

COCOON

Feeding the future



Master Project by Rickard Hederstierna 2010

COCOON
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MASTER THESIS FROM LUND UNIVERSITY
INDUSTRIAL DESIGN/LTH
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Cocoon will enable forthcoming generations to maintain a sustainable way of living. This without cutting down on the one of the most important and until now damaging human behaviors - the desire to eat meat.

Acknowledgements

I won the Electrolux design lab competition of 2009. I did it with my concept “the Cocoon”. The Cocoon is a feasible solution to an identified future problem of how to feed a fast growing population in a sustainable way.

The Cocoon has been carried out at the division of Industrial Design at the Department of Design Sciences, LTH, Lund University, Sweden 2009.

I would like to thank the following for their excellent contributions:

- Mr. Carl Lidgard, PhD Student, Designer
- Mr. Per Liljeqvist, Lecturer, Designer
- Mr. Claus-Christian Eckhardt, Professor, Designer
- Mr. Anders Bierre - Senior Manager at the Copenhagen Institute of Future Studies

Abstract

The Cocoon project was carried out as an entry to one of the World's largest design competitions for industrial design students, The Electrolux design lab. The "Cocoon" won the first prize competing with almost 1000. The Cocoon is a sustainable response to the world's growing population and its desire to consume meat and fish. The Cocoon prepares genetically engineered and pre-packaged meat and fish dishes by heating muscle cells identified by radio frequency identification (RFID) signals and making them grow into muscle tissue. The signals detect the specific dish and then suggest the required cooking time. This process uses science to create food, lifting a burden on the planet by reducing the need for further intensive farming and fishing. The negative effects of intense fishing and farming, including the mass transportation of food around the world, clearing of land and distortion of ecosystems, are then negated.

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Introduction

Background

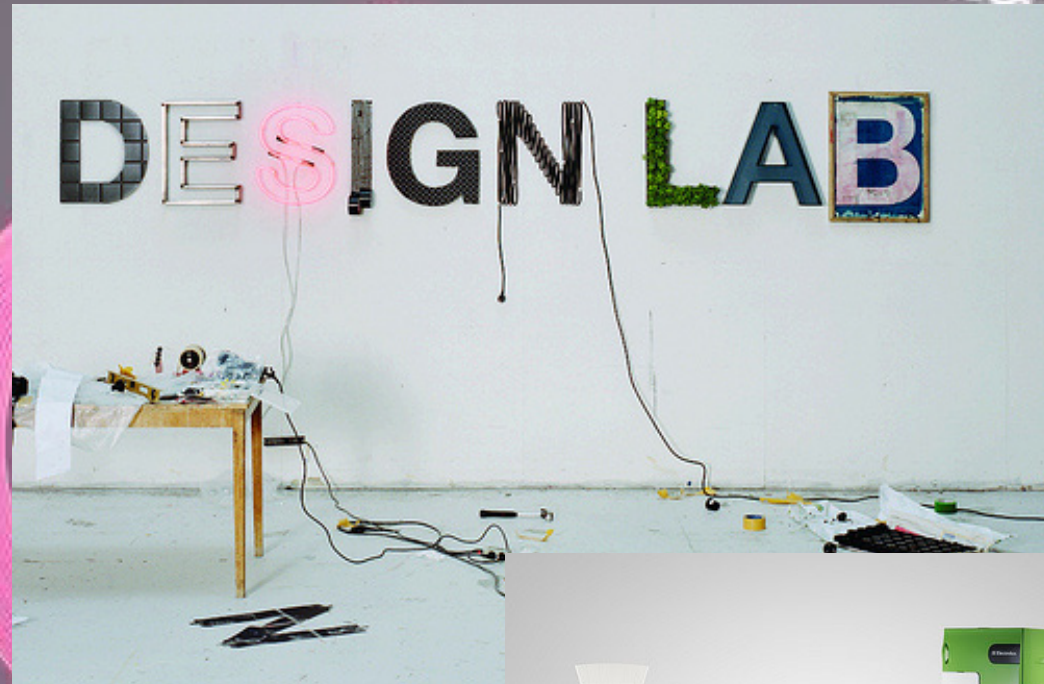
When I started to work on my Master thesis, the world has just been struck by lightning. The lightning was the great financial recession. The recession is described as one of the hardest blows on world economy maybe even bigger than the economic depression in the late 30:s.

This crisis of course affected the design business as well as any other business. This financial crisis affected me as a young designer as well. In my darker moments I saw endless lines of laid off designer's cueing up in front of the unemployment offices. What to do?

I saw only one chance not to be one of those designers without a job. So I said to myself Richard we have to really work hard and try to create something that would help me to be competitive even in an extreme downturn market.

Was there any way for me to increase my chances of getting employed after my studies? Yes there was, winning a respected global competition for young designers could be the career boost that I was looking for. At that time Electrolux had just launched the brief for their annual competition Electrolux designlab 2009. I realized that this could be my chance and I decided to participate.





Electrolux design lab history

Electrolux Design Lab is an annual global design competition open to undergraduate and graduate industrial design students who are invited to present innovative ideas for household appliances of the future.

Electrolux Design Lab has led directly to jobs and business opportunities in the design field for many of the contestants. Several finalists are currently employed in one of the Electrolux Global Design centers and last year's winner is doing his 6-month internship. Others have gone on to found successful design businesses.

The competition has had different themes and culminates in a new city every year at an international press event.

Themes and venues include: Designs for the next 90 years, London; Designs for the Internet generation, Zurich, 2008; Green designs, Paris, 2007; Designs for healthy eating, Barcelona, 2006; Designs of the future, Stockholm, 2005; Designs of the future, New York, 2004; User-driven solutions, Budapest, 2003.

*Pressrelase 2009-12-11 Electrolux designlab

Brief

“The brief for the competition’s 7th edition is to create thoughtfully-designed home appliances that will shape how people prepare and store food, wash clothes, and do dishes over the next nine decades.

The design ideas should address key consumer insights such as being adaptive to time and space, provide learning and allow for individualization.

A limited number of finalists will be invited to participate in the final event in London September 24, 2009, to present their entries to a jury of high-level designers and experts. The jury will review the entries based on intuitive design, innovation and consumer insight and then select a winner.”

*The brief 2009-12-11 Electrolux designlab

Demarcations

My project had dual purposes, first as a stand alone academic piece of work and secondly as an entry in the Electrolux competition. Due to these dual purposes compromises had to be made. In order to fit the Electrolux competition format I had to stress the communicative aspects of my work. I wouldn’t stand a chance in the competition if I didn’t match

1. The exact deadline
2. The required content specifications
3. The criteria of easy to understandable material which easily digested for a jury with a limited amount of time.

Sources

Interview Anders Bjerre Senior Manager Copenhagen Institute of Future Studies
Interview Peter Gardenfors Professor of Cognitive Science Institute of Technology
Inspiration trip to Material fusion in Gothenburg
Consulted with Materialized with prototyping the mockup
The report of CIFS Members' Report # 4/2004 The World 2040
The movie BBC Visions of the Future 1 of 3 The Intelligence Revolution 2007
The movie BBC Visions of the Future 2 of 3 The Biotech Revolution 2007
The movie BBC Visions of the Future 3 of 3 The Quantum Revolution 2007
The movie BBC Earth The Climate Wars 3 of 3 Fight for the Future 2008

February

- V7 Intervju with Anders
- V8 Research
- V9 Research
- V10 Research

Mars

- V11 Research
- V12 Brainstorvming
- V13 Sketch mockup and testing ideas
- V14 Form and Function , Sketches and mockups

April

- V15 Form and Function , Sketches and mockups
- V16 3D modelling
- V17 3D modelling
- V18 Rendering + Illustator work

May

- V19 Presentation, concluetion
- V20 Presentation + Adjustments , smaller graphics
- V21 Deadline
- V22 Time margin

Prologue

Sidetrack and interviews with Professor Peter Gärdenfors

When I tried to decide on the subject for my Master thesis I started out with an idea of how to help people affected with memory shortcomings. I found this area particaly interesting since this affects a waste number of people.

My ambition was to design a device that would help people with these hearing problems. I started out very ambitiously by doing field research trying to get closer to the real problem, especially among older people. In order to get the appropriate academic frame I contacted professor Peter Gardenfors at the Department of Philosophy at Lund University.

I thought that I had a pretty good reference for the further design of this project, but in order to get a project like this successful. I had to imagine some kind of physical device as an outcome of this project.

No matter how hard I tried I wasn't able to visualize any device. So I decided not to pursue this project. The bad thing was what I spend a lot of time in the making of this research. But on the other hand the good thing was that I kept some of the findings and applied them on my final project.



“Bjorn Peter Gardenfors (born September 21, 1949) is a professor of cognitive science at the University of Lund, Sweden. He is a member of the Royal Swedish Academy of Letters, History and Antiquities and recipient of the Gad Rausing Prize. He received his doctorate from Lund University in 1974; his thesis title was “Group Decision Theory”. He is one of Sweden’s most notable philosophers”. *

*Article about Peter Gardenfors on wikipedia.org

Research

INSTITUTTET FOR FREMTIDSFORSKNING



“Anders Bjerre works on national and international projects focusing on company and product development based on development potentials, scenario based planning and dialogue-based scenario processes in companies and organisations.

Among his many fields of interests are IT and e-business, New Media, organisation, strategy and culture, methods in futures studies, scenarios, the future of work, housing, memberships, Business to Society, marketing and EuroConstruct”.*

*Article about Anders Bjerre on Copenhagen institute of future studies homepage

The interview with Anders Bierre gave me a lead

As a young industrial design student I had no idea on scientifically based forecasting methods when it comes to predicting the future, only guesses. In order to broaden my horizon within the field of forecasting I asked for a meeting with Anders Bierre who works as a Future Forecaster at Copenhagen Institute of future forecasting. I hoped that Anders would share with me his models and his methodology for long term forecasting.

To my disappointment Anders told me that weren't any models for seeing into the future with this kind of timeframe with any level of accuracy. The discussions with Anders was fruitful in another way, Anders explained to me the importance of formulating a clear strategy on how to make my scenarios. What shall affect, and what shall not affect the scenarios.

Material Fusion Gothenburg

One of the milestones in my project was a visit to the Material Fusion exhibition in Gothenburg. I really hoped to learn a lot about new materials and manufacturing technics and technologies. But the truth is that also this exhibition was on a financial diet.

Not very much new was presented although I picked up a few things that I used in the design of my project. One of those things was the insights of how smart plastics can take a bigger part of our lives and be used almost everywhere due to the diversity in applications of smart plastics.



Vision

How can we know that a product will be desirable in the future?

In order to design a product for the coming next nine decades we must consider the constant changes of human life linked to the technological development.

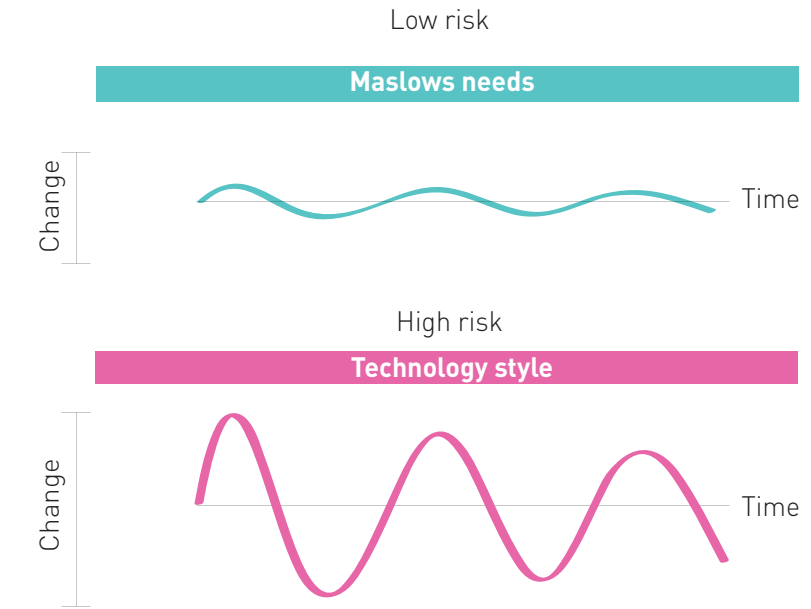
In order to be able to come up with some viable solutions for future product ideas I have to base the thinking on possible future scenarios. These scenarios must be based on assumptions of how we assume that technology and social living will look like in the future.

Having said that I must stress the fact that it is impossible for anybody and - even fortune tellers - to know exactly how things will develop even a week from any day.

There are, however, a few things that probably will remain unchanged. These things are what I will refer to as “low risk components”. These “phenomena” have been around historically for a long time and haven’t changed substantially. I am referring to things as the necessity to eat, drink and to have social life and so on and so forth.

I think that a good and inspirational scenario must have a mix between the low risk and the high risk components. This will result in a more provocative scenario but will still solve demands of modern products as we know them today.

A high risk component is something that has changed frequently over time. These components create a higher risk for the company. It is very important to point out that the high-risk components are considered risk today but perhaps they will not be considered high risk in the future (when we now how the scenario became a reality).



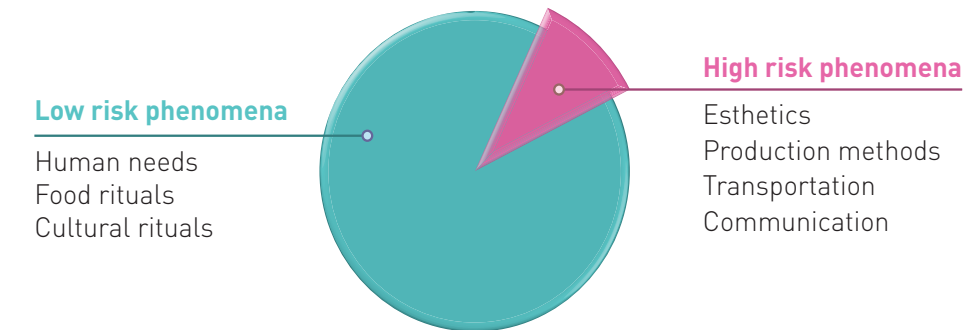
The scenario must be...
A good mix

Low risk

Stability
Desire

High risk

Provokes
Unique market position



word population growth Hunger Social community demographics Prolonged life span

creativity Rituals of eating Healthy living Smart products (RFID)

Evolution of plastics Genetic technology Bacteria

Low risk phenomena

High risk phenomena

Nanotechnology

Harsher climate

Looking for insight

With the newly created strategy in mind, I now started to look for phenomena, trends and new scientific breakthroughs by searching on science fora and on news blogs. In addition to this I also watched a movie series from BBC called "Visions of the Future". When looking at these facts I found some similarities and where the trends were heading. These became the foundation of my research which the scenarios would be based upon.



Smart plastics

Plastics will play a largely increased role in our future. They are becoming 'smart' and, development will probably include plastics that can be used as sensors and communicators.*



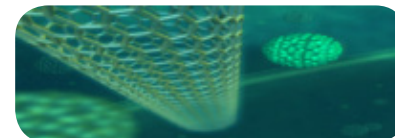
Useful bacteria

Researchers have found bacteria's that probably will be incorporated with the products of the future. They could create energy, recycle plastics and allow the body to absorb less fat.



Population growth

An explosion in world population growth is expected. Today there are just under seven billion people on the planet. According to United Nations there will be over eight billion by 2030 and pessimistically up to twelve billion by 2050.



Nanotechnology

Nanotech, has great potential to create new materials and devices with wide-ranging applications.



Harsher climate

Ever since the first reports on global warming there has been theories about what consequences this phenomenon will have on our planet.

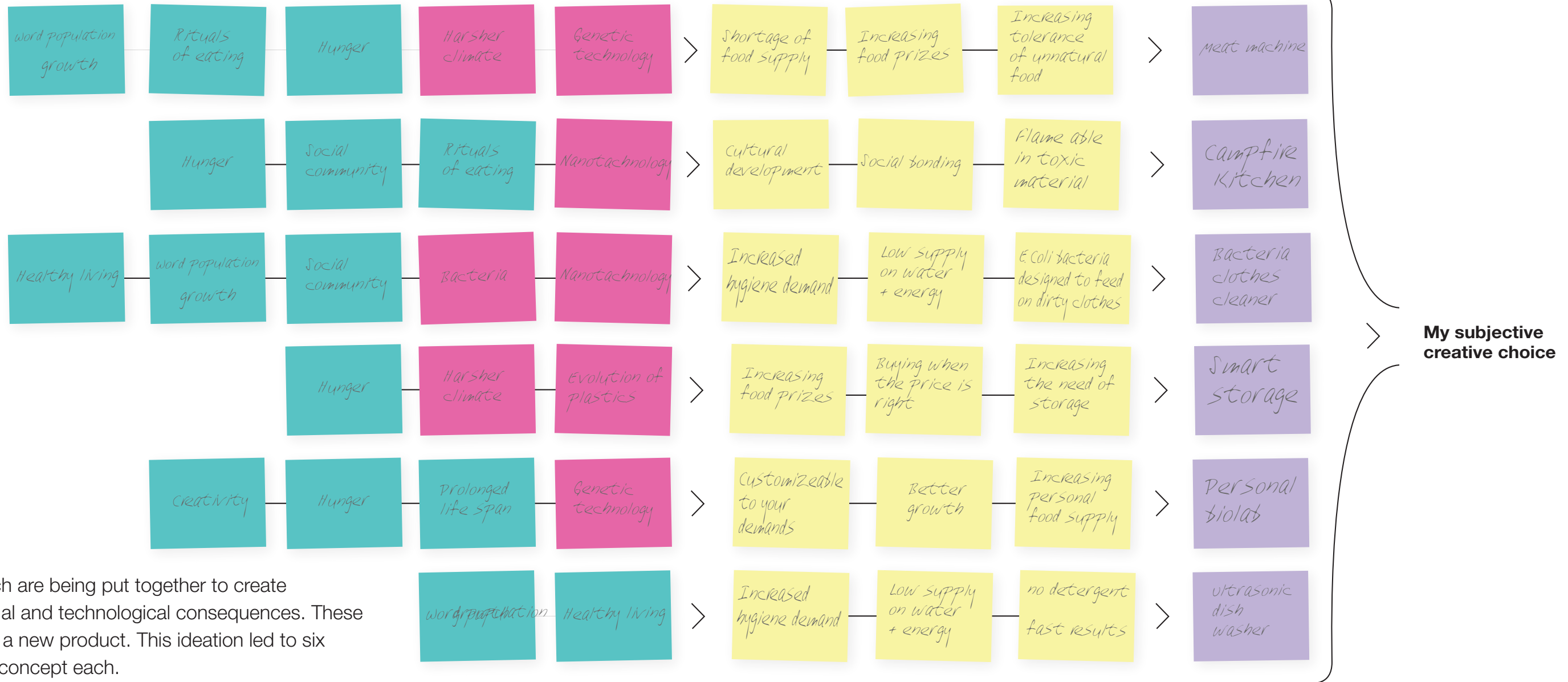
*Hammond, Ray. The world in 2030 "Summary and initial industry response", Plastics europe, 2007

Ideation

Mixing phenomena to create a scenario

New needs and other social/technological consequences

Creative ideas



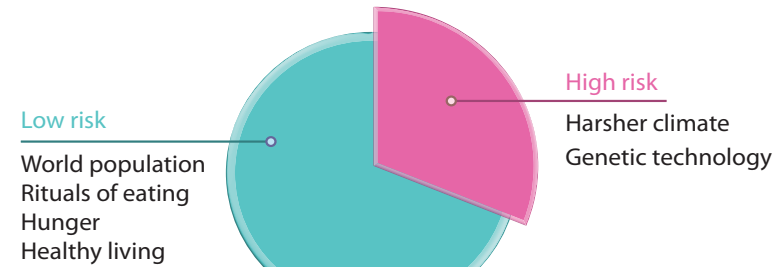
Concept Ideation

The phenomena found in the research are being put together to create scenarios. Each scenario has its social and technological consequences. These consequences produce the need for a new product. This ideation led to six different scenarios with one product concept each.

Potential concepts

From the seven concepts I picked out three concepts based on a “subjective creative choice”. I evaluated them based on the risk factor. Finally I chose to continue with the “meat machine” because it had a balanced risk level and felt inspiring.

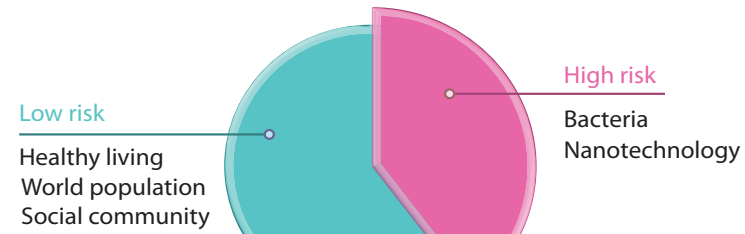
meat machine



33% Risk

Best choice based on risk, enough profit not to much competition

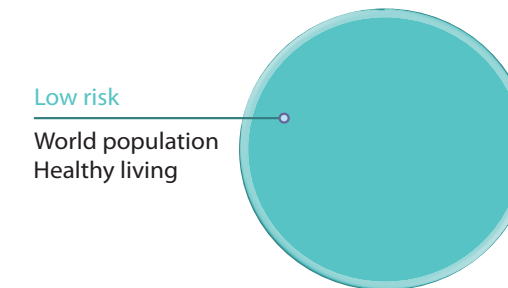
Bacteria clothes cleaner



40% Risk

Too high, maybe no technology available , maybe no profit

ultrasonic dish washer



0% Risk

Too low, too much competition, maybe no profit

Concept design

Population scenario

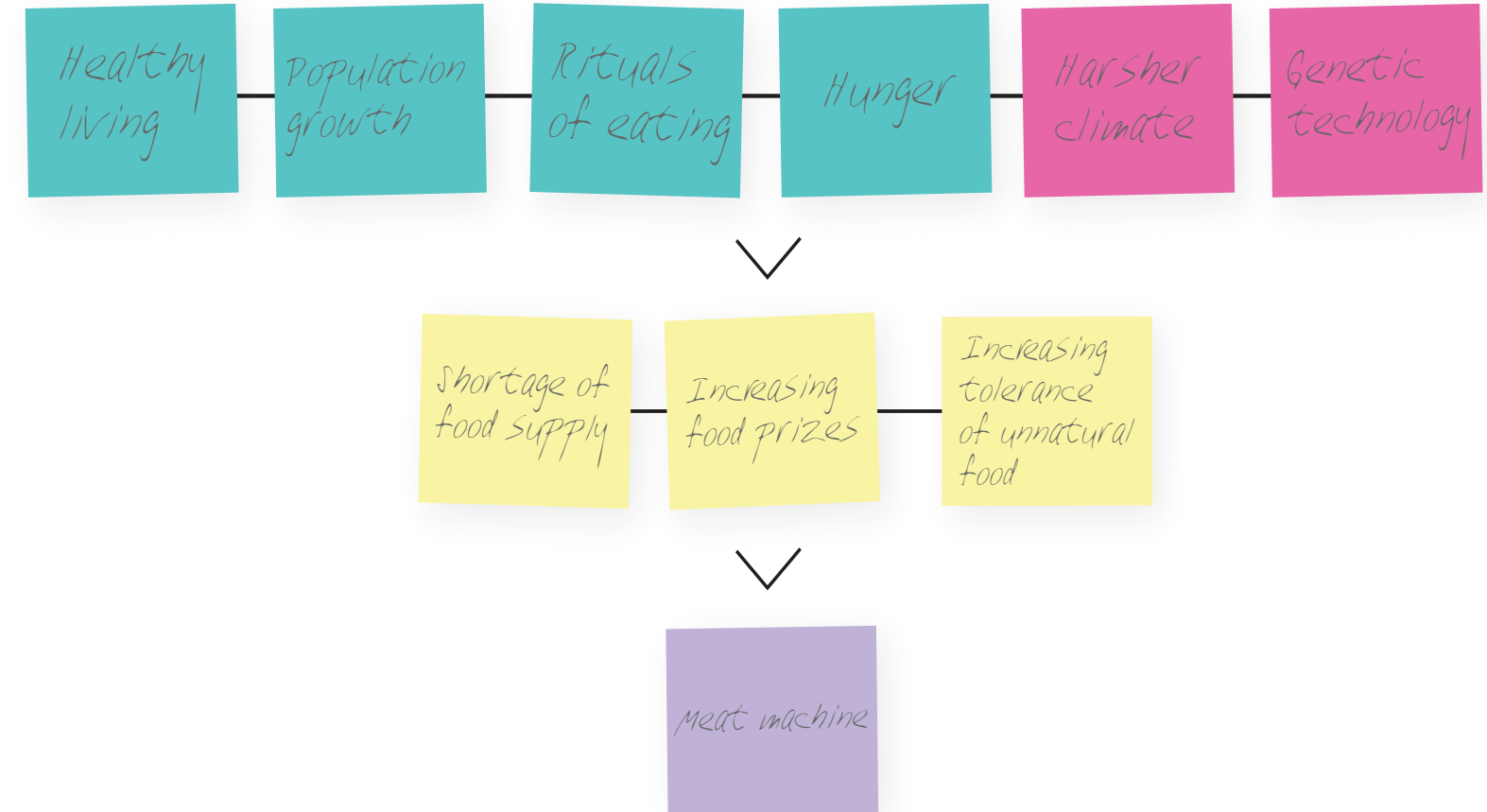
If the United Nations more pessimistic forecast on the development on the worlds population will come true there will be some 12 billion human beings on this planet by 2100. A population of 12 billion will have huge consequences in many ways and especially on the climate due to a possible uncontrolled pollution. Already today we see clear signs of a mismanaged planet. Avian flu, Swine flu and polluted water are clear signs that something is already wrong with a population of half the one forcasted for the year 2100.

The impact of a doubled population on the planet is hard to forecast since the food industry is having severe problems to feed the world population at the level of close to 7 billion.

Consequence for the meat industry

A likely consequence of these phenomena could be a shortage of food supply which would lead to increasing prices of food.

When people still want to eat meat they will develop an increased acceptance for “unnatural” food.



Brainstorm

This is some of the material that were produced from a initial brainstorm meeting with my supervisor Carl. We were discussing a lot about of how a possible machine would work and also what it possibly could produce and deliver to the end consumer.

Initially I wasn't sure if the possible meat machine should produce real meat or mimicking meat based on soya protein. When I finally decided that I wanted to make real meat I had to make some additional research to figure out if there were any technologies available for producing real meat but in an artificial way.

WHO MAKES IT?
WHAT IS USED TO MAKE IT?
HOW LONG DOES IT LIVE?
IS IT SUSTAINABLE?

PRODUKT
FAMILJ

ENSKILD
PRODUKT?

ONE SIZE FITS ALL?
CUSTOM BUILT?
MASS CUSTOMIZATION?
PREMIUM? COST?
CHEAP? #?#?
ONE USER? WHERE IS IT SOLD?
MANY USER?

MICROWAVE
INSTANT NOODLE

MCDONALDS
TAKEAWAY/TAKE OUT
G.M.

SLOWFOOD
5 COURSE MEALS
HEMMABAKAT
BIOLOGISKT/EKO/ORGANISKT

KÖTT: (HÖRSEL?)
"DÖPT" "KÄNSEL"
"JUGGA" "SMÅK" "VISJELLA"

SKA DET LIKNA KÖTT
KÖTT KRÄVER MASSA
ENERGI & YTA.

VAR KOMMER DET
PULVER FRÅN?!!

HIGH
RISK?

SMÅK:
FAKTA
OR
NOT

SUPERSIZE ME
PART II: SOYA BURGER

ÄT SOSABIT & STOR!!
VAD FINNS MER?!
ÄT RIKTIGT KÖTT.

SMÅKAT
PULVER?

HAR DIN PRODUKT MÖJLIGHET
ATT LEVERERA PÅ OLIKA
TID OCH MED OLIKA KVALITET
OCH MED OLIKA ANSTRÄNGNING!

KAN JAG LÄRA MIG
PRODUKTEN?

KAN JAG LÄRA MIG OM
PRODUKTEN?

RÄVARAN.

ESL VS. LYX

AMBULANS
PERSONAL

SLOW = CARE?
FAST = CARELESS?

"I SACRIFICE MY TIME
FOR YOU?" (I'M THINKING
OF YOU
RITUALS.

SNABBA FINA KONSUMERA POSOR

RISKA LÅNGSAMMA PLOCKADE

"IT'S A PART OF OUR LIFE"
"I'M NOT JUST A PIECE
OF MEAT"

DU HAR BRÄTTOM - MY
CARE HAS TO BE FAST

SLOWFOOD MOVEMENT
VILKEN MARKNAD?

In vitro technology



What is 'in vitro' meat?

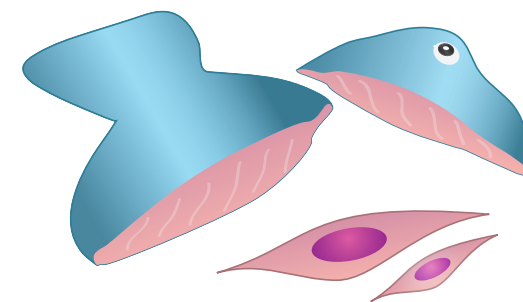
In vitro meat, sometimes called cultured meat, is animal flesh but never been part of a complete, living animal.

Is there in vitro meat ready for consumption?

In vitro meat is experimentally grown in many research projects. No in vitro meat has yet been produced for consumption. The long term objective is to grow fully developed muscle organs. The first generation in vitro meat will most likely be minced meat for meat products. Potentially, any animal's muscle tissue could be grown through the in vitro process. Many biologists advocates that the current in vitro meat technology is adequate for producing meat for commercial use and just needs a company to promote it financially.

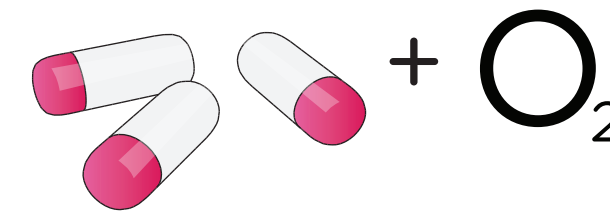
What are the in vitro meat advantages

In vitro will, when it is fully developed, produce healthier meat, safer and with a lower environmental impact than conventionally produced meat. Production of in vitro meat is most likely to be much cheaper since you don't have to calculate costs for raising animals and the protection of the environment. Unfortunately we cant be completley sure if the nutriens in the pacages will be manufactured in an environmental friendly way but it is theoretically possible.



Muscles cells

The in vitro technology can't produce skeleton structure which is good since this reduces the risk of people choking while eating fish for example.



Nutrients and oxygen

Nutrients, vitamins and oxygen are added to the process to "feed" the mitosis of the muscles cells.



Embodiment

When the cells starts building tissue an embodiment is needed for the tissue to be build upon. The embodiment also determinates the final shape of the meat



Time and Heat

In order for the process to initiate it needs both time and heat. The time depends on the type of meat, but its always 37 degrees Celsius within the Cocoon while the mitosis is active.

Function analysis

Function	Class	Function limit
Possess	Preparation area	
Offer	The activation option	N
Offer	Deactivation option	N
Offer	Monitoring of process	D
Offer	Information of the process	N
Avoid	Complexity	D
Offer	Communications	N
Offer	Cooling	N
Offer	Heating	MF
Offer	Cleaning Ability	N
Offer	Electrical stimulation	D
Possess	RFID	D
Possess	Electronic receiver	D

Safety, Ecology

Function	Class	Function limit
Minimize	Materials	D
Offer	Recycling	N
Show	Information	D
Possess	Energy efficiency	D

Safety, Ergonomics

Function	Class	Function limit
Offer	Place	MF
Possess	Grip	N
Minimize	Weight	D
		N

Emotions

Function	Class	Function limit
Express	Intuitiveness	D
Offer	Individualization	D
Possess	Authenticity	D
Possess	Cleanliness	D
Express	Echo friendliness	D
Express	Quality	D
Express	Cleanliness	D
Possess	Safety	N

Construction

Function	Class	Function limit
Enable	Production	MF
Maximize	Usability	D
Handle	Wet surfaces	D
Handle	Scratches	D
Handle	Temperature change	D
Possess	Dimensions	D
Minimize	Weight	D

Produktion, Transport

Function	Class	Function limit
Minimize	Material	D
Enable	Transportation	N
Minimize	Weight	D

Marknadsföring

Function	Class	Function limit
Express	Value	D
Create	Demand	N
Express	Simplicity	D
Express	Quality	D



Simplicity

Closed volume

Geometric forms



Purity



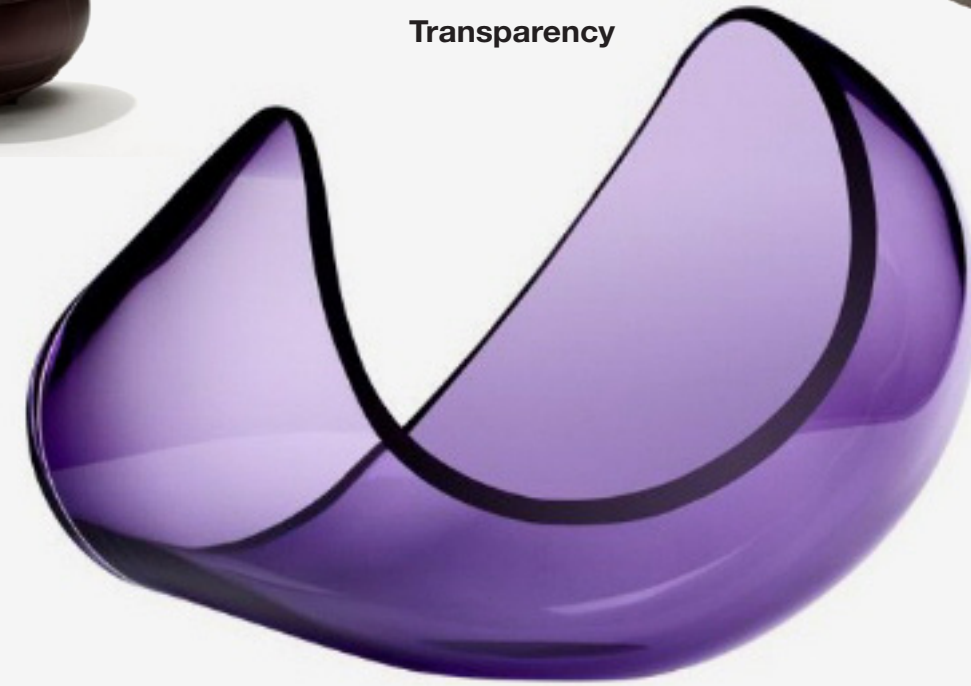
Fat

Safe



Transparency

Quality



Translucency

Friendliness

Intuitive



Soft



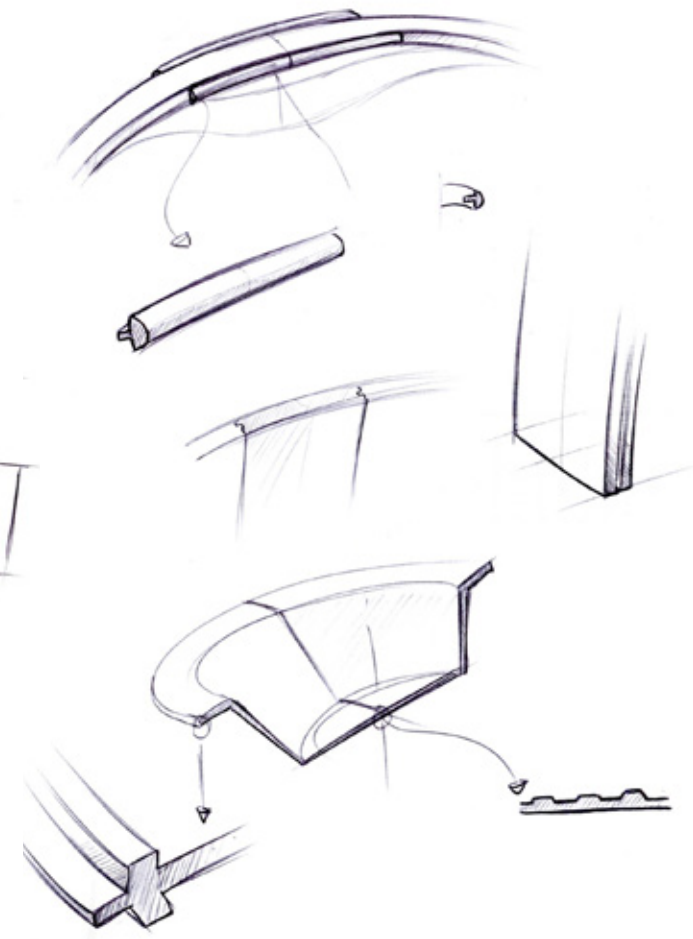
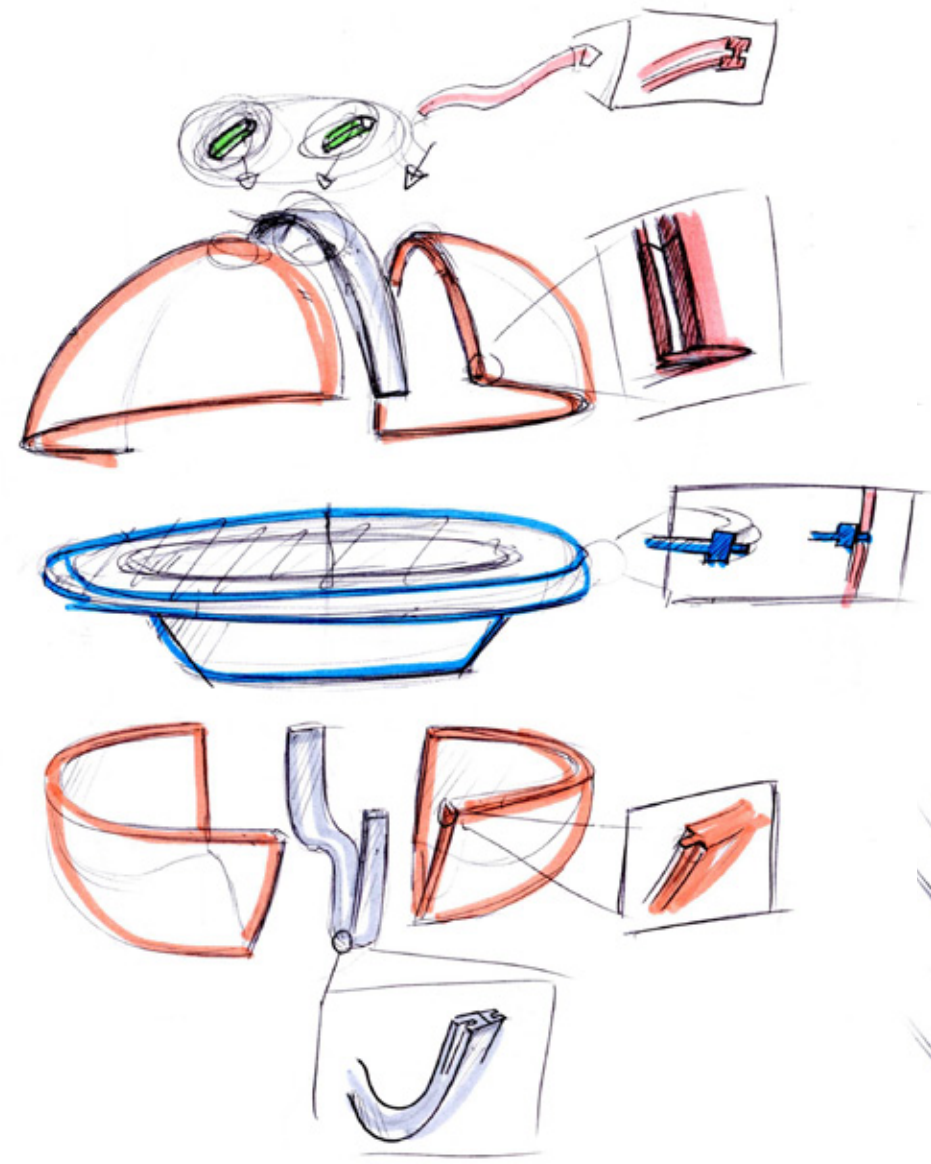
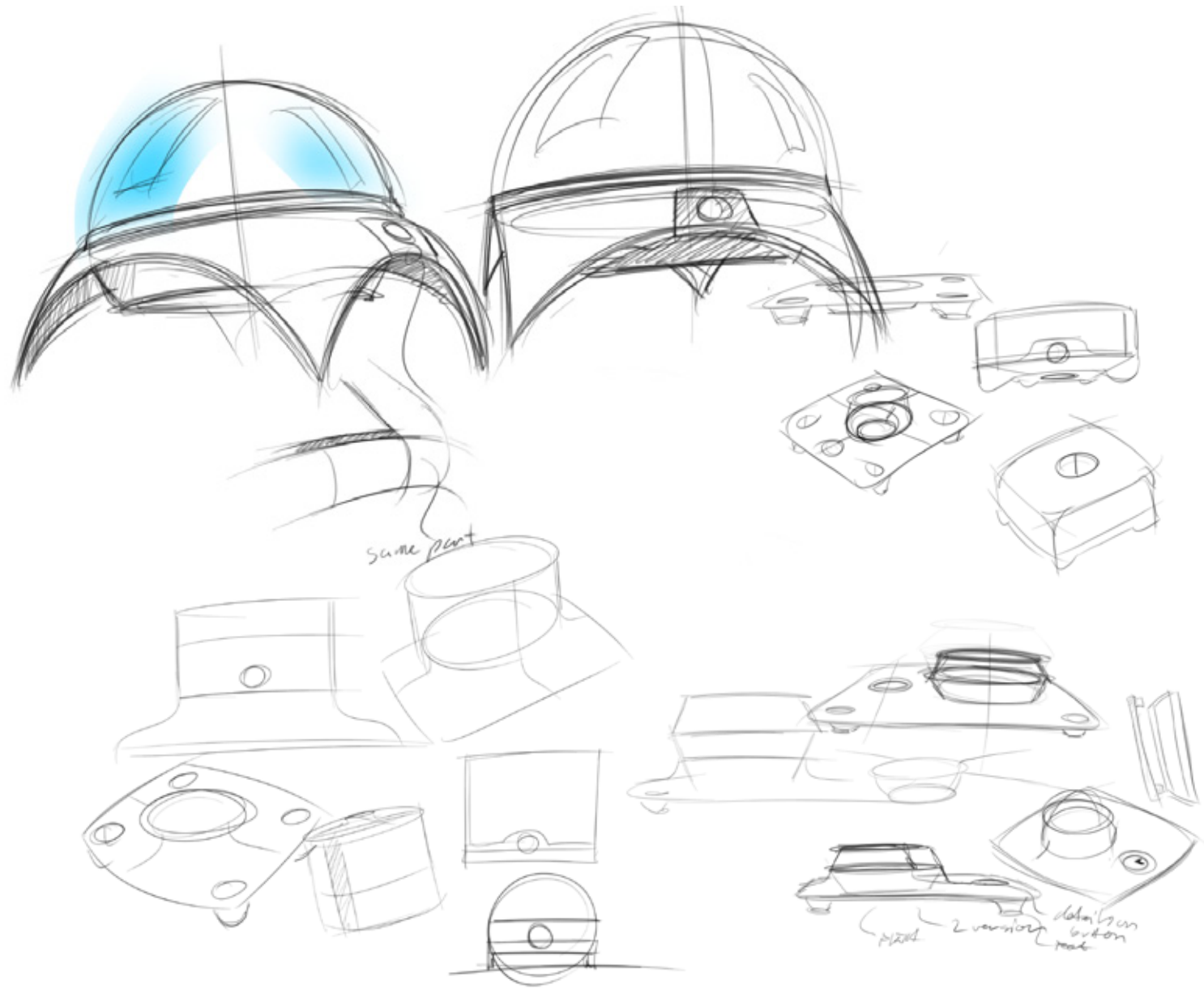
Eco



Inspiration


I wanted the design to be simple and intuitive to use also because this is a concept for the future and I wanted to avoid extreme styling which would be outdated in the future. It should also look friendly, clean and simple. Since Electrolux has a Swedish heritage and Sweden has a long tradition of glass making I wanted to embrace this legacy in my design. Because of all this I chose to work with glass as the main material. I played around with the transparency making it really easy and intuitive for the user to interact with the product.

Another reason for working with glass as the main material is that the technology “in Vitro” means inside glass in latin which created a connection between the technology and the design.

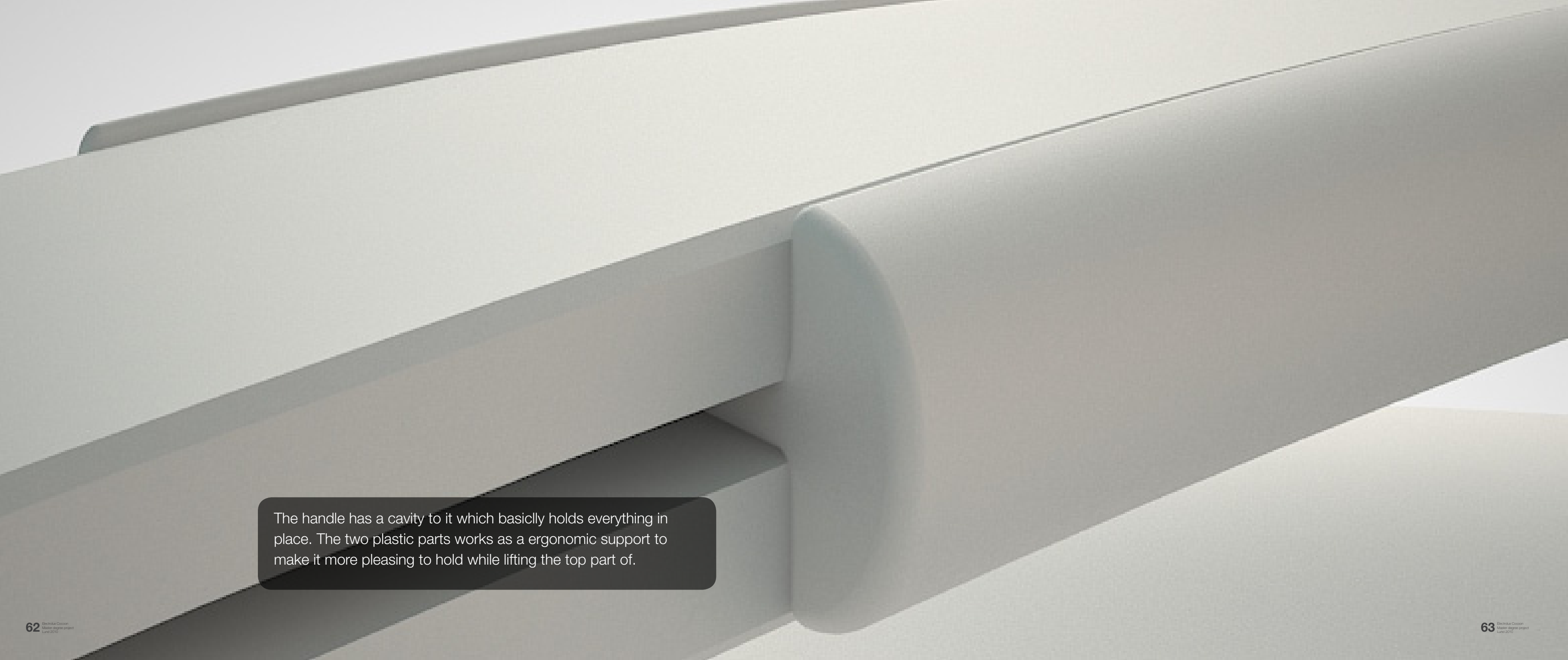




When I was working with shape it was important that all of the parts were flush with each other and crated in harmony with each other meaning that there was a continuous curve to all of the A-class surfaces.

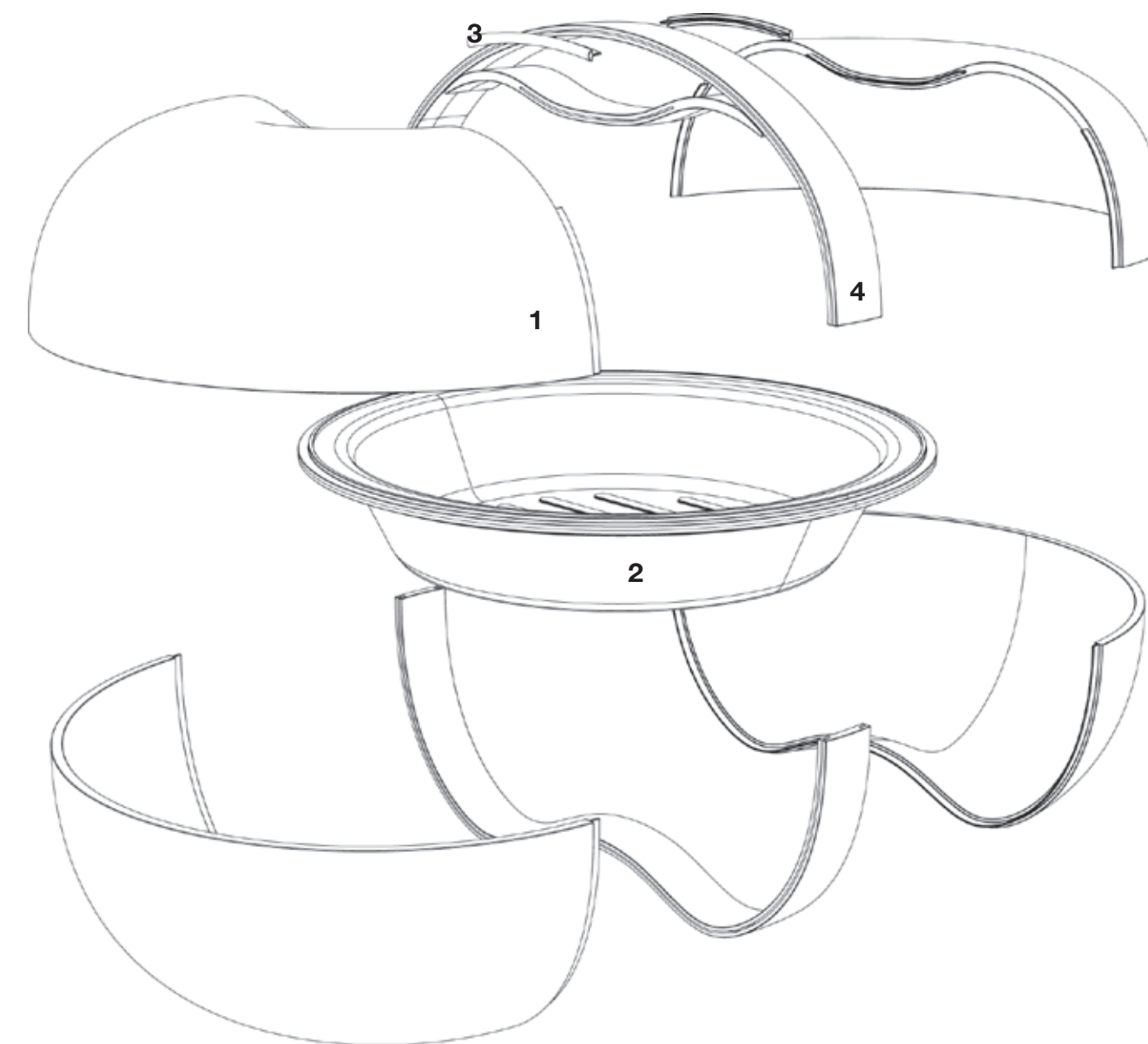
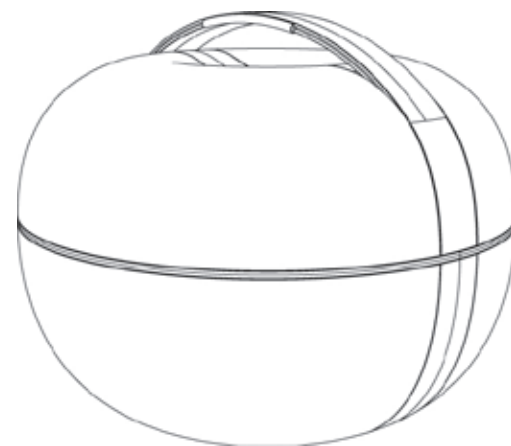


The plate has small extruded ribbons on the top side which is a semantic legacy from kitchen tools of our times. It should convey that heat is being transmitted from it.



The handle has a cavity to it which basically holds everything in place. The two plastic parts work as an ergonomic support to make it more pleasing to hold while lifting the top part of.

- 1 Glass/Screen
- 2 Plate
- 3 Handle
- 4 Warm/Cooling part



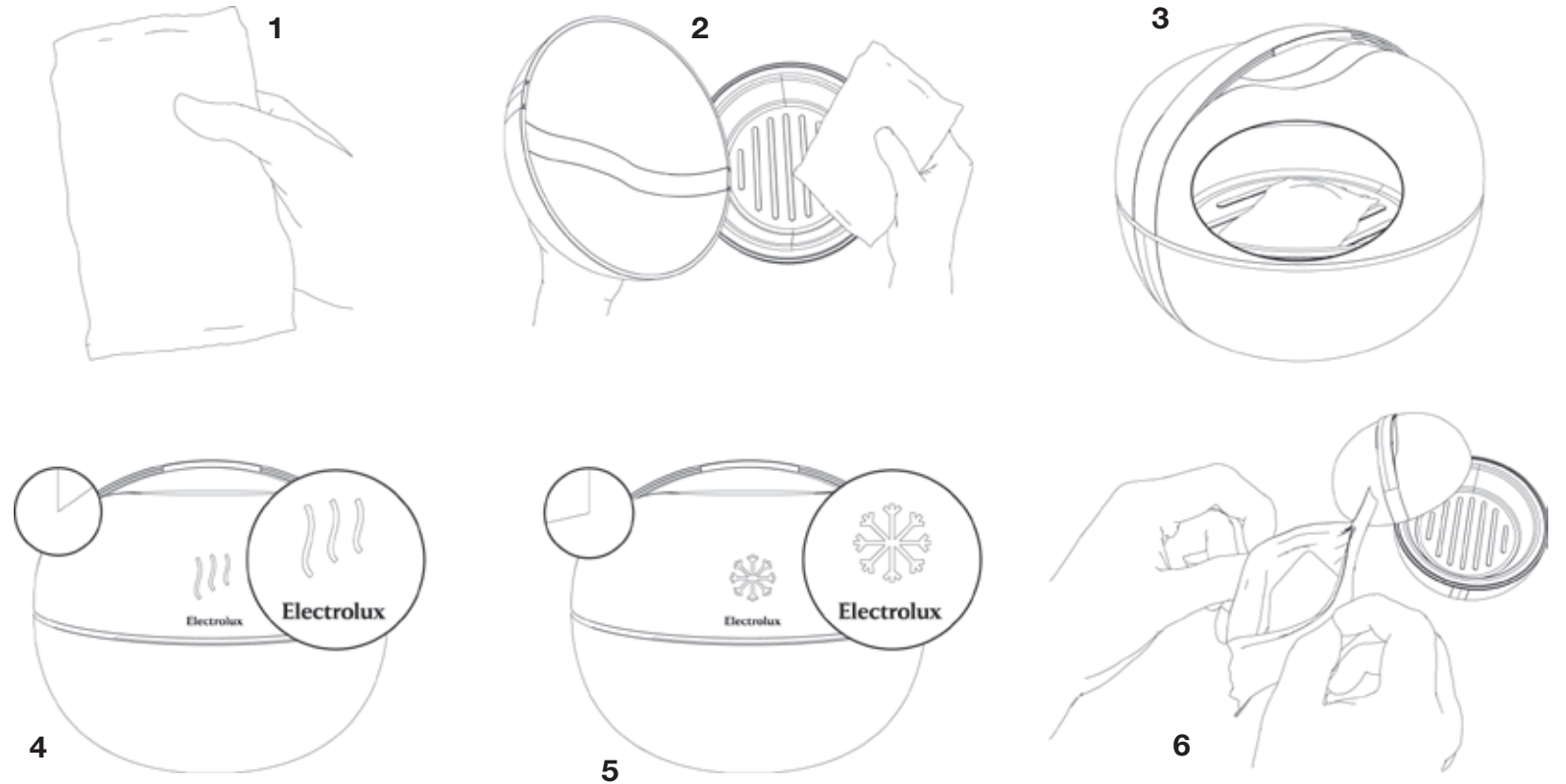
Construction

In general the design was focused rather on details than on the big general shape. I put a lot of effort to figure out how the different pieces should fit together and how the joints should be designed.

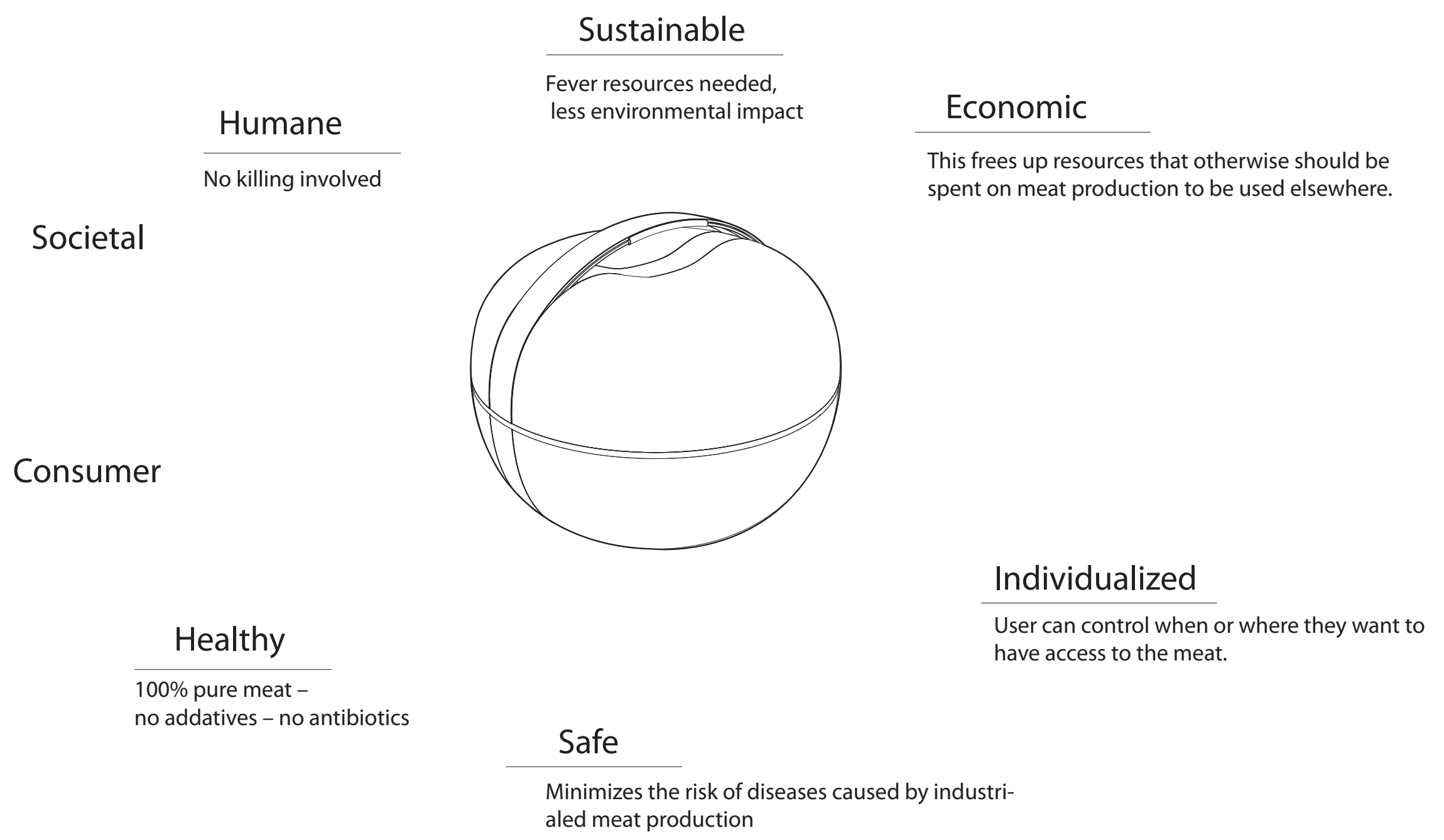
The construction of the Cocoon is simple and it is basically two frames of aluminium that holds the glass pieces together with a plate in between. The Cocoon electricity (could be wireless?) which is converted into heat and spread through the frames evenly throughout the volume.

How to use it

- 1** You buy a package of the desired food (fish, poultry or beef) from a provider.
- 2** You open the lid and place the package inside the Cocoon.
- 3** On the package there is an RFID tag telling the Cocoon what type of food it is and how long the heating process has to last in order for the meat to be fully developed
- 4** The heating process initiates and the Cocoon heats up to the operating temperature at 37 degrees Celsius. This is indicated to the user by a symbol that lights up at the front.
- 5** When time's up, the Cocoon swops the heating symbol to a snowflake, and starts a cooling process. This makes bacteria go away and guarantee that the food is going to be fresh and healthy when the user wants to eat.
- 6** When the Cocoon has done it's job you just continue to prepare it like you do with any kind of food.



Product benefits





Competition



The level of competition

The Cocoon was one of the 25 nominees chosen by Electrolux to compete for the EDL 09. The total amount of entries was nearly one thousand and the competition was global and received entries from more than 50 different countries from all over the world. In the next stage Electrolux picked eight short listed project out of the group of 25. I was now one of eight competitors for winning the first prize. All eight finalists were interviewed by Henric Otto Chief of Design Electrolux and the head of the jury. All interviews were published on Electrolux design home page and they were also made available on the general public on Youtube. In order to promote my contribution Electrolux assigned Karl Nyberg to manage the media relations.

Electrolux interview with me

How does your concept fit into this year's competition theme "Designs for the next 90 years"?

My concept is to help future generations maintain a sustainable way of living in the face of an increasing world population. This population increase will have huge consequences on water and the climate. It will also enormously impact the meat and fish industries, which are already feeling the strain of overpopulation.

What are the main consumer benefits of your concept?

My product offers consumers good food that is low priced, healthy, clean, and has as a minimal impact on our environment.

Describe the consumer research behind your concept.

I based my thinking on possible future scenarios: assumptions of how technology and societies will look in the future. I observed important phenomena in today's society and how much they've changed over time. Solid phenomena showing stability over time is considered "low risk" and those with less stability are called "high risk". If I based my thinking on only high-risk phenomena, there is a high risk that my concept will be undesired. So, my final design solution is based on a mix of both low- and high-risk phenomena.

Who is your favorite designer?

My favorite designer is the German industrial designer Dieter Rams.

What are your career goals?

In September 2009, I will graduate and earn my MA in industrial design. After graduation, I am looking forward to starting my career with a challenging job somewhere in the world. This job should help me continue my development in design and also as a human being.

The Competitors

- 1 Le Petit Prince** is a robotic greenhouse designed to facilitate the future exploration and population of Mars. Le Petit Prince takes care of a plant it carries inside its glass case, which is mounted on top of its four-legged pod.*
- 2 Molculaire** Nico takes the marriage of science and cooking to a new level with “Molculaire”, the 3D molecular food printer. Molculaire is influenced by chefs that scientifically and painstakingly experiment with food and food states to surprise and provoke fresh ideas in cooking. Nico recognizes that this approach, as it currently exists, requires great skill, time and knowledge. The Molculaire simplifies the process and acts as a computer numerical control (CNC) food printer for both professional and domestic kitchens.
- 3 Naturewash** is a waterless washing machine that uses negative ions to wash nano-coated fabrics. Horizontal in shape, the washing machine has three touch screen settings: clean clothes, grass scent and flower scent. A user can lie or sit on Naturewash to clean or refresh the clothes they are wearing. For a more thorough clean, clothes can be placed flat on the washer. *
- 4 Bifoliate** Putting away clean dishes from the dishwasher is often a tedious job. That’s why Toma Brundzaite has designed “Bifoliate”, a space-saving, wall-mounted double dishwasher that allows the user to put dirty dishes in one compartment and use the other as a shelf for clean dishes.

- 5 Renew** is a smart steamer that refreshes and cleans clothes. With two steam blades, Renew “blasts” garments clean. An infrared scanner and radio frequency identification (RFID) gather information about a garment from specifically designed clothing tags.
- 6 Teleport Fridge** Dulyawat Wongnawa envisions a time when the technologies found in science fiction become reality, specifically teleportation. His concept, “Teleport Fridge”, teleports food, eliminating the time and distance a person has to travel to buy fresh groceries or products from a store or farm.
- 7 Water Catcher** Penghao Shan has created a product that addresses water shortage. His solution is “Water Catcher”, a flying rain catcher and water purifier. This automated device dispatches small flying balls in the air to catch raindrops. After the raindrops are collected, the balls return to a homing tray that purifies the water for drinking.





The Jury

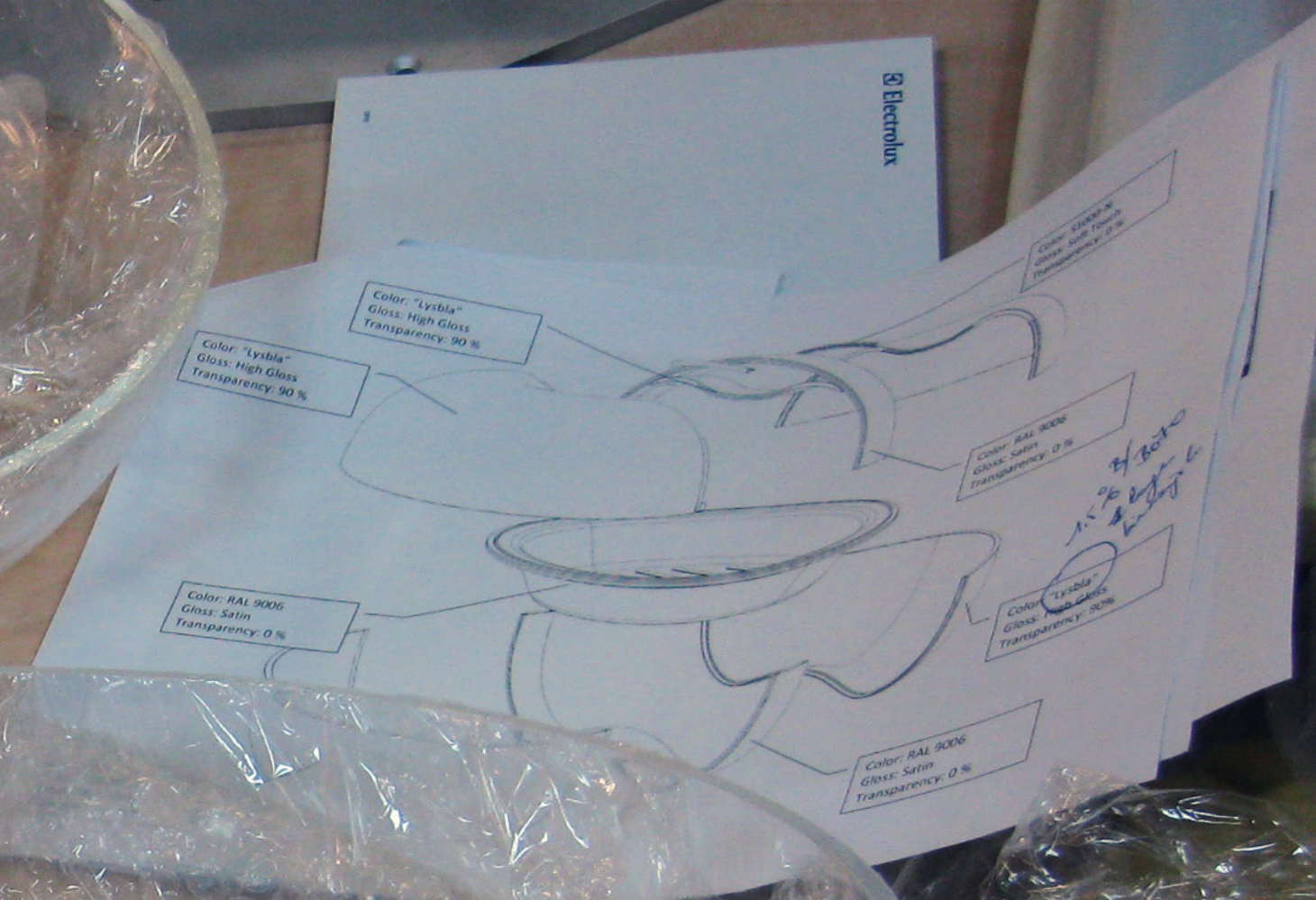
- 1 Nipa Doshi** is the Indian-born furniture designer and cofounder of Doshi Levien, a London based design office led by her and her husband Jonathan Levien. Nipa and Jonathan bring together two distinct and complementary approaches to their work. While Nipa's work is strongly influenced by Indian visual and material culture, Jonathan's approach is rooted in design for industrial production.
- 2 Henrik Otto** is the Senior Vice President of Global Design at Electrolux. He joined Electrolux in 2004 and heads up a team of some 150 design professionals working at the company's design centers in Sweden, the United States, Brazil, Italy, Singapore, and Australia. His approach focuses on the company's "Thoughtful Design" strategy, which is based on developing and applying consumer insights into all aspects of a product's design: its functionality, usability, visual appearance, and more. Electrolux has won numerous leading design awards, including several red dot and iF design awards.
- 3 Marisol Manso Cortina** is the Manager of the Color Design Group at Nissan Design Europe. She is responsible for leading the Color Group on global advanced projects and implementation for the Nissan and Infiniti range within Europe.
- 4 David Fisher** is the Design Director of Seymourpowell, the internationally renowned product design consultancy based in London. He has worked with the company for the last twelve years, responsible for key accounts such as Nokia, BMW, and Mercury.

*Presentation of the Jury of 2009 Electrolux design lab featured on Electrolux design lab homepage

Creating the prototype

All finalist entries were prototyped in at least one copy. The Cocoon was prototyped in two copies from Materialize Belgium. During the time of producing prototypes I was in close contact with Electrolux in order to get all things right. As everybody understands the prototype process and the final outcome of the prototype was extremely critical for my chances for winning the competition. Especially when it came to the color shape and the treatment of the acrylic shells. The Cocoon isn't an easy product to prototype and therefore they had to make a tool to mold the acrylic shells.

Electrolux also created a animation of the Cocoon for the final presentation. This was done together with Cliff design in Gothenburg.





These were the first photos of the product. I was in daily contact with Materialize because they needed me to change the 3D model in order to be able to manufacture it properly. The transparency and the colour of the final model was very hard to foresee because I didn't really know how transparency would affect the color.



Final presentation

The final presentation was carried out at the 100%design exhibition at Earl's Court in London in late September 2009. The day before the presentation we were introduced (me and other nominees) to the premises and to what was expected of us. In order to enhance our presentations Electrolux had brought in a stage performance coach in order to fine tune our presentations.





Suddenly it was my time to shine. The presentation went pretty good even though I had some technical difficulties with the wireless microphone.

Award ceremony

The award ceremony was webcasted globally in front of a studio audience. The event was conducted in the following way

1. The finalist presented their entry individually
2. The Jury interviewed/questioned each finalist individually
3. The Jury withdrew for consultation
4. The second runner up, the first runner up was presented by the Jury together with the motivation for each winner.

Second runner up was Lous Filosa for his concept “the Renew”
The first was Penghao Shan for his concept “Water Catcher”
And the first prize was given to me with the following motivation:

A jury of internationally-recognized designers judged the entries based on intuitive design, innovation, and consumer insight.

Their motivation: “Cocoon addresses a controversial issue that is very real: humankind’s continued desire to eat meat and fish. A great design concept polarizes opinion, and this is exactly what Cocoon achieves by exploring this issue. An inviting, tactile design, the Cocoon resembles a gemstone with a metal accent reflecting the heritage of the Swedish art-glass industry. Cocoon meets all of the brief’s criteria: it is daring, cutting edge and truly innovative in its focus on social and environmental issues. *

*Motivation of the winner [Electrolux design lab homepage](#)



Media exposure

Media exposure

Winning the prize resulted in a huge amount of interviews from all kinds of media from all over the world. This hype lasted in more than two months and was crowned by a six minutes TV slot at TV4 on prime morning time. Myself and the Cocoon was also featured in magazines, books and on radio shows all over the world. The total number of Google hits on my name went from six to nearly 20 000 caused by the hype related to the Cocoon.



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Concluding remarks

Winning the designlab 2009 is perhaps one of the biggest day in my life so far. And I hope that this will be a career booster by helping me to get the assignments that I really fancy and that I think could be beneficial for my personal beliefs.

I hope that the internship period at Electrolux will be the first step on this journey. In the acknowledgement above I thanked people helping me at achieving this and I now want to extend on the list of people that made it possible for me to win the designlab 2009. First and foremost my family that helped me with support and pep talk during times in doubt. Henric Alfredsson who supported me with criticism and helping me to focus during hard times.

Since the time scope of the project is far in to the future, I am not sure that there are going to be any follow up that I would know about, but perhaps this project made people more aware of the problem that I address and people start to realize that something has to be done to deal with it. But if the solution is the Coccon I don't know.

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