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# White Paper <br> Banana Snack Production «Banana Papa» 

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## Summary

The essence of the project is the creation of the enterprise for the production of banana snacks in Colombia with the subsequent sales of products on the markets of the USA, Europe, Russia and Asia.

The required investment for the first 13 months of the project is $\$ 4,318,000$, we also pawn $5 \%$ of the project cost - this is $\$ 216,000$, in case: changes in prices, tariffs, force majeure, changes in legislation, additional costs for obtaining legal support. Total we are going to attract investments in the amount of \$ 4534000.

You will receive 1 pack of Banana Papa products weighing 70gr (2.47oz) (at cost), for every $\$ 0.40$ invested! At retail, our goods will cost $\$ 1.49$, so you have the opportunity to receive the goods at a discount of $73.15 \%$ ! The dispatch of the goods will take place all over the world, in the order of the first turn, from the moment of the release of the goods (approximately 9 months after the fundraising, according to the business plan)! In total, the amount of $\$ 4,534,000$ is required to build the production and we plan to distribute the equivalent of this amount of packs of our products at a discount of $73.15 \%$ - this is $11,335,000$ units! The production capacity makes it possible to produce 1,433,957 packs of 70 grams (2.47oz) of Banana Papa per month!

| Key Performance Indicators of the project |  |
| :---: | :---: |
| Discount rate, \% | 10 |
| Payback period (PP) | 1,7 years |
| Internal Rate of Return <br> (IRR) | $76 \%$ |
| Net present value - NPV, \$. | 11580090,44 |
| Profitability Index (PI) | 3,68 |

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## 1. Description of the enterprise, the industry and the product

The essence of the project is the organization of production of banana snacks in Colombia with the subsequent sale of products to the markets of the USA, Europe, Russia and Asia.

The product itself (hereinafter referred to as Banana Papa) is a snack that is a sliced ripe banana dried with warm air (without added sugar and butter) made from the most common variety of bananas "Cavendish" (Banana, Cavendish), which we used to see on shelves in supermarkets.

### 1.1 Market capacity and product perspectives.

The banana is the most sold product in networks around the world. Bananas are considered as a healthy food product, they contain potassium which can lower blood pressure, prevent heart disease and reduce risk of a stroke. In the West bananas are eaten as having a snack between meals, and not surprisingly that the USA is the number one in the consumption of bananas it is $24.6 \%$ of all bananas produced in the world.

Our product is derived from banana (in accordance with GOST about dried fruit, it has distinct concentrated taste and flavor of fresh ripe banana (feedstock)) and refers to the snack products. Market capacity of snacks in the world is $\$ 82.5$ billion per year. North America is the largest market of snack products, the second and third place is divided by Southeast Asia and Western Europe. In Russia the market capacity of snacks is \$4,1 billion. According to Euromonitor International the segment of fruit snacks will develop with the biggest speed in the market, for $16 \%$ annually, during the next five years. There are several reasons for this: first of all, the consumer becomes cleverer. The second reason is the growth of consumer interest in unknown and exotic types of snacks made of dry and sugared fruits.

### 1.2 Why has this product not made in large quantities yet?

This product has not yet mass-produced for several reasons:

1) The banana can not be cleaned by a cleaning machine, as all bananas have a different form subsequently it is difficult to cut the pulp of ripe banana automatically, because it is less dense than green banana has( Platano grade). (major players in the food market prefer a fully automated production line)
2) This product is made from ripe bananas, and the most terrible word in the places where they grow bananas - is a ripe banana as it is collected in green, and the appearance of yellow bananas talks about the loss of the harvest
3) Time. Mass bananas in North America, Europe, Russia began to be sold only at the beginning of the 20th century (due to lack of transport possibilities from preserving freshness), resulting in modification of food bananas were not yet well developed. Annually collect about 140 million tons of bananas, but only a small percentage of the actual production is exported.

### 1.3 Why manufacture in Colombia?

The organization of production is in Colombia for the following reasons:

1) proximity to the raw material for the production;
2) the market believes that the best banana producing Ecuador (due to the unique equatorial climate), but Colombia, bordering Ecuador, is capable of delivering the same product in quality, as it is located in the same climate zone;
3 ) is the local currency (Colombian pesos), which favorably affects the export of goods to foreign markets. (In contrast to Ecuador, where the local currency is the US dollar);
3) Temperature. (In Colombia, the average temperature of $+29^{\circ} \mathrm{C}$ );
4) Colombia's economy is one of the fastest growing in Latin America, which is beneficial to obtaining investment;
5) The proximity to the largest potential market (North America).

### 1.4 Stage of development.

Technology brought to the working samples. The first test of 500 packs of goods were sold in the local networks of the retail food trade at a premium of $75 \%$ (at \$ 1.65 for a pack of 70 g. ). We conduct an open tasting and test survey and received only positive feedback and a willingness to re-purchase our product. All equipment is counted, improved and structurally modified by our production. (Efficiency of drying chambers is increased by 176.9\% (yield finished materials in 2.77 times in the same time cost) for the same volume container $12 \mathrm{~h} 2,5 \mathrm{~h} 2,5 \mathrm{~m}$, unlike existing drying equipment on the market, resulting in retail value has
risen by only $18 \%$ ). The equipment will be manufactured in Russia and then shipped to Colombia.

### 1.5 Team.

The whole team is equipped and ready to implement the project from start to finish. In the team there are:

1) Project Manager Andrei Popov (Experience of the retail network from the ground up. Launch of new products. Development and optimization of business processes. Human Resource Management);
2) Technology Shelud'ko Elena (Experience 5 years as a technologist in the company №1 in Russia for production of snack products "KDV Group", the factory brand "Three crusts" in Moscow);
3) The Economist Gregory Proskurin (Experience in developing new products to market, the head of marketing and sales department of LLC "Lado" Lipetsk (Wholesale and retail trade of personal protective equipment, protective clothing, lifting equipment);
4) Engineer Alexander Naumov (Specialist for connection to power grids, automatic tuning).
5) Specialist Duvan Triana (The experience of opening a branch "BELLACOSMT S.A.S" international company, sales organization in Colombia online store perfume and cosmetics, work experience Chief of the control group in the city of Bogota in the Department of Environmental Protection (the SDA), the carrier of the Spanish and Russian languages)

### 1.6 The company's mission.

Creation of a useful, affordable and high-quality product that helps to satisfy the feeling of hunger during a long trip, lecture or work, saving time on preparing dinner.

### 1.7 Necessary investments.

Total investment required for the 13 months of the project $\$ 4,318,000$. Income from investments (See "Evaluating the effectiveness of".)

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## 2. Marketing and sales.

### 2.1 Description of the competitors.

Our competitors are all producers of snack products. Below is a table with a comparison of competitors on indicators such as:

1. The price (final price to the consumer);
2. The positive effect of consumption of the product on health;
3. Ease of use (there are oily fingers, whether to clear the skin, there is a need for additional water is necessary);
4. Convenience package (whether the pack is easy to take with you);
5. Quality of calories (five criteria: 1) ability to saturate (Satiety) - a measure of how quickly the calories lead us to a sense of satiety, and how long it remain. The glycemic index - it is characterized by the ability of carbohydrates to increase blood glucose levels. The higher the glycemic index of the product, the larger and faster increases in blood glucose levels after eating, the sooner we will again feel hunger. It is recommended to exclude products with a high glycemic index. 2) aggressiveness - this is how the calories are inclined to join the adipose tissue. 3) nutrition - on this indicator, you can see how many vitamins, minerals, essential amino acids, essential fatty acids the body gets from calories. 4) the efficiency (Efficiency) - indicator of the number of calories may promote the formation of adipose tissue. 5) coarse fibers (Srude fiber) - the amount of crude fiber (affect the improvement of digestion and help eliminate toxins from the body);
6. Lack of oil, salt, sugar;
7. No artificial additives (flavor enhancers, colorings);
8. Taste qualities.

Evaluation Conditions: 1 - poor, 2-medium, 3-good.

|  | Comparative characteristics |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Product name | Price | The positive effects on health | Ease of use (oily hands, clean the skin, the need for water) | Convenie nce package | Quality of calories | No oil, salt, sugar | The absence of artificial additives (flavor enhancers, colorings) | Taste qualities | TOTAL: |
| Banana Papa | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 23 |
| Dried fruits and berries | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 22 |
| Seeds peeled | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 2 | 22 |
| peeled nuts | 1 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 22 |
| Nuts crude | 2 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 21 |
| Freeze-dried products | 1 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 21 |
| sunflower seeds | 2 | 2 | 1 | 3 | 3 | 2 | 3 | 3 | 19 |
| Candied fruits and berries | 1 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 19 |
| Muesli, fruit mixture | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 2 | 19 |
| Dried fish, meat | 1 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 19 |
| Dried seaweed | 1 | 3 | 2 | 3 | 3 | 2 | 3 | 2 | 19 |
| Popcorn | 2 | 2 | 3 | 2 | 3 | 1 | 3 | 3 | 19 |
| Peas in a glaze | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 18 |
| Breads, crisps | 1 | 2 | 3 | 3 | 2 | 2 | 3 | 2 | 18 |
| Pretzels, cookies | 1 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 17 |
| Crackers | 3 | 1 | 2 | 3 | 1 | 1 | 1 | 3 | 15 |
| Chips, potato | 2 | 1 | 2 | 3 | 1 | 1 | 1 | 3 | 14 |
| Corn sticks | 2 | 1 | 2 | 2 | 1 | 1 | 2 | 3 | 14 |

Based on the trend that consumers more and more are beginning to monitor their health, we see that the market turns in favor of useful food, snacks and the leaders of the market at the moment (crackers, potato chips and corn flakes) are at the end of the table.

### 2.2 Competitive advantages and the choice of competitive strategy.

Our competitive advantage is:

1. A useful product (all-natural, a large number of crude fiber; contains natural vitamins and minerals, high-quality calories, only a part of bananas; the absence of any additives);
2. Available product (price for a pack of 70 grams. Bananapapa, like the Lay's chips for 80g.);
3. Tasty product (concentrated flavors of ripe banana aroma, sweetness only natural origin).

Summary: Buyers will save your time and money by getting a tasty and healthy product.

The probability of response of competitors:

- Ability to create a similar product;
- The possibility of reducing the price of goods sold;
- Possibility of various one-off actions to attract buyers.

Our response to their responses:

- Lesson at the start of sales of most of the market, holding a powerful advertising campaign, buyers will remember the first one, who appeared on the market;
- Reduced prices competitors' products do not greatly affect the sales of our products, as our product is in the middle price segment;
- The answer to the actions of competitors - offers the best conditions of price and quality than the competition.


### 2.3Marketing Strategy.

Our marketing strategy is to differentiate from competitors. Since such snack products segment product is absent. Orienting to offer a useful and tasty product in the medium price segment.

### 2.4 Strategy of the goods to market.

Marketing strategy - to stand on a shelf in a maximum amount of federal networks in the most promising markets, while running an active Internet advertising (publication of posts on the most frequently-visited sites, creation and launch viral commercials, placing articles on the benefits of the product). To use event marketing, including the holding of public tastings, being as close as possible to the consumer. The budget of $\$ 100000$, for the most part will go to the creation of content (videos, articles, slides, for publication on the Internet) and conduct tastings.

### 2.5 Sales System.

Key federal networks operate with the import conditions on Inkoters FOB (free on board), or through a local distributor. Loading container on board 400-500 \$, agent service is \$ 500 (actively contribute during all stages of the transaction, will organize the release of documents in accordance with the requirements of the customer. \$ 100 per container at a
wholesale price, in the future need someone on the staff). The so-called $10 \%$ bonus (for shelf space) with a turnover of the wholesale price (price on the invoice) for federal networks in the budget will be considered. The average mark-up at retail in the federal network for this type of $30-35 \%$ of the product.

## 3. Production plan.

Rated starting production capacity is designed for the processing of fresh raw 22306kg bananas per day (this 669180kg month, 8141690kg per year).From this raw material is obtained at the output of 3345.9 kg of dried bananas per day ( 100377 kg per month, $1221253,5 \mathrm{~kg}$ per year). Packaged raw material obtained 47798 units in packs of 70 g . per day (1,433,957 pcs. per month, $17,446,478$ pcs. per year)

### 3.1 Basic equipment.

To organize continuous production process requires the following hardware:Drying 8pcs camera. (The size of each $12 \mathrm{~h} 2,5 \mathrm{~h} 2,5 \mathrm{~m}$ ) ( $4 \mathrm{in}, 4$ prepared). The cost of one drying chamber $50150 \$$ (total cost of $\$ 401,200$, production of 2-3 months period) A drying chamber accommodates $3,240 \mathrm{~kg}$ of refined raw materials;

Gas boilers 8pcs. RS-D200 (cost per unit \$ 2536 \$ 20288 total);
Counter gas industry \$ 970;
Electricity supply meters to \$ 200;
lightning protection equipment and protection against overvoltage (\$350);
Cameras 6 pc ripening of bananas. (The size of each $21,4 \mathrm{~h} 3,31 \mathrm{~h} 3,39 \mathrm{~m}$ ), capacity 32 pallet, or 1536 frames each. The cost of one camera with mounting \$ 45,000 (\$270,000 for 6 pieces production time 1,5-2 months);

Loader at the warehouse (value \$ 15,000);
Deadhead 4pcs. for 400 \$ (1600 \$);
Deadhead with scales and printer \$ 1,800;
Filling and packing line (cost of \$ 44,000, manufacturing 1.5-2 months period), the composition of the line:

- Filling and packaging machine U-03 Series 055 (capacity of up to 50 packs / min)Multihead weigher JW-10;
- Feed hopper;
- Loading conveyor;
- Frame;
- Conveyor for unloading packages of T-02.
- Air compressor for pneumatic machine.

Roller conveyor 405m (\$ 150 per m / n total \$ 60750);
Professional electric washing Karcher HDS 13 / 20-4 S (\$ 5492);
Company Registration in Colombia \$ 8,500;
International trademark registration \$ 5,300.
Total capital equipment \$ 835,450.

### 3.2 Other equipment.

Lighting: 205sht. lamps for 117 \$ (23 985 \$)
stainless steel workbenches 205 pcs. 380 \$ (77 900 \$)
stainless steel trays 820 pcs. for \$ 15 (12300 \$)
Blades 200 pcs. \$ 4 (\$800)
Silicone spatula 100 pieces for $\$ 4$ (\$400)
15L plastic bucket for \$ 1.5 150pcs (\$225)
Chairs for \$ 27 per Unit. 270sht (7290 \$)
Flexo print 6-color \$ 520
Medical smocks 286sht for \$ 30 (8580 \$)
Total other equipment \$ 132,000.

### 3.3 Main buildings and structures.

Design of 7600 m 2 at $\$ 11.5$ per m2 ( $87,400 \$$ )
Handling $300 \mathrm{~m} 2,1000 \mathrm{~m} 2$ storage ( 500 m 2 storage before ripening, 500 m 2 after), ripening 500 m 2 , skinning 500 m 2 , cutting and layout of 1000 m 2 , drying 500 m 2 , build 500 m 2 ,
filling and packing of 1000 m 2 , laying in boxes of 500 m 2 , laying in stock of 1000 m 2 , loading container 300 m 2 , office space 500 m 2 (total area of 7600 m 2 and a ceiling height of 5 m , manufacture and installation of technical facilities $\$ 96.6$ per m2 (\$734,160), technical 100mm thick concrete floors for 16 \$ per m2 (\$ 121600 on this volume ) (Total \$ 855760 )

Gravel $5-20 \mathrm{~mm} 147,06 \mathrm{t}$ by $\$ 7.23$ per ton. (\$ 1063.25)
Rental of machinery \$ 6,000
Porcelain tiles $60 \times 60 \mathrm{~cm} \$ 6.337000 \mathrm{~m} 2$ ( 44310 \$)
Tile adhesive 6034 kg 0.21 \$ (1267.14 \$)
Work on laying the tile $\$ 3.8$ per m2, 7000m2 of \$ 26600 .
Ventilation (filters, communication, installation) 7600m2 at \$ 1.5 per m2, \$ 11,400.
Plasterboard 2040m2 at \$ 1.46 per m2, \$ 2978.4.
Installation of drywall 2040 m 2 at $\$ 3.85$ per m2, $7854 \$$.
Paint the Alpina "Kitchen and Bathroom" 2040m2 at $\$ 0.78$ per m2, $\$ 1591.2$.
Work on the painting of 2040 m 2 for $\$ 3.85$ per m2, $7854 \$$.
Total property, plant buildings and facilities 1054078 \$.

### 3.4 Other premises.

Organization of bathrooms, locker rooms, rest rooms and administrative staff:
Cabinets locker rooms for $\$ 10$ per Unit. 360 people (total \$ 3,600)
Bathrooms are 16 rooms ( 8 female, 8 male):
Proximity mixer sink 177 \$ 16pcs (2832 \$)
Toilets 24pcs for \$ 100 a piece. (\$2400)
Urinals 8pcs. \$ 50 (\$400)
Contactless hand dryer 16pcs for \$ 55 (\$880)
Liquid soap dispenser $30 \$ 16 p c s$ (\$480)
Water heaters 16 pcs. for \$ 120 (1920 \$)
Shower 16pcs for \$ 135 (\$ 2160)
Refrigerators for recreation rooms 7 pcs. 260 \$ (1820 \$)
Computers (one-piece) 30 pcs. \$ 400 ( $\$ 12,000$ )
Computer tables 30pcs. \$ $60(\$ 1,800)$
Total other rooms 30292 \$.

### 3.5 Standing on the cost of raw materials, materials and other.

Main raw bananas, a box of 19 kg is from 3 to $\$ 11$, to calculate the average cost of taking a $7 \$$, it is $\$ 0.37$ per kg. On the day you need to 22306 kg - is $\$ 8253.22$ (per month is $\$$ $247,596.6$, for 4 months is $\$ 990,386.4$ )

Nitrogen-ethylene mixture (nitrogen 95\% - 5\% ethylene) consumption by 32 pallet 1440 liters (injection time approximately 50 minutes), cost $\$ 0.77$ a liter, the expense per day $\$$ 1,108.8 (\$33,264 per month, for \$ 1330564 months)

Packaging materials: BOPP film per roll $20 \mathrm{pm}+20 \mathrm{pm}$ BOPPmetall, width 295mm, 190 mm printing step, the price of $\$ 5.5$ per kg. Weight of one package about $2,20 \mathrm{gr}$ (cost $\$$ 0.0121 ). (In a month you need to $1,433,957$ packs - this film 3154,71kg \$ 17,350.91, for 4 months - is $\$ 69,403.64$ )

Cardboard Box 4 valve of T-24, 500h 400 h 250 mm size, price $\$ 0.7$, one box can hold 48 packets of crisps, marine 40 futovom container 1200 cartons ( 57600 packs of 70 g .) (\$ 840), (25 containers per month $\$ 21000,4$ months $\$ 84,000$ ).

Scotch with a print on the 66 m at $0.75 \$$ per unit., 1 box should be 1.5 m ., Per container of 1,200 boxes need to 1800 m . ( 28 sht $21 \$$ ) of 25 containers per month 700 sht ( $\$ 525$ ), for 4 months \$ 2100.

Transportation costs: in a container the size of 500 h 400 h 250 mm 1200 boxes a month to 25 containers. Container Rental \$ 100 per month (for 25 pieces) \$ 2500 for 4 months \$ 10,000.

Agency services \$ 100 per container, per month \$ 2,500 per month 4 equal \$ 10,000.
Loading container on board \$ 400 per month \$ 10000, 4 months $\$ 40,000$.
Consumables remedy:
Latex gloves 1144 pcs per month at $\$ 0.15$ (\$ 171.6), for 4 months of $\$ 686.6$.
Medical masks 6150 pcs per month at $\$ 0.02$ (\$123) for 4 months $\$ 492$.
Medical cap type "Charlotte" 6150sht per month \$ 0,015 (\$92.3) in 4 months $\$ 369$.
Shoe 6150 pcs per month at $\$ 0,036$ ( $\$ 221.4$ ), for 4 months of $\$ 885.6$.
Earplugs 6150 pcs per month for 0,035 ( $\$ 215.25$ ) for 4 months $\$ 861$.
Aprons medical 6150 pcs per month for 0,038 (\$233.7) for 4 months of $\$ 934.8$.

Disinfecting detergents (disinfect dishes, carry out the cleaning of toilets, garbage containers disinfected, canteens, etc.) 11 concentrate disinfectants enough to 4000 m 2 . In day to 4 liters by \$ 4.5 per liter to \$ 540 per month for 4 months in 2160 \$.

Total fixed costs for raw materials and other \$ 336,333.76 per month for 4 months \$ 1,345,335.04.

### 3.6 Constant cost of gas, electricity, water.

Electricity consumption per month:
Wash electric ( 10 kW ) 3600kVt month.
Fans of dryers (10 kW in the sum in one), is constantly in the 4 units ( 40 kW ) 28800 kVt month.

Refrigerators 7 pcs (for 21 kVt per month) 147 kW per month.
Water heaters 16 units (for 1.5 kW ) 5760kVt month.
205sht lamps ( 0.4 kW ) 29520kVt month.
Ripening chambers 6 pieces (at 10 kW ) 43,200 kWh per month.
Computers 30pcs. (0,45kVt) 9720kVt month.
The gas burner 4 pc $(0,55 \mathrm{kVt}) 1584 \mathrm{kVt}$ month.
Total monthly electricity consumption at the tariff 122331 kVt at $\$ 0,091$ per kW \$ $11,132.12$, for 4 months of $\$ 44,528.48$.

Gas consumption in the last month:
Gas boilers from dryers (10m3 per hour) in the constant 4 pcs. 28800 m 3 month. When the rate of \$ 0.09 per m3 per month \$ 2592 for 4 months \$ 10368 .

Consumption of water and waste water:
Consumption of cold water in a month according to the norm 4,781m3 for 1 person for 250 persons per month $1195,25 \mathrm{~m} 3$.

Cleaning (consumption 1,3m3 per hour) per month 285,87m3.
Total water consumption per month $1481,12 \mathrm{~m} 3$, at the rate of $\$ 0.35$ per m3 per month \$ 518.39 for 4 months $\$ 2073.56$.

Runoff $1481,12 \mathrm{~m} 3$ per month at the rate of $\$ 0.31$ per m3 per month $\$ 459.15$ for 4 months 1836.6.

Total ongoing cost of gas, electricity and water per month $\$ 14,701.66$, for 4 months of \$ 58,806.64.

### 3.7 Terms of the project organization.

Selection and coordination of the production site 1 month.
Construction and repair works 2 months.
Connecting and organization of the entire infrastructure of 2 month.
Manufacturing, installation and commissioning of equipment for 4 months.
Total first production will be done 9 months after the start of the project.
A month later, the goods will be on the shelves in stores.
Even after 3 months will receive the first money for the sold goods.
Total after 13 months of the project will be able to pay for its fixed costs, as well as interest on invested funds.

## 4. The organizational plan.

The main work schedule for the staff of 5 working days, 2 days a week. Working time from 8:00 to 17:00, with four intervals of 10 minutes and one break for 60 minutes. Effectively used time is 7 hours and 20 minutes. (Ratio 7.33).

The calculation of the number of personnel on the basis of labor hours spent on the main stages of production, as well as the increase of staff for the organization of shifts and administrators:

Cleaning: standard rate of 102.342 kg per hour. 22306kg / 102.342 * 7.33 = 29,73chel. ( $30+1$ administrator constantly at work). Plus 10 people for organizing shifts and 3 administrator (section chief and two deputy). (Total 43 persons).

Cutting: standard rate of 29.925 kg per hour. $12960 \mathrm{~kg} / 29.925 * 7.33=59.08$ pers. ( 59 persons +1 administrator constantly at work). Plus 20 people for organizing shifts and 3 administrator (section chief and two deputy). (Total 82 persons).

Realize: standard rate of 23,940 kg per hour. 12,960 / 23,940 $* 7.33=73.85$ (74 persons +1 administrator constantly at work). Plus 25 people for organizing shifts and 3 administrator (section chief and two deputy). (Total 102).

Assembling: standard rate of 10,800kg per hour. $3345.9 / 10.8 * 7.33=42.3$ (42 persons +1 administrator constantly at work). Plus 14 people for organizing shifts and 3 administrator (section chief and two deputy). (Total 59 persons)

Total in the main shops are constantly in 209 people, but only 286 people.
Calculating the number of movers (maximum total permissible weight of 7000 kg a day porter):

Unloading to warehouse storage 4 people +1 smenny. On ripening chamber 4 people + 1 smenny. In skinning 4 people +1 . On the dryer 4 people +1 interchangeable. On the packaging 4 people +1 interchangeable. On the packing 4 people +1 interchangeable. On loading 4 people +1 interchangeable. On cleaning dryers and ripening chambers 3 person +1 interchangeable. Total constantly at work 31 people, a total of 39 people.

Engineering staff:
On ripening 3 people +1 . On the drying chamber 3 person +1 per package 3 persons + 1. packing 3 people +1 . Human Resources 5 people. Accountants 4 people +1 . Sales $5+1$ persons. Contract Division 5 persons. Marketing Division 2 people. The director and two deputies. Total is constantly at work to 35 people, a total of 42 people.

Cleaners 10 persons +4 .
Number of people in the production of 381, of whom 285 work in constantly.
Wage fund is calculated on the basis of average salary per month is \$ 500 and \$ 190500 per month, for 4 months of $\$ 762,000$.

## 5. Financial plan.

### 5.1 Calculation of investment.

The total cost for the 13 months of the project include:

- Advertising \$ 100,000
- The main equipment 835450 \$
- Other equipment \$ 132,000
- Major buildings and structures 1054078 \$
- Other rooms 30292 \$
- Fixed costs for raw materials and other \$ 336,333.76 per month for 4 months \$ 1,345,335.04
- Ongoing cost of gas, electricity, water \$ 14,701.66 per month for 4 months \$ 58,806.64
- Salary fund \$ 190500 per month for 4 months $\$ 762,000$

Total investment required for the 13 months of the project \$ 4,317,961.68 (Hereinafter \$ 4,318,000)

### 5.2 The calculation of the cost of production.

Based on the fact that the fixed costs per month amount to $\$ 541,535.42$, and is produced in a month $1,433,957$ packs, the cost of one pack in $70 \mathrm{~g} 0.38 \$$.

### 5.3 Profit and market analysis.

Based on the chosen competitive strategy, that the price for a pack of 70 grams. Banana Papa will be equal to the price of a packet of Lay's potato chips for 80 g , consider the price change in federal networks in various markets such as the US, Europe, Russia. In the US, the average price for Lay's in the pack $80 \mathrm{~g}(2,75 \mathrm{oz}) 1,49$ \$, \$ 1.05 in Europe, in Russia, \$ 0.8.

On this basis, let us make three profit calculation, let's call them "optimistic", "Medium" and "pessimistic". To calculate the take that margin on our products in the retail networks of the federal will be $35 \%$. We will take into account the bonuses of $10 \%$ for the federal network "for a place on the shelf" sales of the wholesale price (price on the invoice). The basic income tax for corporations in Colombia 33\%, but can be up to $15 \%$ concessions in free economic zones, as well as tax breaks on expenditures (investments) incurred prior to commercial activities, but the calculation will be carried out to the maximum.

## 5.4 "Optimistic" calculation

The calculation of earnings in the United States:
\$ 1.49 / 135\% = X / 100\%, X = 1,1 \$ (price on the invoice)
$\$ 1.1-10 \%=0.99 \%$ (subtract $10 \%$ bonus)
\$ 0.38 / 100\% = 0,99\% / X, X = 260,5\%
Our margin 160.5\%
Profit from the pack $0.99 \$ 0.38 \$ 0.61 \$$.
Earnings per month \$ 0.61 * 1433957sht $=874713,77$ \$ (EBITDA)
Profit in the year 10496565,24 \$ (EBITDA)
Profit after tax per month \$ 874,713.77-33\% = \$ 586,058.22
Profit after tax in the year of \$ 10,496,565.24-33\% = \$ 7,032,698.71

## 5.5 "Average" calculation

The calculation of earnings in Europe:
\$ 1.05 / 135\% = X / 100\%, X = 0,78 \$ (price on the invoice)
$\$ 0.78-10 \%=0.7 \%$ (subtract $10 \%$ bonus)
\$ 0.38 / 100\% = 0,7\% / X, X = 184,21\%
Our margin $84.21 \%$ Profit from the pack $0.7 \$ 0.38 \$ 0.32 \$$.
Earnings per month \$ 0.32 * 1433957sht $=458866,24$ \$ (EBITDA)
Profit in the year 5506394,88 \$ (EBITDA)
Profit after tax per month \$ 458,866.24-33\% = \$ 307,440.38
Profit after tax in the year of \$ 5,506,394.88-33\% = \$ 3,689,284.56

## 5.6 "Pessimistic" calculation

The calculation of earnings in Russia:
$0.8 \$ / 135 \%=\mathrm{X} / 100 \%, \mathrm{X}=0,59 \$$ (price on the invoice)
\$ $0.59-10 \%$ \$ 0.53 ( $10 \%$ deduct bonuses)
\$ $0.38 / 100 \%=0,53 \$ / X, X=139,47 \%$
Our margin 39.47\%
Profit from the pack $\$ 0.53 \$ 0.38=\$ 0.15$.
Earnings per month \$ 0.15 * 1433957sht $=215093,55 \$($ EBITDA $)$
Profit in the year 2581122,6 \$ (EBITDA)
Profit after tax per month \$ 215,093.55-33\% = \$ 144,112.67

Profit after tax in the year of \$ 2,581,122.6-33\% = \$ 1,729,352.14
Performing calculations, we see that the most promising market for us is the US market. And at the start you need to go to it.

## 6. Risks and methods to reduce them.

Divide risks into three types:

## Commercial:

1. Unscrupulous actions of partner companies.
2. Change the value of the raw materials used.
3. Rising prices of utility services.
4. The risk of changes in the Colombian legislation.
5. The risk of ads in the market similar to cheaper goods.
6. The risk of release of production equipment damage.
7. The risk of changes in the price of products sold.
8. The reaction of competitors (price reduction).

## Financial:

9. The risk of counterparty non-payment for delivered products.
10. Selection of sources of funding.
11. The lack of goods in stock.

## In-house:

12. Dissatisfaction with staff working conditions and pay.
13. Loss of data due to the personnel action.
14. mismanagement.

## Methods of risk reduction:

1. Diversification (the need to have several suppliers operating in competitive conditions).
2. The conclusion of long-term contracts with suppliers, work with fixed prices.
3. To enter into a contract with guarantees of fixed prices.
4. Get the guarantees from the authorities (the political situation in Colombia is now calm).
5. We go to the market with the highest quality / price ratio.
6. Each equipment has a provision that allows time to address emergencies and recovery.
7. Prices of products sold have stock to reduce.
8. The company is ready to lower prices of competitors, as our products are sold to middle price segment.
9. To introduce strict time limits for payment in the contracts. Monitor the performance of counterparties. Have the necessary reserve funds in the account, in order to avoid the cash gap.
10. Reinvest profits in the development of the project. Have the necessary reserve funds.
11. Have the necessary supply of goods for buyers, expect the projected sales.
12. Apply the policy to create working conditions above average.
13. Employees need to back up your data daily.
14. The supervisor has the experience of creation and business management, he is personally responsible for the alignment and control of all business processes and implementing a rigorous selection of personnel for management positions.

## 7. Efficiency mark

### 7.1 Evaluating the effectiveness of "Optimistic"

| Key Performance Indicators of the project |  |
| :---: | :---: |
| Discount rate, \% | 10 |
| Payback period (PP) | 1,7 years |
| Internal Rate of Return <br> (IRR) | $76 \%$ |
| Net present value - NPV, \$. | 11580090,44 |
| Profitability Index (PI) | 3,68 |

### 7.2 Evaluating the effectiveness of "Pessimistic"

| Key Performance Indicators of the project |  |
| :---: | :---: |
| Discount rate, \% | 5 |
| Payback period (PP) | 3,58 years |
| Internal Rate of Return <br> (IRR) | $6 \%$ |
| Net present value - NPV, \$. | 167004,52 |
| Profitability Index (PI) | 1,039 |

