



Jet Solar Team

Enterprising

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Market research

Some solar car toy companies

Introduction

A lot of companies manufacturing solar car toys are based in China. We also picked one that comes from Japan. These companies might not be the biggest manufacturers, but mostly the solar toys are made by lots of small companies. There isn't really a big company that stands out, except for Tamiya. In Europe and the United States, companies are not really taking part in the manufacturing of solar toys, they concentrate more on the manufacturing and the developing of other solar technologies like solar panels. This means the competition for our solar toy will mostly come from Chinese manufacturers. This document will list a couple of manufacturers, which could be described as our competition.

Guibao Fangyan Yongkang Daily Necessity Factory

Guibao Fangyan Yongkang Daily Necessity Factory is a factory which covers an area of 3,000 square meters. Its address is no. 312 Qiude Road, Yongkang, Jinhua, Zhejiang, China. It owns more than USD 800.000 fixed assets and it has 300 employees. The company emphasizes on the new production line in China, and obtains international standard technology and quality systems. The company exports the products they make to Southeast Asia, Europe and America, and is well received by the customers at home and abroad.



Solar car toy

Guangzhou Cheling Digital & Electronic Co., Ltd

Guangzhou Cheling Digital & Electronic Co., Ltd is established 2007 in Guang Dong, China. The company address is Rm.2909, Buynow Building A, NO.592, Tianhe Rd, Guangzhou, Guangdong, 510630, China. The company is active in the toy industry and its primary activity is the manufacturing of toys. Nowadays they focus on 3 major categories in which they manufacture toys. These categories are solar energy application, LED application and electrical testing equipment.



DIY Mini Solar Car

Shenzhen Feipu Solarparts Co.,ltd

Shenzhen Feipu SolarParts Co.,ltd is the company that is located in Guang Dong, China. The company is located in Rm 406, building 6 Kangqiao Industrial Zone, Buji Town Shenzhen 518114, China. Its phone and fax numbers are 86-755-2870791 and 86-755-84709667 respectively. The business director is Philip Wang. The company website is <http://solarparts.diytrade.com> . The company is active in the consumer electronics industry and the nature of their business is manufacturing. The company was founded in 2007 and now there are about 100 -500 employees. This company produces among others the solar panels used on other solar toys and solar educational kits.



Mouvelette solar toy

Tamiya

Tamiya Incorporated was founded by Yoshio Tamiya in Shizuoka, Japan in 1946. It is a Japanese manufacturer which produces plastic model kits, radio controlled cars, battery- and solar-powered educational models, sailboat models, acrylic and enamel model paints, and various modeling tools and supplies. Because of their core concept "First in Quality and Around the World", the company has gained a very good reputation of outstanding quality products in Japan as well as the rest of the world.



Solar car Honda dream



Solar car assembly

Shenzhen Xin Feng Technology Co.,Ltd



Shenzhen Xin Feng Technology Co., Ltd is focused on production and sales of solar cells and electronic high-technology gifts. The company's major development is the production of polysilicon, silicon and amorphous silicon solar cells. Their products are widely used in electronic gift products with leading solar energy applications.

Comparison of the toys

In essence all of these toy cars are very similar. They have the same main characteristics. First of all they are all small and made of plastic. They are also relatively cheap, with a price ranging from \$27 for the Tamiya Honda dream and \$25 dollar for the Mouvelette to \$15 for the DIY solar toy.

Business plan

Product

The product we want to launch is a solar toy car that has to be put together by the buyer himself. It will consist out of a set of parts, screws, a motor and the solar panel. Also it will be radio-controlled, so people can race their toys. The name of the car will be Solarforce, this name consists out of 2 parts namely solar and force. The name indicates that the car will be solar powered and that it will be fast and strong.

This new product will also have a couple of features.

The first one is ecologic.

We only want to use materials that can be recycled, this is very important because we are selling a solar car and want to make people aware of green energy. This would not be possible if we used polluting materials in our car. For this reason we will use biodegradable plastics as a building material for the main body of the car.

The second feature is educational.

We want to use our product to make people aware of the potential of solar energy and let them explore the versatility of the power of the sun.

Our product will also be made rigid, so it won't break easily and the customer can have a lot of pleasure working on it.

Finally our product will be radio-controlled, so people can also have a lot of fun with the car they made.

All these features will result in a product that will be very attractive to people interested in green energy and people who just like to build things by hand.

Target group

The target group of our product are people in the age group of 14 to 25 who are interested in technology and especially green energy. The customers don't need a lot of building skills; they just have to like building things and be a bit skilled with a screwdriver.

Promotion

Marketing Strategies

Presentation and Packaging

The presentation of the product is very important in order for the product to be noticed by the customer. This means the packaging has to be particularly appealing. The customer must be immediately drawn to the product when he/she sees it.

This means in most cases the use of colors and vivid pictures. The solar car will be sold in a cardboard box, which can be recycled and we will limit the use of plastic packaging materials in order to meet our ecological standards. For example, we can use paper bags to package screws instead of plastic ones. This means the large part of the packaging material can be recycled and reused.

For the actual presentation of the car to the public, we could also use the race to promote our solar toy car, because people can come and see for themselves how well the toy lives up to its expectations. This is a good way to promote our product to the grand public.

Advertising

The advertising campaign for our solar car will focus on green energy and technology. The campaign will focus on the need for this kind of energy in the modern day world. People are getting increasingly aware of green energy, but they still don't know a lot about it, our toy can help people get in touch with solar energy in a cheap way.

And above all, solar energy possesses a kind of exclusiveness and mysteriousness which a lot of people like and are attracted to. We can use this exclusiveness of solar power in our favor to promote our solar toy.

Commercial Launch

Before the launch of our new product, it is wise to test it first on a small part of the market. This test will show in which degree people are interested in the product and if they want to buy it.

A first step in this process might be to present the product on different exhibitions, where we are able to observe the reactions of the people to our new product. This will give us a lot of information about client reactions and can help us to redesign the presentation and optimize the total product. But mostly it will give us an idea about the selling potential of the toy.

A next step can be releasing the product in a couple of specialized stores. This means that our product is actually available for purchase. This test market is very useful in the way that we can detect errors in the product and maybe find other ways to improve it further.

A couple of things that might be improved after the launch on the test market are the

functionality and packaging. This makes sure we will have the best possible product to offer the general public and it will increase the success of our actual product launch.

Public new Product Launch

When the product is released in different toy stores all over the country we can use internet to let everyone know about our product and our company. This will be a very important tool in a world where almost anyone uses the World Wide Web. Of course we will also use television and radio to achieve our promotional goals.

Site

For promotional purposes we made a site. The site contains information about our product, and our company. Its address is <http://ee4jetsolarteam.yolasite.com>

Customer service

In order for our clients to get the proper assistance we will use a customer service. Customers who have questions or problems with their product can turn to the customer service for help. It will also be able to order spare parts.

Place

After the testing of the product, we will have obtained the necessary information to launch the product on the market. The most efficient way to distribute the product is by using toy stores all over Belgium. To distribute our product we will use a central production facility. The central facility is very important for our distribution, because we have to be able to supply stores all over the country. For the transportation we will use containers and trucks. This is the easiest way to get our product to their respective destinations.

Depending on the popularity of our product we might enlarge our distribution network to regions of neighboring countries like northern France, the Netherlands and Luxemburg.

Price

The price of our product will depend upon the materials used to produce our solar toy. The most expensive parts of our solar toy are the solar panel and the motor. The other materials however are relatively cheap because they are made from plastics. However they are biodegradable so they will be a bit more expensive than regular plastics. Also our materials have to have a high quality which doesn't come cheap. All these factors make that the product might be a bit costly. But it isn't a big problem because people are willing to pay for

quality. Also our product is exclusive; this means we can increase the price even more.

We can also make an approximation of the minimum cost of the car, to use as a guideline for determining the asking price of the car. For this approximation, we need the price of the solar panel, the motor, the remote control system and the price of biodegradable plastic.

- Our solar panel will consist of 15 photovoltaic-cells linked together in series. At full illumination, each cell will deliver a voltage of 550mV. The current passing through all the cells is 2A. This means the power delivered by the panel is totaling 16,5W $((0,550V \times 15) \times 2A)$. The current price for a photovoltaic cell is €1,23/W, so that our solar panel will cost €20,295.
- The Maxon A-Max-22 110117 DC motor that we will use costs €28,94.
- For the remote control system we will use the Futaba 2DR radio-controller. This system works with a frequency of 75MHz and will cost €46.
- The last cost determining factor is the price of biodegradable plastic. In our car we will use polylactic acid. The price of polylactic acid ranges between €2-2,5/kg. Our car will weigh around 700g, so the cost of the plastic will be around €1,6.

When we take all these values together, we get a guiding price for our product of €97. This price still isn't exact, because we still have to take other factors into consideration like production costs, transportation costs, etc.

Team name and logo analysis

Team name

The name we chose for our team is Jet Solar Team. We decided to choose this name because it corresponds with our vision of our solar toy car. We intended to build a solar toy that can drive as fast as possible with as little as possible energy and it should also be strong. The word “Jet” represents speed and comes from the jet in the word jet plane. Jet planes are known for their supersonic speed and we also want speed to be a basic characteristic of our solar toy.

The word “solar” tells more about the source of energy used to drive the solar car which is the sun, so this part of the name is probably the most important. The word solar also links our name with environment friendly products and green energy, which is very important for our team and our product. We want to be known as a company that promotes green energy, so in order to achieve this we have to use a name referring to sustainable energy sources.

Logo

A Logo is a graphic mark commonly used by organizations, commercial enterprises and individuals to promote instant public recognition of their product. A company’s trade mark is its logo, just like every other company Jet Solar Team has a logo which



we will use to promote our solar car toy. Our logo is simple and easy to understand, it has a little sports car drawn on a dark green background. It is designed to draw the attention of the public so that they are immediately interested in the product we are selling.

Both the team’s name and logo have similar meaning and they portray the core characteristics of our solar toy and serve as a means of promotion.

Budget

Table of components

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Component	Amount	Description	Price		Supplier/shop	Date	Buyer
winkelhaken	4		0,39	EUR	Ooms ijzerwaren NV	22/04/2011	Jeroen Vennekens, Hans Thaelts
kastverb.	1	not used	0,17	EUR	Ooms ijzerwaren NV	22/04/2011	Jeroen Vennekens, Hans Thaelts
ribbon holder	1	not used	1,88	EUR	Ooms ijzerwaren NV	22/04/2011	Jeroen Vennekens, Hans Thaelts
hinges	2		3,74	EUR	Ooms ijzerwaren NV	22/04/2011	Jeroen Vennekens, Hans Thaelts
Aluminum bar	1	2m long/3mm thick	3,22	EUR	Ooms ijzerwaren NV	22/04/2011	Jeroen Vennekens, Hans Thaelts
Bearings	2		6	EUR	Hobby Vandoren	28/04/2011	Hans Thaelts, Thomas Vlasselaer
Car propulsion parts	/	Wheels, axle, nuts, bolts, screws, gears	50	EUR	Modelbouw Ceulemans	21/04/2011	Thomas Vlasselaer, Hans Thaelts, Jeroen Vennekens
Parts and materials		most of it, not used	23,78	EUR	Hubo Herent	15/03/2011	Ruben Vos
		Total	89,18	EUR			

Proof of payments