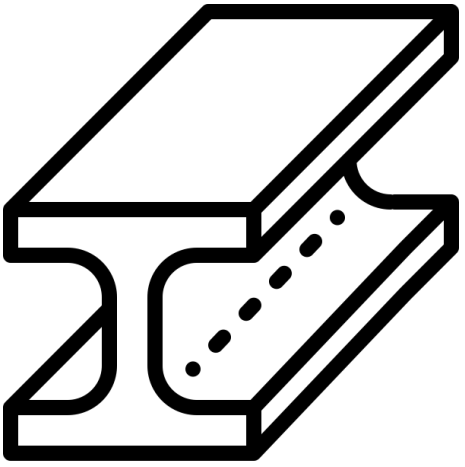
Beamtastic

Building the Future of Construction and Design



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1. Executive Summary

Waste management has become a huge challenge for countries worldwide due to the vast amounts of waste produced from modern consumption. Unfortunately, most of this waste ends up in landfills, burned, or even worse - in the environment or the ocean. Unfortunately, the use of plastic in single-use packaging has significantly increased over the last 20 years. Plastic waste is especially an issue because of the long time it takes to degrade.

The construction industry is known to be one of the biggest producers of landfilled waste. According to the Journal of Construction Engineering and Management, approximately 26% of landfills are occupied with construction waste. The question is - how can we push the construction and design industry to move towards more sustainable options and solutions?

We are Hela and Marcus and together we are Beamtastic. After years of working directly and indirectly with architects, designers, and builders, we realized that there is a huge need for more sustainable materials in construction and creating products. After Marcus assisted some workshops organized by the Precious Plastic community builder at our university´s Fablab, we decided to work towards buying the Precious Plastic extruder pro machine for producing recycled plastic beams.

Our beams will be made out of plastic recollected from the town of San Elcano and the local landfill. We aim to show the beautiful combinations of colors and properties that the beams can offer by integrating them into design objects, furniture, jewelry, and physical structures. We want to help change the perception of plastic waste, from having no use to being a raw material that can be transformed into several products and structures throughout its life. We hope that providing a new green option to build and design will encourage designers, architects, and craftspeople to innovate using our product as a raw material.

2. Mission

Single use plastic packaging is most often seen as a disposable waste. Even though plastic is made to last for more than 500 years, people throw it away after using it for just a couple of minutes, not thinking twice about the fact that it's actually a valuable material. Beamtastic believes in the value of plastic and wants to help rethink the future into something more circular. We believe plastic can be more beautiful and useful than many of the materials we currently use for construction or design. This is because plastic is a very versatile material, it is strong yet lightweight, it's colorful, and it's very durable. The global Precious Plastic community has shown this over and over again and now we are planning to expand this worldwide community with one more workspace.

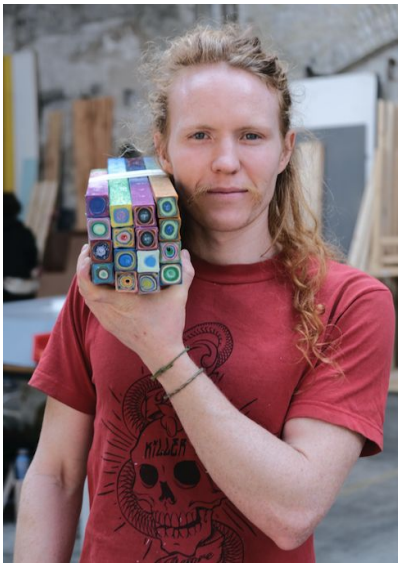
San Elcano has a large community of talented designers, artists, builders, and other craftspeople. Currently, they most often create products out of a combination of metal and wood. They tend to use very little plastic because it's mostly only used by large industries, and not on a small scale. With our workspace we plan to equip these craftspeople with a new unique material: colourful beams made fully out of recycled post-consumer plastic from the town of San Elcano. These beams can be used to create everything from furniture to playground equipment to art installations. These creations will not only be used in private homes, but also in many public places like schools, shops, and restaurants.

This way, we hope to enrich the whole town of San Elcano with more and more beautiful, colorful creations that tell the story of plastic waste. We hope these craftspeople and green builders, as well as the users of the end-products, will start changing their mindset towards plastic, seeing it as a valuable material rather than waste.

3. Team

Name: Hela Johnsson
Role: Sales, Marketing and Logistics

Experience: 2 years working in the reception of an architecture office. 3 years managing the administration and accountancy of a family business related to the importation of construction tools.



Name: Marcus Johnson
Role: Production and Operations

Experience: 5 years working in independent architecture projects for the public sector. Diploma in sustainable architecture and design. Participation in research and development of new materials for green architecture solutions in the Fablab of San Elcano University.

4. Market Analysis

A. Products & Services

Beamtastic offers beautiful and colorful beams of three different sizes made out of San Elcano's plastic waste. The beams can contain a single color or mixed colors to create color gradients. When we change the colors of shredded plastic added to our beams, there are beautiful patterns on the inside which can be

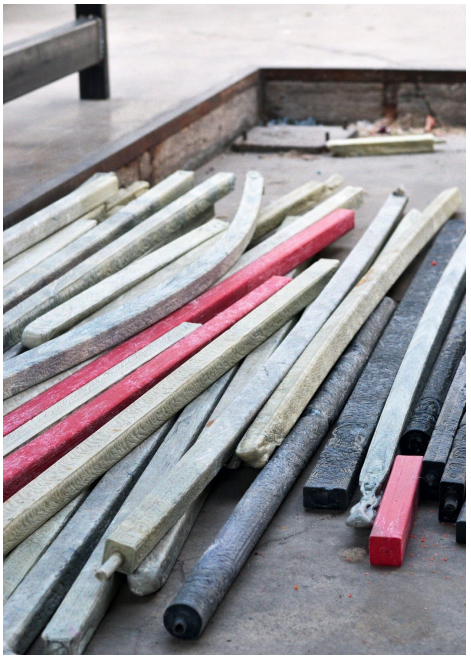
incorporated into products. These characteristics make the beams also useful for smaller design products like jewelry.

Some of the characteristics that these beams have in comparison to other material beams are: the beautiful color combinations, their bendability (they can be flexible depending on the thickness), the longer product life and a reduced need for maintenance. The beams are excellent for exterior uses (benches, construction, etc.) because they are waterproof. The premium price of the beams is justified by the environmental story that the product itself tells, but also because of it's positive material characteristics.

We will start producing three main types of square beams (41mm x 41mm diameter): 2 meters long, 1.5 meters long, 0.7 meters long. There will be beams of plain colors and others with combinations of different colors. The price will range from €10 to €22 depending on the length of the beam. In the long run, the idea is to incorporate a larger variety of beams with different diameters, shapes, and lengths into the product line. Additionally, we want to have the option to bundle 10 or 20 units of different beams at a better price to accommodate larger customers.

Product Photos:

Range of lengths and colors	Plain color beams



Mix of products offered

Future designs

Beamtastic's products are differentiated from beams made of other materials because the material and the end product will tell a story in itself, inviting the user to think back to the source of the material. The main goal is to improve the recycling rate of San Elcano and prevent more valuable plastic from ending up in landfills or the environment.

B. Target Groups

Our sales will mainly target designers, builders, and craftspeople that live in San Elcano and have a high awareness of environmental issues. Some organizations and businesses are also becoming more responsible in their operations, trying

to decrease their environmental impact, reduce waste and make more durable products. These green builder firms, design construction firms, and furniture makers will form a large part of our targeted customer segments.

San Elcano is known for being an innovation hot spot in the construction and design industry. There is a lot of talent available to create new initiatives and apply the latest technologies. As we experienced while working in this field, there is a large opportunity for green solutions. Architects and designers now realize that if they create more eco-friendly products or constructions, they can target niche groups that are willing to pay a premium price for a more sustainable offering.

Through our network, we have had in-depth interviews with architects and firms to test their willingness to buy beams. Our results show that designers with sustainable ethos have shown high excitement to try them as they attempt to communicate a deeper message through the materials they use. Our plastic beams will help them to achieve that goal (Appendix 1). However, architects have shown some doubts at first glance as they want to test the quality and properties of the material first (Appendix 2).

San Elcano has a population of around 175,000 people. The main age category is adults between 18-55 years old (45% of the population). However, in the last decades, the city has become a big hub for students, specifically of arts, design and architecture careers. Every year around 2,500 new students enroll at one of San Elcano's arts, architecture and design programs. This puts us in an excellent position to develop the project because we can connect with a lot of people related to the field and start creating a bright new community of sustainability-minded designers and builders.

According to the department of economic development, San Elcano ´s construction industry is worth around 10 million euro per year. We aim to target 1% of the market for our first year of operations, which would result in €100,000 in revenue. For the next few years we expect to target a bigger piece of the market and increase our market share.

C. Engagement

The main channels to connect with our target customers and advertise Beamtastic will be word-of-mouth and construction/design fairs. As we are mainly selling on a business to business (B2B) level, we need to maintain direct contact with key people in business organizations. Trade shows and fairs are the perfect environment for networking because they offer exposure to a large number of people in the industry, while at the same time allowing us to show our products.

The local design and architecture schools will also be key partners. We plan to provide free workshops and talks showcasing the process of transforming plastic waste into useful raw material beams. Furthermore, we invite students and teachers to test and experiment with the beams to get a better feeling for the product. This strategy will help to create an eco-minded community that in a few years will possibly create demand for our beams.

Design magazines and our website will also help to advertise the products. Viewers will be able to see examples of the beams in use, as well as information about sizes, prices and material properties.

Social media (Instagram and Facebook) will play a secondary role, more focused on creating awareness about the plastic pollution problem and the value of plastic as a durable material. We will utilize these platforms to show the cycle that we work with, starting with plastic waste and ending with cool colorful beams.

D. Sales Channels

As we will focus mainly on business to business sales channels , we plan to establish a direct relationship with our customers. Phone calls, emails, and personal meetings will be the main strategy to contact the shops and studios we want to sell to. In this way, we can also take advantage of the network we have already gained while working in this industry in previous years.

The beams will be available for sale on our Beamtastic website and the Precious Plastic Bazar. This provides the option to all the people interested in our products to buy them directly and contact us with any further questions. The Precious Plastic Bazar is a good place for us to showcase our products and eventually create sales outside San Elcano, creating an international market and expanding our operations.

The last sales channel will be construction supply stores, which function as sales points directly catering to builders and small consumers. This channel allows us to show our products to other audiences and demonstrate the benefits of our product compared to competing beams.

5. Operations

A. Key Resources

A workspace, the extruder machine and large quantities of shredded plastic sorted by color are our fundamental key resources that will help us succeed in our mission. Likewise, employees are crucial. Marcus (architect) has the specific knowledge of how to extrude beams and Hela (sales and marketing) knows how to administrate the business and distribute the products to create profits.

The moulds and toolset are also important in order to create an efficient production process and deliver high-quality products. A safety kit is also really important for our health, especially for Marcus who will be working with melted plastic that can emit harmful fumes. Likewise, a proper ventilation system for the workspace is necessary as well as precaution measure for the high temperatures used in the extruder machine.

B. Key Tasks

A systematic production process and proper machine maintenance will be key activities to ensure efficiency in the production of beams. We cannot risk breaking the extruder machine because without it we can run out of products. For us it is highly important to maintain good relationships with our customers, and that starts in complying with a consistent supply of products.

Consequently, optimizing the distribution of our products is also key for us to improve our customer relationships. This means a very organized system for getting our products to customers. Strategic marketing is also important, as we target very specific groups of clients that have a wide variety of options to source their products. Equally, Hela needs to maintain a close eye into every customer and study potential new customers. This way we can start growing and expanding our customers, while we continue to deliver a good quality service and products.

C. Running Costs

The main running costs will be the fixed operational costs that we need to cover every month such as our wages, the workspace rent, and utilities (water, electricity, internet, and gas). The workspace is located in an industrial area where a lot of designers and furniture shops operate, allowing us to connect easily with target customers, but can be quite expensive. Buying plastic will also be another big running cost for us. We source recycled plastic from 2 different local Precious Plastic shredding workspaces that focus on PP and HDPE, the main plastic types we use. The cost per kg of shredded plastic is 2 euros, a slightly higher price than industrial sources, but we prefer to buy from Precious Plastic Shredder workspaces to support the PP local network and reinforce our product story about local plastic recycling.

D. Collaborators

As we are innovating in the construction and design industry, which is really competitive, the use of alliances and collaboration will be key to create a network of people and customers. In this sense, connecting with green building associations and sustainable design shops is key to better understand the market and provide them with quality products. Collaborating with the design and architecture schools can be useful to test the properties of the material and show students new options of materials.

For our operations, it is key to collaborate with the shredder workspaces and the community builder to be sure we have a strong local Precious Plastic community to support our operations. Without this supportive community we won't be able to source the plastic flakes or inspire a movement of people in San Elcano wanting to reduce plastic waste.

Currently the local government haven´t show interest in sustainable solutions for the community. This is one of the main reasons why most of the waste produced in San Elcano ends in landfills or the environment. The waste management of the community is operated by the local government, resulting in non-existent recycling actions. This provides an opportunity for the local collectors and a big responsibility to the Precious Plastic community. We hope

with some help from the Precious Plastic local community point, we could create collaborations with the local government of San Elcano and start changing the mentality of how we see waste.

6. Impact Measures

A. Community

Beamtastic aims to provide to San Elcano´s community with a new construction material that both provides a strong building material and demonstrates the value of recycled plastic. Additionally, we want to spice up the construction and design industry by lighting up the town and homes with colorful structures and products made out of our beams.

Indirectly, we also want to give hope to the people of the community about dreaming of a sustainable future without plastic waste. We want to show them that there are alternative solutions and options that create lower impact on the environment and change consumer behavior of the community towards lower production of single-use plastics.

B. Planet

Beamtastic wants to contribute to the planet by reducing the plastic waste of San Elcano and turning it into useful construction materials. This way we will also form part of the circular economy movement and show that resources and products should be rethought to have a longer lifespan and be reused.

We want to help the planet by creating a new movement of people towards reducing single use plastics and motivate the re-use of plastic, which means that plastic never becomes waste.

C. Income Streams

We will have one main income stream, which will be the sales of our beams. Each sale will produce a profit margin that will vary from 12% to 25% depending on the number of units sold. If we increase the total volume produced, the margin can rise and make more a more profitable business. When we sell to construction supply stores the profit margin will be lower because they need to be able to make profits for themselves. However, we like these types of sales

because the construction supply stores will buy large amounts of beams in bulk, which is more efficient for our sales process.

7. Financials

We made an approximation of the initial investment needed to get started. For this purpose, we will need to invest in one time expenses, which will be around €10,283.00. We will also need one month of operational costs on hand to pay our bills before receiving any money from our first sales. The approximate monthly fixed costs of operation will be €835.00, without counting the costs of producing the beams itself (Appendix 3). The total amount of money needed to start is €14,943.72 (Appendix 3).

Investment Costs	
Initial Investments	Cost
Extruder Pro	5,500.00
3 Long Moulds (2 m x 41 mm x 41mm)	21.00
3 Medium Moulds (1.5 m x 41 mm x 41mm)	16.00
3 Short Moulds (0.7 m x 41mm x 41mm)	8.00
Business license and permits	300.00
Workspace Renovation	950.00
Coffee Machine	20.00
First Aid Kit	30.00
Office Supplies	100.00
Computer	300.00
Speaker	25.00
Van	2,000.00
Table	100.00
Chairs	150.00
Safety Kit	70.00
Beams containers	140.00
Ventilation System (Fan, Filter and ducting)	130.00
Shredded plastic storage shelf	15.00
Workbench	30.00
Shredded plastic trolley	15.00
Mobile tool station	10.00
Beam storage racks	5.00

Beam mould hanger	10.00
Adjustable mould support surface	15.00
Ventilation caddy	100.00
Offcut bucket	5.00
Scoop	5.00
Screwdriver	2.00
Vise	40.00
Channel lock pliers	8.00
Putty knife	3.00
Allen keys	5.00
Wrenches	25.00
Hammer	10.00
Heat-resistant gloves	15.00
Safety glasses	5.00
Filter mask	50.00
Chisel	10.00
Drill	40.00
Total	10,283.00

We expect to finance some of our initial investment and first months of operations with a savings fund we have from our previous family business. Our father worked for more than 30 years importing tools for the construction industry and 2 years ago he retired and decided to sell the company. He decided to give us some of the profit to invest into our own projects. We are also seeking a bank loan to cover the remaining portion of the costs we need to get started.

The projection of the profits and losses for the next 3 years are shown in the next table and demonstrates that the project is economically sustainable over time. This means that we will be able to operate and slowly grow our net income. In addition, after conducting a break-even analysis, we know that we will take around 21 months to recover our initial investments (Appendix 3).

Profit and Loss

	Year 1	Year 2	Year 3
Revenue	65,040.00	71,544.00	78,698.40
Cost of Sales	23,877.60	26,265.36	28,891.90
Net Revenue	41,162.40	45,278.64	49,806.50
Fixed Costs	10,020.00	10,020.00	10,020.00
Gross Income from Operations	31,142.40	35,258.64	39,786.50
Business Taxes	6,228.48	7,051.73	7,957.30
Net Income	**24,913.92**	**28,206.91**	**31,829.20**

The projected cash flow statement below shows that we will have enough money on hand to meet our financial obligations throughout the first year of operations.

CashFlow												
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Money In Bank (Beginning of Month)	14,944	7,256	9,851	12,446	15,042	17,637	20,232	22,827	25,422	28,018	30,613	33,208
Initial Investment	14,944											
Revenue	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420
Total Cash In	**20,364**	**5,420**	**5,420**	**5,420**	**5,420**	**5,420**	**5,420**	**5,420**	**5,420**	**5,420**	**5,420**	**5,420**
Investment Costs	(10,283)											
Variabl	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)	(1,990)

e Costs												
Fixed Costs	(835)	(835)	(835)	(835)	(835)	(835)	(835)	(835)	(835)	(835)	(835)	(835)
Total Cash Out	**(13,108)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**	**(2,825)**
Net Cashflow	7,256	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595	2,595
Money In Bank (End of Month)	**7,256**	**9,851**	**12,446**	**15,042**	**17,637**	**20,232**	**22,827**	**25,422**	**28,018**	**30,613**	**33,208**	**35,803**

Some additional figures that help to understand and analyze the financial statements can be found in appendix 4.

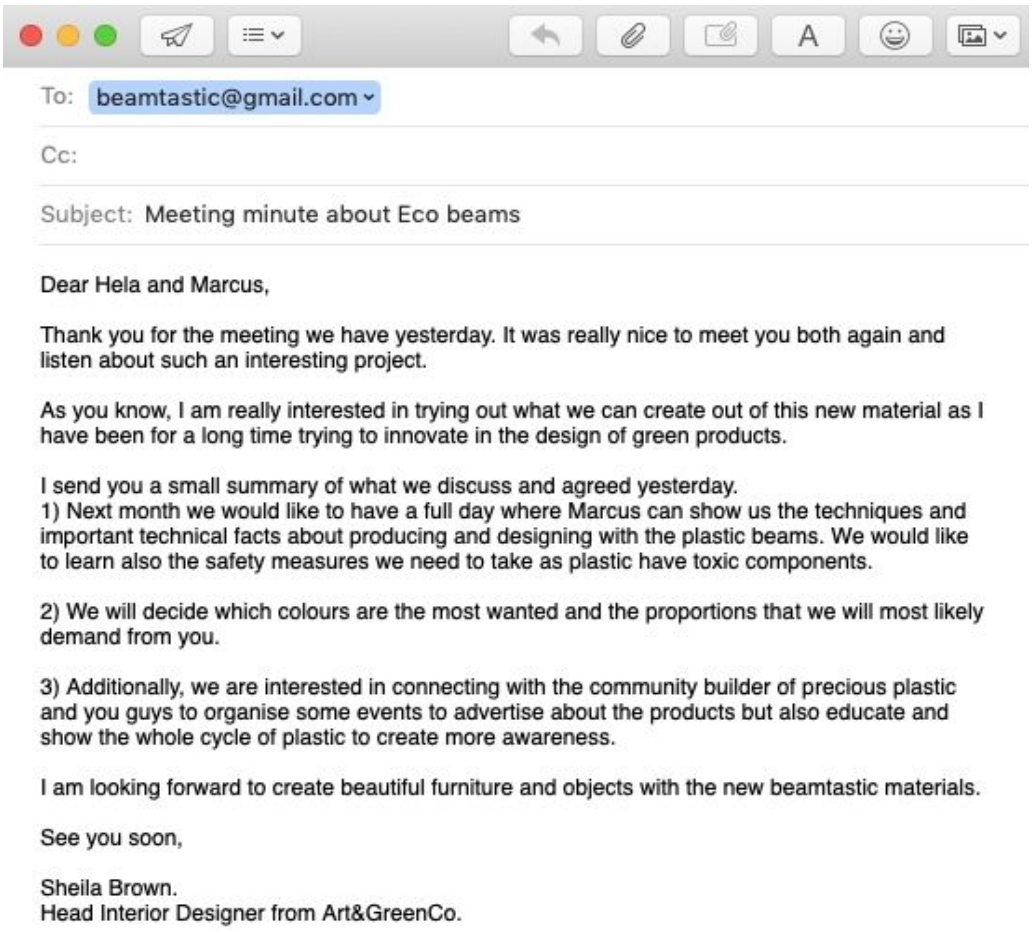
8. Legal Structure

Beamtastic will be registered as a commercial entity with San Elcano´s Chamber of Commerce. This requires us to write an article of incorporation and operating agreement for how we will manage our business. We plan to have equal ownership between the two partners, each with a 50% ownership share. This ownership structure will allow us to share responsibilities as well as have the same decision making power.

In the future we would like to apply for sustainable business certifications in order to show the value of our products and have accountability for the impact Beamtastic creates. As well, this will help us to find partnerships, funding and grants.

9. Appendixes

Appendix 1:



To: beamtastic@gmail.com

Cc:

Subject: Meeting minute about Eco beams

Dear Hela and Marcus,

Thank you for the meeting we have yesterday. It was really nice to meet you both again and listen about such an interesting project.

As you know, I am really interested in trying out what we can create out of this new material as I have been for a long time trying to innovate in the design of green products.

I send you a small summary of what we discuss and agreed yesterday.
1) Next month we would like to have a full day where Marcus can show us the techniques and important technical facts about producing and designing with the plastic beams. We would like to learn also the safety measures we need to take as plastic have toxic components.

2) We will decide which colours are the most wanted and the proportions that we will most likely demand from you.

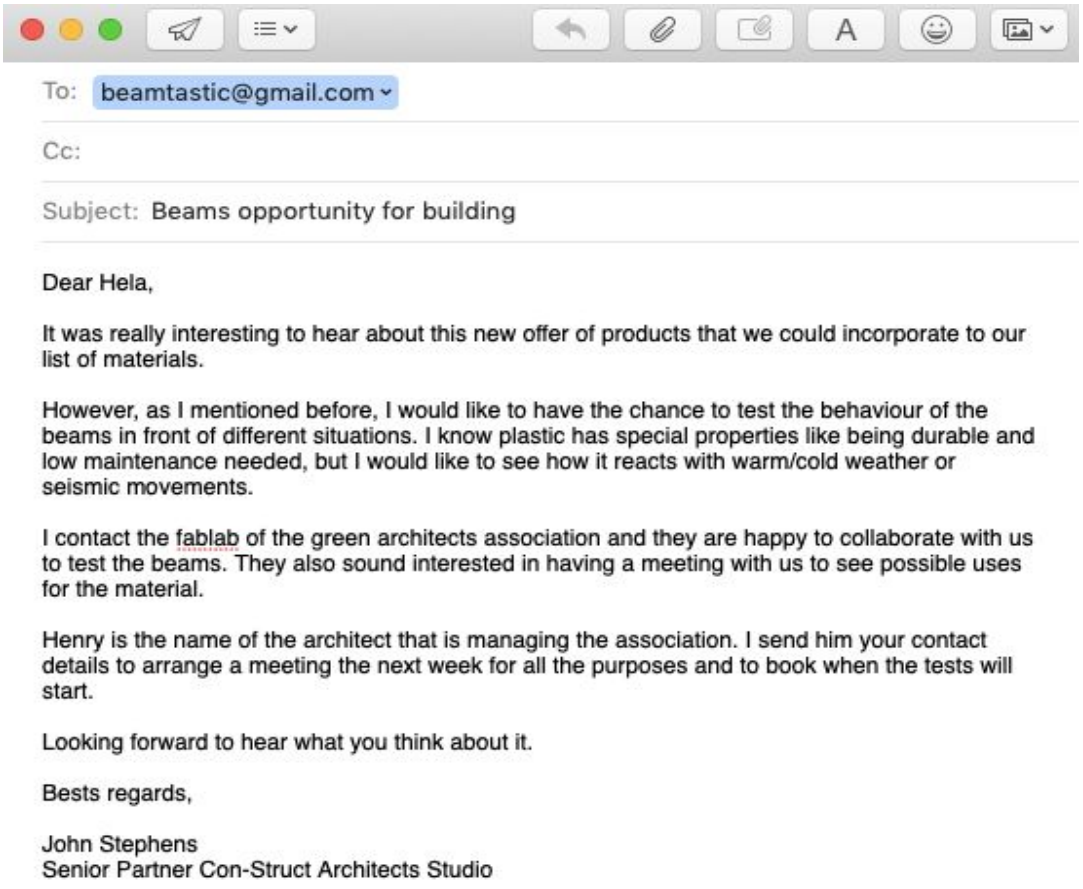
3) Additionally, we are interested in connecting with the community builder of precious plastic and you guys to organise some events to advertise about the products but also educate and show the whole cycle of plastic to create more awareness.

I am looking forward to create beautiful furniture and objects with the new beamtastic materials.

See you soon,

Sheila Brown.
Head Interior Designer from Art&GreenCo.

Appendix 2:



To: beamtastic@gmail.com

Cc:

Subject: Beams opportunity for building

Dear Hela,

It was really interesting to hear about this new offer of products that we could incorporate to our list of materials.

However, as I mentioned before, I would like to have the chance to test the behaviour of the beams in front of different situations. I know plastic has special properties like being durable and low maintenance needed, but I would like to see how it reacts with warm/cold weather or seismic movements.

I contact the fablab of the green architects association and they are happy to collaborate with us to test the beams. They also sound interested in having a meeting with us to see possible uses for the material.

Henry is the name of the architect that is managing the association. I send him your contact details to arrange a meeting the next week for all the purposes and to book when the tests will start.

Looking forward to hear what you think about it.

Bests regards,

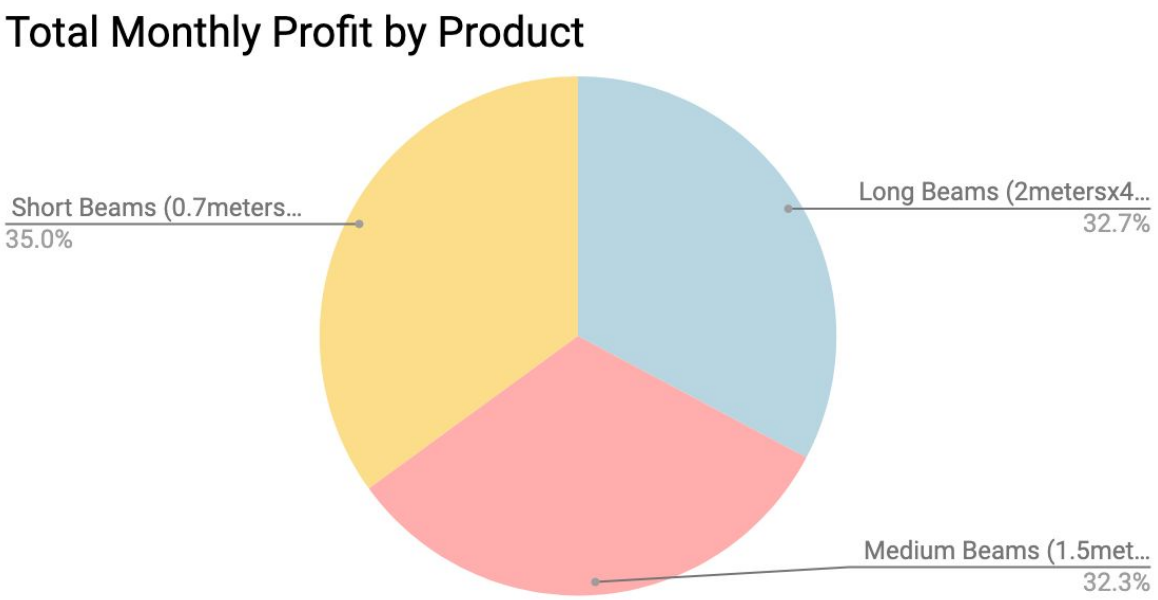
John Stephens
Senior Partner Con-Struct Architects Studio

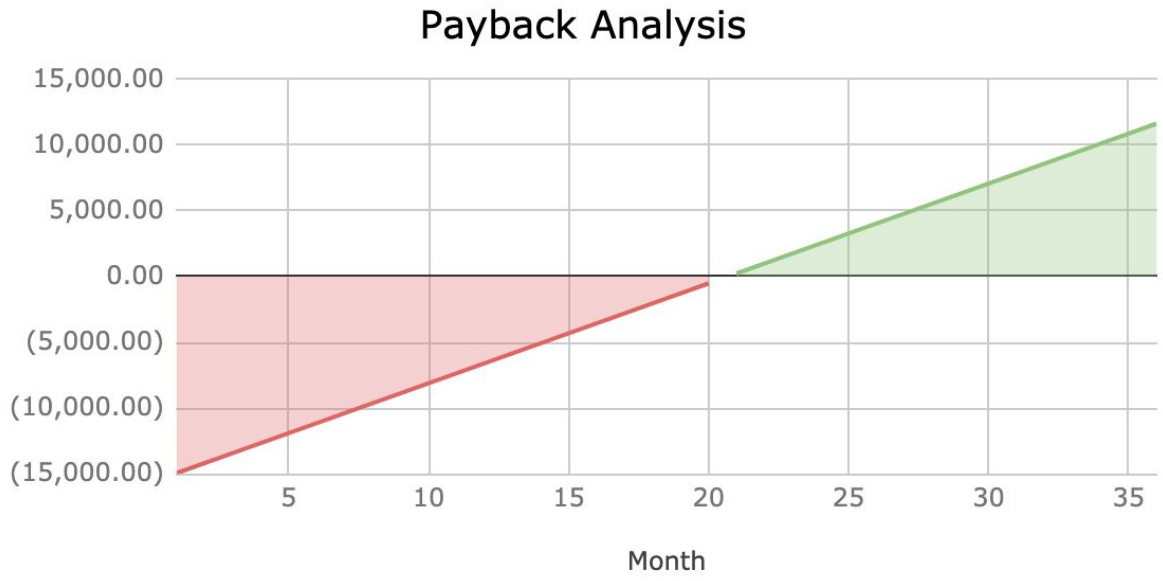
Appendix 3:

Summary	
Money Needed to Start	14,943.72
Months to Pay Back Investment	21
Full Time Employees Needed	1.8
Revenue Earned Per Month	5,420.00
Fixed Costs Per Month	835.00
Material Costs Per Month	1,413.00
Total Wages Paid Per Month	2,412.72
Total Profit Earned Per Month	759.28

Appendix 4:

Sales				
Products & Services	Selling Price Per Unit	Number of Expected Sales Per Month	Total Product Cost	Profit Margin
Long Beams (2metersx41mmx41mm)	22.00	100.0	19.51	12.74%
Medium Beams (1.5metersx41mmx41mm)	16.00	120.0	13.96	14.62%
Short Beams (0.7metersx41mmx41mm)	10.00	130.0	7.96	25.69%




Payback Analysis
15,000.00
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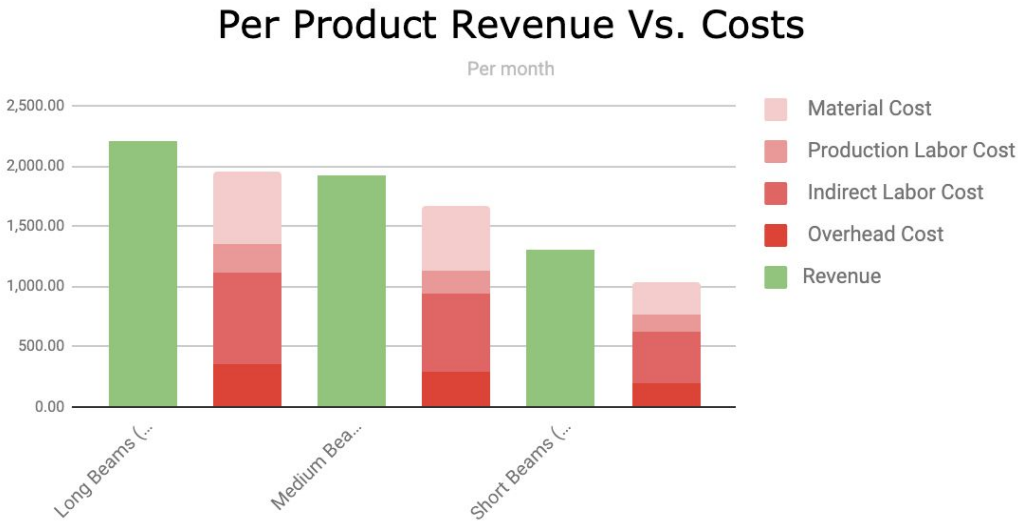
(5,000.00)
(10,000.00)
(15,000.00)
5
10
15
20
25
30
35
Month


Per Product Revenue Vs. Costs
Per month
2,500.00
2,000.00
1,500.00
1,000.00
500.00
0.00
Long Beams (...
Medium Bea...
Short Beams (...
Material Cost
Production Labor Cost
Indirect Labor Cost
Overhead Cost
Revenue

Total Revenue Vs Costs