



Section B – Group 13  
SAFE-D BOX – FINAL SUBMISSION  
MASTERING DESIGN THINKING

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***You know that sickening feeling you have in your stomach when you realise that a delivery has been stolen off your front door step?***



***We want to fix that!***

A 2017 survey showed that **53% of U.S. home owners** were worried about deliveries being stolen off their front door step.

Over **11 million homeowners** experienced package theft in 2017.  
(Source: Package Guard, 2017)

**"76% of customers felt angry and 60% felt frustrated** after experiencing package theft"

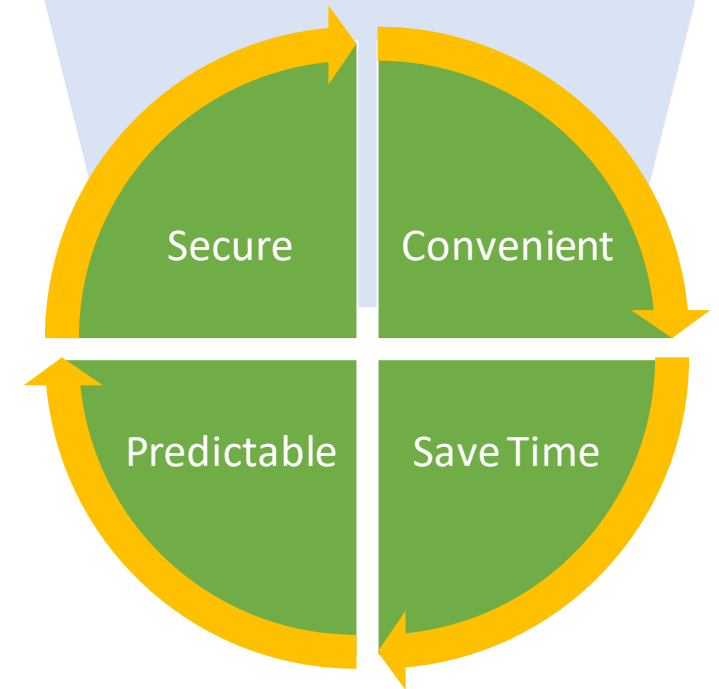
**"\$50 - \$100 is the average value of packages stolen"**

(Source: August Home Inc. 2016. Package Theft Report: Outsmarting criminals at your front door)

**" 49% of theft victims have since stayed home when expecting a delivery"**

## Our Opportunity : Our Mission

Provide peace of mind in the security of home package delivery and pickup.





Scale of Opportunity



Target Audience



Pain Points



Needs



Why Should they buy

Is it real?

Est \$334 bn. in U.S. online retail sales

Millennials (key demographic) spend on avg. \$2,000/yr. online

Package theft(s)

Latent need for security of sent packages

To save 'wasted' time and inconvenience of coordinating delivery and replacing lost packages

Estimated about 173M online shoppers

55% from Higher than typical income households (\$75,000+)

Inconvenience of finding alternatives when not home

Want an easier/quicker way to ship packages

To increase peace of mind regarding potential package theft

Approx. 90M detached households in U.S.

Lost time and money redressing stolen packages

Want to know when their packages have arrived/been picked up

"80% of home owners prefer investing in technology to monitor front door vs. spending money replacing stolen packages"

Want to reduce delays in delivery



57 People Interviewed



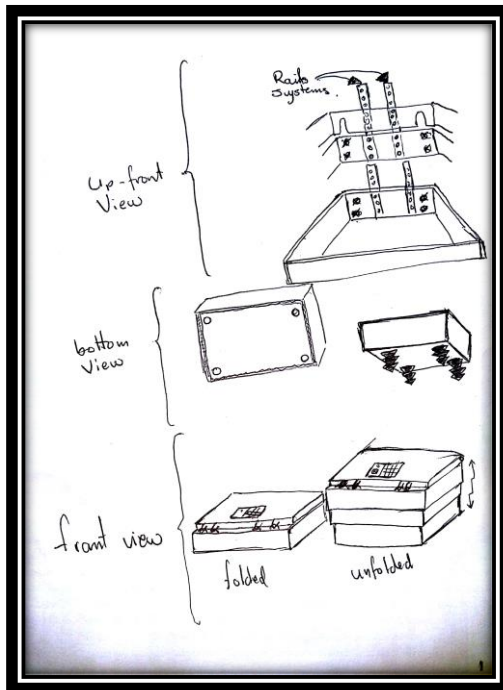
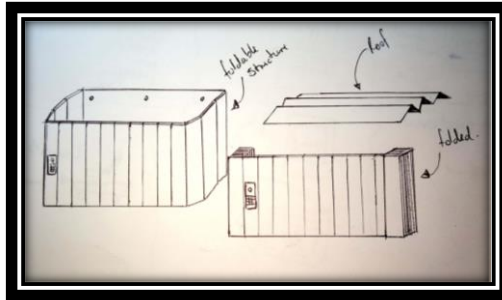
6 People Observed



Across 5 Countries: Columbia, South Africa, Canada, Switzerland and U.S.

## The Safe-D Box

A safe for packages that can be installed outside your home and be opened with a digital key

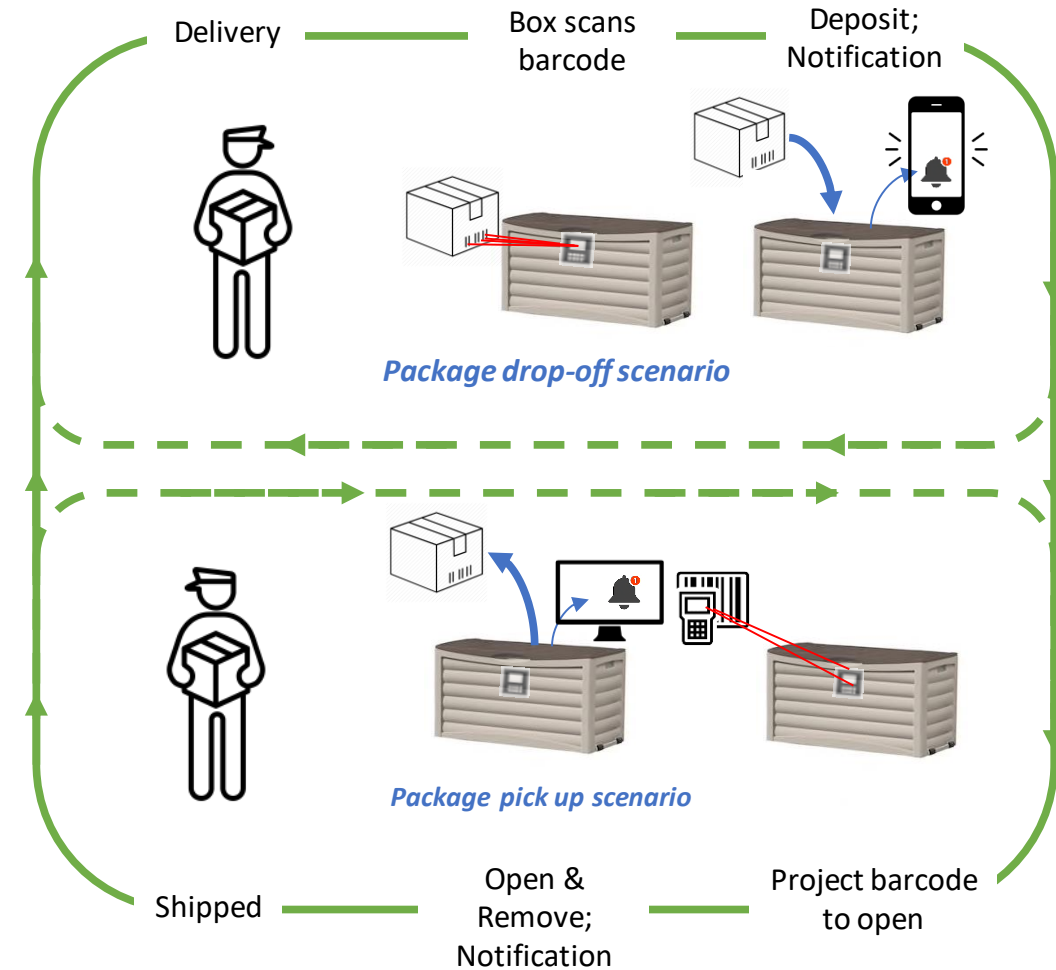


### Configurable & DFE:

- Attachable panels to expand the unit.
- Panels slide up and down a rail system.
- Hinges so it can be folded to reduce its size.
- Rails made of aluminum; box made of polypropylene; uses steel bolts.

### Security:

- Can only be opened via a digital key
- Digital screen and camera lens on top of box used to open and configure the unit.
- The base of the structure can be attached to the floor or a wall.



### FEATURES

Configurable

Expandable

Secure

Notifications

Opens with digital key

WiFi enabled

## Can it win vs the competition?

Solutions / Features	Safe-D Box	Amazon "Key In-house"	Amazon "Key In-Car"	U.S. Postal office	Express Carriers (FedEx, UPS, etc.)
Convenience of place of delivery	✓	✓	✓	✓	✓
! Ease of coordination – delivery and remediation	✓	✓	✓		✓
Allows for secure shipping direct from home	✓				✓
Carrier Agnostic	✓				
Delivery notification - recipient	✓	✓	✓		✓
Guaranteed Safe delivery to home	✓	✓	✓	Only with in-person delivery	Only with in-person delivery
Receipt confirmation - recipient to shipper	✓			Only with registered mail	Only with signed receipt
<b>Downside</b>	Not able to receive big items (e.g. furniture)	- Intrusive; pet can escape; accidentally leave door open	- Intrusive; Potential for car break-in	Need to go to post office to pick up if not home requires signature	Need to go to distribution center if carrier came in absence of homeowner and requires signature

•(!) This is a latent needs

•Key In-House" = Amazon service that would let delivery people drop off packages inside your house

"Check Out Amazon Key in Action" - *Fortune*, 26 October 2017 - <http://fortune.com/video/2017/10/26/check-out-amazon-key-in-action/>

•"Key In-Car" = Amazon service that lets Prime members get packages deposited in their cars at no extra cost

"Amazon Key Delivery Expands to the Trunk of Your Car" - *Fortune*, 24 April 2018 - <http://fortune.com/2018/04/24/amazon-key-car-delivery/>

Active focus to solve issue

# Is it worth it? (Financial Review)

1

Targeted launch years 1-3; Cities with high population of high income households

**Year 1 Launch cities:** Stamford, CT; San Jose, CA; Washington D.C.; Trenton, NJ; Boston, MA  
High income households: **6,662,750**

**Year 2 Launch cities:** Boulder, CO; Naples, FL; Baltimore, MD.; Hartford, CT; San Diego, CA  
High income households: **2,957,741**

**Year 3 Launch cities:** Los Angeles, CA; Seattle, WA; Philadelphia, PA.; Houston, TX; Chicago, IL  
High income households: **4,464,043**

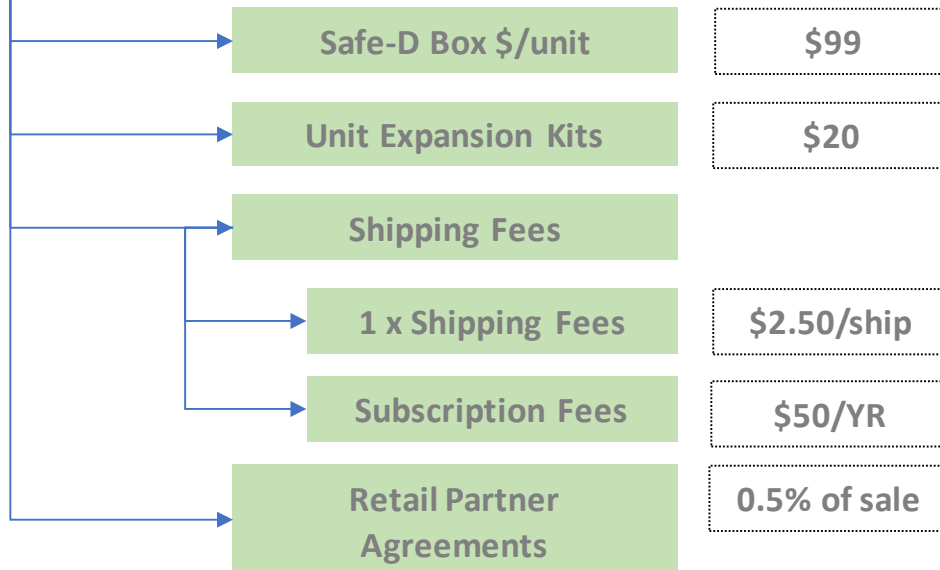
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## PROJECTIONS/ASSUMPTIONS YEARS 1-3

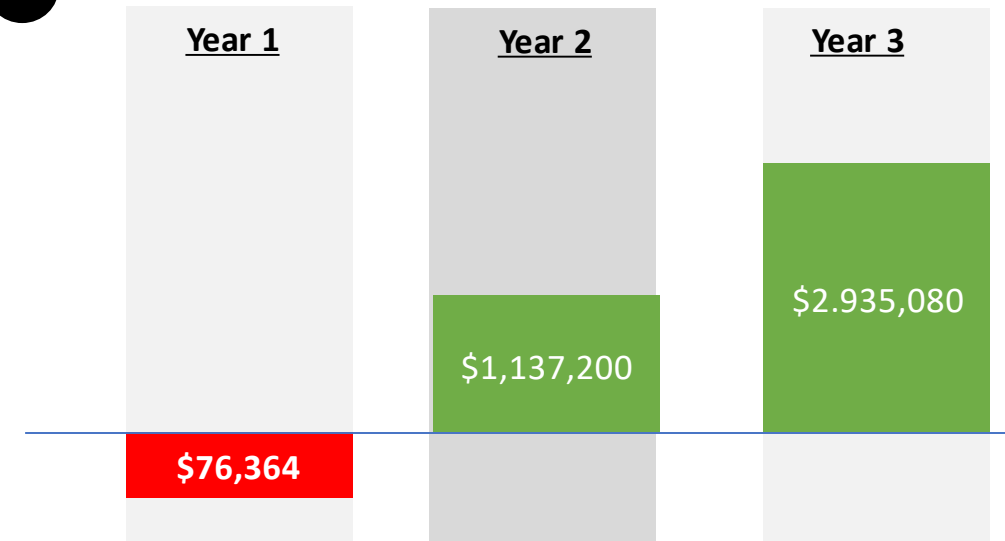
- ❖ **INITIAL INVESTMENT (COGS/DEV/MKT/OPEX): \$3.9M**
  - \$2.5M fabrication costs
  - \$0.5M marketing costs
  - \$0.4M app/web development
  - Remainder in operating/servicing costs
- ❖ **ASSUME .5% Penetration rate**
- ❖ **ASSUME 5% Annul GROWTH**
- ❖ **Per unit cost \$75**

3

## Revenue Streams



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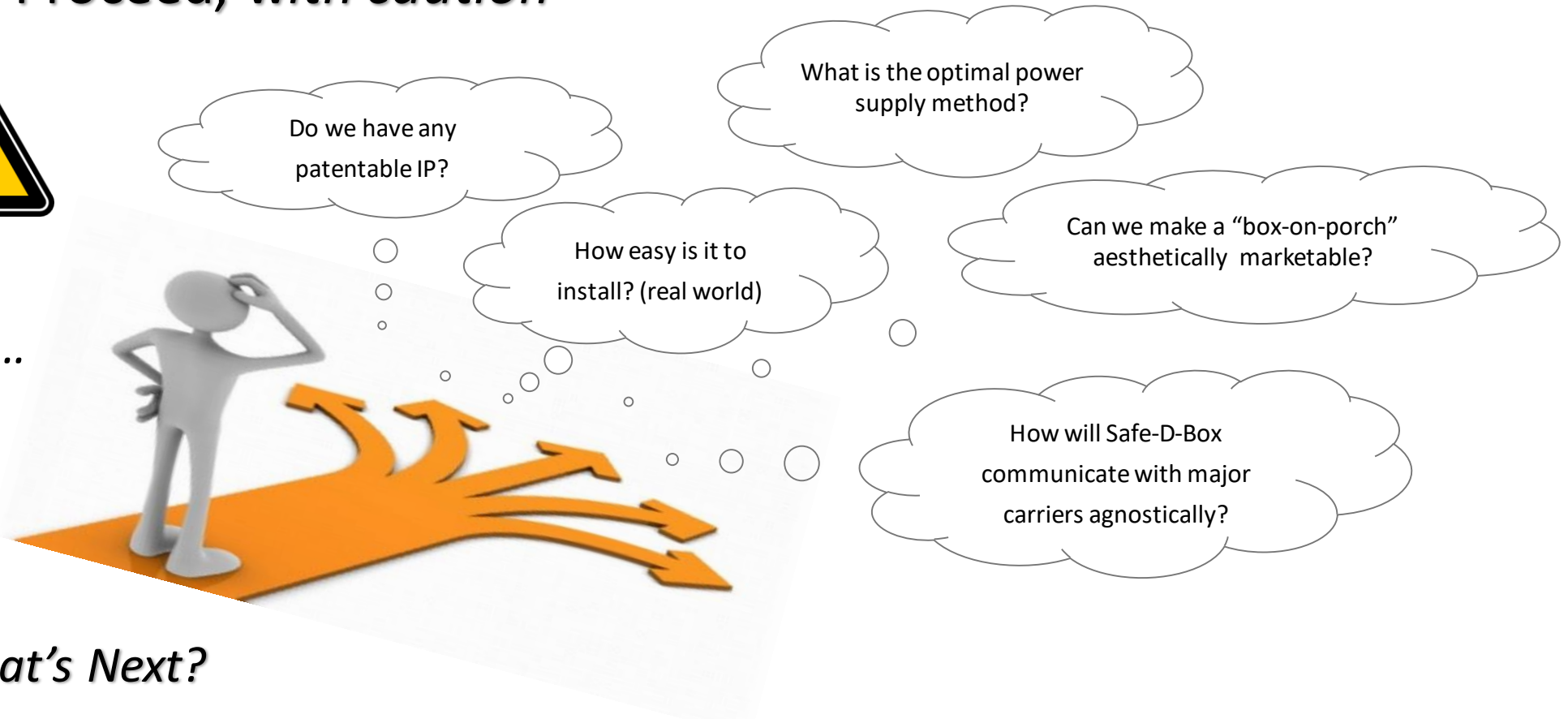
❖ \$19M+ 5 year NPV with three revenue streams (40% discount rate)





Proceed, *with caution*

*Critical Questions...*



*What's Next?*

Validate System Level Design & MVP

Perform Initial Detail Design

Vetting of Manufacturing Materials & Costs

Further Validation of Financials





**Cecile Tardy-Srinivasan**

Finance expert with over 15+ years experience driving financial planning & analysis and strategy primarily in Pharma.



**David Jones**

20+ year veteran in the high tech/software industry whose experience runs the gamut from sales & marketing, to operations, to product management and Services.



**Brittany Anderson**

Experienced consultant in digital innovation, Go to Market strategies and competency roadmaps.



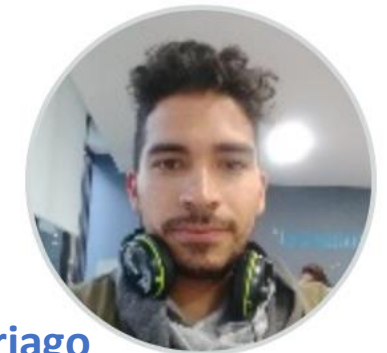
**Chinmaya Madan**

Customer obsessed problem solver with expertise in Business Intelligence and Product Management



**Mark Saab**

A LEAN Six Sigma black belt whose experience spans sales leadership, Distribution and Operations with expertise in the wireless industry.



**Julio Indriago**

Experienced Java developer with a passion for software architecture and clean code.

Appendix

# Appendix – Financial Statement

Safe-D Box Inc.	Financial Model				
<b>Total Addressable Market (Assumptions)</b>					
No. of online shoppers in the United States	173,600,000	67%			
Average no. of B2C & C2C packages delivered	87				
Launch Cities	Stamford CT, San Jose CA, Washington DC, Trenton NJ, Boston MA				
First Year Households	6,662,750				
Second Year Launch Cities	Boulder CO, Naples FL, Baltimore MD, Hartford CT, San Diego CA				
Second Year Households	2,957,741				
Third Year Launch Cities	Los Angeles CA, Seattle WA, Philadelphia PA, Houston TX, Chicago IL				
Third Year Households	10,175,459				
Households ordering online	4,464,043				
Average e-commerce spending per year	\$3,500				
<b>Base Case Projections</b>					
	2019	2020	2021	2022	2023
Target Households (total)	6,662,750	9,620,491	19,795,950	19,795,950	19,795,950
Safe-D Box unit sales	33,314	83,082	186,216	294,506	408,211
Safe-D-box panel sales	6,663	16,616	37,243	58,901	81,642
Safe-D-box customer subscriptions (enrollment)		8,308	18,622	29,451	40,821
<b>Revenues</b>					
One-Time Safe-D Box Purchase (Medium)	\$ 3,298,061	\$ 8,225,107	\$ 18,435,358	\$ 29,156,121	\$ 40,412,922
Safe-D Box Panels	\$ 133,255	\$ 332,328	\$ 744,863	\$ 1,178,025	\$ 1,632,845
E-Commerce Cart Checkout Revenue (0.5%)	\$ 390,604	\$ 468,724	\$ 562,469	\$ 674,963	\$ 809,956
Safe-D Pickup Parcel Subscription (From customer)	\$ -	\$ 415,409	\$ 931,079	\$ 1,472,531	\$ 2,041,057
Safe-D Pickup Parcel Pickup (From customer)	\$ -	\$ 483,605	\$ 580,326	\$ 696,391	\$ 835,669
<b>Total Revenue</b>	<b>\$ 3,821,920</b>	<b>\$ 9,925,174</b>	<b>\$ 21,254,095</b>	<b>\$ 33,178,032</b>	<b>\$ 45,732,449</b>
<b>Service Cost</b>					
Safe-D Box Production (Fabrication, Material)	\$ 2,498,531	\$ 6,231,142	\$ 13,500,641	\$ 21,351,705	\$ 28,574,794
Safe-D Box Shipping to household	\$ 333,138	\$ 830,819	\$ 1,675,942	\$ 2,650,556	\$ 3,265,691
Safe-D Panel Production	\$ 66,628	\$ 166,164	\$ 297,945	\$ 471,210	\$ 571,496
Safe-D Panel Shipping to household	\$ 19,988	\$ 49,849	\$ 74,486	\$ 117,803	\$ 163,285
<b>Total Service Costs</b>	<b>\$ 2,918,285</b>	<b>\$ 7,277,974</b>	<b>\$ 15,549,014</b>	<b>\$ 24,591,274</b>	<b>\$ 32,575,265</b>
<b>Operating Costs</b>					
Marketing Launch Costs	\$ 500,000	\$ 1,000,000	\$ 2,000,000	\$ -	\$ -
Ongoing Marketing Costs	\$ -	\$ 250,000	\$ 250,000	\$ 500,000	\$ 750,000
Safe-D Mobile Application Development	\$ 250,000	\$ 100,000	\$ 200,000	\$ 300,000	\$ 400,000
Safe-D Website Development	\$ 150,000	\$ -	\$ -	\$ -	\$ -
<b>Operating Wages (\$80,000/head)</b>	<b>\$ 80,000</b>	<b>\$ 160,000</b>	<b>\$ 320,000</b>	<b>\$ 640,000</b>	<b>\$ 1,280,000</b>
<b>Total Operating Costs</b>	<b>\$ 980,000</b>	<b>\$ 1,510,000</b>	<b>\$ 2,770,000</b>	<b>\$ 1,440,000</b>	<b>\$ 2,430,000</b>
Net Income	-\$ 76,364	\$ 1,137,200	\$ 2,935,080	\$ 7,146,758	\$ 10,727,184
NPV	-\$ 76,364	\$ 1,060,836	\$ 2,634,690	\$ 5,539,584	\$ 9,939,132
<b>Total NPV</b>	<b>\$ -</b>	<b>\$ 984,471</b>	<b>\$ 3,619,161</b>	<b>\$ 9,158,745</b>	<b>\$ 19,097,877</b>

Initial Market Penetration (3yr view)			
	Worst Case	Base Case	Best Case
target % at EoY3	0.25%	0.5%	1%
Total unit sales by EoY3	49,490	98,980	197,959

Growth Rates			
	Worst Case	Base Case	Best Case
	3%	5%	10%

Costs + Prices	Year 1	Year 3	Year 5
Safe-D Box	\$99	\$99	\$99
Safe-D Pickup Subscription	\$50.00	\$50.00	\$50.00
Safe-D per parcel pickup fee	\$2.50	\$2.50	\$2.50
Safe-D Box Panel Addon (4 x Panels)	\$20.00	\$20.00	\$20.00
Safe-D Box Manufacturing & Fabrication	\$75.00	\$72.50	\$70.00
Safe-D Box Shipping	\$10.00	\$ 9.00	\$ 8.00
Safe-D Box Panel Cost	\$10.00	\$ 8.00	\$ 7.00
Safe-D Box Panel Shipping Rate	\$3.00	\$2.00	\$2.00
	20% 1 pack		

Discount Rate	
Risk Free Rate	3%
Risk Premium - s	10%
Risk Premium - i	7%
Business Risk	15%
Industry Risk	5%
<b>Total Discount R</b>	<b>40%</b>

## Assumptions & Research

- Parcel Delivery has globally grown by 5.6% between 2015 & 2016
- 13B parcels were delivered in the United States in 2016, 52% of which were B2C, 8https://www.ipc.be/-/media/Documents/PUBLIC/Markets/MI-products/IPC\_GPIR2017\_key\_findings.pdf
- UPS, FedEx, and USPS are the top courier companies in the United States https://www.statista.com/chart/10922/parcel-shipping-volume-and-parcel-spend-in-selected-countries/
- Customers are willing to pay ~\$3 more for direct delivery to their home, over digital https://marketrealist.com/2015/07/key-players-us-delivery-services-industry/
- There are 126M households in United States of which ~90M are detached or attached https://www.mckinsey.com/-/media/mckinsey/industries/travel%20and%20logistics/our%20insights/how%20customer%20spend%20on%20parcel%20services-in-the-us/
- Include transaction fees for purchase gateway providers https://www.invespro.com/blog/ecommerce-product-return-rate-statistics/

## Sources

- 2014 ACS (American Community Survey) PUMS (Public Use Microdata Sample) from the US Census Bureau https://www.statista.com/statistics/720372/market-size-of-parcel-services-in-united-states-by-segment/
- https://www.asendiausa.com/news-blog/united-states-b2c-e-commerce-report-2016/
- https://www.invespro.com/blog/ecommerce-product-return-rate-statistics/

# The Customer Experience Lifecycle Storyboard – The Detailed View

