AQUAsys **FAMbit** Water Testers



AQUAsys **FAMbit** App for iOS (Apple) and Android (Samsung)

AQUAsys App - Realtime Analysis of water testing and reporting

