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SUPER

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# 1. The concept

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In this chapter we will discuss how it is on Mars. What our mission is and what our vision is. We will also discuss how the pipeline is implemented with a small schema.

## 1.1 What is Mars like

For our system the environment and how Mars is is important. In this subchapter we will discuss what Mars is like, what is present and what isn't.

- Domes

Everything where people are there is a dome. This is because its gravity isn't strong enough to keep atmospheric gases from escaping into space. So without a dome there isn't oxygen. The only way to travel from dome to dome is with the Mars Express. But the problem is that the Mars Express is only for travel purposes. Not for delivering packages.

- Environment

Mars is very dusty and cold. This is important for us because we need to perform maintenance on our pipes. And a hallmark of cold is that things easily break and that things slow down. And we want that our system is strong and doesn't break and that the delivery is quite fast.

The radiation on Mars is also different then on Earth. This is also important to take in consideration because this could alter our molecules or make things dangerously radioactive.

- Resources

The red planet is completely new for us. So there are also a lot of new resources. The first resource we need is Nikolite. This is implemented in the pipeline. It makes the pipeline stronger and Nikolite also has the ability to conduct. With Nikolite we can transfer our molecules faster than with any other ore.

The other resource we need is meteorite. This is a rare material on earth because this can only be found in meteorites. On earth there aren't a lot of meteorite strikes but on Mars there are a lot more. So the material isn't rare anymore. We need this for our technology in the transporter. This material ensures that when we are converting the package to molecules everythings stays stable and there aren't dangerous situations.

- Population

On Mars there is a total population of 40 000. These inhabitants are seperated in a total of 15 domes. This means that each dome has an estimated population of 2666. This information is crucial so we can estimate how many people would be interested in our system.

## **1.2 Mission**

Imagine you are on Mars and you want to order a packet. There is just no easy way of getting that packet at your home. That's because every city is under a dome and those domes are connected with the Mars Express. You might think that we can easily ship those packets with the Mars Express but that isn't possible because the travel system isn't designed to deliver to each house in every dome.

Also imagine if your packet is delivered and you aren't home. What will then happen? We don't know and you surely don't know what will happen.

Those problems will all be solved with the brand new company Shippert! Shippert makes it easy to deliver those packets in a safe and fast way. We as shippert upgraded the system so the Mars Express can fully focus on moving people from dome to dome. We do that by splitting the packets in molecules and sending those to a pipeline to your home. There it will be assembled and voila you have your packet in a blink of an eye without any concerns that it could be stolen, damaged or even not delivered because the package was lost.

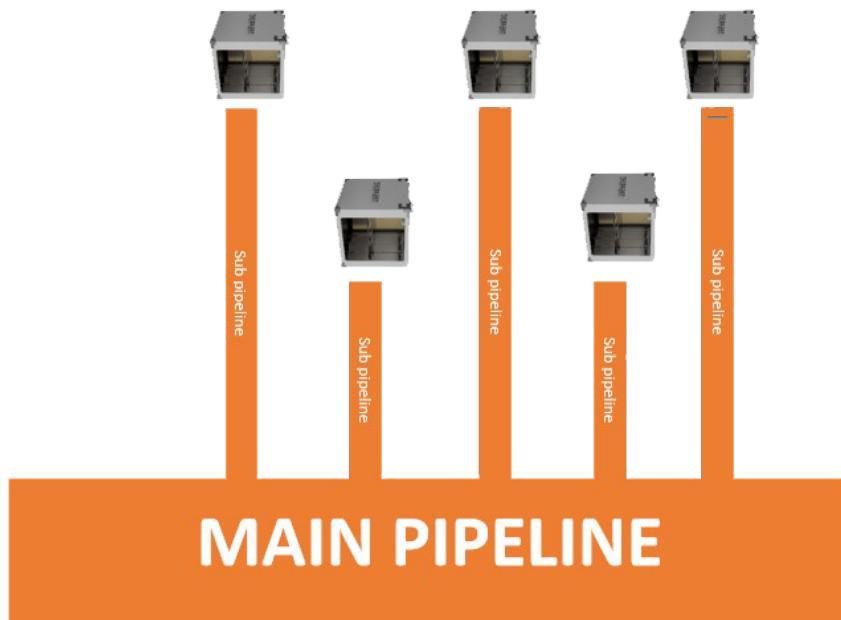
## **1.3 Vision**

We as Shippert want to make delivery a whole new experience for the world to adapt to. We strive to become Mars' most customer-centric company where customers are satisfied. Down the line if everything goes according to plan we will start expanding to Earth. So we can bring the most compelling delivery system to Earth and Mars.

Furthermore we will strive to make Earth and Mars a greener place by not needing an abundance of trucks that cause a lot of emission. We will also keep looking to extend our partnerships so we can get the best deals for our customers. And while expanding our network. The customer will always be the most important part of our company and we will satisfy their needs.

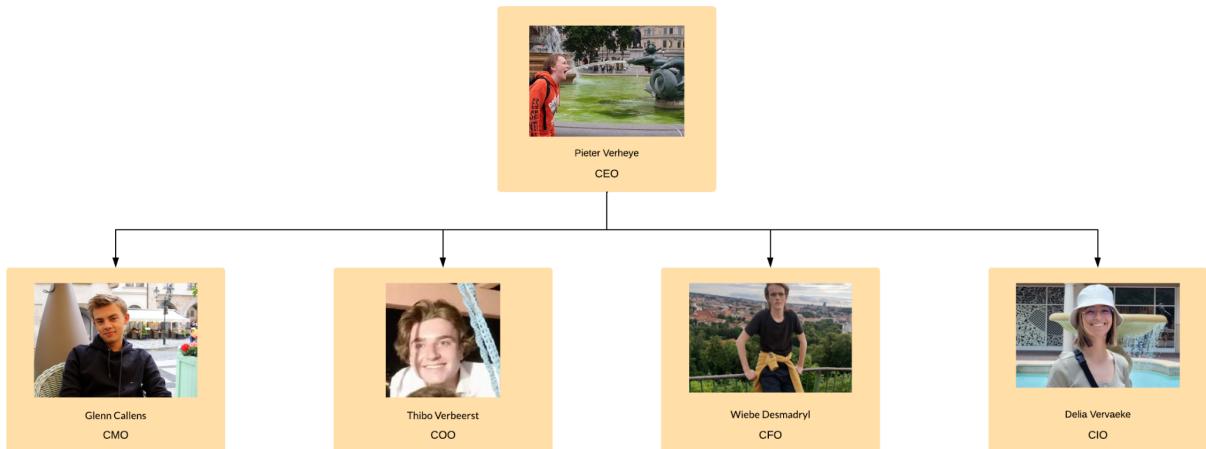
## 1.4 Blueprint pipeline system

As mentioned before we are using transporters and pipelines to deliver items from customer to customer. We as Shippert have installed a pipeline under the ground that can be connected to every residence. The structure we have implemented is that we use one main pipeline and we tap off that pipeline to other residences. Below you can find a picture that clarifies this.



## 2. Organisational structure

In this chapter we will discuss the structure of our organisation. You will read about the founders, our organisation, how we recruit people and our employment.



### 2.1 Meet the founders



Our CEO (Chief Executive Officer) is Pieter Verheyen:

The Chief Executive Officer is the person in charge of the management and administrative direction of the organisation. He is also responsible for connecting the business with the market.



Our COO (Chief Operating Officer) is Thibo Verbeest:

Acting as the executing hand of a CEO, the Chief Operating Officer is in charge of the Sol-to-Sol administration and operation of the business. He is mainly focused on executing the company's business plan, according to the business model.



Our CMO (Chief Marketing Officer) is Glenn Callens:

The Chief Marketing Officer is responsible for marketing activities, including sales management, product development, advertising, market research, and customer service.



Our CFO (Chief Financial Officer) is Wiebe Desmadryl:

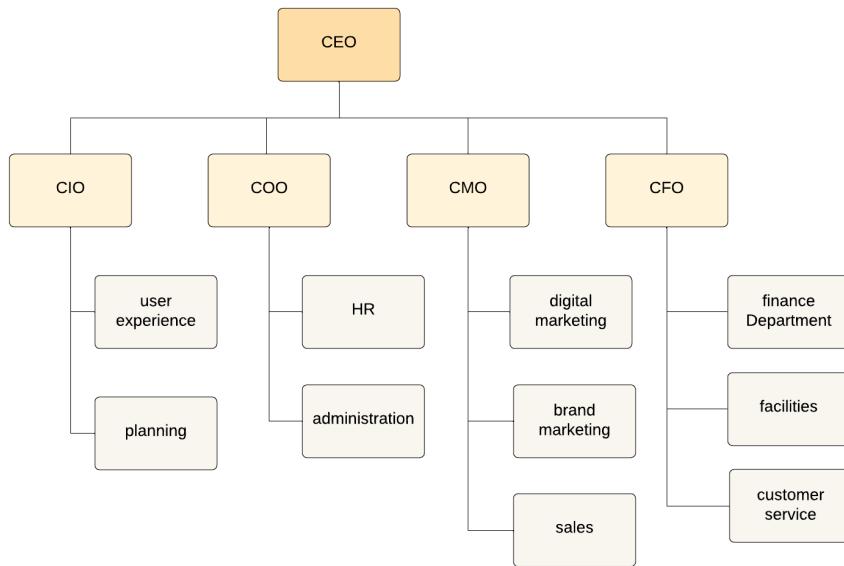
The Chief Financial Officer, also known as the Financial Director, is in charge of the economic and financial planning of the company. CFOs decide when and where to invest and assess the risks in order to increase the value of the company.



Our CIO (Chief Information Officer) is Delia Vervaeke:

The Chief Information Officer looks after the systems of the company that are related to information technology at the process level and from the point of view of planning.

## 2.2 Our organisation



## 2.3 Recruitment

To start a company you also need employment that means we need to recruit and hire people. When we're recruiting people we're searching for engineers or someone with a software, electrical, mechanical or chemistry diploma. These are the people we need the most in our company.

For the construction of the pipelines we make use of freelancers because we will not be needing permanent employees.

## 2.4 Our employees

### Technical service:

Our technical service is responsible for maintaining our transporters at our customers' homes. When something goes wrong or there's a problem the technical service goes to the homes to fix the problems.

They also are responsible for the maintenance of the pipelines. If there is something wrong with the pipelines they go and try to solve the problem.

## The engineers:

### **chemical engineers**

Our chemical engineers are very important. They are in charge of everything doing with molecules. These tasks are crucial for our company, if something goes wrong these are the people that fix everything with molecules.

### **electrical engineers**

Electrical engineers are also wanted. If you want to transport anything you need electricity that's why we need these people.

### **software engineers**

For user experience we need a user interface and that we can only do with the help of our software engineers. Not only for the user interface but also for our API and everything else regarding software.

### **mechanical engineers**

Transporters are necessary for the transportation of any object, but they are hard to build. That's why we need well trained mechanical engineers to make our transporters and any other mechanical device.

We also need scientists for research and development to improve our transport system and devices. We could improve the transfer of the objects, user experience and so on.

# 3. Risk management

In this chapter, we will discuss the potential risks associated with implementing the delivery solution. The risk topics that are discussed are: security, system failure and additional risks.

## 3.1 security risico's

### 1. Mechanical problems

- The door isn't closed

That can cause: sending things you don't want to send, sending partial things of the human body (hand).

Solution: use a sensor to check if the door is closed

Impact <i>How severe would the outcomes be if the risk occurred?</i>					
Probability <i>What is the probability the risk will happen?</i>	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
	5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20
	4 Likely	Medium 4	Medium 8	High 12	Very high 16
	3 Moderate	Low 3	Medium 6	Medium 9	High 12
	2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8
	1 Rare	Very low 1	Very low 2	Low 3	Medium 4

- Window is cracked

That can cause: imploding of the device.

Solution: use strong enough material and don't lower the pressure too much.

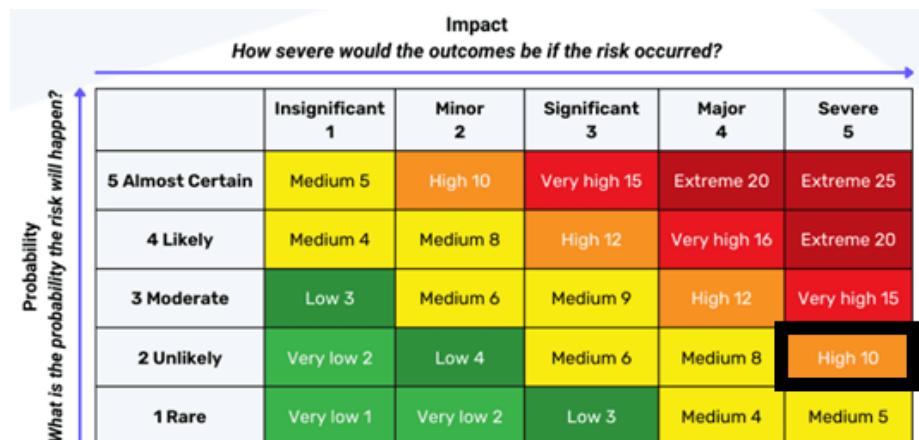
Impact <i>How severe would the outcomes be if the risk occurred?</i>					
Probability <i>What is the probability the risk will happen?</i>	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
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	3 Moderate	Low 3	Medium 6	Medium 9	High 12
	2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8
	1 Rare	Very low 1	Very low 2	Low 3	Medium 4

## 2. Molecule problems

- Deadly mix of molecules

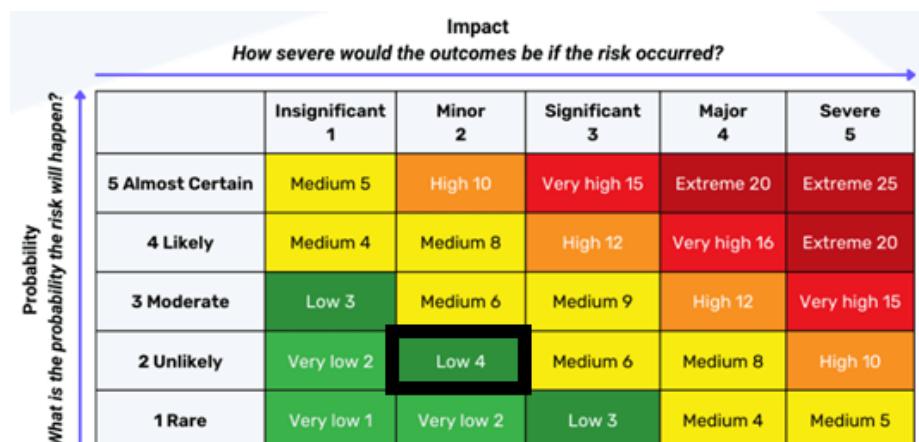
That can cause: explosions, toxic substances.

Solution: algorithm that checks if molecule combinations are bad and sends them in a controlled manner through the pipelines..



- Molecules get mixed

That can cause: unwanted/deformed objects get delivered instead of the original send item.



### 3. Software problems

- Blacklist doesn't work

That can cause: people receive dangerous things like bombs, guns, drugs, etc.

Solution: Don't send items when no blacklist(s) were found.

Impact <i>How severe would the outcomes be if the risk occurred?</i>					
	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

## 3.2 System failure

### 1. Hardware problems

- Pipeline is broken

That can cause: loss of molecules and delivering is not possible via those broken pipes.

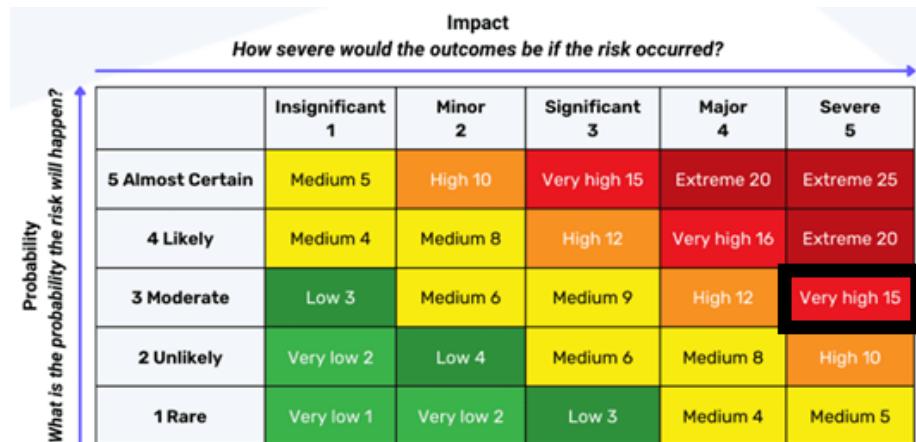
Solution: make sure the pipeline is not too cold (on Mars it is -63°), use technicians to perform maintenance. Check the health of the pipeline before molecules are sent.

Impact <i>How severe would the outcomes be if the risk occurred?</i>					
	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

- Power outage

That can cause: Molecules can't be assembled, nothing works

Solution: Connect Transporter to backup generator or solar panels.



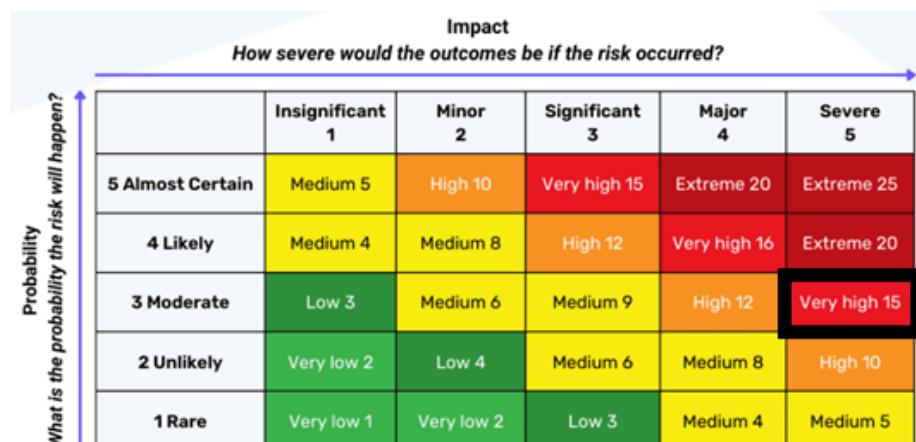
### 3.3 Additional risks

#### 1. Natural disasters

- Marsquakes

That can cause: break the pipes, break the transporters.

Solution: make the pipes and transporters as strong as we can. Check the health of the pipeline before molecules are sent. Unfortunately we can't fully fix this problem.



- Meteor impact

That can cause: broken pipelines, broken transporters

Solution: make the pipes and transporters as strong as we can. Check the health of the pipeline before molecules are sent. Unfortunately we can't fully fix this problem

Impact How severe would the outcomes be if the risk occurred?					
	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

- Radiation

That can cause: molecules that have been altered.

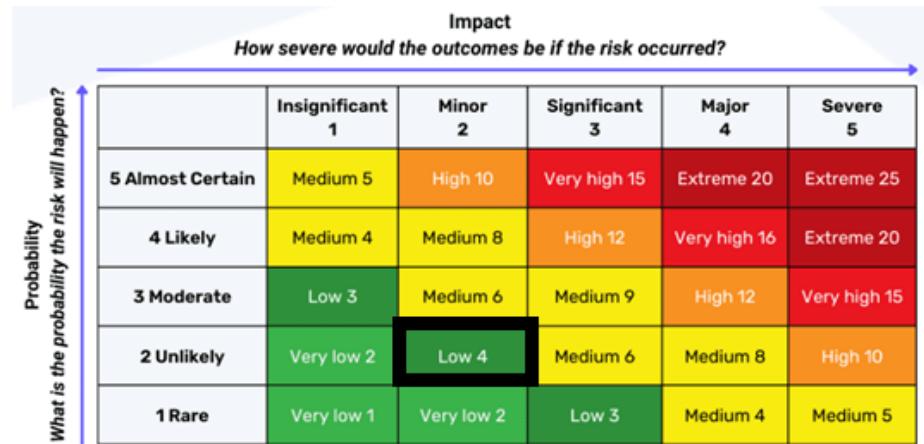
Solution: make pipeline radiation proof. Check the health of the pipeline before molecules are sent.

Impact How severe would the outcomes be if the risk occurred?					
	Insignificant 1	Minor 2	Significant 3	Major 4	Severe 5
5 Almost Certain	Medium 5	High 10	Very high 15	Extreme 20	Extreme 25
4 Likely	Medium 4	Medium 8	High 12	Very high 16	Extreme 20
3 Moderate	Low 3	Medium 6	Medium 9	High 12	Very high 15
2 Unlikely	Very low 2	Low 4	Medium 6	Medium 8	High 10
1 Rare	Very low 1	Very low 2	Low 3	Medium 4	Medium 5

- Out of storage

That can cause: the item can't be delivered.

Solution: send an error message or contact our partner group and send it to their storage.



## 4. Strategic partnerships

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### 4.1 Main partners

#### 4.1.1 Garbage - waste collection

Even on Mars you have to get rid of your trash, that's where the waste collection group comes in. They will recycle trash in molecules which are then stored in containers. The trash needs to get to the recycling centre, this is where we jump in. We will deliver the trash from the consumer to the waste collection. Furthermore, they will also be able to supply us with molecules that went lost during transit. We can't guarantee that every molecule arrives correctly at the receiver. If that's the case then the waste collection group will send the molecules that were lost.

The partnership means that we can use each other's system for a better deal.

- What Shipper expects from GarMar:
  - A fast and reliable way of getting molecules that went lost during transit
  - A good price for this redundancy
  - Good relations
- What GarMar expects from Shippert:
  - A reliable way of delivering garbage from the consumers home to the recycling centres
  - 25/7 support on our services
  - A discount on our delivery system

For more detail in terms of the prices, go to the financial chapter



#### 4.1.2 Dusty Depot

Dusty Depot is a business that manages warehouses. This is interesting for us because if you send a package to someone else his transporter then there is a chance that it isn't empty. If that's the case then the package will be stored temporarily in the warehouse until the transporter, who the package is meant for, is emptied. When the package is in the warehouse and the sender wishes to cancel it then the package is sent back to the sender there transporter. If the package is in the warehouse for longer than 2 Solsthen the package is sent back to the sender. This is to make sure that the warehouse doesn't get overflowed with packages.

The partnership means that we can use each other's system for a better deal.

- What Shipper expects from Dusty Depot:
  - Dedicated space where we can store packages
  - A discount on this mentioned space
  - Good relations
- What Dusty Depot expects from Shippert:
  - A reliable way of delivering their goods from warehouse to warehouse
  - A reliable way of delivering their goods from warehouse to the customer
  - A discount on our delivery system



## 4.2 Sub partners

### 4.2.1 Marship

Marship is responsible for the transport between the earth and mars itself. They deliver their goods in containers which are then sent to the warehouses from Dusty Depot. We as Shippert don't work with Marship directly but we will deliver the goods from the warehouse to the consumer. Thanks to Marship there is more of a need for our delivery system and we get a higher demand which results in a higher profit margin.



## 5. Marketing and sales

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### 5.1 Service

- Core Service

Shippert allows residents on Mars to send items to each other almost instantaneously, and without much effort on the part of the user.

- Actual Service

Shippert uses a high-technology, the transporter.

This device reduces the item the user wants to send to molecules. The transporter is equipped with various safety measures so that this can be done completely safely. After this, the molecules will be sent over pipelines maintained and managed by Shippert. The molecules will then be placed back together by the transporter at the receiving end, and the item can then be received.



Because items are reduced to molecules, they can be transported faster than light speed through the pipelines.

So this means users can send, and receive, their items in this way almost instantaneously.

Also, we offer user insurance that if a molecule is lost, we will make sure you still receive your item free of charge!

## - Augmented Service

Of course, when an organ is urgently needed somewhere, it can also be sent via Shippert. In this way, lives can be saved.

This is also a great help for the Mining Colony. They can receive their supplies (such as food, drinks, etc.) without having to wait long. They can also send their goods directly to the other domes.

## 5.2 Costs

### Price Strategy

We don't want to charge every user the same amount, after all, not every user sends the same number of packets. As Shippert, we give users the choice, do they wish to pay per item (price/amount of molecules), or choose a subscription. Users have a choice of 3 pricing plans.

You have the free plan where you buy per item, the premium plan where you can send 100 items/Sol and lastly the Business plan where you can send as many items as you want, perfect for businesses.

In order to promote the premium and business plan we decided to give a discount on the transporter. Giving a discount will cost us money but we can make it back by selling the premium plan.

(Prices expressed in MarsCoin; for further information see Financials)

Free plan	Premium plan	Business plan
Mc 0	Mc 115	Mc 350
Price to be paid by amount of molecules  Maximum 10 items/Sol	Maximum 100 items/Sol  25/7 support  Higher priority on items  Discount of 25% on the transporter	Unlimited items to be sent  25/7 support  Higher priority on items  Discount of 50% on the transporter

## Costs

- Infrastructure:
  - Building and maintaining the pipeline system necessary to transport packages from client to client is a significant cost. This includes the cost of materials and labour force to build the pipelines, as well as ongoing maintenance and repair costs.
- Personnel:
  - Shippert needs to hire and train employees to operate the pipeline system, handle packages, and assist customers while also handling further research.
- Equipment:
  - Investing in equipment such as transporters to split and reassemble packages as they travel through the pipeline. This includes the costs for the materials, labour force and maintenance.
- Marketing:
  - In order to attract customers and grow the business, Shippert needs a budget to invest in marketing. We need to pay salaries while also paying for advertisements on different platforms and the creation of promo videos, commercials and articles.
- Insurance:
  - It is important for the Shippert company to have insurance so that we can reimburse molecules that went lost during transit. The costs will go to our partner, garbage - waste collection, who will provide us with molecules that went lost.
- Real estate:
  - Shippert needs building for our employees to work at. This consists of office buildings where our marketing, software engineers and management works at. Further we also have factories where we will create the transporters. Solar panels are also included in this category.

A more detailed view of our costs can be found in the [financials section](#).

In order to make a profit we decided to work with a subscription model. This way we can still earn money after someone bought a transporter while also maintaining maintenance costs. Our price may seem high but these are needed for us to make a profit. And if you use the transporter on a daily basis then it will be worth it. The current subscription prices are for the first few years, later these prices may drop in case we get a higher population making use of Shippert.

## **5.3 Communication**

Communication is key to success with any business either with the clients as with your team. In order to achieve good communication we will need to achieve multiple strategies.

In order to achieve our first communication with clients we will use advertisements. In the first year we will advertise through advertisements on screens in the domes. Then we choose more targeted advertisements so that citizens who already have a transporter are not harassed with advertisements. Down the line we will adapt our advertisements so we hit a higher number of people.

One way of doing this is by advertising through the wristbands that every martian wears. This is done via the apps that are on there. This way we can also see if the possible client already has a plan or not. So that martians who already own a plan don't see our advertisements. This saves us money and we don't annoy our clients.

Once we pull a customer in we will keep contact via our email list, support line and social media.

- With our email list we keep our clients updated with deals and changes to our product. The customer will be able to unsubscribe to this list in case the customer is not interested.
- Our support line which is open 25/7 for our premium and business plans or during the day for every client. Will be the place to go in case of any questions, problems or other cases.
- Through social media we will keep our customers notified of changes in our company. This can be either changes to the product or to the management. While being used as a free marketing tool.

## **5.4 Convenience**

Users will experience great convenience by having instant availability of their items through us.

Martians can find our product advertisement by using the Martian devices. If they look at their Martian devices while coming near one of our transporters, they will receive advertising. Our system knows if the person already has a plan and which plan that is, so they won't get excessive advertising.

In the surface colony we have some pop-up stores where people can ask questions and buy our products. In those stores we provide one transporter that you can give a try. Not only at the pop-up stores but you can also buy our product at our website. You can find all contact information there and people can also call us.

# 6. Financials

In this chapter we will discuss all our finances. We will talk about our revenue, costs and then break-even analysis. We will also talk about our long term plans and at last the finance mix.

## 6.1 Exchange rate

1 Mc = 1 euro

Reason:

Our MarsCoin is the same value as the euro. We did it because the euro is the most used and stable currency on earth.

## 6.2 Our prices

### Price plans

We have three different price plans that you can see in the picture below. We have a free, a premium and a business plan.

STANDARD	PREMIUM	BUSINESS
€ 0  Free Plan  <a href="#">Select</a>	€ 115  Every month  <a href="#">Select</a>	€ 350  Every month  7 day free trial  <a href="#">Start Free Trial</a>
Pay/kg  Max. 10 items/Sol	Max. 100 items/Sol  24/7 support  High priority  Discount of 25% on the transporter	Unlimited items/Sol  24/7 support  High priority  Discount of 25% on the transporter

The free plan exists for customers that don't send many packages. Clients with the free plan do have to get a transporter and pay for the item that they send. The price of the item is calculated by the amount of molecules it has.

In comparison to the premium and the business plan, you don't have to pay per item. You pay on a monthly basis, but you have a discount on the transporter. The business plan is only available for companies. These plans require that you keep it for six months.

With the premium plan, you pay 115 Mc and have a 25% discount on the transporter. You no longer have to pay per item, but you do have a limit of a maximum of 100 items per Sol. You also get 25/7 support and have high priority on items shipped.

At last we have the business plan, where you have to pay 350 Mc and have a 50% discount on the transporter. The business plan is similar to the premium plan. There's only a price difference and you can send unlimited items.

### Transporter prices

When you want to send an item you need a transporter. You have different plans and with some plans you get a discount on the transporter. The price of a normal sized transport costs 225 Mc. This is not cheap and that's because we use a special resource named meteorite that is a rare material we need to split items in molecules. There's a free installation to set the transporter at a household.

The picture on the right shows the transporter that you can order on our website. If you only order a transporter and didn't choose a plan, you are automatically stuck with the free plan.



## 6.3 Revenue

### How many sales do we expect?



In the chart on the left you can see how many households are interested in trying out shippert. We are counting that there are around 35% interested in our product and 24% want to buy it as soon as it comes out.

The table below represents one of our first good years as a starting company. This was the third year after we first launched our sales. The sales that year went great because we had a good campaign. This was also the year we sold the most transporters over the rest of the years the sales of the transporters decreased due to people already having one.

Price plans	Free plan		Premium plan		Business plan		Total
Customers	606		297		62		
Price of plan (a month)	Mc	-	Mc	115,00	Mc	350,00	
Items sent a day		1,5		32		276	
Total revenue after a year	Mc	326.982,74	Mc	410.186,23	Mc	260.400,00	Mc <b>997.568,98</b>
Transporter price	Mc	225,00	Mc	168,75	Mc	112,50	
Total revenue of transporters	Mc	40.050,00	Mc	6.750,00	Mc	1.462,50	Mc <b>48.262,50</b>
Total revenue of each plan	Mc	367.032,74	Mc	416.936,23	Mc	261.862,50	Mc <b>1.045.831,48</b>

## 6.4 Costs

### 6.4.1 Fixed costs

Before we can make a break-even analyst we need to know all of the costs. We need to invest in real estate, infrastructure, green energy and so on. Those things are fixed costs. In the tables below you can see the total fixed costs of the first three years.

total fixed costs 1st year					
Product	Info	price	amount	total price	
Maintenance equipment		Mc	300,00	1 Mc 300,00	
Office	Depreciation	Mc	35.000,00	1 Mc 35.000,00	
Factory	Rent	Mc	2.083,33	12 Mc 25.000,00	
Main pipelines	Depreciation	Mc	350.000,00	1 Mc 350.000,00	
Servers	Depreciation	Mc	2.000,00	1 Mc 2.000,00	
Solar panels	Depreciation	Mc	12.500,00	1 Mc 12.500,00	
Partnerships		Mc	1.512,00	1 Mc 1.512,00	
Wages	Per month	Mc	4.528,68	6 Mc 326.064,96	
<b>Total:</b>				<b>Mc 752.376,96</b>	

total fixed costs 2nd year					
Product	Info	price	amount	total price	
Maintenance equipment		Mc	300,00	1 Mc 300,00	
Office	Depreciation	Mc	35.000,00	1 Mc 35.000,00	
Factory	Rent	Mc	2.083,33	12 Mc 25.000,00	
Main pipelines	Depreciation	Mc	350.000,00	1 Mc 350.000,00	
Servers	Depreciation	Mc	2.000,00	1 Mc 2.000,00	
Solar panels	Depreciation	Mc	12.500,00	1 Mc 12.500,00	
Partnerships		Mc	1.512,00	1 Mc 1.512,00	
Marketing		Mc	2.000,00	1 Mc 2.000,00	
Wages	Per month	Mc	4.658,31	6 Mc 335.398,32	
Wages marketing	Per month	Mc	3.732,24	1 Mc 44.786,88	
Wages engineers	Per month	Mc	4.012,45	5 Mc 240.747,00	
<b>Total:</b>				<b>Mc 1.049.244,20</b>	

total fixed costs 3th year					
Product	Info	price	amount	total price	
Maintenance equipment		Mc	300,00	1 Mc 300,00	
Office	Depreciation	Mc	35.000,00	1 Mc 35.000,00	
Factory	Rent	Mc	2.083,33	12 Mc 25.000,00	
Main pipelines	Depreciation	Mc	350.000,00	1 Mc 350.000,00	
Servers	Depreciation	Mc	2.000,00	1 Mc 2.000,00	
Solar panels	Depreciation	Mc	12.500,00	1 Mc 12.500,00	
Partnerships		Mc	1.512,00	1 Mc 1.512,00	
Marketing		Mc	3.000,00	1 Mc 3.000,00	
Wages	Per month	Mc	4.696,93	6 Mc 338.178,96	
Wages marketing	Per month	Mc	3.871,34	1 Mc 46.456,08	
Wages engineers	Per month	Mc	4.115,46	10 Mc 493.855,20	
Research and development		Mc	1.000,00	1 Mc 1.000,00	
<b>Total:</b>				<b>1.308.802,24</b>	

## 6.4.2 Variable costs

Average cost for 1 household. Our costs can vary for each house depending on the distance from the main pipeline, the type of ground, the prices for the resources and many other factors. But on average the following prices would apply.

total variable costs for installation 1 household					
Product	Info	price	amount	total price	
<b>Sub pipeline</b>	<b>total</b>			<b>Mc 400,00</b>	
- Workforce	Extern workforce	Mc 80,00	3	Mc 240,00	
- Resources	Material to make the pipe	Mc 40,00	1	Mc 40,00	
- Equipment	Needed for installing	Mc 46,67	3	Mc 120,00	
<b>Transporters</b>	<b>total</b>			<b>Mc 175,00</b>	
- Meteorite	in gram	Mc 50,00	2	Mc 100,00	
- Metals	in kilo	Mc 12,50	6	Mc 75,00	
Total:				<b>Mc 575,00</b>	

So our costs are 575 MC for each house, this is quite an investment but it is of high importance in order to make our business work.

Other than the sub pipeline we have more costs like electricity and gas these prices can vary for each year. In the first year we will not lay a pipeline to every house since we will be busy laying our main pipeline. Our plans for this main pipeline can be found in [chapter 1.4 blueprint pipeline system](#).

total variable costs year 1					
Product	Info	price	amount	total price	
Installation costs	how many with sub	Mc 575,00	1	<b>Mc 575,00</b>	
electricity	in kWh	Mc 0,23	200789	Mc 46.181,47	
Gas	in m3	Mc 0,30	221453	Mc 66.435,90	
Total:				<b>Mc 113.192,37</b>	

## 6.4.3 Depreciation table

In our first couple of years we have a lot of costs that are very expensive that's why we need to get a loan and over the years we're depreciating. These costs are the construction of the main pipeline which is needed to transport the goods from the sender to the receiver. Furthermore we need an office building for our staff and servers to support our network and solar panels for green energy.

Product	Info	Total cost
Main pipeline	Costs for laying the main pipeline all over mars	Mc 8.671.500,00
Servers	2 Servers	Mc 20.000,00
Office building	450m2 aan 700/m2	Mc 350.000,00
Solar panels	Cost of laying solar panels for the office and installation	Mc 12.500,00

Depreciation table main pipeline:

Main pipeline with a depreciation rate of 5%				
year		Depreciation value	Remaining value	
	0   Mc	433.575,00		
	1   Mc	433.575,00	Mc	8.671.500,00
	2   Mc	433.575,00	Mc	8.237.925,00
	3   Mc	433.575,00	Mc	7.804.350,00
	4   Mc	433.575,00	Mc	7.370.775,00
	5   Mc	433.575,00	Mc	6.937.200,00
	6   Mc	433.575,00	Mc	6.503.625,00
	7   Mc	433.575,00	Mc	6.070.050,00
	8   Mc	433.575,00	Mc	5.636.475,00
	9   Mc	433.575,00	Mc	5.202.900,00
	10   Mc	433.575,00	Mc	4.769.325,00

Depreciation table servers:

Servers with a depreciation rate of 10%				
year		Depreciation value	Remaining value	
	0   Mc	2.000,00		
	1   Mc	2.000,00	Mc	20.000,00
	2   Mc	2.000,00	Mc	18.000,00
	3   Mc	2.000,00	Mc	16.000,00
	4   Mc	2.000,00	Mc	14.000,00
	5   Mc	2.000,00	Mc	12.000,00
	6   Mc	2.000,00	Mc	10.000,00
	7   Mc	2.000,00	Mc	8.000,00
	8   Mc	2.000,00	Mc	6.000,00
	9   Mc	2.000,00	Mc	4.000,00
	10   Mc	2.000,00	Mc	2.000,00

Depreciation table office table:

Office building with a depreciation rate of 10%				
year		Depreciation value	Remaining value	
	0   Mc	35.000,00		
	1   Mc	35.000,00	Mc	350.000,00
	2   Mc	35.000,00	Mc	315.000,00
	3   Mc	35.000,00	Mc	280.000,00
	4   Mc	35.000,00	Mc	245.000,00
	5   Mc	35.000,00	Mc	210.000,00
	6   Mc	35.000,00	Mc	175.000,00
	7   Mc	35.000,00	Mc	140.000,00
	8   Mc	35.000,00	Mc	105.000,00
	9   Mc	35.000,00	Mc	70.000,00
	10   Mc	35.000,00	Mc	35.000,00

Depreciation table solar panels:

Solar panels with a depreciation rate of 10%				
year		Depreciation value	Remaining value	
	0	Mc	1.250,00	
	1	Mc	1.250,00	Mc 12.500,00
	2	Mc	1.250,00	Mc 11.250,00
	3	Mc	1.250,00	Mc 10.000,00
	4	Mc	1.250,00	Mc 8.750,00
	5	Mc	1.250,00	Mc 7.500,00
	6	Mc	1.250,00	Mc 6.250,00
	7	Mc	1.250,00	Mc 5.000,00
	8	Mc	1.250,00	Mc 3.750,00
	9	Mc	1.250,00	Mc 2.500,00
	10	Mc	1.250,00	Mc 1.250,00

## 6.5 Break-even analysis

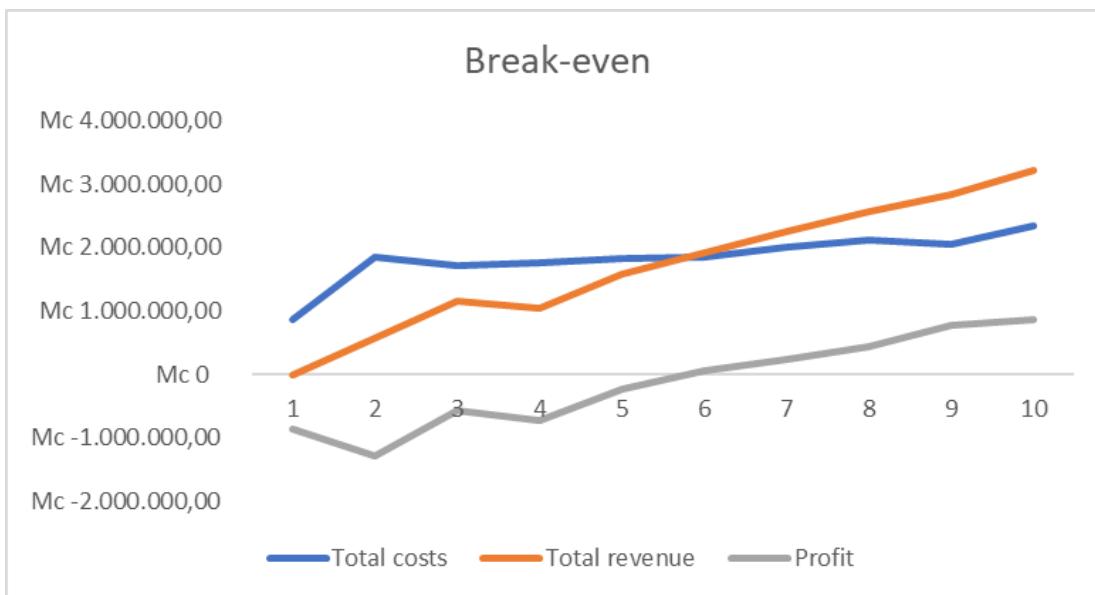
In this table below you can find the break-even analysis of quantity. This is calculated by following formula:

$$\text{Quantity} = \frac{\text{Total fixed costs}}{\text{Revenue} - \text{Variable cost}/\text{Unit}}$$

The outcomes of this formula can be found in the last column. For example we need 7,8 times more customers of the free plan to have a break-even.

First year				
Plan type	Fixed costs	Variable costs	Revenue	Break-even
Free plan	Mc 752.376,96	Mc 113.192,37	Mc 209.582,10	7,8
Premium plan	Mc 752.376,96	Mc 112.617,37	Mc 259.477,58	5,1
Business plan	Mc 752.376,96	Mc 112.617,37	Mc 107.812,50	156,6
Second year				
Plan type	Fixed costs	Variable costs	Revenue	Break-even
Free plan	Mc 1.049.244,20	Mc 139.692,37	Mc 465.738,00	3,2
Premium plan	Mc 1.049.244,20	Mc 139.692,37	Mc 475.590,15	3,1
Business plan	Mc 1.049.244,20	Mc 139.692,37	Mc 215.625,00	13,8
Third year				
Plan type	Fixed costs	Variable costs	Revenue	Break-even
Free plan	Mc 1.308.802,24	Mc 192.692,37	Mc 367.032,74	7,5
Premium plan	Mc 1.308.802,24	Mc 192.692,37	Mc 416.936,23	5,8
Business plan	Mc 1.308.802,24	Mc 192.692,37	Mc 261.862,50	18,9

In the graph below you find the graph break-even this graph shows what year we break-even. You can see for us this is around the middle in year 5. The data we used to create this graph can be found in the [appendices](#).



## 6.6 Long term plan

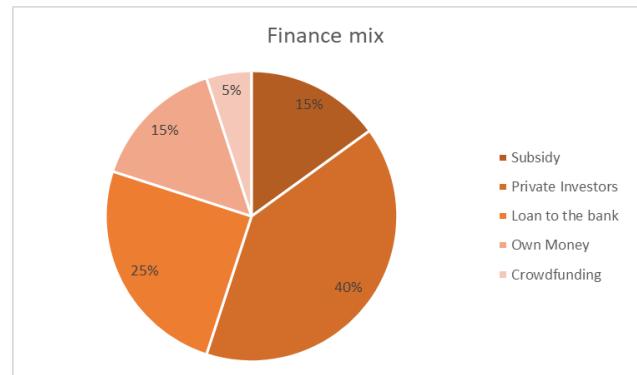
At a long term plan we are thinking about expanding more offices which also means more employment, laying even more pipelines and investing in more green energy. We will also try to invest in new technologies therefore we need more research and development. At least if our company is a great success we will try and expand to other planets like earth and maybe our transport research can be used for future space travelling.

## 6.7 Finance mix

In order to get our business financed we want to have multiple incomes. It would be a poor decision to rely on one source only. The biggest part of our income is of course the investors who will in return get a share of the company.

Next to the investors our two biggest income sources are a loan to the bank and subsidies of the government. We get these subsidies because the government gets to use a part of our system.

At least we have a small income that we self-invested from our own money and we also participate in crowdfunding. This was very important to get our business started.



## 7. Appendices

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In the table below you find the calculation of the break-even graph in chapter [6.5 Break-even analysis.](#)

Year	Fixed costs	Variable costs	Total costs	Total revenue	Profit	Profitable (yes/no)	break-even
1	Mc 752.376,96	Mc 113.192,37	Mc 865.569,33	Mc 0	Mc -865.569,33	NO	-7,65
2	Mc 1.049.244,20	Mc 810.012,37	Mc 1.859.256,57	Mc 576.872,18	Mc -1.282.384,40	NO	-7,97
3	Mc 1.308.802,24	Mc 416.942,37	Mc 1.725.744,61	Mc 1.156.953,15	Mc -568.791,46	NO	2,33
4	Mc 1.326.567,32	Mc 434.192,37	Mc 1.760.759,69	Mc 1.045.831,48	Mc -714.928,21	NO	2,88
5	Mc 1.342.134,43	Mc 474.442,37	Mc 1.816.576,80	Mc 1.574.697,92	Mc -241.878,88	NO	1,65
6	Mc 1.363.452,91	Mc 491.692,37	Mc 1.855.145,28	Mc 1.917.472,50	Mc 62.327,22	YES	1,30
7	Mc 1.483.452,91	Mc 529.067,37	Mc 2.012.520,28	Mc 2.258.752,50	Mc 246.232,22	YES	1,16
8	Mc 1.542.389,00	Mc 577.942,37	Mc 2.120.331,37	Mc 2.559.528,75	Mc 439.197,38	YES	1,07
9	Mc 1.447.642,41	Mc 612.442,37	Mc 2.060.084,78	Mc 2.827.196,25	Mc 767.111,47	YES	0,93
10	Mc 1.686.536,85	Mc 646.942,37	Mc 2.333.479,22	Mc 3.204.260,25	Mc 870.781,03	YES	0,91