

**EvacKit**

**SECURE WILDFIRE EVACUATION KIT**

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# Technical Summary

Wildfires often spread quickly and leave residents with little time to evacuate. Over 8,500 Canadians are evacuated because of wildfires annually, and this number increases every year. In fact, out of all natural disasters, wildfires have displaced the most Canadian evacuees since 2000. Currently, very few Canadians in wildfire-prone communities have prepared for wildfire evacuation, or possess evacuation kits. Additionally, existing kits for sale are often insufficient as they only contain items needed for sustenance and first aid. Canadian communities need a new emergency kit that can be used during a wildfire evacuation that will prepare them for long-term evacuations and provide space for storage, protection from wildfire smoke, backup power, and security for valuable items. Our team has designed EvacKit's Secure Wildfire Evacuation Kit as a solution to this obstacle in Canadian resilience.

A considerable amount of time was invested on ideation for the specific components in the kit. We first needed to provide evacuees with the protection from smoke and fire that other kits were lacking. We considered items such as smoke lights and fire extinguishers but they did not prove accessible or convenient. Eventually we decided to include HEPA filter masks, fire repellant ponchos, protective blankets, and burn cream; all effective, helpful and protecting. Furthermore, we made the kit itself heat resistant and reflective to ensure visibility in dense smoke and darkness. These items will not only serve to protect users in emergencies but also give them the confidence and security they need to keep a level head in the time of chaos.

This chaos can prove detrimental in the rush to evacuate, as most victims leave preparation to the last minute. Evacuees commonly fail to pack adequately by forgetting important items and instead bringing those they do not need. We examined the possibility of a built-in WiFi alarm system, alert application or website, and an application to help the user stay organized. Although helpful, an alert or alarm system already exists on mobile devices, and we determined that organization can be achieved with labelled storage and a list of reminders available on our website and delivered with the Secure Wildfire Evacuation Kit.

For the energy source, we discussed using solar panels, hydrogen fuel cells, a thermoelectric generator, or kinetic energy from the turning of the kit's wheels. While creative, these ideas proved to be too expensive and also lacking accessibility and efficiency. Eventually, we decided on the use of a 20000 mAh power bank battery to supply power through a USB port for the purpose of charging devices, such as cellphones that are essential for communication during the evacuation process. This battery will be able to fully charge a smartphone up to 10 times and can be used alongside a hand crank generator which can produce backup power in times of need. Although our society currently relies heavily on energy, electricity is often not a reliable source of energy during natural disaster situations. For this reason, we designed the Secure Wildfire Evacuation Kit to have as little reliance on electricity as possible.

Our next goal was to expand storage space in the kit to ensure that displaced persons can bring every necessity. We brainstormed ideas such as an expandable pack, wallet-style storage pockets, a

collapsible chest, and stackable kits. In the end, we decided on storage bins sealed with lids that act as drawers in a stand-up, suitcase-like kit. The kit comes with five bins: one small, two medium, and one large. These are removable to give the user choice in which ones, if not all, to use. 28 slits on either side of the kit allow the user to also decide where to place each bin. Furthermore, the kit's dimensions (92 cm (h) x 52 cm (l) x 42 cm (w)) provide ample storage space while allowing it to be easily stored within the trunk of the average small sedan.

Apart from standard bins, we also wanted to provide a secure location for the user to store all of their valuables such as money, identification, and financial documents. We knew from the start that we would make the locked case easily accessible so the user could use it at any time. We explored the idea of an electronic keypad but the complications and expenses seemed unnecessary, and almost easier to break into. A physical lock and key system was also considered, but we knew that in the disarray of an evacuation could lead to the loss of a key. Our final product includes a simple combination lock to provide the best balance of security and simplicity.

## Business Plan

### Operations Plan

#### Goals and objectives

EvacKit strives to provide potential wildfire evacuees a secure emergency evacuation kit. We designed the Secure Wildfire Evacuation Kit to support families and individuals through wildfire evacuations as well as to be used to safely store valuable items (e.g. money, identification, financial documents) on a daily basis. The product is designed to be timeless, space-efficient, durable, organized, quick to set-up, and accessible.

#### Facilities and Labour

The Secure Wildfire Evacuation Kit will be produced in a factory in Saskatoon, Saskatchewan, because of Saskatoon's central position among areas in Canada with high wildfire risks. Producing the Secure Wildfire Evacuation Kit will take roughly 0.5 hours per unit. Personnel directly involved with the production process include two skilled laborers and one production manager. Other personnel include an accountant, marketing representatives, and various other employees. (See Skills Needs Assessment)

#### Component Acquisition

EvacKit will be purchasing components and contents of the Secure Wildfire Evacuation Kit from various distributors and manufacturers worldwide, including those in the U.S.A., Canada, and China. These components will all be transferred to an assembly plant in Saskatoon for final checks and product assembly.

## Production Process

The Secure Wildfire Evacuation Kit's production process follows three simple steps. Component Acquisition, as outlined in the previous section, involves acquiring and sorting all of the components and contents of the Secure Wildfire Evacuation Kit. Assembly covers the painting, putting together, and assembly of the final product. Distribution is the process of packaging, shipping, and delivering the product to the customer's doorstep.

## Training

The first employees of EvacKit will be fully trained by our design team on how to efficiently assemble the Secure Wildfire Evacuation Kit. Then, as we expand to new locations, these employees will act as mentors to new hires to ensure valuable experience is passed on to continue a high standard of quality and efficiency.

## Quality Control

One out of every hundred Secure Wildfire Evacuation Kits will be tested to ensure only the highest standard of quality and durability. These tests involve framework stressing, heat-resistance, undulation testing, and various other methods to reaffirm the excellence of our products.

## Inventory Control

EvacKit produces the Secure Wildfire Evacuation Kit on a per-order basis, meaning that we only produce one kit for one customer order. This way, we require a much smaller warehouse for component and product storage, as well as avoid overproduction by ensuring we only manufacture as much as we need.

## Research and Development

The Secure Wildfire Evacuation Kit is constantly in a state of development, and as new materials and technologies are unearthed, every aspect of the kit will continually be improved using advanced, yet still affordable technology. Additionally, development is being done to expand the Secure Evacuation Kit model to disasters such as floods or severe storms like hurricanes or blizzards. It is our hope that we can provide a conclusive line of products for any disaster situation, ensuring safety, comfort, and quality.

## Marketing Strategy

### General Objectives

EvacKit's marketing team aims to target individuals who are in need of a product that makes wildfire evacuations easier and more efficient. This way, we can ensure maximum satisfaction in our

customers, as well as earn the greatest profit from our product. We will use a variety of methods, including public media and social media, to reach our target audience.

## Product

EvacKit's Secure Wildfire Evacuation Kit will have the dimensions of 92 cm x 52 cm x 42 cm and will come with one small container (6 cm x 51 cm x 41 cm), two medium containers (21 cm x 51 cm x 41 cm), and one large container (36 cm x 51 cm x 41 cm). However, consumers will be able to purchase additional compartments of any size if desired. Within these containers, there will be:

- Basic Survival Tools
  - Scissors
  - Whistle
  - Radio/Flashlight
  - Battery and Hand-Powered Charger
- Food and Water
  - 2L Water Storage (x4)
  - Food Bars (x48)
  - Canned Food (x27)
- Wildfire Protection Items
  - Fire Repellent Poncho (x4)
  - Fire Protective Blanket (x2)
  - HEPA Mask (x4)
  - Burn Cream (x20)
- First Aid
  - Band-aids (x30)
  - Gauze
  - Alcohol Wipes (x10)
  - Tweezers
  - Ice Packs (x4)
  - Medical Tape
  - Nitrile Gloves (x6)
- Hygiene Items
  - 12 pack Wet Wipes (x12)
  - Toothbrushes (x4)
  - Toothpaste (x4)
  - Pads (x10)
  - Tampons (x10)

## Price

The price of the Secure Wildfire Evacuation Kit starts at \$854. We here at EvacKit believe that this price is not only agreeable to customers based on the contents and construction of the Secure Wildfire Evacuation Kit, but it will also be profitable. Although our kit is priced higher than most other solutions currently on the market, it is focused on wildfire evacuations, with specific contents to aid with such a

scenario. Additionally, other kits may only include a container and storage bins inside, but no actual emergency supplies. On the other end of the spectrum, kits can also contain only emergency supplies, but no secure, durable container to store them in. The Secure Wildfire Evacuation Kit aims to provide both, with a conclusive, dependable variety of survival supplies in addition to a secure, durable space to carry valuables and make it through the toughest of situations. Although the price is still high for some individuals, the safety and survival of customers and their loved ones are beyond any monetary value as it is always wise to be prepared.

## Placement

The Secure Wildfire Evacuation Kit will be marketed online only, as EvacKit operates on a per-order basis. This way, we can remove any intermediaries in between us (the manufacturer), and the customer. Thus, there will be no stores or salespeople to increase the price of our product for their own profit - we are committed to providing the Secure Wildfire Evacuation Kit at a fair price.

## Competition

Direct competitors of our product consist of other emergency and disaster kits as well as basic first aid kits. Kit suppliers include but are not limited to St. John's Ambulance, Uline, 72 Hours, Canadian Safety Supplies, and Briden. Their products are priced at:

- \$20 - \$100 for 1 person
- \$100 - \$150 for 2 people
- \$130 - \$300 for 4 people

No other products are focused on wildfires, as the other products provide provisions for vehicular crashes, camping, boating, or hiking. They place priority on first aid and survival in the wilderness. Most kits only contain enough supplies for 72 hours. In contrast, our product is focused on wildfires and caters to long term and/or vehicular evacuation. The Secure Wildfire Evacuation Kit is heat resistant and fire retardant, contains a HEPA mask, over 72 hours of supplies, fits well in a car trunk, has space for personal provisions and IDs, and provides backup power.

## Promotion

### Target Markets

#### Families

The Secure Wildfire Evacuation Kit will primarily be targeted towards families consisting of two to four members, usually two parents and two children. Human psychology dictates that parents will be most concerned with the safety and survival of their children in a disaster situation, and this kit provides them with all the resources needed to do so. Thus, advertisements will use shock or emotional appeal and will prominently feature young children, as well as caring, compassionate, even heroic parents in times of danger to evoke these kinds of emotions in potential customers.

## Hotels/Places of Residence

Many people in areas around the world travel to locations such as British Columbia for summer vacation. They often stay in hotels and do not arrive properly equipped for fire evacuation. Since they may be from places where this natural disaster does not commonly occur and are inexperienced on how to handle the situation, evacuation of larger hotels are chaotic and could leave families greatly stressed. We could promote and provide our product to hotel chains, allowing them to provide kits to hotel guests in times of need. Not only will this benefit the hotel who is looking out for their residents, the residents will be exposed to our product providing EvacKit with another mode of marketing and broadcasting.

## Season(s) of Demand

Our product will be the most in-demand during the months before and after summer (February - May, and November - January), which is the most wildfire-prone season, as during these times, customers will be considering either the coming season and their preparations for potential evacuation, or their troubles in the past wildfire season and how they may be mitigated. Additionally, the November-December season allows for kits such like this to be marketed as both a Christmas gift and a potential lifesaver, doubly increasing the effectiveness of advertising. In terms of government marketing, most budgets are finalized around the February - March period, making our seasons of demand ideal for government buyers to consider purchasing our product. Not only does it improve public opinion as it displays awareness about wildfire preparedness, but it also adds a resource for governments to extend to evacuees in times of need.

## Key Frustrations

The marketing department aims to market the Secure Wildfire Evacuation Kit through the use of the emotional shock factor of wildfires. During a wildfire evacuation, many families are rushed to pack and forget to leave with their important belongings. These items are often destroyed in the fires that follow, sometimes impossible to replace. On top of dealing with the fear of children, parents are worried about

## Benefits

EvacKit's Secure Wildfire Evacuation Kit contains specific equipment necessary for wildfire caused evacuations, which are not provided by any other product on the market. The product focuses on protection from and preparations for wildfires and their effects, including smoke and heat. The outer case of the kit is both heat resistant and fire retardant and the kit contains four HEPA filter masks, four fire repellent ponchos, and two fire protective blankets. This customization for wildfire evacuations will give users the protection from wildfires that no other kit offers.

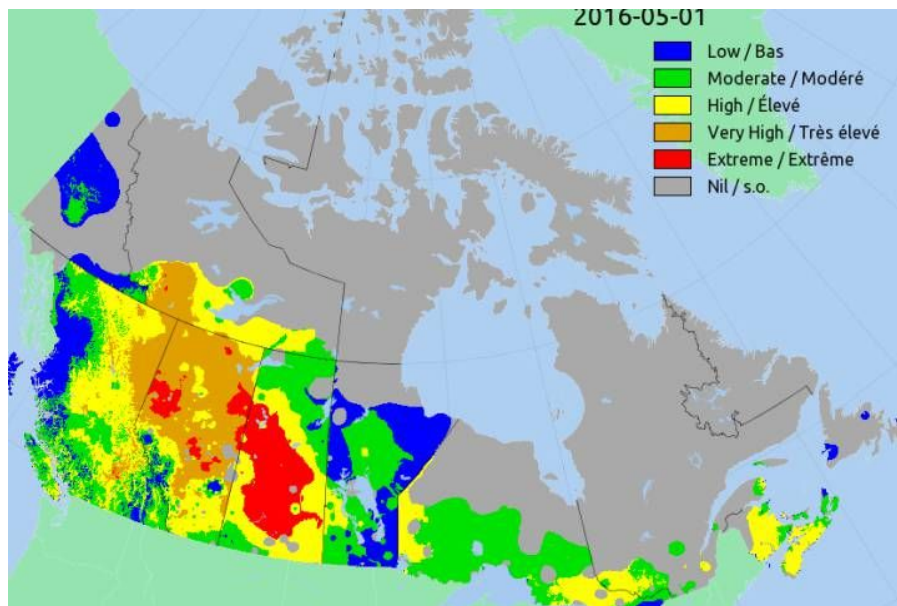
The kit's dimensions allow it to both provide users with adequate amounts of storage space for supplies as well as to fit into the trunk of the average small-sized sedan. The space will allow users to pack enough supplies for prolonged evacuations, which is very common in the case of wildfires as most evacuees are not able to return to their homes even after a fire because it was destroyed. The kit is designed to fit well into the trunk of a car, which is necessary in the case of an evacuation.



Additionally, the kit can fully accommodate up to four evacuees for roughly 5 days, surpassing the average time range covered by evacuation kits which is 72 hours. It also provides power and has a hand crank because users will likely use their communication devices often during any natural disaster in order to contact others. This improves comfort for users. The secure wildfire evacuation kit also includes a safe and secure storage system for their important documents, valuables, identification, and personal provisions.

## Demographics

Our product will be best sold during summer months. Our company aims to target families in possible wildfire prone areas months prior to wildfire seasons, specifically in April to May. Wildfires in Canada are most common in British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario. Our company's primary focus is to reach out to higher risk areas first before expanding to the rest of Canada.



## Advertising Strategy

	<b>Aware</b>	<b>Interest</b>	<b>Engaged</b>	<b>Sold / Retained Referrals</b>
<b>Quantity (x50 for bulk order)</b>	800 000 B2C 162x50 B2B	80 000 B2C 54x50 B2B	8 000 B2C 18x50 B2B	800 B2C 6x50 B2B
<b>Message</b>	“Be prepared. EvacKit”	“Visit evackit.ca to learn more.” “Call us at (306) 343-8029”	“Come see it in person at our HQ or at a local show.”  “Ask for a specialist to see how EvacKit will work for you.”	“EvacKit is unobtrusive and will always be fully ready in the case of an emergency.”
<b>Medium</b>	Social Media Advertising In person	Web Phone	In person show In person visit (B2B)	Word of mouth
<b>Tools</b>	Video & Banner ads <ul style="list-style-type: none"> <li>- Instagram</li> <li>- Twitter</li> <li>- Facebook</li> <li>- Television</li> <li>- News</li> <li>- Localised to wildfire-prone areas</li> </ul> Discussion with target market	Website - evackit.ca  Phone - (306) 343-8029	Salespeople  Actual product for demonstration	Slogans  Icons  Post-purchase surveys, gifts, etc.
<b>Budget</b>	Social Media sponsorship - \$25 CPM  800 000 people -> \$20000/year	Website hosting \$20/month  Phone - included with space/utilities	Costs for people included in payroll expenses	\$10 gift * 806 clients (800 customer, 6 business) -> \$8060/year
<b>Time Frame</b>	<b>December - June</b>	<b>January - June</b>	<b>March - June</b>	<b>April-June</b>

## Skills Needs Assessment

An outstanding business is made up of a team that collaborates to work towards common goals - the success of the business, and in turn, the satisfaction of the customer. Our company, Evackit, will consist of an accountant, treasurer, sales representative, marketing communications, customer support representative, IT support, product manager, production team, human resource specialist, lawyer, and general manager.

The finance portion of the team works to manage cash flow, establish business relationships, and stay on top of financials documents. The accountant will work with tax services such as filing tax returns, and ensuring that all employees' tax codes and payments are correctly recorded. Their expertise is also needed for advising on the business plan, legal structure, and financial monitoring. Responsibilities of the accountant also include filing legal and compliance documents, preparing annual statements of accounts, updating company status in the government's company register, maintaining records of administrative personnel and managing payroll.

The second half of the financial team is the treasurer. To obtain investment capital, they will communicate and establish relationships with shareholders, investing company funds, bankers, and current/future investors. They will also work to collect loans and credit from outside sources to expand funding even further. Finally, the treasurer plays a great role in cash management including capital provision, short-term financing, banking and custody, credits and collections, and insurance.

The marketing team consist of a sales representative and marketing communications. The role of a sales representative is to understand the company's goals and values as well as promote our product. This consist of exceeding sales goals and negotiating all contracts with prospective clients. He/She will determine pricing schedules for quotes, promotions, and negotiations, as well as preparing weekly and monthly reports.

The second member of the marketing team consists of marketing communications. This requires creating a marketing strategy, organizing trade shows and events, managing and leading the marketing team and budgets, developing marketing materials to generate sales lead and promoting the product at all times. They will be advertising our company on various social media platforms. The marketing team is an essential and key part of our company as it will result in our companies majority of sales and therefore requires many important skills in order to succeed.

The Human Resources department of our team will consist of a human resources specialist. This role requires recruiting, screening, interviewing, and placing workers. Our company believes that all individuals should be placed according to their strengths in order to ensure the quality of our product. On top of this, human resources is in charge of employee relations, payroll, benefits and training. Lastly, Evackit believes company culture is very important and therefore as a human resources specialist, they will have the role of organizing events outside of the workplace such as bowling nights, etc.

Our company will have a customer support representative, who will be in charge of attracting potential buyers who have interest in our product by answering product and service questions, and providing all information needed by the customer in order to satisfy their needs. Skills needed to perform this job include being a good communicator, the ability to resolve problems and determine the cause of the problem, maintain a positive attitude, and to be knowledgeable and passionate towards the companies product.

Another important part of our team is the customer support representative. They bring valuable skills to create and maintain customer relationships by answering product and services questions, while suggesting information about other products and services. They also work to maintain customer accounts by updating and recording information, to later use for recommendations of potential products and services.

Another important part of their role is dealing with customer complaints, where they first start with clarifying the problem. Next, they determine the cause to select and explain the best solution, correct and adjust additional problems, and follow up to ensure resolution.

## Financial Viability Model

### Income Statement

<b>EvacKit</b> Income Statement Financially Viable Year: 2022				
Year	2019	2020	2021	2022
Revenue	\$128 175	\$257,204	\$517 824	\$1 025 400
Cost of Goods Sold	<u>64 088</u>	<u>128 602</u>	<u>258 912</u>	<u>491 338</u>
<b>Gross Profit</b>	<b>64 087</b>	<b>128 602</b>	<b>258 912</b>	<b>512 700</b>
Expenses				
People	64 560	98 160	136 560	203 760
Space & Operations	23 140	23 140	23 140	23 140
Sales & Marketing	14 034	22 508	26 206	28 308
Other	<u>2 500</u>	<u>2 500</u>	<u>66 460</u>	<u>0</u>
<b>Total Expenses</b>	<b><u>104 234</u></b>	<b><u>146 308</u></b>	<b><u>252 366</u></b>	<b><u>255 208</u></b>
<b>Net Profit</b>	<b>(40 147)</b>	<b>(17 706)</b>	<b>73 006</b>	<b>257 492</b>

## Assumptions

Price Point: \$854.50/kit

COGS: 50%, Expenses: 24.89%, Net Profit: 25.11%

Total products sold (per year): 1200

Seasonality:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
50	50	150	180	180	150	130	100	60	50	50	50

Most sales are expected to be made in the months leading up to fire season, with sales peaking in April and May.

## Direct Costs

### Kit Contents

Item	Amount	Price
Scissors	1	\$0.89 (MIN 6 ORDER)
Whistle	1	\$2.86
Water Storage	4	\$20
Fire Repellent Poncho	4	\$16
Radio/Flashlight	1	\$6.98
Fire Protectant Blankets	2	\$1.86 (ORDER OF 240)
HEPA Mask	4	\$21.12
Standard Band-aids	10	\$0.46
Butterfly Band-aids	10	\$0.38
Knuckle Band-aids	10	\$0.58
Gauze	1	\$0.35
Alcohol Wipes	10	0.08

Tweezers	1	\$0.40
Burn Cream	20	\$1.4
Ice Packs	4	\$1.56
Medical Tape	1	\$0.24
Nitrile Gloves	6	\$2.1
Normal Blanket	1	\$5
Wet Wipes	1 Package (12 wipes)	\$1.36
Toothbrushes	4	\$2.76
Toothpaste	4	\$1.24
Pads	1 10-pack	\$1.50
Tampons	10	\$1.20
Hand-powered Phone Charger Parts: -Generator (motor, circuit, pcb, components, etc) -Battery Pack	1 1	\$9.80 + \$1.95 + \$1.04 + Approx \$5.00 = 17.79 Approx \$20.00 Total = \$37.79 (Approx)
Food Bars	Eight 6-bar packages	\$40
Canned food	27 cans	\$27
Total Cost		\$195.11

*Cost of kit contents: \$195.11/kit*

### **Kit Structure**

- Polypropylene
  - Interior Storage Boxes - \$35.67/kit
    - 1 Small (5 cm), 2 Medium (20 cm), 1 Large (35 cm)
    - 1 Small: \$3.45
    - 2 Medium: ~\$7.50
    - 1 Large: ~ \$10.05
  - Divider Sheets (15) - \$3.75/kit
    - 4.5 cm high
    - \$0.25 each

- Polycarbonate Case - \$65.00/kit
- Zipper (1) - \$9.99/kit
- Labels (6) - \$0.66/kit
- Heat resistant spray - \$0.94/kit
- Reflective tape/paint - \$1.99/kit
- Wheels (2) - \$8.62/kit
- Lock (1) - \$5.97/kit

*Cost of kit structure: \$132.59/kit*

### **Distribution and Packaging**

- 400 sq. ft. of bubble wrap for \$93.60
- Box: Height 92 cm, Width 52 cm, Depth 42 cm
- Saskatoon -> Ft. McMurray = \$49.62
- Saskatoon -> Kamloops = \$62.10
- Saskatoon -> Winnipeg = \$49.52
- \$6.25 for a cardboard box
- Bubble wrap 20 sq.ft/kit = \$4.68/kit

*Cost of distribution and packaging: \$64.68/kit*

### **Labour**

- 30 minutes to produce one kit
- 2 production members at \$17.28/hr
- 1 production manager at \$33.17/hr
- Electricity usage at \$1/kit

*Cost of labour: \$33.86/kit*

**Total Direct Costs: \$428.24/kit**

### Expenses

#### **People**

##### Accountant (Contracted)

- 2 hrs/wk, \$19/hr = \$152/month

Treasurer (Contracted)

- 2 hrs/wk, \$16/hr = \$128/month

Sales Representative (Full-Time)

- 40 hrs/wk, \$17.50/hr = \$2800/month

Marketing Communications (FT)

- 40 hrs/wk, \$20/hr = \$3200/month

Customer Service Representative (Part-Time)

- 10 hrs/wk, \$15/hr = \$600/month

General Manager (FT)

- 40 hrs/wk, \$35/hr = \$5600/month

Human Resources Specialist (FT)

- 32 hrs/wk, \$25/hr = \$3200/month

Lawyer (Contracted)

- 2 hr/wk, \$50/hr = \$400/month

Recruitment: \$150/month

Benefits: \$600/month

Training: \$150/month

*Cost of people: \$203 760/year or \$16 980/month*

**Space & Operations**

Warehouse Rental

- \$19624/year or \$1635.33/month

Utilities

- \$3520/year or \$293.33/month (1760 sq ft. at \$2/sq ft.)

*Cost of space and operations: \$23 140/year or \$1928.33/month*

**Sales & Marketing**

Social Media Advertising

- \$20000/year or \$1667/month

Website Hosting



- \$20/month

Customer Retention (referrals)

- \$8060/year or \$672/month

*Cost of sales and marketing: \$28 308/year or \$2359/month*

**Total Cost of Expenses: \$255 208/year or \$21 267.33/month**

Startup Costs

Acquisition of all materials for first production run:

- \$7410.08

Acquisition of equipment:

- 2 blow-dryers at \$702
- Assorted screwdrivers at \$129

Working Capital:

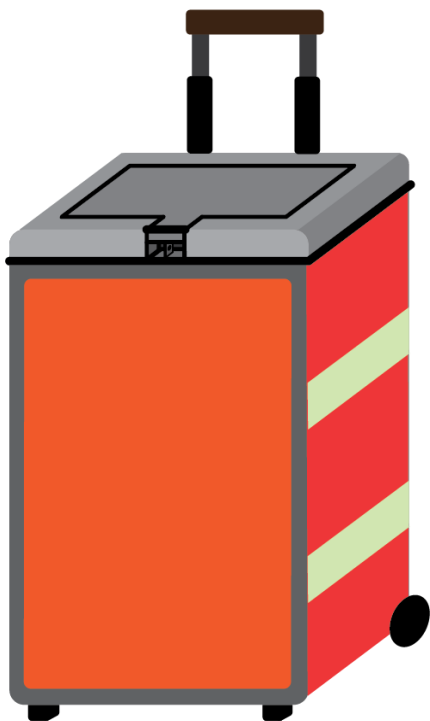
- \$60 000 for first two years

**Total Startup Costs: \$70 169.74**

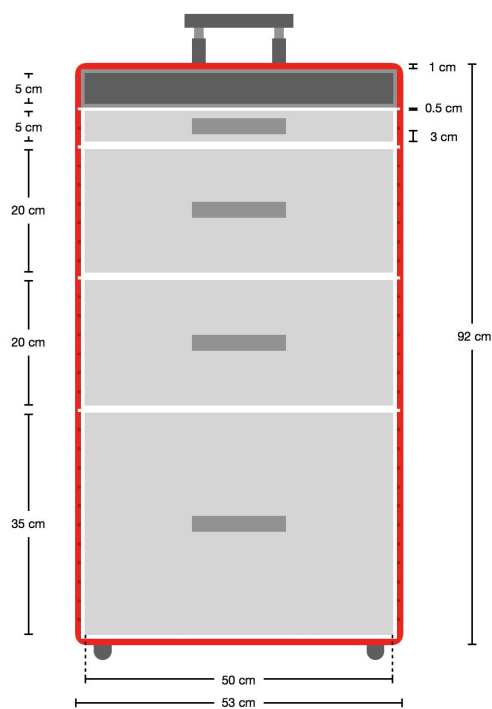


Diagrams

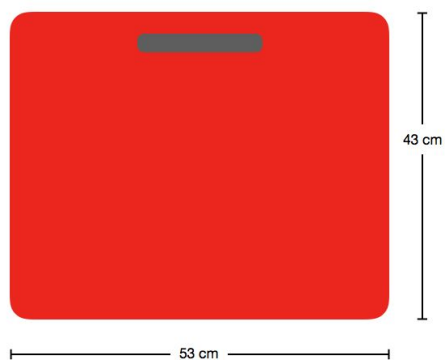
Isometric View



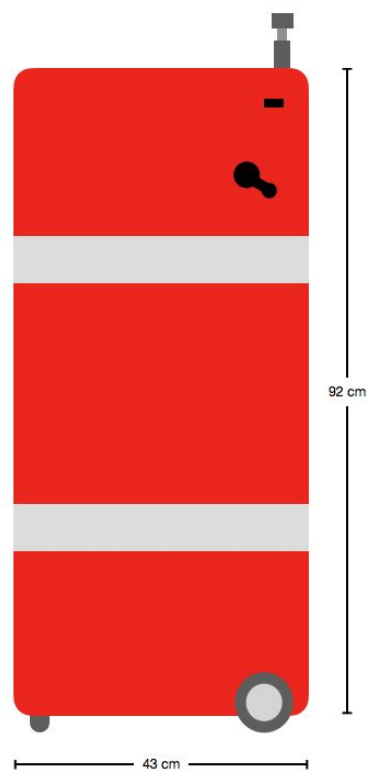
Front View (Cross section)



Top View



Side View



Container

