

Forest Cycle

TRABAJO FIN DE GRADO MOVILIDAD

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INGENIERIA EN DISEÑO INDUSTRIAL Y DESARROLLO DE PRODUCTOS

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Introducción

En este documento se presenta mi proyecto de TFG realizado durante mi erasmus en Carlow. Este proyecto fue seleccionado para ser presentado al concurso “RSA Studying Design Awards” en representación de los estudiantes de Diseño Industrial en el IT Carlow.

El brief del concurso presentado por RSA (Royal Society for the Encouragement of Arts, Manufactures and Commerce) retaba a los participantes a diseñar o rediseñar un juguete de consumo y su packaging con el objetivo de reducir los desperdicios generados por la industria del juguete usando los principios de la economía circular.

Forest Cycle (mi proyecto) es un juguete educativo que crece con el niño. Su objetivo es enseñar a los niños de entre 3 a 9 años los principios de la economía circular y, a su vez, acercarlos a la naturaleza y el medio ambiente.

El juguete permite crear a los niños su propio bosque pintando en el tablero magnético y agregando diferentes piezas en forma de árboles, animales o personas.

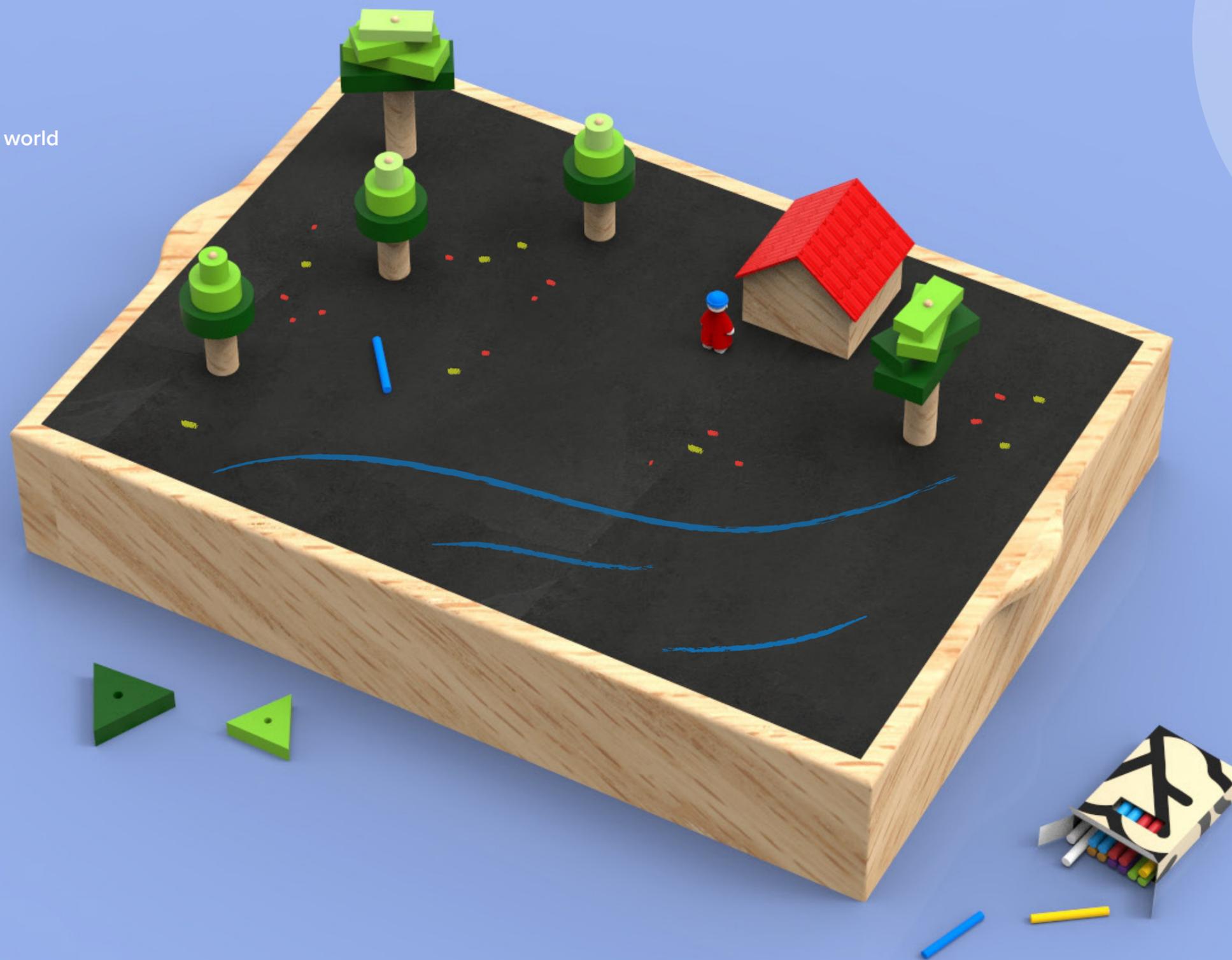
Con la ayuda de Forest Cycle, los niños aprenderán sobre el uso sostenible de los recursos, las prácticas de reciclaje y el uso circular de los productos. El objetivo de este juguete es comenzar a crear conciencia sobre el medio ambiente y los residuos generados por los plásticos y las grandes industrias.

El proyecto engloba tanto la parte de diseño y especificación técnica como el plan de marketing para el lanzamiento del producto.



Forest Cycle

Circular learning for a circular world



Forest Cycle

In the last few years, the toy industry has grown without control. It hit \$20.36 billion in sales 2016 and shows no sign of slowing down, nor does the negative impact it's having on the environment. According to a plastics trade magazine, plastic toys account for 90 percent of the market and the vast majority are not being recycled.

Given this situation, there is a need to create durable toys made from sustainable materials to replace the cheap plastic toys that are over the market and stop its impact on the environment. Starting from this point, the concept of "Forest Cycle" emerges: a sustainable toy that brings children closer to nature and teaches them the principles of the circular economy.

With the help of Forest Cycle children will learn about the sustainable use of resources, the recycling practice and the circular use of products. The aim of this toy is to start building awareness of the environment and the waste generated by plastics and large industries that is slowly killing our planet.

Forest Cycle is made of natural rubber wood that ensures the quality of the toy and its durability unlike the plastic toys that are on the market. The packaging and the boxes that are inside the toy are made with 100% recyclable cardboard and printed using soy inks.

By buying eco-friendly toys like Forest Cycle, you can start to make a positive change to the way your family impacts the planet. After all, your children are the ones that have to live in this world for the longest.

Circular toy, Circular learning, Circular world

Forest Cycle is an educational toy that grows with the child. It aims to teach children from 3 to 9 years old the principles of the circular economy and in turn to bring them closer to nature and the environment.

The toy allows children to create their own forest by painting on the magnetic board and adding pieces in the form of trees, animals, a house or people.

The mechanics of the game is different from that of a conventional game since different pieces of the game are stored in different boxes that can only be opened when the child reaches a certain age. Each box represents a different stage and each stage represents a deeper step in the understanding of the circular economy.

Recyclable
Cardboard
Packaging

Soy Inks

Non-Formal-
dehyde Glue

Natural
Rubber
Wood

ENJOY

LEARN

PLAY



A toy that grows with the child

8 - 9 years old

In this box the child will find the last surprise since he will only find a red rope. With this rope the toy can be hung on the wall to be used as a blackboard and a storage space. The toy ceases to be a toy and the cycle of the circular economy closes.

Circular Economy

6 - 8 years old

In this stage the child will be challenged to build its own piece for the forest with the cardboard box. The kid will also find a small book where the last step of the circular economy is explained: recycling.

Recycling / Re-use

5 - 6 years old

In this box the child will find a wooden house and a small boy. He will also receive a book where it will be explained how humans are able to build a house with wood and why do we need them.

Production / User

3 - 5 years old

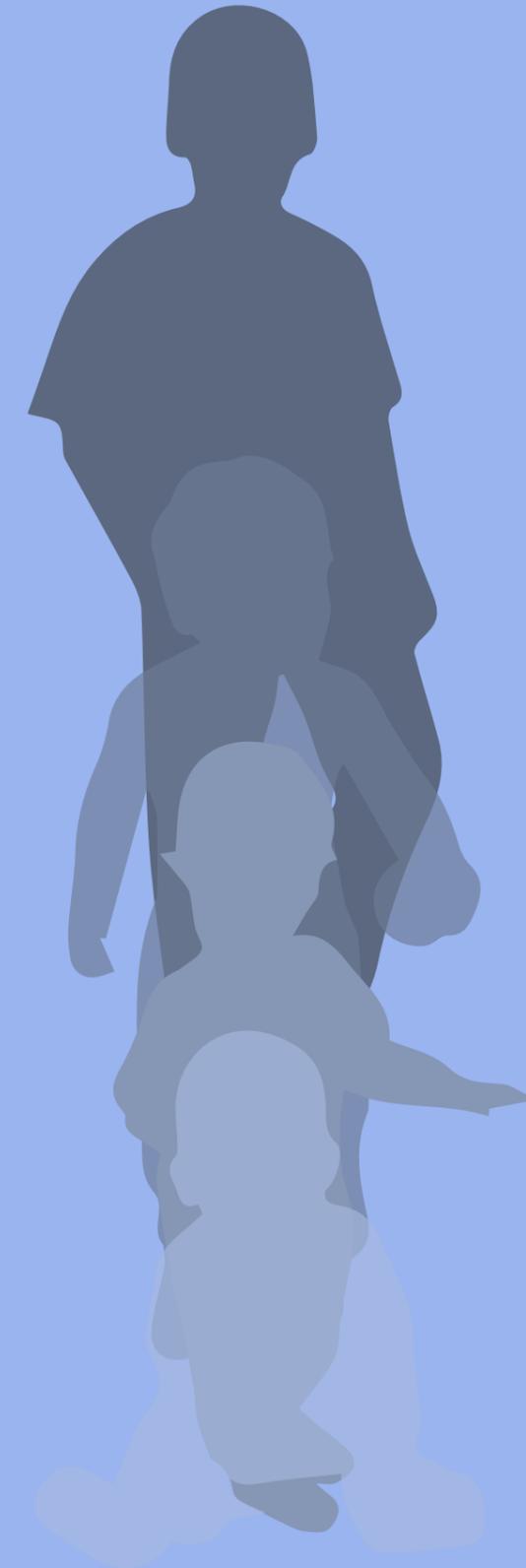
In the second box the child will find a set of trees and animals to start forming their own forest. The child will also find a small book explaining the importance of wood as a renewable resource through a story.

Wood

2 - 3 years old

In the first box the child will find a pack of colored chalk to paint on the board. Along with the chalk, the child will find a small paper book with basic geometrical shapes and simple drawings to replicate.

Colors and shapes



Commercial awareness

In a market oversaturated with all kinds toys and dominated by a small number of multinationals, it is almost impossible to find space for new products. For this reason, it is necessary to create innovative toys, which differ from the competitors offering new possibilities of entertainment and learning.

There is a surge of new, innovative games with artistic and creative designs and themes being launched on the market. The growth of the video games industry has paradoxically contributed to the proliferation of modern and innovatively designed board games. Numerous mobile games have a physical version and vice versa. Due to the abundance of digital distractions, parents are seeking to spend time with their children in an “unplugged family environment, driving the growth in physical games and puzzles.

Forest Cycle will be established on the market of sustainable and eco-friendly toys. It is made with natural rubber wood free of toxic chemicals and recyclable cardboard and it has longer life than the vast majority of toys since it is designed to grow with the child. Within this market, it differs from the rest of the existent products as it is the only toy that teaches children the foundations of the circular economy and sustainability in an entertaining way.

According to Reyne Rice, a toy trend specialist with the Toy Industry Association, industry is pushing more green toys because consumers are asking for them. It’s a feel-good purchase them.

Forest Cycle is directly targeted to parents who care about the education and values of their children and who also care about environment. Parents are increasingly more concerned about the toys that they buy for their children and that opens a door for sustainable toys.

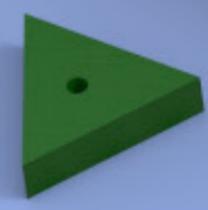
For this reasons, this toy offers opportunity to meet this new market demands. Buying Forest Cycle is not just to buying a new toy, but to take a step towards a greener future and a more sustainable world.



Timeless



Safe



Durable



Support Problem Solving



Real-life Skills



Develop Reasoning skills



Encourage Imagination



Grow with The child

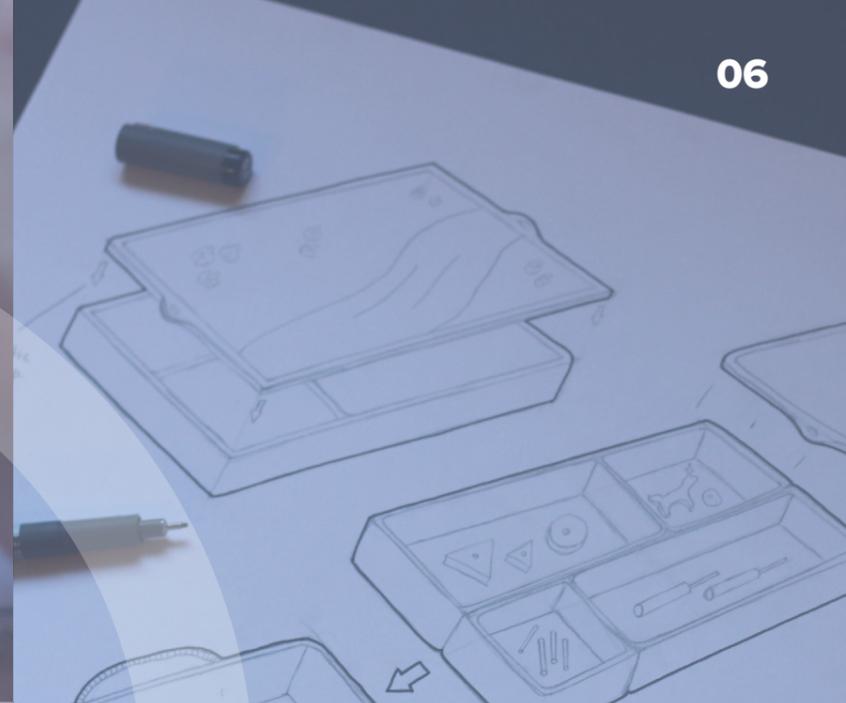
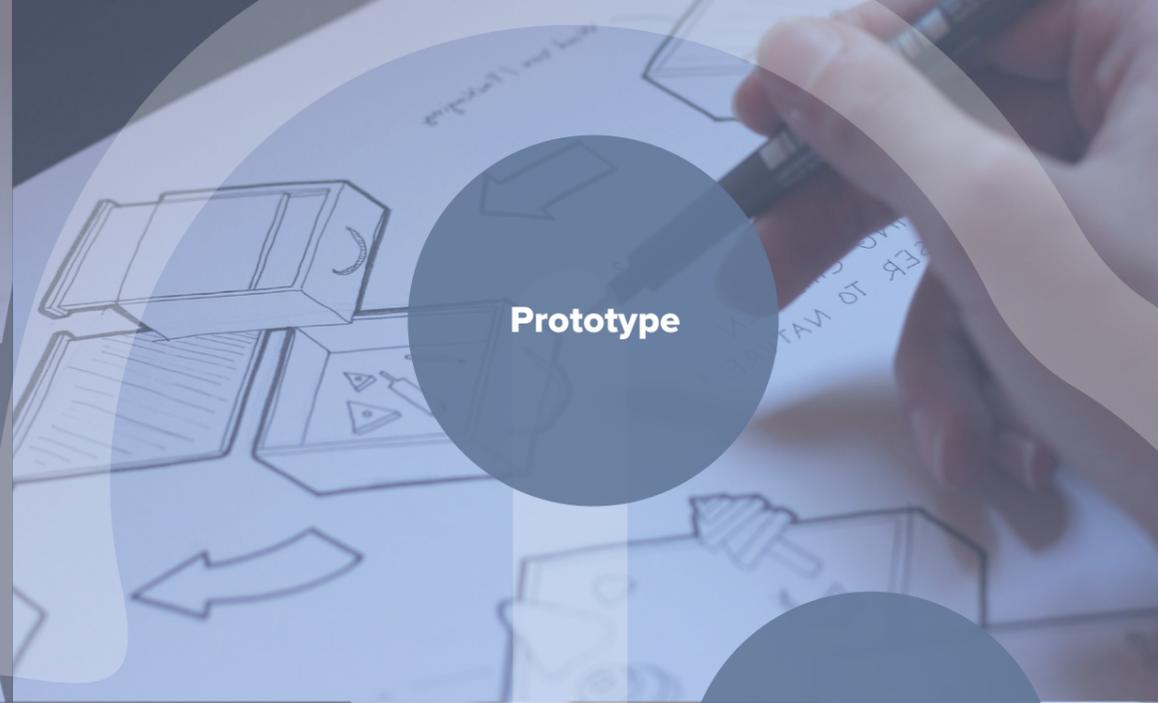
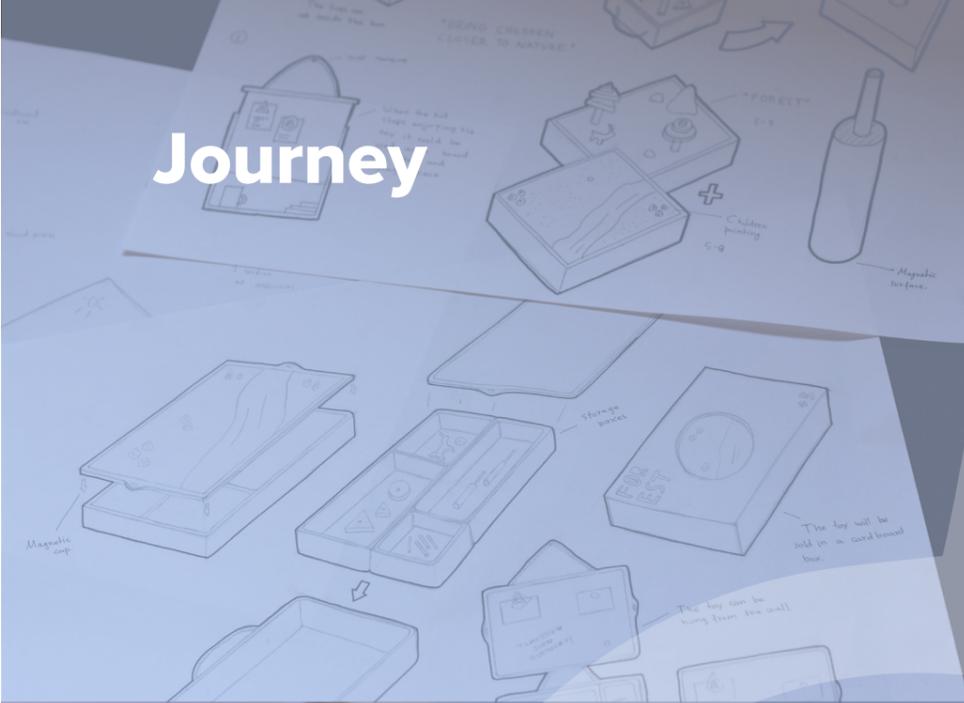


Less Distracting



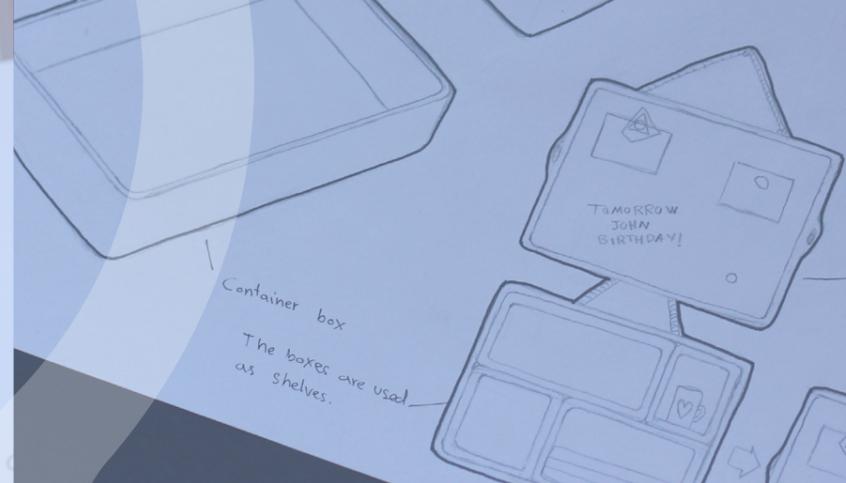
Encourage Imagination

Journey



Prototype

Modeling



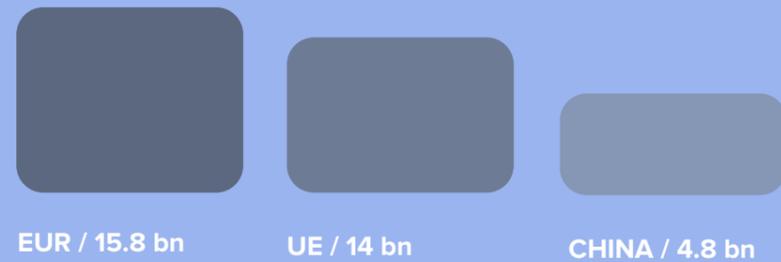
Sketching

Research



Research and Insights

The traditional toy retail Market



Studies estimates that the EU market for traditional toys and games, was worth EUR 15.8 bn in 2011 at retail selling prices. In comparison, the US market follows at EUR 14 bn. The Chinese market represented sales of EUR 4.8 bn. and has a high potential if income levels continue to rise.

Tradition vs Technology

- Despite an increasingly digitalized world and a plethora of digital entertainment, such as drones, video game consoles and smartphone games, we are witnessing a revival of interest in traditional, non digitized children's and adult toys and gadgets.
- Physical toys and games target gamers of all ages, and provide a nostalgic and soothing antidote to an increasingly technological world.
- Despite the hype around robotic toys and the IoT, sales of technology-based toys have not dominated the best-seller charts. Internet-connected toys still account for less than 1% of all toy sales, according to market research firm NPD. Most items on the toy best-seller list are old-fashioned games, dolls and Lego sets. Moreover, in 2016, the fastest-growing categories in the US were

Wood Toys

Wooden toys are manufactured from natural resources, which are non-toxic and are often recycled, which makes them eco-friendly.

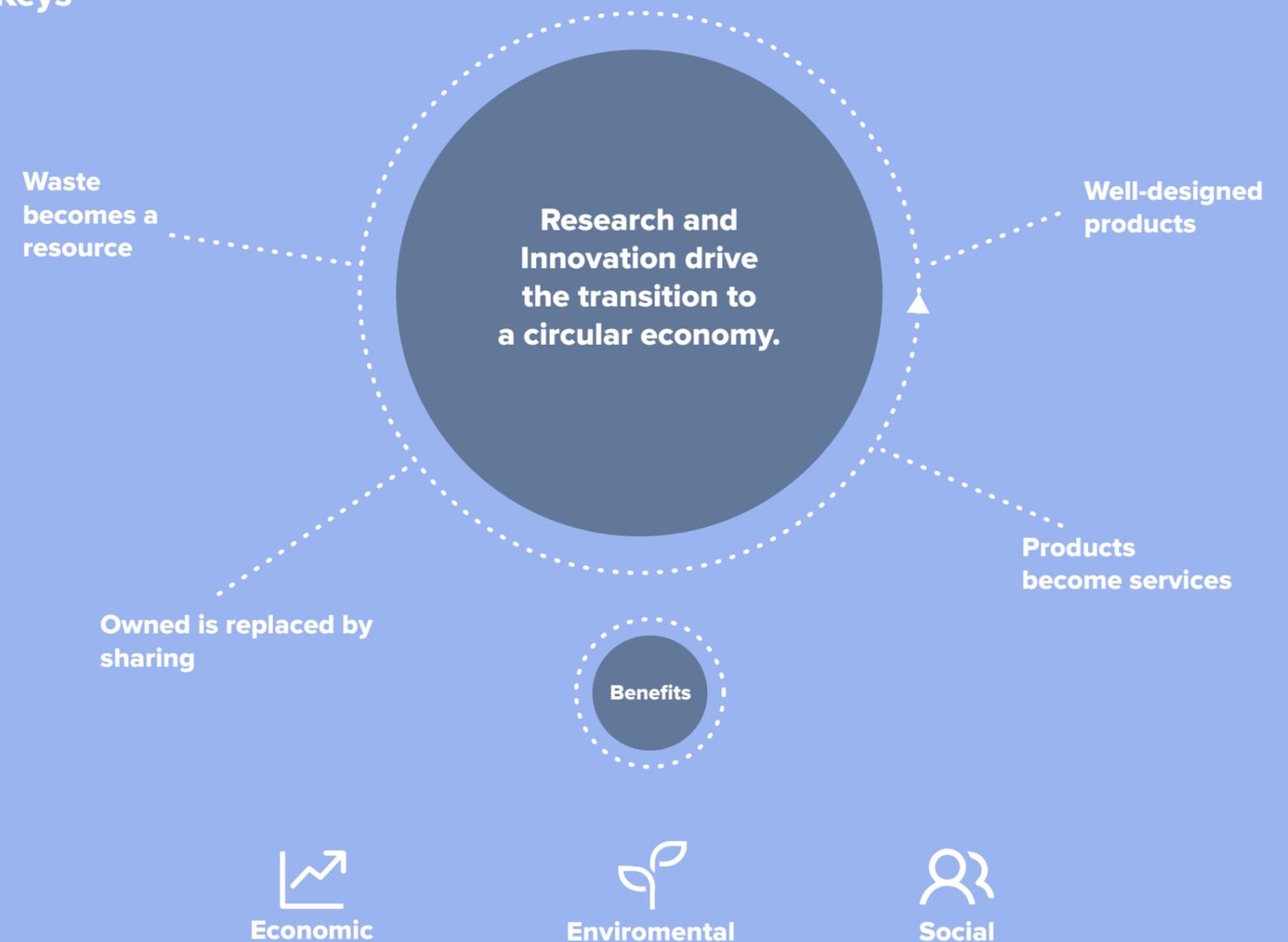
Key points

Open-ended play / The child is required to use their imagination to create possibilities for their toys, and these possibilities are endless. Only limited by their imagination.

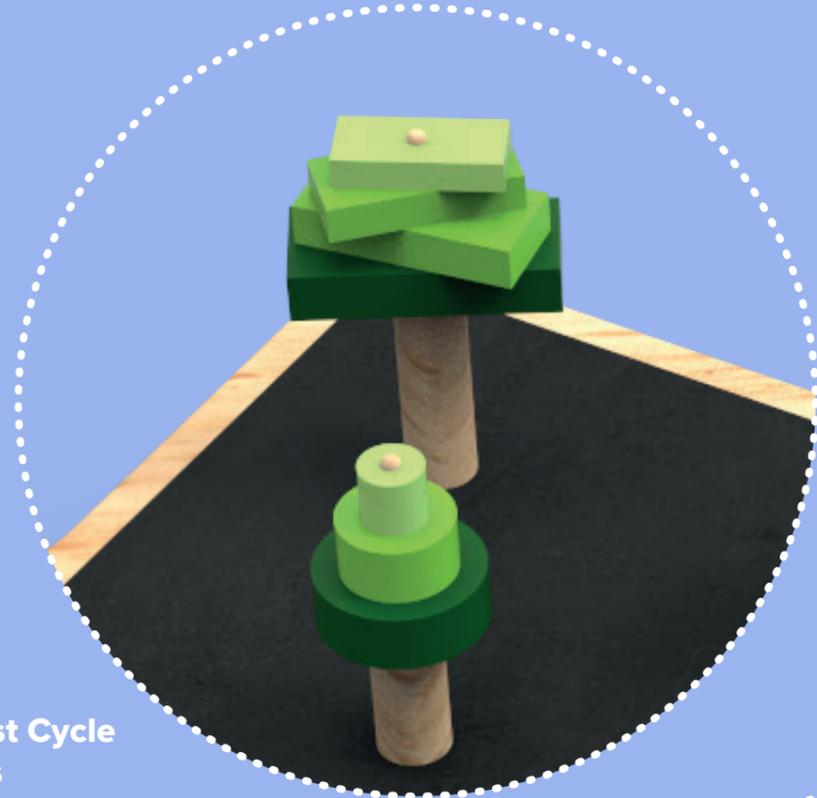
Durable / Since they're made of quality wood and are solid, it's hard for them to be damaged beyond the basic scratch or dent.

Less distracting / When children play with wooden toys, they supply all the voices, alarms, and other sound effects, rather than listening to the toy. This allows children to be in control of what they do with the toys and to keep their minds clear as they think through different scenarios or solve problems.

Circular economy Keys



3D Model / Details



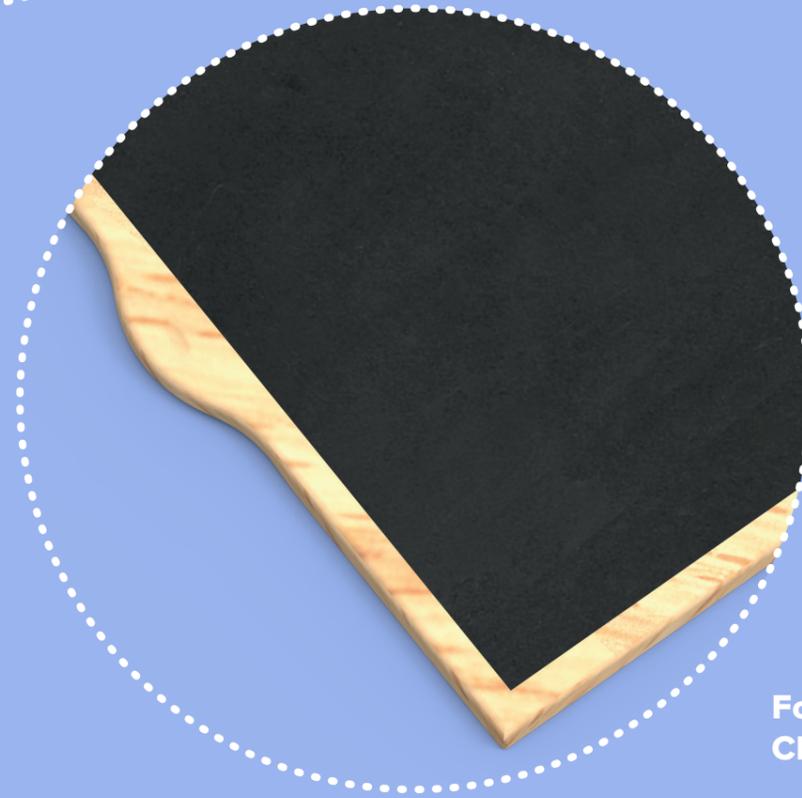
Forest Cycle
Trees



Forest Cycle
Chalkbox

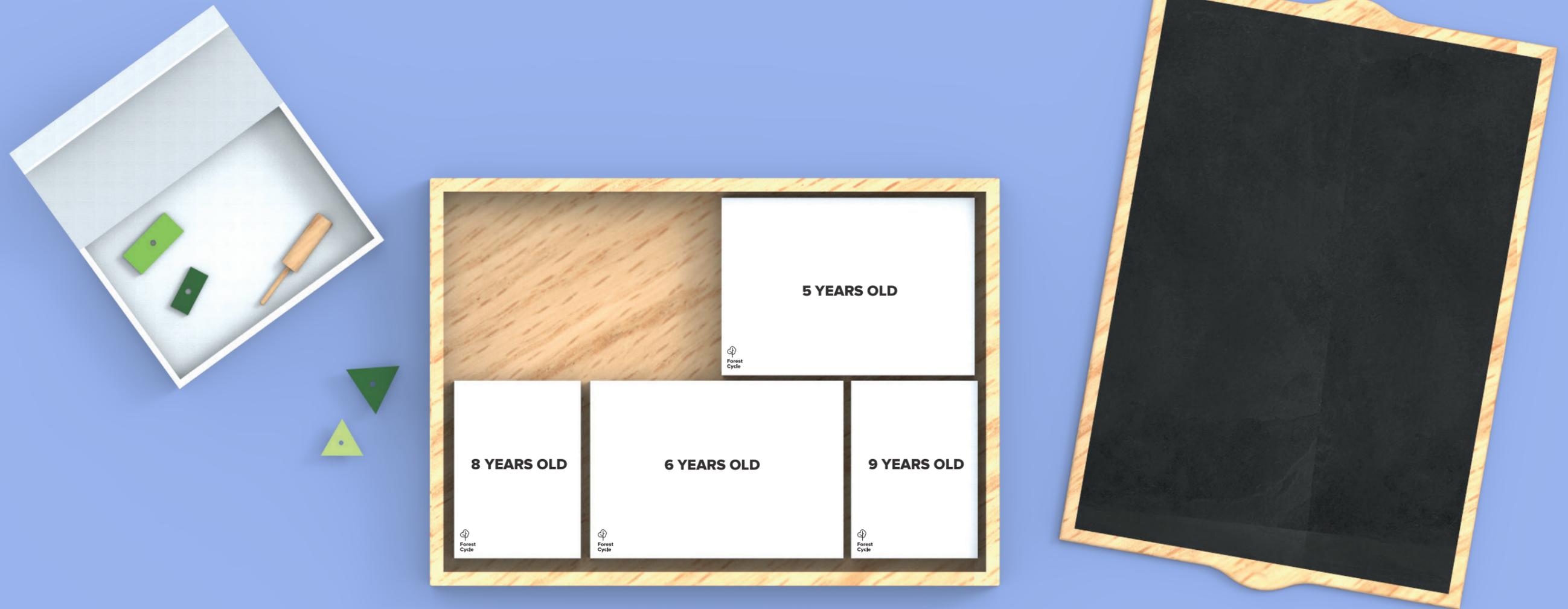


Forest Cycle
House and Man

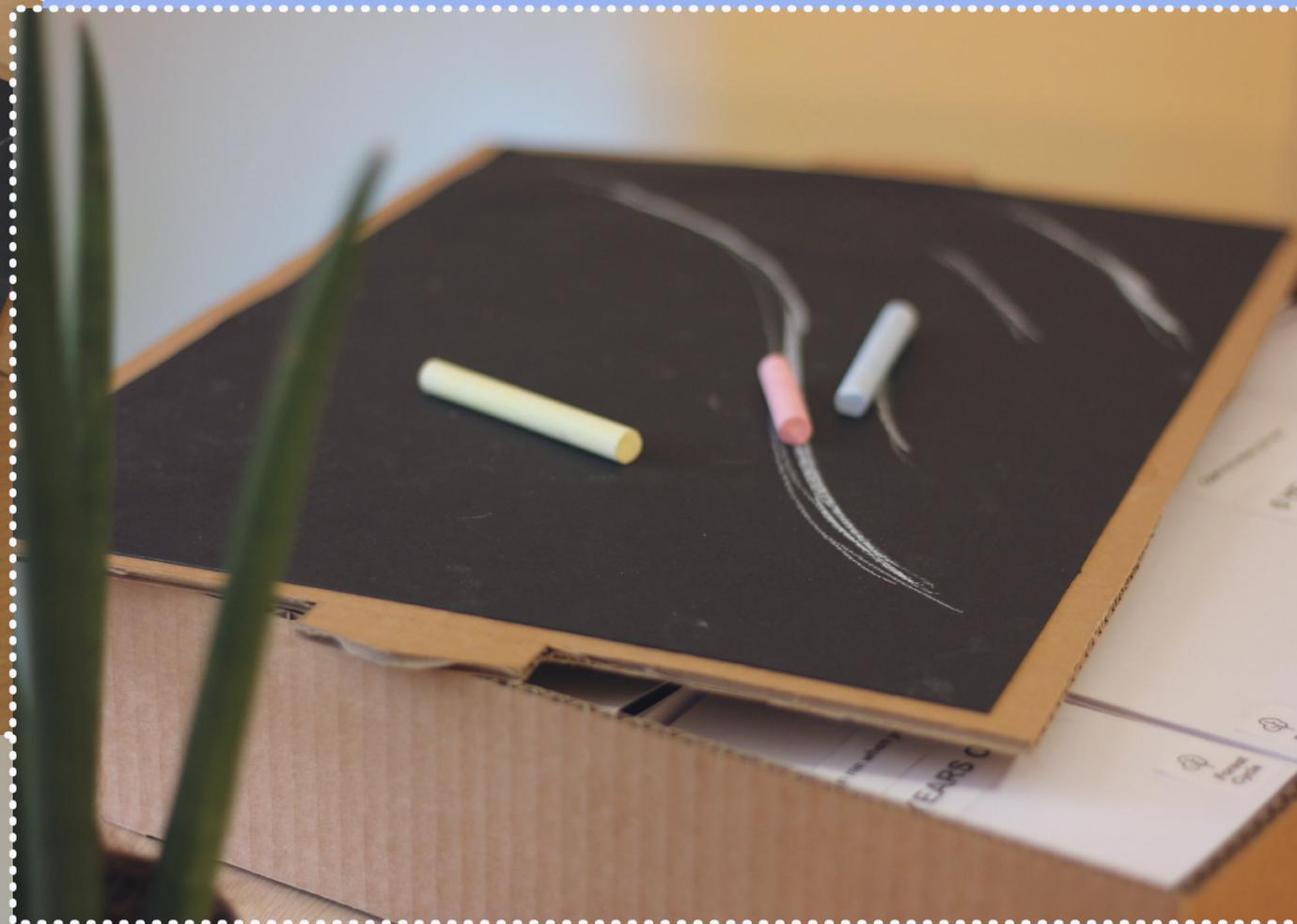
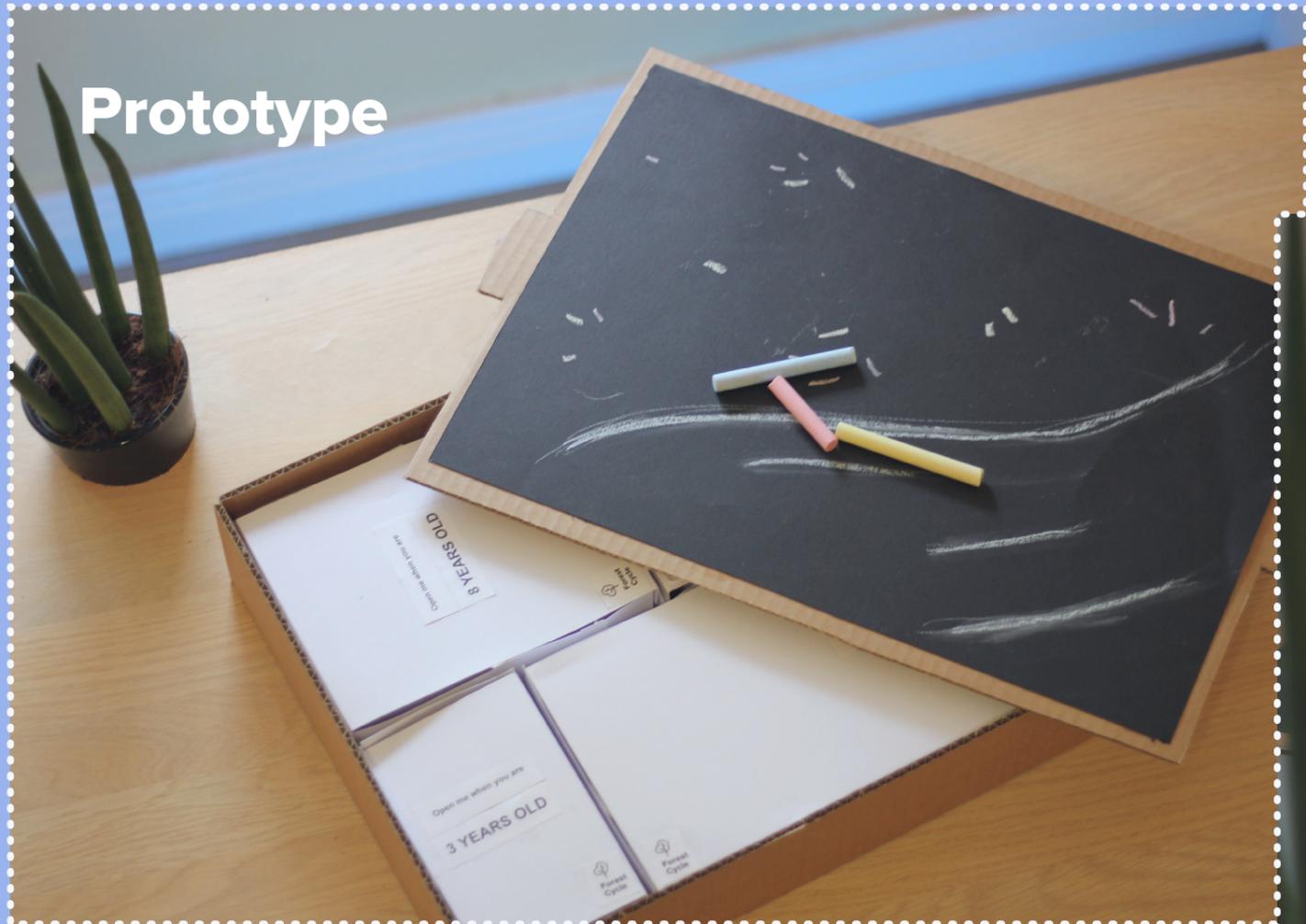


Forest Cycle
Chalkboard

3D Model / Inside Forest Cycle



Prototype



The Brand



Symbol



Word Mark

Forest Cycle

Claim

Typography



**CIRCULAR LEARNING
FOR A CIRCULAR WORLD**

**Proxima Nova
Extrabold**

Technical Report

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1.EXECUTIVE SUMMARY

1.1 Description of project sponsor

This project was done for the RSA student design competition, sponsored by Marketing Trust, The Chartered Institute of Marketing and Waitrose.

The Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA) is a London-based, British organisation committed to finding practical solutions to social challenges.

Marketing Trust is an independent Charity organisation to support a wider general understanding and appreciation of Marketing by the general public.

The Chartered Institute of Marketing (CIM) is the world's leading professional marketing body committed to create marketing advantage for the benefit of professionals, business and society.

1.2 Why the product is needed

In the last few years, the toy industry has grown without control. It hit \$20.36 billion in sales 2016 and shows no sign of slowing down, nor does the negative impact it's having on the environment. According to a plastics trade magazine, plastic toys account for 90 percent of the

market and the vast majority are not being recycled. Given this situation, there is a need to create durable toys made from sustainable materials to replace the cheap plastic toys that are over the market and stop its impact on the environment.

1.3 Problem definition + Hypothesis

Secondary research and primary observation indicates that creating sustainable toys for children from 3 to 9 years old that teach them the principles of circular economy and the importance of sustainability will help to reduce the unnecessary waste generated by the toy's packaging and the toy itself.

1.4 List of collaborations

In this project collaborated all the students of Third Year Product Design in IT Carlow in the research stage and the all the design lecturers in the course.

2. BACKGROUND AND CONTEXT

2.1 Technical and Societal Context

The design of the toy and its manufacturing should be done an environmental way, avoiding

technological material or other components that could contribute to the contamination of the planet.

The toy can be targeted at any age group or culture, anywhere in the developed or developing world.

2.2 Design Constraints

The toy should must be designed applying circular design thinking, using sustainable materials and manufactured in an environmental-friendly way. The design of the toy should be innovative rather than a modification of an existing product and also support the development of children.

2.3 Stakeholder Matrix

IT Carlow Design Lecturers

The lecturers wanted the Design Students to get involved in a "traditional" industrial design project. They gave us the brief to participate in the RSA competition.

The Royal Society for the Encouragement of Arts

The Royal Society for the Encouragement of Arts (RSA) organized the design competition for the students. They provided seven different briefs and they were looking for innovative, functional and creative solutions.

2.4 System-based Design

In this project was applied the circular design thinking with the aim of “designing out waste”.

2.5 Concept Design Iteration

Forest Cycle is an educational toy that grows with the child. It aims to teach children from 3 to 9 years old the principles of the circular economy and in turn to bring them closer to nature and the environment. The toy allows children to create their own forest by painting on the magnetic board and adding pieces in the form of trees, animals, a house or people

With the help of Forest Cycle children will learn about the sustainable use of resources, the recycling practice and the circular use of products. The aim of this toy is to start building awareness of the environment and the waste generated by plastics and large industries that is slowly killing our planet.

Forest Cycle is made of natural rubber wood that ensures the quality of the toy and its durability unlike the plastic toys that are on the market. The packaging and the boxes that are

inside the toy are made with 100% recyclable cardboard and printed using soy inks. By buying eco-friendly toys like Forest Cycle, consumers can start to make a positive change to the way families impact the planet.

2.6 Key Decisions

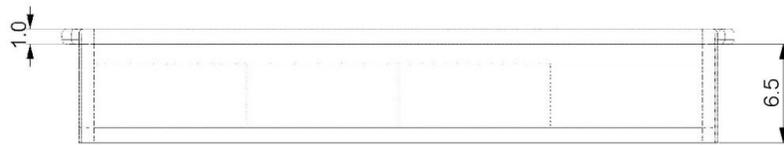
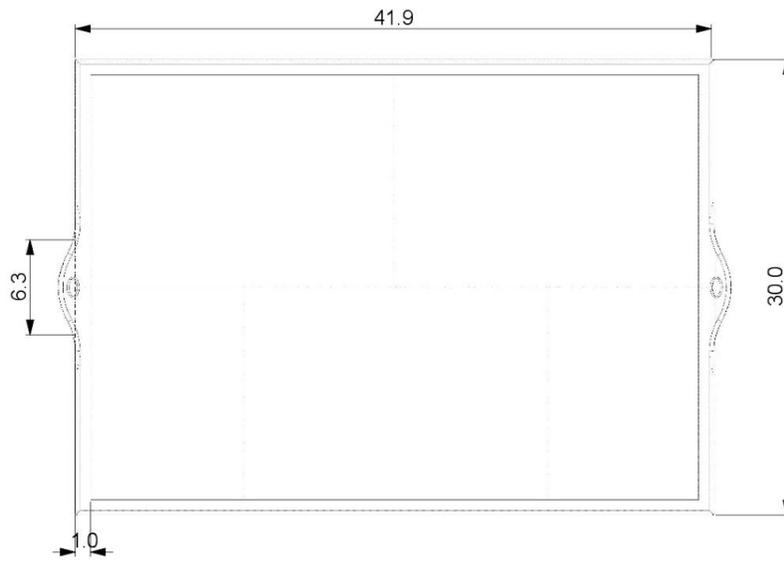
-The toy must grow with the child and teach the principles of circular economy

-Rubber wood is used as the main material. The toy won't incorporate any technological components.

-The shape and size of the toy was chosen to ensure the children's development of motor skills and coordination. The function and the purpose of the toy were also determining to take this decision.

3. DESCRIPTION OF TECHNICAL DETAIL

3.1 Technical requirements



Cotes in centimeters.

The size of the boxes are:

-20cm x 14cm x 4.5cm

-10cm x 14cm x 4.5cm

The size of the small components range from 3 cm x 2cm x 1.5cm to 7.9 cm x 3.2 cm x 3.2 cm.

4. RESULTS / DESIGN

4.1 Procedure and parameters

Component List:

- Wood container (x1)

- Board (x1)

- Cardboard box (type 1) (x2)

- Cardboard box (type 2) (x3)

- Triangle wood piece (type 1) (x6)
- Triangle wood piece (type 2) (x6)
- Triangle wood piece (type 3) (x6)
- Square wood piece (type 1) (x6)
- Square wood piece (type 2) (x6)
- Square wood piece (type 3) (x6)
- Rectangular wood piece (type 1) (x6)
- Rectangular wood piece (type 2) (x6)
- Rectangular wood piece (type 3) (x6)
- Wood house (x1)
- Wood bird (x1)

- Wood boy (x1)
- Chalk box (x1)
- Red rope (x1)
- Small book (x5)
- Cardboard box packaging (x1)

4.2 Materials

- Natural rubber wood (Wood pieces)
- Magnetic board
- Recycled paper (Small books)
- Recycled cardboard (Packaging)

4.3 Manufacturing

All wooden pieces of the product are manufactured by machining processes. All the surfaces of the product are polished and the corners are rounded. The different parts of the toy are joined using non-formaldehyde glue. The pieces are painted using ecological spray paint, giving the product a high quality finish.

The rest of the components are manufactured by third party companies.

4.4 Rationale for product aesthetics

The form of the product is following its function and its purpose. The aesthetic of the product is based on simplicity, removing unnecessary components and making the product more cost effective.

The toy design style is also inspired by scandinavian wooden toys since this toys are very appealing to the market.

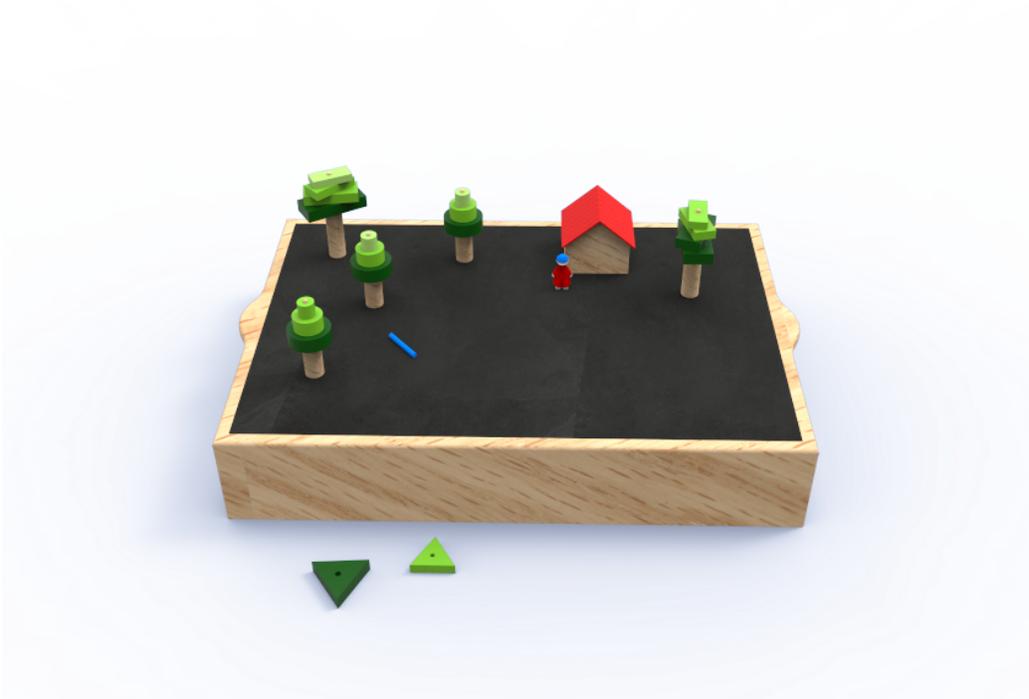


Figure 1. Final render

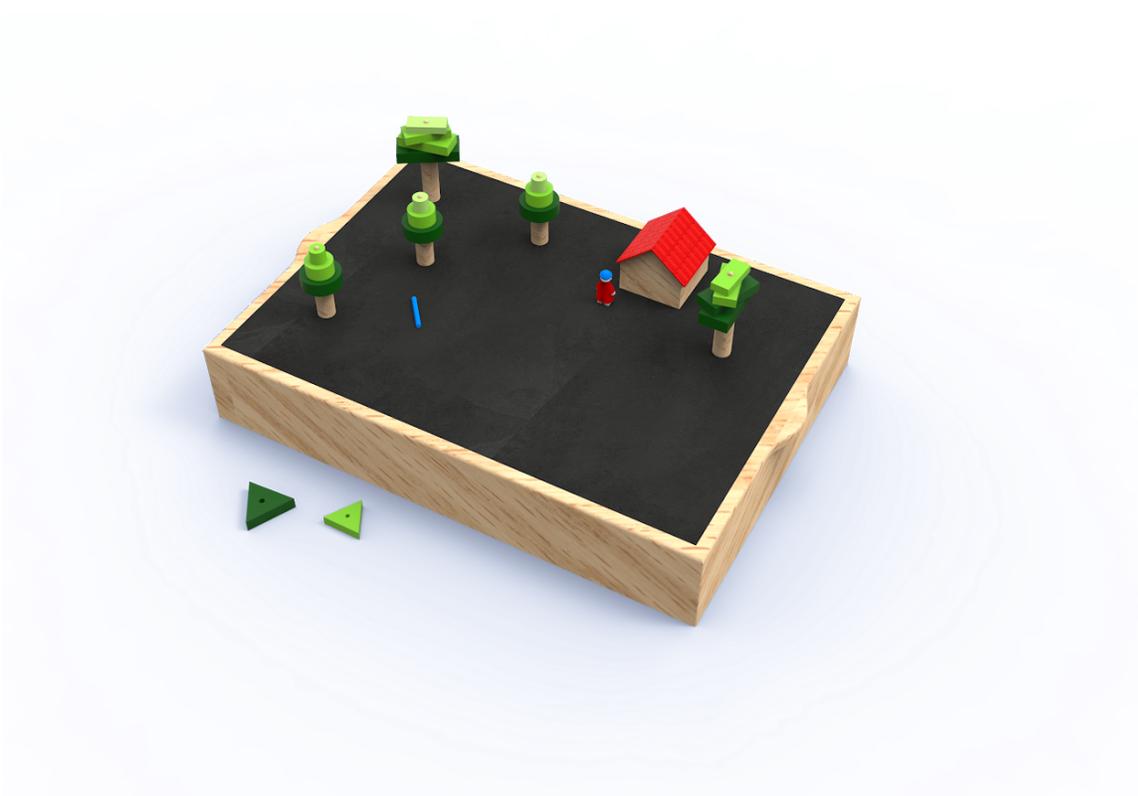


Figure 2. Final render

5. Key conclusions

- Circular economy has environmental, social and economic benefits.
- Research and innovation drive the transition to a circular economy. The study of the circular economy and the possibilities it offers must continue to find new systems and ways to recycle and reuse the products before they are considered waste.
- Wooden toys are a sustainable alternative to plastic toys and have great benefits for both children and the environment.
- When children play with wooden toys, they supply all the voices, alarms, and other sound effects, rather than listening to the toy. This allows children to be in control of what they do with the toys and to keep their minds clear as they think through different scenarios or solve problems.
- Wooden toys are manufactured from natural resources, which are non-toxic and are often recycled, which makes them eco-friendly.

- Wooden toys are safe, timeless and durable since they're made of quality wood and are solid, it's hard for them to be damaged beyond the basic scratch or dent.
- The creation of sustainable wooden toys is economically viable since its production can be done with traditional machining processes and no high-tech processes are required

Marketing Plan

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1. EXECUTIVE SUMMARY

Nowadays, plastic toys account for 90 percent of the market and the vast majority are not being recycled (Goldberg, 2017). Given this situation, there is a need to create durable toys made from sustainable materials to replace plastic toys and avoid their impact on the environment. Starting from this point, the concept of “Forest Cycle” emerges: a sustainable toy that brings children closer to nature and teaches them the principles of the circular economy. The aim of this toy is to start raising awareness of the environment and the waste generated by plastics and large industries that are slowly killing our planet.

To ensure the success of Forest Cycle in the market, it is necessary to create a Marketing Plan with clear goals:

- To determine the real needs of the market and reach potential customers
- To build awareness of the product
- To launch the product to the market in the most orderly manner possible
- To establish through which channels the product will be released to the market
- To identify the best way to communicate the product and the brand to the market
- To choose the appropriate means and supports to ensure a positive balance at the end of each year

To achieve these goals in the most efficient way, it is necessary to carry out an in-depth research, analysing the environmental situation and creating a marketing strategy. The environmental analysis will provide information about the current market, competitors,

micro environment and macro environment and the strengths and weakness of the company. The marketing strategy will determine the potential customers and niche, the brand positioning and the main factors that will affect sales, such as price, place and promotion.

2. SITUATION ANALYSIS

2.1 MARKET SUMMARY

In the last few years, the toy industry has grown. It hit \$20.36 billion in sales 2016 and shows no sign of slowing down. (Goldberg, 2017)

According to Forrester Research (2018), due to the growing demand from middle class consumers, the total number of toy sales worldwide has increased considerably in the last few years. This increase in sales has been especially high in the Asian and Indian markets, while in America, sales have only increased by five percent between 2014 and 2018.

The industry is controlled by five major companies: Lego, Namco, Bandai, Mattel, Hasbro and Jakks Pacific. Lego was the industry leader with the highest revenue, \$5.49 billion, amongst the main toy manufacturers in 2016. Mattel closely followed Lego, with about \$5.46 billion in revenue. (Statista, 2016).

2.2 MARKET ENVIRONMENT

Macro environment

Given this situation, many American and European toy manufacturers are looking for new possibilities and ways to expand the market focusing on sustainable production and environmentally-conscious consumers. (Jilian, 2015)

According to Shaftoe (2017) multinationals control a large portion of the global toy market, but in turn there is a growing number of small and medium-sized companies that sell educational toys and are committed to the environment. Emerging companies are gaining the support and attention of private equity firms and parents that are nostalgic about their own toys and interested in eco-friendly products. (Jilian, 2015)

According to Reyne Rice (2016), a toy trend specialist of the Toy Industry Association, industry is pushing more green toys because consumers are asking for them. They feel good purchasing them.

To meet the demand of eco-friendly and educative toys, companies like Amazon have included a sales section featuring educational toys that are mostly made by small brands (Amazon, 2018).

Learning & Education Toys

Related to items you've viewed [View or edit your browsing history](#)



Plan Toys Happy Puppy

PlanToys

30



Green Toys My First Blocks

56

\$39.99



Green Toys My First Stacker,
Colors May Vary

393

\$9.99

Figure 1. Screenshot of Amazon's educative toy sale section (2018).

Suppliers

Forest Cycle is a toy composed of many components; however, the main elements are the wood box and the wood pieces. Therefore, one supplier is needed to manufacture these parts.

In order to speed up the manufacturing process and reduce costs, Irish and UK suppliers will be chosen. There is an extensive number of providers available but few comply with the regulations and standards to obtain the certificate of sustainable wood suppliers (FSC and PEFC). Apart from this, the other key factors considered when selecting the suppliers are:

- Quality
- Efficiency and trust
- Price
- Production capacity
- Stability

Timberireland (IE)

This is one of the most experienced wood suppliers in Ireland. This company offers competitive prices, flexible and efficient services and high quality product (Timberireland, 2018).

Timbersource (UK)

This is the leading sustainable timber wood supplier in the UK. Most of its stock comes from sustainable forests. They have a good price and customer service (Timbersource, 2018)

Oakridge Timber Ltd (UK)

Oakridge Timber Ltd is a supplier committed to supporting the responsible management of the world's forests. They offer a full range of timber products and quality services (Oakridge, 2018)

Publics

- Parents of young children
- Grandparents and uncles
- Children (from 3 to 8 years old)
- Schools, academies and kindergartens
- Teachers
- Eco-minded people
- Suppliers (to build new relations and grow their business)
- Environmental associations (Greenpeace, Forest Stewardship Council...)

Distributors

Online

Forest Cycle is a company with a business model of e-commerce business to consumer (B2C) since the product will be distributed in its vast majority through its own website directly to consumers.

With the aim of increasing the online visibility of the product and get extra sales, Amazon will be also distributing the product. In the future, it is intended to increase the number of online distributors since Forest Cycle could be sold in several eco-friendly and sustainable online markets.

Offline

As in online commerce, in the future, Forest Cycle is intended to be distributed in specific physical stores. These stores could be design stores, sustainable stores and eco-friendly and educative toy stores. A good example would be the London Design Museum shop, where toys and other design products are sold to visitors.

2.3 INDUSTRY AND COMPETITOR ANALYSIS

The analysis of the industry and competitors is essential when creating a company since it allows the company to acquire a lot of information, not only about the competition, but also about the market in which the brand is about to enter (Tighe, 2017)

With a large number of companies and manufacturers around the world, the toy industry is a highly competitive market. For this reason, it is difficult for new companies to enter the market and gain a foothold among competitors. With technological advances, consumers can buy toys online without any complications, which is beneficial and convenient for both consumers and companies. (Huete, 2017)

In the case of Forest Cycle, the competitors are the companies that manufacture educational and eco-friendly toys and have an e-commerce platform to distribute their products.

After carrying out a study of the potential competitors, it has been concluded that there aren't direct competitors since no company manufactures a product exclusively dedicated

to teach children the principles of the sustainable economy. On the other hand, there are some companies dedicated to the online sale of eco-friendly toys that are established in the market.

The next section will detail the strengths and weakness of three companies that offer similar products and have the same business model and values as Forest Cycle.

	<i>Green Toys</i>	<i>Plan Toys</i>	<i>Go Green Tones</i>
<i>Strengths</i>	Great online visibility, wide catalog, strong social media presence	UX optimized website, good designed products, strong brand storytelling, branding	Innovative brand and products (sustainability and music)
<i>Weaknesses</i>	Bad quality pictures on its website and social media, branding	Lack of online visibility	Social media, lack of online visibility, website
<i>Brand differentiation</i>	This brand sets itself apart from the rest because it offers 100% recycled plastic toys made from milk jugs	This brand sets itself apart from the rest because it offers toys that are made from natural rubber wood trees that no longer produce latex	This brand sets itself apart from the rest because it offers wooden musical toys that are eco-friendly
<i>Price</i>	Medium	Medium / high	Medium / high
<i>Quality</i>	High quality materiales.	High quality materials.	High quality materials.

<i>Distribution</i>	Own website, Amazon, physical stores	Own website, Amazon, physical stores	Amazon, physical store. (The company belongs to HOHNER)
<i>Product range</i>	Very wide	Very wide	Wide
<i>Branding</i>	The logo looks outdated. Pictures could be improved. Lack of consistency	Great branding and consistency in social media.	Consistent branding.
<i>Online presence</i>	High presence	Medium presence	Low presence
<i>Social media</i>	Very strong	Strong	Weak

2.4 PESTEL

Environmental

In the last decades the toy industry has begun to take into account the importance of sustainability, which has led to the emergence of some brands offering "green" or eco-friendly toys. However, the market is dominated by large toy companies that do not have this aspect in mind and therefore these eco-friendly brands only represent a small portion in the market (Cook, 2016).

The trends indicate that this part of the market will increase in the coming years as children are being educated from a more "eco" point of view which causes more green toys to be consumed. On the other hand, companies know that the sustainability of toys represents an added value for parents who buy toys for their children since they want to keep their child safe and healthy (Cook, 2016).

Legal

Any toy that is introduced in the Irish market must follow a large number of laws and regulations. All toys must meet standards to ensure that children have a safe play.

For Ireland, the legislation aims to ensure that toys meet safety requirements that are amongst the strictest in the world, especially in relation to the use of chemicals in toys. The Directive 2009/48/EC lays down the safety criteria that toys must meet before they can be marketed in the EU. Toys must also comply with any other EU legislation applicable to them (European Commission, 2018).

Toys placed on the market prior to the making of these Regulations are covered by SI 32/1990 which sets out the safety requirements for toys applicable (Citizens Information, 2016)

The legal environment of the toy industry in Ireland is also continuously fighting for copyright issues. The arrival of online games and apps has caused many legal problems related to copyright, since many of these games are simulations of existing table games.

Social

While the toy market is increasingly influenced by new technologies and children spend more time in front of screens and playing with electronic devices, kids still play with toys on a daily basis.

In response to the growing presence of technological toys, the number of parents who prefer to buy more traditional games has increased (O'Shea, 2017). Millennial parents know that it's important to engage with their kids on an unplugged level in today's world and are turning to classic toys and retro brands (The Toy Association, 2018).

On the other hand, there is a growing trend towards sustainability and a more responsible use of resources, from the use of renewable energies to the implementation of the circular

economy. This trend has also been reflected in the toy market with the emergence of new companies dedicated to the design of sustainable toys.

Technological

Technology is a very important point to consider in the toy industry as it has revolutionized the way people play and entertain themselves.

Nowadays, children stop playing with traditional games earlier because they prefer to play with electronic devices such as iPads and tablets, consoles or online games. For these reason, toy manufacturers must evolve and adapt quickly to continue offering products that grasp the attention of children. Some companies have chosen to adapt their toys and more traditional games to these new technologies (Cook, 2016).

Economical

The price of the wooden toys usually ranges from \$15 to \$50 depending on its size, quality and components. Plan Toys is the main competitor of Forest Cycle and the price of their toys range from \$9 to \$39 (PlanToys, 2018).

Currency rates 2018

1.00 EUR =1.228491 USD

1.00 EUR =0.877360GBP

1.00 EUR =7.74 CNY (Chinese Yuan)

Following the onset of the financial crisis and the recession, Ireland's relative competitiveness improved as a result of reductions in relative prices and favourable exchange rate movements (National Competitiveness Council, 2016)

The manufacturing sector in Ireland has undergone enormous change in the last twenty years. Globalisation, technology advances and the growth of emerging market economies

have driven ever-increasing competition. One response by MNCs has been a new focus on optimising the global supply chain (IDA Ireland, n.d.).

Political

The regulations for toys are getting stricter about chemicals and sustainability and Irish manufacturers must ensure that they make toys that comply with all the regulations.

All businesses that manufacture, import, distribute or sell toys in Ireland should familiarise themselves with the requirements of the European Communities (Safety of Toys) Regulations 2011 [S.I. 14 of 2011], as amended. Manufacturers of toys must ensure that toys are made safely and must carry out an assessment of the safety of the toys they make (CCPC, 2011)

On the other hand, China is the biggest manufacturer of toys in the world and for this reason, due to new regulations and laws, countries (including Ireland) could put barriers to the exportation of these toys. That would be a big political and economic change for the toy industry (Cook, 2016).

2.5 SWOT

SWOT analysis the best tool to study the situation of the company, analysing its internal characteristics (Weaknesses and Strengths) and its external situation (Threats and Opportunities).

<i>Strengths</i>	<i>Weaknesses</i>
-Unique product idea: Forest Cycle differs from the rest of the existent products as it is the only toy that teaches children the	-Lack of resources

<p>foundations of the circular economy and sustainability in an entertaining way</p> <ul style="list-style-type: none"> -Educational and safe product -Quality raw materials and final product -Great presence in social networks -High quality branding -Clear vision and mission -Differentiation of values from other toy companies: value focused on sustainability, quality and good service. -Staff committed to the success of the company -Being and start-up: direct interaction with customers, fast grow, efficiency in decision making, open to innovation 	<ul style="list-style-type: none"> -Limited initial capital to start the company -Lack of experience in the business sector -Lack of presence in the market -More expensive than common plastic toys -Limited storage capacity -Small manufacturing capabilities and high price of raw materials
<p><i>Opportunities</i></p>	<p><i>Threats</i></p>
<ul style="list-style-type: none"> -Expansion of e-commerce: easy access and building capacity of an e-commerce platform (Shopify, Bigcartel, Squarespace). Low monthly maintenance fee 	<ul style="list-style-type: none"> -Emergence of direct competitors -Big toy companies

<ul style="list-style-type: none"> - Growth in the “green” market/Increased concern with sustainability -Low cost/free online marketing -Support by private firms -Parents spending more on traditional toys than high-tech toys 	<ul style="list-style-type: none"> - PC/Video Games -Changes in regulation can affect the business
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3. MARKETING STRATEGIES - SEGMENTATION

3.1 SEGMENTATION ANALYSIS

- Children
- Eco-minded parents of young children
- Grandparents and uncles
- Teachers
- Preschools
- Eco-environmentally concerned buyers

3.2 CUSTOMER PROFILE AND PERSONA

Customer Profile

Demographics

- 25 to 50 years old – predominantly parents of young children
- Upper middle class income
- International market
- Both genders

Psychographics

- Green-minded
- Worried about the education and health of their children
- Actively protects the environment (Recycling practice, use of renewable energies)
- Enjoy playing with their children
- Family-oriented
- Active healthy lifestyle

Buying habits

- Do research about the product before purchasing
- Buy in eco-friendly shops and online websites

- Buy products according to their sustainability values

Personas



Name: Marta Ramirez

Age: 32

Location: Barcelona, Spain

Profession: Paediatrician

Background: Mother of 2 children

Story

Marta works in a hospital in Spain as a paediatrician. She chose this profession because she has always wanted to help other people. She has been married for five years and has two twin sons three years old.

Marta loves animals and nature and has always shown great respect for the environment. She lives in a house in the mountains near Barcelona and all the electrical supply of the house is provided by solar panels.

In her free time she likes going for a walk in the forest or spending time in a camping with her friends and family.

Marta wants to ensure the best for her children. She worries about the health of her family and buys quality food in a sustainable and ecological supermarket.

Since the birth of her two children, Marta has been looking for eco-friendly and safe products for them, from baby clothes to hygiene products.

Implications

With a busy family life and job, spontaneity doesn't influence Sandra purchase decisions. She spends time looking for sustainable and quality products. She wants to know the purpose and the story behind the brands she buys, so the content should clearly reflect those aspects to appeal Sandra.

3.3 TARGETING AND POSITIONING

Target group

The eco-minded parents of young children

Forest Cycle is directly targeted to parents who care about the education and values of their children and who also care about environment. Parents are increasingly concerned about the products and toys that they buy for their children and that attitude opens a door for sustainable toys. These parents are willing to buy toys that they know where they come from and how they have been manufactured, it's not anymore about buying toys that are fun and crazy.

For this reasons, this toy offers an opportunity to meet these new market demands. Buying Forest Cycle is not just to buy a new toy, but to take a step towards a greener future and a more sustainable world.

Positioning

Forest Cycle's mission is to create and sell sustainable toys that entertain and educate children in a green way while reducing our environmental footprint in world, from the design stage to the retail process.

Forest Cycle's vision is to be the world's leader sustainable toy company, creating eco-friendly toys for a better, healthier and greener planet. We want to improve the life of the future generation.

Forest Cycle operates in a socially and ethically responsive way while creating value for the society and our stakeholders.

Competitive advantages

- Brand image (being eco-friendly)
- Raw material (quality)
- Packaging (recyclable)
- Production (sustainable)

With the help of our toys children will learn about the sustainable use of resources, the recycling practice and the circular use of products. The aim of Forest Cycle is to start creating awareness of the environment and the waste generated by plastics and large industries that is slowly killing our planet. Forest Cycle is the first brand offering a toy with this feature and that is what makes our brand truly unique.

4. MARKETING STRATEGIES - MARKETING MIX

The marketing mix is a strategy analysis of internal aspects of a company. Four basic variables of its activity are analyzed: product, price, distribution and promotion.

4.1 PRODUCT

4.1.1 CORE PRODUCT

A sustainable wood toy that brings children closer to nature and teaches them the principles of the circular economy and recycling practice.

4.1.2 ACTUAL PRODUCT

Product Attributes

Quality

Forest Cycle is made with sustainable wood and high quality materials to ensure the durability of the toy and a safe play for the child. Complying with quality standards and the perceived quality of the product are essential points to ensure consumer satisfaction.

The materials and toys won't be shipped from overseas, hence a lot of energy will be saved and less transportation will be required, all of which will reduce greenhouse gases. All the manufacturing, package printing, product assembly and fulfilment will be done in Ireland.

In the future, it is intended to implement the ISO 9001 standard. ISO 9001 sets out the requirements for a quality management system. It helps businesses and organizations to be more efficient and improve customer satisfaction. (ISO, 2015)

Features and benefits for children

- Timeless
- Durable
- Real-life skills
- Encourage imagination

- Less distracting
- Safe
- Support problem solving
- Develop reasoning skills
- Grows with the child

Design and style

Classic, contemporary and functional. Forest Cycle is designed with a minimalist style making use of simple geometric shapes such as square triangles and circles. It is an innovative and timeless wood toy.

Forest Cycle is designed to be aesthetically appealing to the young and young at heart.

Branding

Full brand name

Forest Cycle Toys

Logo

The logo of the brand is composed of two elements: the symbol (which is represented by a tree in reference to nature and the game itself) and the wordmark (the brand's name).

The logo will be displayed in all the online and offline contents generated by the company, including the website, adds, social media content, packaging, labels, business cards, etc.



Symbol



Word mark

**Forest
Cycle**

Corporate colours

The cooperative colours of Forest Cycle have been selected based on the colours of nature. The blue color represents professionalism, seriousness and integrity while the green colour represents ethical thinking, growth, freshness and serenity.

Main colours

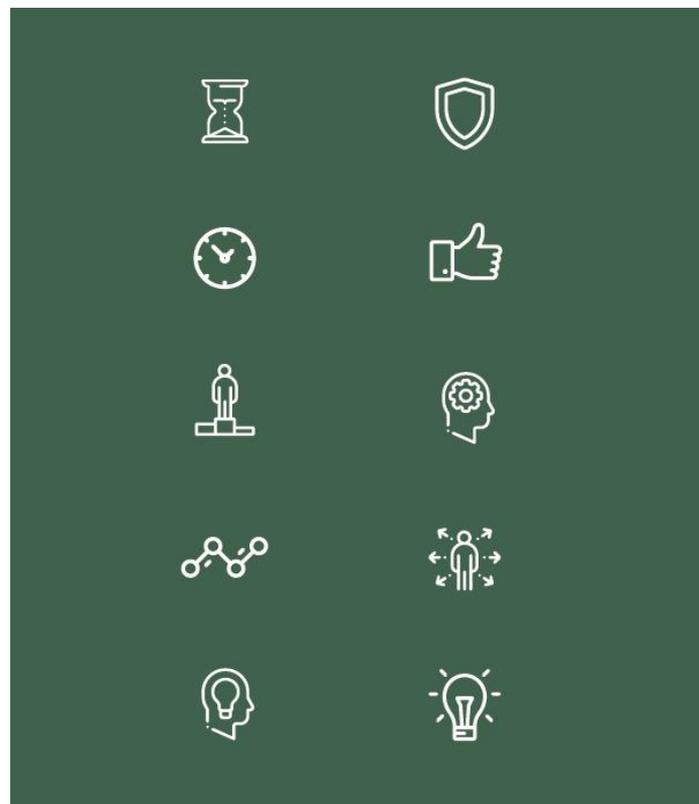


Additional colours



Support graphics

A set of graphics has been designed to be displayed in the website and social media.



Brand claim

“Circular learning for a circular world”

Corporate typeface

Proxima Nova

Brand personality

Positive, green-minded, de-stressed, sociable, dynamic

Packaging and Labelling

The packaging of the toy is composed of a flat cardboard box. The cardboard is 100% recyclable and won't include any sticker, twist ties or cellophane wrappers. All the information and labelling will be printed in the back of the box with minimal colour using soy inks.

The production information will be all revealed on the packages to allow the customers to read and understand how safe the toys are for their kids

4.1.3 AUGMENTED PRODUCT

Customer support

On the website of the company, the consumer will find a FAQ section with the answers to the most frequently asked questions. In the event that the consumers cannot find the answer they want, they will be able to contact the company through a customer support form (email) or by calling the customer service phone number.

Comments on social networks will also be reviewed and answered, since a negative comment without an answer from the company could have a bad impact for the brand.

Product support

Being an assembled wooden toy, there won't be any technical issues but in case the consumer has a problem with the product it will be possible to contact the company by email or by calling the customer service phone number.

4.2 PRICE

Premium price strategy

A strategy of premium prices consists of fixing the price of a product higher than other similar products. It is used to maximize profit in areas where customers are willing to pay more, where there are no substitutes for the product, when there are market entry barriers or when the seller cannot save costs through high volume production. (Carreto, n.d)

Forest cycle will not be established in the market as a luxury brand but will set higher prices than most competitors.

With the growing demand for eco-friendly products, parents are willing to pay more for toys that meet their quality expectations and are sustainable, educational and safe. The market for sustainable toys is growing so there is a lot of space for new brands. Forest Cycle is a unique toy and has no direct competitor or substitute products, therefore it will not be conditioned by the prices of other products and brands. It is important that consumers understand why the Forest Cycle price is higher than those of other plastic or wooden toys.

Another reason to take this pricing strategy is the quality of the materials and raw materials and a sustainable manufacturing and distribution processes, since this will generate additional value but also higher costs and an increase in the final price of the product.

From time to time, promotional sales will be made on special dates such as Christmas and customers will get special discounts if they subscribe to the mailing list.

Based on the costs of production, transport and distribution the estimated selling price of Forest Cycle is 54.99 euros.

4.3 PLACE

The products will be sold worldwide online through the company's own website and Amazon. Being an e-commerce business (B2C), it is going to opt for a direct distribution of the products, which means that the company itself will directly handle the sale to the final customer (except the Amazon sales).

For the sales made from the Forest Cycle's website, the company will assume completely the responsibility for all commercial functions, in other words, the company will be responsible for the storage of products, for the acceptance of the orders and its delivery to the client. The main requirement for this distribution system is a place with the necessary storage space and a correct organization. Initially, toys will be stored in a small warehouse located in Ireland.

The company will be responsible for managing the transport of the toys with their own personnel and means of transport. On the other hand, an external delivery service such as DHL, UPS or Hermes will be contracted to take charge of the delivery of the product.

4.4 PROMOTION

The promotion will be a mix between online and offline promotion to ensure the maximum visibility of the company.

Online

Social media marketing

Social networks have transformed the way in which brands communicate with users, breaking the barrier that separated them and making available an ideal platform to establish a one-to-one conversation. (Adweb, 2017)

- **Consistent social media and branding:** Being an online business, presence in social networks is essential. Social networks will allow Forest Cycle to transmit the values of the brand and improve the image of the company. At the same time, social media is a valuable tool to increase the sales. Forest Cycle will be present on Facebook, Instagram, YouTube and Pinterest
- **Facebook ad campaigns:**

Facebook will be selected as the main platform to create ad campaigns since the 65% of the users are older than 25 years old it will be easy to target parents (Statista, 2018)

In recent years, Facebook has been the most used social network with 2.2 billion users worldwide, who also tend to be active and visit the social network on a recurring basis. (Zephoria, 2018). Facebook advertising is the most targeted form of advertising since it is possible to advertise to people by demographics, interests, behaviour, and other factors. Moreover, it will increase the brand awareness and the website traffic. (Standberry, 2017)



Figure 2. Facebook ad mock-up (Forest Cycle Toys)

- Facebook page: Creating a Facebook page is completely free and will allow the company to have greater visibility online. In addition, it is a good place to connect with users interested in the brand, publish events and announce news about the company.
- Facebook group: A Facebook group is a good place to start creating a community around the brand. In the Facebook group, consumers will be able to share their experiences with the toys, write recommendations, give feedback, etc.
- Influencers: To increase the visibility the product, it is intended to contact influencers and YouTube channels focused on a healthy lifestyle and eco-friendly products.

Content creation and SEO

To increase the organic traffic to the page it is necessary SEO optimization (Gabbert, 2018). To achieve that, the website will be SEO optimized and it will generate SEO content and keywords throughout a blog, where articles and engaging posts about sustainability and innovation will be posted weekly.

Mail list

“Convincing someone to give you their email address is much easier than convincing them to buy something, since it doesn't cost anything except the ten seconds it takes to sign up” (Taylor, 2014)

E-commerce platforms such as Squarespace can integrate MailChimp with the website of the company. This free method will allow to send emails announcing promotions and future news about the brand.

Visitors will get a discount code in exchange for their email address.

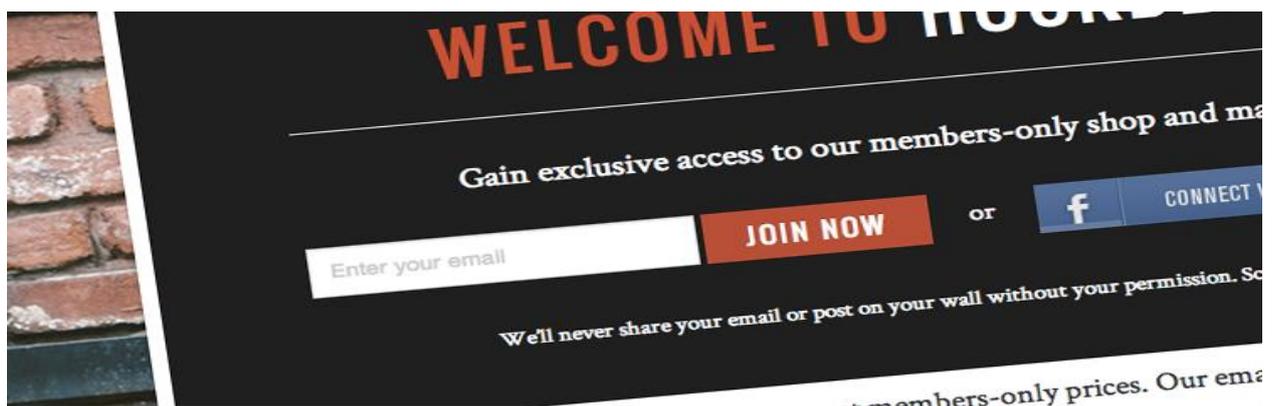


Figure 3. Screenshot of Shopify Mail Subscription (2018).

Online press release

Online press is an alternative to traditional press release and it takes advantage of the viral potential of online social media. Also, it is an effective method to raise awareness of a company and generate interest for the brand.

Offline

Projects

Forest Cycle Toys will collaborate in reforestation programs with the aim of conserving the environment but in turn, it will improve its image as a sustainable company.

Educational workshops

Holding a workshop about sustainability and eco-friendly toys will have a positive impact in potential customers. Educational value is important for most green-minded parents.

Newspaper and magazines

It is important to publish articles and interviews in magazines and newspapers with the aim of attracting new clients and potential consumers. This type of campaigns is intended to attract customers who are not present in social networks.

Sustainability and design fairs

Forest Cycle will be presented in the largest number of fairs and exhibitions possible. These events are great opportunities to meet new customers and suppliers and to understand the needs of consumers.

5. IMPLEMENTATION

5.1 IMPLEMENTATION, EVALUATION AND MEASUREMENT

Customer response

The insights from consumers are an essential point to take into account. Consumer satisfaction and perception of the brand will be measured with questionnaires that will be sent by mail. In addition, the opinions and feedback of consumers on social networks (twitter, facebook group, instagram, etc) will be reviewed daily.

Sales

The evolution of sales is an important parameter for the evaluation of the marketing plan. The number of sales should be increasing every six months to ensure that the marketing plan is working correctly.

PESTEL and SWOT

Revising the PESTEL and the SWOT every year is essential to keep updated the company. It is important that the company adapts all its process and strategies to the current environment.

Promotion response

It is important to observe if there is a direct response (increase on sales, increase followers in social networks, etc) to each advertising campaign done, otherwise it would be an indicator of an incorrect marketing decision.

Google analytics will be used as a tool to collect data and know the direct effect of each ad campaign.

Market expansion

The company must expand its market every year. If the company is getting popular on new regions, this is an indicator of an effective marketing message.

Return on investment (ROI)

Return on investment (ROI) measures the gain or loss generated on an investment relative to the amount of money invested (InvestingAnswers, 2017). According to Morello (2018), it measures the amount spent on each campaign, versus the amount of sales each campaign brought in specifically. ROI will be calculated to ensure that the company is getting benefits in exchange for the investment made in the campaigns.

Objectives and goals

Achieving the goals of the company is an important factor to measure the effectiveness of the marketing plan. Reaching the planned amount of sales, market share and followers in social media will be essential to know whether the brand is on good track.

5.2 BUDGETING

Being a start-up company, the initial budget to launch the company is quite small, therefore it is important to distribute the budget wisely and take advantage of the marketing tools that the internet offers, since many of them are free or low cost.

The biggest investment will be made in the manufacturing process to ensure high-end quality toys. This investment is a must for Forest Cycle since the company is committed to sustainable production and proper use of resources. The possibility of making toys with poor quality materials or carrying out the manufacturing in factories located in China in order to reduce costs is discarded as it would be against the values of the company.

It will also be necessary to rent a small warehouse to be able to store and distribute the stock. Moreover, the company will hire the help of some professionals, such as a lawyer or a financial advisor, since, despite appearing to be an unnecessary expense, a legal error or a bad financial planning, could suppose the end of the company.

The company will also have to face other initial expenses of legal aspect such as the registration of the brand or the payment of corporation taxes.

On the other hand, the promotion of the toy will be crucial for the growth of the company. For this reason, it is important to develop a strong marketing strategy, but that does not mean that it will necessarily cost a lot of money. Thanks to the Internet, many new platforms and ways to promote a company are appearing, and most of them are very low cost or even free. Forest Cycle will do in-house marketing, what means that is not outsourced to a third party.

Initially, only the online marketing strategy will be carried out and once the company obtains benefits, these will be invested in expanding the marketing campaign to the offline media channels.

Then, it's going to break down the cost of the online marketing strategy to prove that it is possible to promote the product without having to make a large investment.

Branding – In-house. No costs.

Facebook ad campaigns – The cost of the ads depends on many factors, but it's possible to start a campaign for \$10 to \$20 (Aggregate, 2018). The campaign can be easily scaled to increase the visibility of the ad.

Facebook page – It necessary to have one Facebook page to create an ad campaign and it is free.

Facebook group – Free

Website – The website will be done using Squarespace. Squarespace is an e-commerce platform builder that offer a bussines plan for \$40 (a month).

Squarespace is slightly more expensive than other platforms but it offers a lot of features and it's possible to use free templates that are extremely well designed and UX optimized.

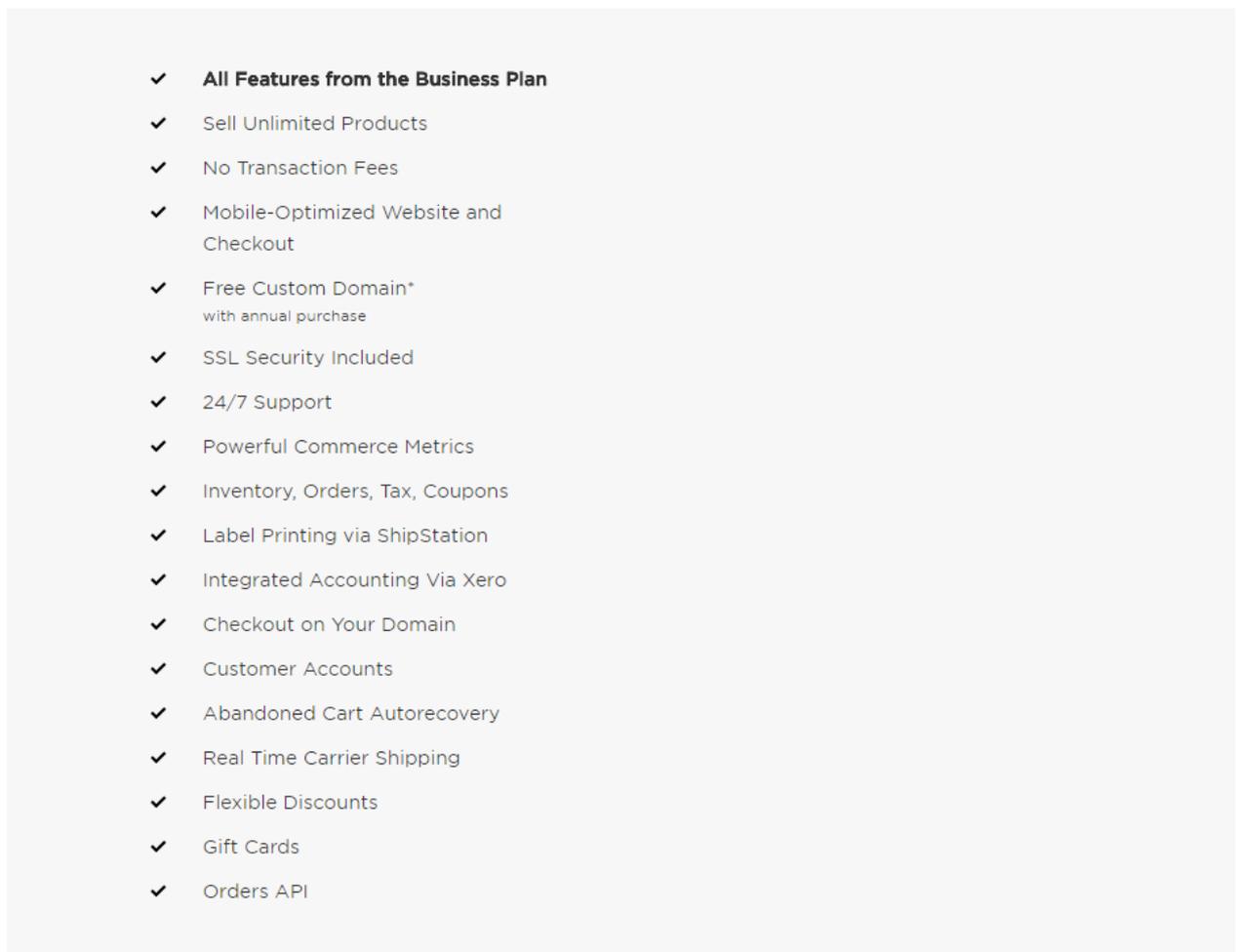


Figure 4. Screenshot of Squarespace features (2018).

SEO optimization – In-house. No costs.

MailChimp – MailChimp is an email marketing service that can be used to design and send email campaigns and newsletters. MailChimp can be integrated with Squarespace to easily collect addresses from the website. It is a free service.

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