

Teacher: Vaida Janavičienė

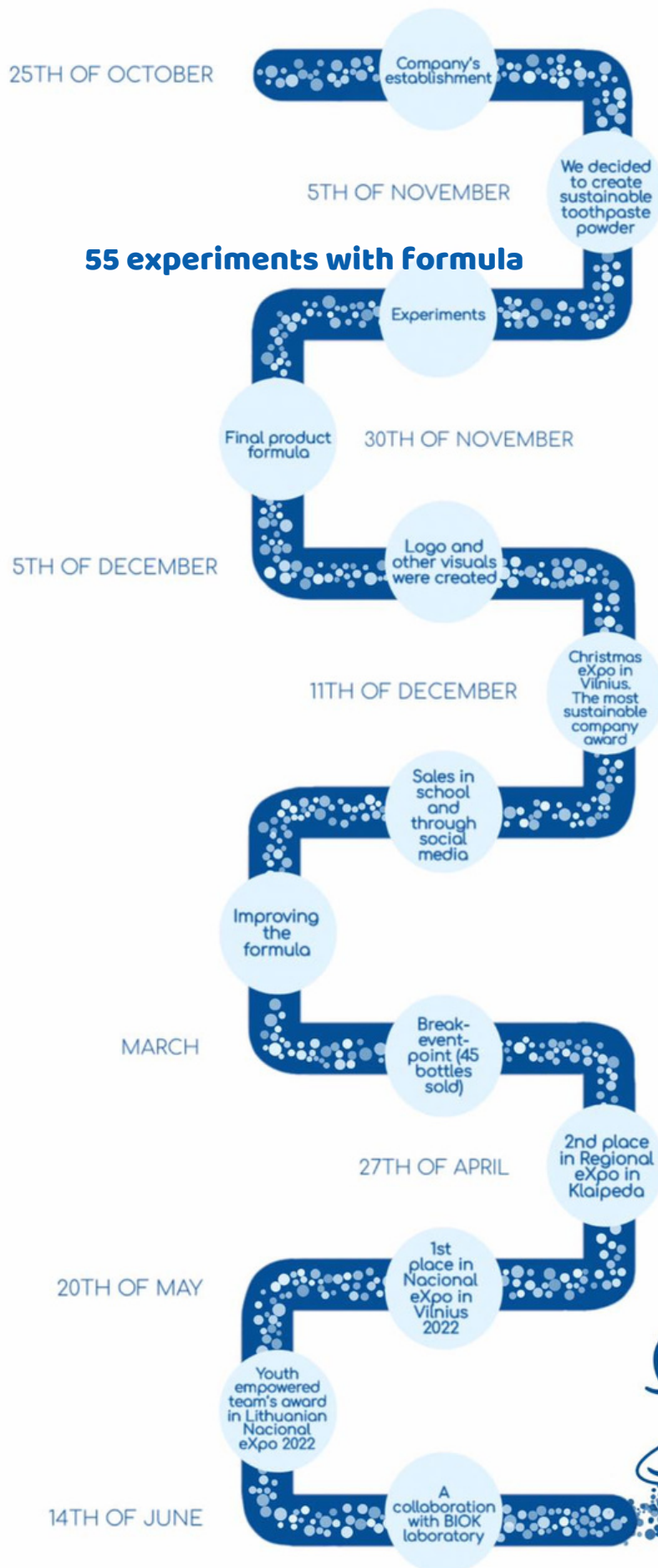
2021-2022

Company Report

Lithuania



Executive Summary



Mission

After 55 failures in less than one month, we invented a toothpaste's formula with a mission to contribute to a greener planet by reducing plastic pollution through everyday habits.

The product

We are all passionate about sustainability.

Our student company presents a toothpaste powder whose [formula has been invented by our team](#) seeking to suggest a solution for the pollution of microplastics. Researchers estimate that there are 24,4 trillion pieces of microplastics in the upper oceans*. Nowadays the cosmetics industry, especially toothpaste products, contains nano microplastics pieces. Moreover, toothpaste tubes are very difficult to recycle so they end up in landfills and every year 1,5 billion toothpaste tubes are discarded**. The other problem is that regular toothpaste is considered a liquid when travelling. Finally, the manufacturing process of ordinary toothpaste requires water resources.

We present our [invention of an organic and environmentally friendly toothpaste powder packaged in a glass bottle](#). Our toothpaste powder's formula is 100% natural, free of microplastics, free of sulphates and suitable for vegans. Usually, toothpaste powder packaging does not guarantee hygiene. We took it into account. When using "Dentinullas" toothpaste powder, you do not have to dip your toothbrush every time you brush your teeth - all you have to do is to moisten your toothbrush and sprinkle some of the toothpaste powder on the bristles and you can brush your teeth as usual. That's the secret of our formula! Brush your teeth everyday and contribute to a mission of reducing microplastics!

Our solution contributes to these SDG's:



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Problem analysis and solution

Problem

Microplastics in composition.

Researchers estimate that there are 24,4 trillion pieces of microplastics in the world's upper oceans, with a combined weight of 82,000 to 578,000 tons—or the equivalent of roughly 30 billion 500-ml plastic water bottles*. They are extremely hard to collect. Tiny plastic particles or the so-called microplastics are used in many products, including cosmetics. They can be found in body scrubs, sun lotions, hair products, lipsticks and toothpaste. Yes, toothpaste, which we all use, can contain microplastic!

Non-recyclable tubes.

Toothpaste tubes are often made with different plastics and a thin layer of aluminium. This mix of materials makes them hard to recycle, thus over 1.5 billion toothpaste tubes are discarded worldwide each year and end up in landfills**. In addition, if the customer likes to travel by plane, the toothpaste may cause a real headache because regular toothpaste is considered as liquid.

Solution

Dentinullas solution is a toothpaste powder that is based on an innovative and environment-friendly formula. Due to our long and intensive experiments, we found toothpaste powder's formula, which eliminates microplastics from its composition and ensures hygienic use.

Environment-friendly.

100% natural, free of microplastics, free of sulphates (which contaminate the water and start eutrophication) and suitable for vegans.



Innovative formula.

Moisten toothbrush, sprinkle some toothpaste powder onto toothbrush and brush teeth as usual. Powder stays on a toothbrush and the powder remains hygienic.

Effective.

The bentonite clay remineralizes teeth enamel, heals enamel damage and neutralizes acid in the oral cavity*.



Hygienic to use.

The packaging is hygienic and convenient. It is a glass bottle, not a jar in which the toothbrush needs to be dipped.

Natural.

Made of natural ingredients such as: bentonite clay, aloe vera, calcium carbonate, essential oils (for raspberry flavour 100% natural raspberry extract is used), stevia, and coconut oil; it has a low RDA level and safe to use it.



Reusable packaging.

A glass bottle can be reused unlimited times. The client can also give back the bottle and we will refill it with the new toothpaste powder.

Exceptional flavours.

Flavours of lemon, mint and raspberry are selected according to the preferences of the customers.



Suitable for travel.

The packaging does not take up much space and the product is not fluid.

Sources:

*Twenty-four trillion pieces of microplastics in the ocean and counting | Research Results | KYUSHU UNIVERSITY (kyushu-u.ac.jp)

**Toothpaste Tube Pollution: The facts - Spotlight Oral Care EU)

***Bentonite Clay: The secret to healthy gums and teeth | by Lindsey Elmore, PharmD, BCPS | Medium

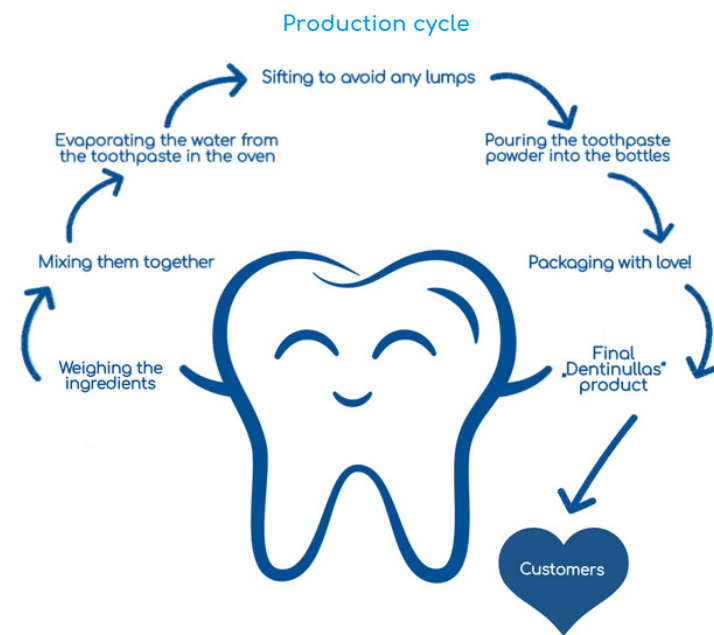


Production

Manufacturing requirements

Sterility and hygiene. We manufacture and package our product in a school technology class that meets Lithuanian hygiene requirements. All of the ingredients are stored in a dry and stable environment. In order to achieve full sterility, we wear protective gear in all the stages of the production: rubber gloves, lab coats, face masks, hair caps and glasses.

Customer's safety. We weigh ingredients to meeting safety requirements. Even the slightest difference from the formula could mean a lower pH level and make the toothpaste powder acidic.



A sea of challenges!

#1 Challenge. Formula

One of the biggest challenges was to invent a formula for the product. The main issue was to ensure powder's hygiene, i. e. powder has to stick on a toothbrush. After 55 experiments and failures, consultations with chemistry's teacher, we finally got it right!

#2 Challenge. Certification

All oral hygiene products must have certificates to ensure their safety. Now "Dentinullas" is safe to use as a homemade toothpaste powder, but for entering the market, production scale and collaboration with potential distributors, we need certification.

We started certification consultations with the BLOK Laboratory. They have over 30 years of experience in the field of cosmetics by creating and producing natural and organic products. The BLOK Laboratory became our business mentors regarding toothpaste powder's certification.

According to the EU REGULATION (EC) No 1223/2009, we need to have product information file which includes safety, micro-biological pollution, dermatological researches. After having it, we could apply to cosmetic products notification portal (CPNP) which is the final step of entering the market with a certified product.

Production

Step 1. Ingredients quality control. The production starts with buying the right ingredients. We have to make sure that the ingredients we are buy are the best quality and extracted in a ethical way.

Step 2. Safety ensurance. We weigh the right amount of each ingredient. It is a crucial step determining the safety of the toothpaste powder.

Step 3. Mixing process. Ingredients of bentonite clay, aloe vera, calcium carbonate, essential oils (for raspberry flavour we use 100% natural raspberry extract), stevia and melted coconut oil have to be mixed perfectly and evenly till liquid consistency.

Step 4. Evaporation process. We evenly distribute the mixture on the tray and put it in the 40°C oven for several hours. Water is evaporated from the toothpaste and we get the powder.

Step 5. Sifting process. To ensure the perfect smoothness of the powder, we sift it through the sieve to avoid any lumps in the toothpaste.

Step 6. Packaging. We pour toothpaste powder into 2 bottles of different sizes and give it a commercial appearance.



#3 Challenge. Student company status

In Lithuania student company status does not provide an opportunity to conduct business as usual business entity. This creates as an obstacle that before final certification process we need to establish a legal entity.

#4 Challenge. Product complexity & investments

Our product's mass production requires huge investments or strong partnerships. As a student company, we cannot build a new environmental-friendly cosmetics empire. Although we are a group of perfectionists, we value our super-powers through the lenses of realistic point of view!

OUR LESSON:

Smooth seas do not make skillful sailors!

Management

The chemistry of relationship!

Our team consists of 4 members. We are all studying in 11 grade and we are classmates and friends. Because of that, we know each other's weaknesses and strengths. Such relationship helped us to decide how everyone can contribute to our company. We created 4 departments - finances, marketing, production and personnel department. Each of us has tasks and responsibilities and this way we can avoid tension or unclearness. But the departments occasionally overlap. For instance, sometimes it is hard to manage all of the production for one person, thus we sometimes work on this task as a whole group.



Motivation and challenges

It was a real challenge to manage work in the company and a friendship at once. But we managed to do it with a vision of a company and a clear division into the departments. We stayed motivated as friends and as company members because we organised a lot of meetings where we opened up and talked about our inner feelings. We solved all of the problems together and if we needed good business advice, we always consulted with our amazing teacher Vaida Janavičienė.

Vaida Janavičienė

Teacher. Business adviser.
Motivator. Inspirator. Supporter.
Believer in our craziest ideas!



Agnietė Kučinskaitė CEO and Production Manager

Perfectionist. An example of a good and intelligent leader, who inspires others with her attitude. Loves reading and science. Agniete created the toothpaste powder's formula. In her free time, she volunteers in theatre and youth organisations.



Neda Bagdonaitė Marketing Manager

Another perfectionist. Takes care of social media and product advertising. Likes to reveal herself through art and designing clothes.



Austėja Janušaitė Financial Manager

On one hand, Austėja takes care of the company's finances and liabilities, on the other hand in her free time she likes to emerge herself into the art world by painting.



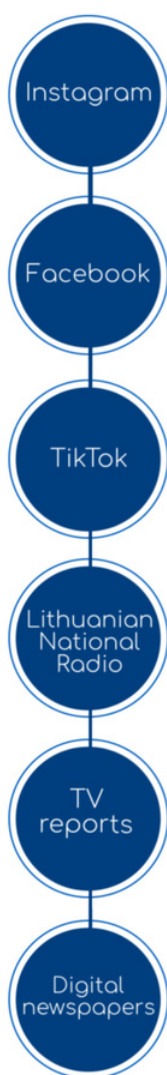
Augustas Nevardauskas Personnel Manager

Takes care of any problems that may arise during work hours. In his free time, he practices modern psychology and is miraculously good under the pressure.

Sales. Promotion

Sales path

After the first production, we sold our toothpaste powder to our friends and people from our community. Then, we introduced ourselves in school and then we ventured into the unknown great waters of sales. Firstly, we sold "Dentinullas" at the Christmas eXpo in Vilnius where we got a lot of good advice and won the most sustainable company nomination. It boosted our motivation and we improved the formula, continued our sales on the internet, in school and at various fairs. Then we finally reached our break event point after selling 45 bottles of toothpaste powder and started getting a profit. This motivated us even more and in the regional eXpo of Klaipeda city we won second place and in National eXpo, in Vilnius, we won the first place.

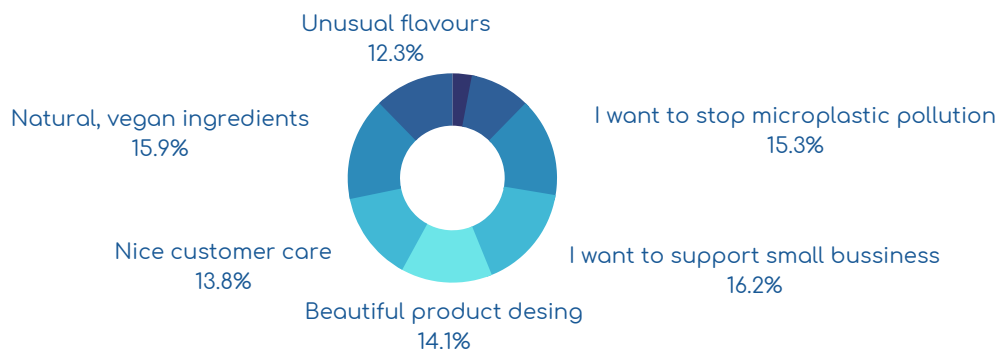


Promotion

Awards we received at eXpo's organize by Junior Achievement Lithuania attracted a lot of attention. It helped us to promote and advertise our product on social media (Facebook, Instagram) and attract followers. Lithuanian influencers also helped us to spread the message about our product and promote it to the public. There were also a lot of articles in Lithuanian media, such as 15 min, Klaipeda aš su tavimi, Verslo žinios, etc. Live interviews on television allowed the audience to get to know the product and our team - it turned into increased sales. Also, we had an opportunity to promote our product on Lithuanian National radio. Afterwards, our followers number increased on Instagram.

For building a more targeted sales strategy and product promotion, we initiated a survey of our customers. We asked them for what reasons they buy our toothpaste powder. Survey results (see a chart below) reveal that 1/3 of our customers are aware of microplastic pollution problem and look for products that are made of natural ingredients.

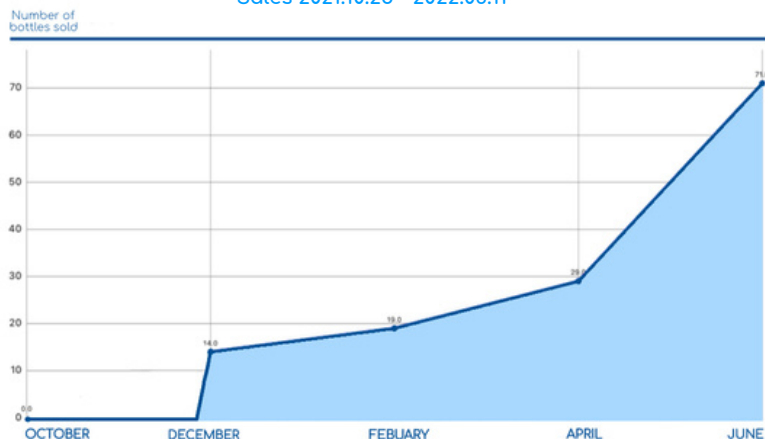
Reasons why customers buy our product



Customers loyalty

We did an analysis of our product purchase intentions. You see the results in a graph. Besides, our aim is to empower customers' conscious choices into a repetitious habit. We offer an opportunity to return the empty bottle and get a refill with a discount. This way we can build up our brand community. In the future, we also plan to send newsletters and encourage our customers to think about sustainable consumption.

Sales 2021.10.25 - 2022.06.11

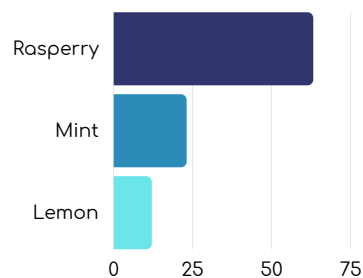


Sales strategy

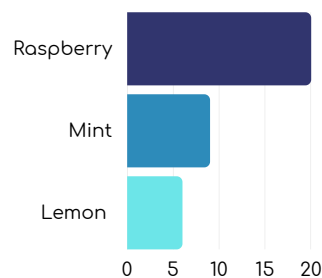
Every month we: discuss the work performed; set monthly goals; develop a strategy for new sales; anticipate the amount of future monthly sales.

We have now sold 133 bottles of toothpaste powder. 98 small bottles and 35 big bottles. As the bar chart shows, our most popular is raspberry flavour toothpaste powder in a small bottle.

Small (10 ml) bottles sold



Big (30 ml) bottles sold



Marketing

Our main message and mission of the product is to raise our customers awareness that we can contribute to saving our planet through our everyday actions by choosing the right products. We believe that a path to a greener future is only through repetitious everyday actions. As young entrepreneurs, we feel a duty to suggest such solutions to the market that would create a positive change in long-term perspective.

Target audience

Our market survey revealed that almost 80% of people want to use natural and sustainable toothpaste. "Dentinullas" initial B2C target customer is 16+, who is interested in ecology, and sustainability and cares about their teeth health.

Another segment of our target audience would be customers who travel a lot. There are problems with regular toothpaste - it takes a lot of space and is considered a liquid so you need to put it in a small bag. So "Dentinullas" is there to help because we are creating toothpaste powder and a small bottle will fit everywhere.

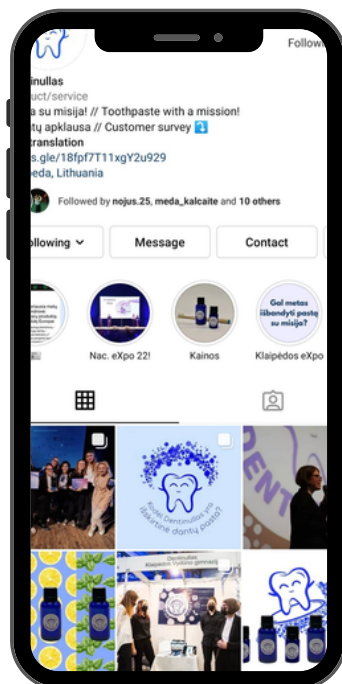
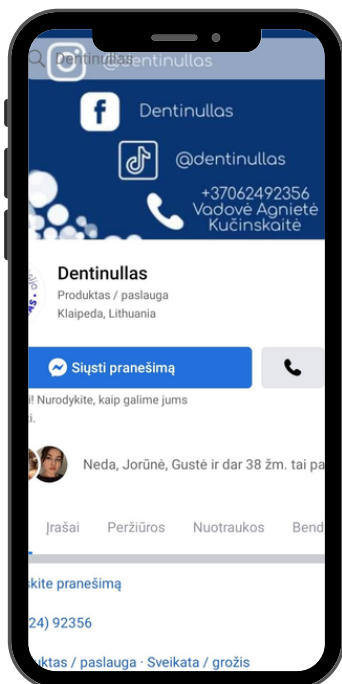


Marketing tools

Social media. We use Facebook and Instagram as our main online marketing tools. Social network remain an easiest and quickest way to reach the client. We communicate information about our product to promote and sell it. Although online sales make up only 10% of our sales in total, it helps us to spread the message about ourselves and our mission.

Face-to-face events. We also attend fairs and events to sell our products there. In the nearest future, we also plan to have TikTok and website.

Presence in media. As we mentioned above, awards we received at eXpo's organized by Junior Achievement Lithuania help us to get additional attention and to reach a wider audience of potential customers.



Follow our entrepreneurship journey on our social media channels:



[Dentinullas](#)

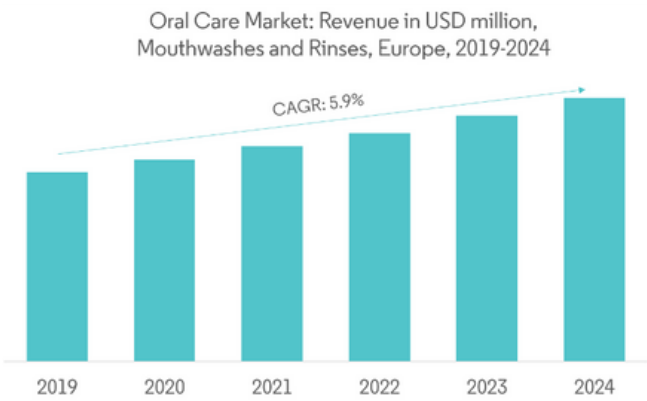


[Dentinullas](#)

Market analysis

Market potential

Our product has great potential. There are 379 million 16+ citizens in European Union* and if we could reach about 3% (11,37 mln.) of them that would mean that we have created a really great change. To do that, we will sell our product in various retail shops (from zero-waste shops to big supermarkets). Europe's oral care market is forecasted to reach USD 19.5 billion by 2025 growing at a CAGR of 4.74% during the forecast period (2020 - 2025)** (see the graph below).



The market is growing and the need for environmentally friendly and easy-to-use toothpaste like "Dentinullas" is growing too. Our product is not considered liquid and takes up little space and it is a great advantage in the airport industry. There are over 400 airports in European Union (Air (europa.eu) and we can use this niche to sell our product. Airports could become one of distribution channels.

*Eurostat. Available at https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_demographic_trends
**mordorintelligence.com

Competitors

Our product has a lot of competitors in the market - starting from the ordinary toothpaste and ending to other cosmetics. In the current market of oral hygiene, companies promote themselves as easy to use by cutting out the need to use a tube container. While having a grip on the oral hygiene market, none of our competitors tries to make the containers compactable. "Ben&Anna" and "Lush" currently use jars or significantly big bottles to carry their product.

That in fact turns a proportionally big market away from their sales. While they succeed in making their toothpaste easy to use, people that are keen on travelling cannot contribute to the ever-growing eco-friendly market. Our toothpaste not only does not fail on standing on equal ground in the question of pollution, but we also have made it easier than ever to carry around your oral hygienic measure wherever you go.

Competitors comparison

Competitors	Natural ingredients	Compact	Powder form	Cruelty free / not tested on animals	Travel friendly	Bentonite clay
Dentinullas	+	+	+	+	+	+
BEN&ANNA	+	-	+	+	-	-
Lush	+	-	-	+	-	-
VICCO	+	-	-	+	-	-



Profitability

Calculation of the price

We set the price based on the productions costs and the research of the market. By comparing our toothpaste powder to a competitors products we understood that the average price for 40 grams of toothpaste powder is 6,6 €. We set a more favourable price of 6 € and created a small and compact toothpaste bottle for travelling. For the final price check, we made a survey and asked if 3 € for a small bottle and 6 € for a big bottle of "Dentinullas" toothpaste powder is affordable for potential consumers and 71% answered positively.



Expenses decrease

After countless hours of experiments and formula invention, we had bought a small number of ingredients. After we sold the first part of toothpaste powder, we increased the purchased quantities of the materials and we bought packaging directly from the manufacturer. This helped to decrease the production costs.

Thanks to minimizing the production costs and optimizing the production, we were able to cut down the production cost per bottle. From 1,4 € to 1,21 € for a small bottle and from 3 € to 2,71 €. Now company's profit comes from sales with a margin of 59,6% for a small bottle and 54,8% for a big bottle. In the future, we plan to cooperate directly with the manufacturers to further decrease production costs. We also plan to raise the price of the product - 4,50 € for small and 7 € for the big bottle because of the inflation and rising prices. That way our profit margin for a 10 ml bottle would increase 20,6% and for a 30 ml bottle profit margin would increase 16,77%.



Costs & Profit

	June 2022	June 2022	Future	Future
	Smaller (10 ml)	Bigger (30 ml)	Smaller (10 ml)	Bigger (30 ml)
Packaging	€ 0,29	€ 0,33	€ 0,15	€ 0,19
Labels	€ 0,05	€ 0,07	€ 0,05	€ 0,07
Raw materials	€ 0,72	€ 2,16	€ 0,52	€ 1,56
Labor	€ 0,15	€ 0,15	€ 0,17	€ 0,17
Price	€ 3	€ 6	€ 4,5	€ 7
Cost	€ 1,21	€ 2,71	€ 0,89	€ 1,99
Gross Profit	€ 1,79	€ 3,29	€ 3,61	€ 5,01
Profit margin	% 59,6	% 54,8	% 80,2	% 71,57

Financials

Profit and Loss Account 2021.10.25 – 2022-06-11

Sales income:	€ 496,00
Revenue from goods sold	€ 496,00
Revenue from services rendered:	€ 0,00
Total expenses:	€ 274,34
Materials (purchases)	€ 259,34
Registration fee	€ 15,00
Gross profit	€ 211,66
Donations	€ 0,00
Taxable profit (loss)	€ 221,66
Corporate tax (5% in JA Lithuania)	€ 11,08
Net profit	€ 210,58
Dividends	€ 0,00
Salaries, commissions and bonuses	€ 0,00

With the expansion to the EU market and airports, we think that the demand will rise by 400% comparing to our current demand. We, team members, are the shareholders of the company so we will pay the dividends for ourselves. The rest of the money will be split between us accordingly to the number of hours worked in this company as a reward.

To be able to create a high-quality toothpaste powder and to create the formula, we needed high-quality products, time and of course initial capital. Our share capital was 200 € - each of us became equal shareholders having 20 shares. This way we could buy products for the experiments and real toothpaste powder and invest in advertising.

We decided not to invite shareholders from outside because we have not been sure our experiment will be successful. Taking this risk into account, our team of 4 members are the main shareholders and decision makers.

We also took a decision as mostly of startups at their very beginning not to pay salaries for themselves. Instead, we dedicated all the financial resources to raw materials and experiments.



Balance sheet 2022-06-11

	Current Assets	
	Stock	200,00 €
	Cash	221,66 €
(A)	Total Current Assets	421,66 €
	Current Liabilities	
	Corporation Tax Payable to JA Lithuania	11,08 €
(B)	Total Current Liabilities	11,08 €
(C)	Balance (A-B)	410,58 €
(D)	Issued share capital: at 2,5 euro	200,00 €
(E)	Profit & Loss Account (profit after taxes)	210,58 €
(F)	Shareholders funds (D+E)	410,58 €

Future potential

Since the establishment of the student company, we have been planning our bright future. We started our JA company only in October 2021 and now we have created the toothpaste powder, we have been able to sell it and gain profit and in June 2022 we started our collaboration with BLOK laboratory to ensure the certification of our product. We have an ambition to work further with mass production, also to get patent and suggest our solution to big market. Therefore, we are open for any other possible collaboration opportunities!



Near future (end of 2023) - certification

The nearest goal is to have a certificate to prove our product's safety. This research costs a lot and takes a lot of time. We started our journey towards this goal by collaborating with the laboratory and we will aim to get it approved by dentists. While the research process will be going on we will create whitening toothpaste powder and toothpaste powder with fluoride because we noticed a big demand in this field.

Investments

We already now that at the very beginning of our business for the certification stage we need at least 2,000 euros. This is only for all required product's safety requirements (each of it varies from 150 euros to 200 euros).

As researches shows, innovative cosmetics solutions requires a lot of investments into marketing researches, promotion as well as product development.

To be able to get the EU certification we need to establish a legal entity which also requires investments.

Automated production

As a student company, we now make the product by ourselves. It is a reasonable beginning but it takes a lot of time and energy. If we want to deliver big orders from retail shops and fulfil the growing demand for our toothpaste powder, we would have to optimize the production. Hiring more workers would not be a cost-efficient decision at the moment so we will try to make the production automated as much as possible.



Long-term (end of 2025)

When we will have the CE certificate and a wide variety of options, we will enter 5 EU airports and 15-20 via zero-waste retail chains. We will start from small zero-waste stores and we will aim to be in the supermarkets. Besides, we will collaborate with dentists and sell our product in their clinics.

Special thanks to

- Junior Achievement Lithuania
- Klaipėda Vydunas gymnasium
- Photographer Kristijonas Lučinskas
- Shopping centre "IKI"
- Economics teacher Vaida Janavičiene
- LiMA - Lithuanian marketing association

Maybe it's time to try out toothpaste with a mission?

