

APPENDIX

The Appendix of this thesis explains most of the work and approach throughout the report in more detail. For the research phase of this thesis, called 'auditing the brand atmosphere', Appendix 1-4 shows how the research of each brand atmosphere factor: Plense Vision (1), customer analyses (2), trends and developments (3) and competition (4) is set up and what was found, in more detail than the report does.

For the design phase of this thesis Appendix 5-7 mostly explains the design process behind the final design in the report: the design inspiration, different design or strategic directions and criteria on which the final design is chosen. Appendix 8 and 9 illustrates the evaluation results of these designs.

Appendix 10 explains how the MVB workshop is set up. This workshop is shown at the end of the report and is made to explore the value of minimum viable brand building for high-tech startups.

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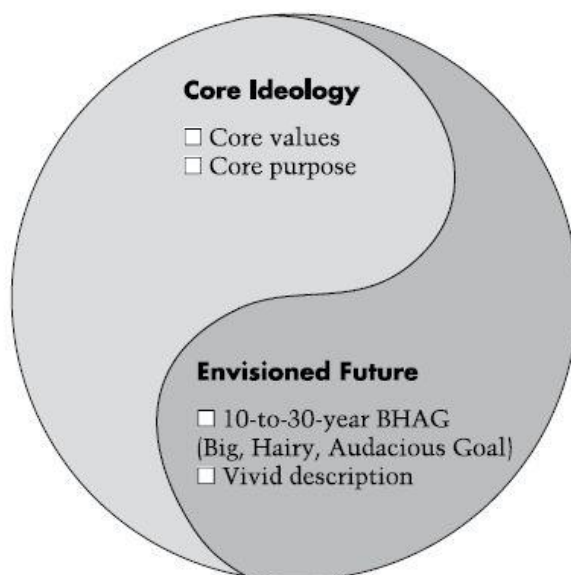
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1 Vision workshop

The vision of a company, or in this case startups, should explain what the startup stands for (core values), why it exists (purpose) and what they aspire to become and achieve (goals) based within 10-30 years from now (Collins & Porras, 1996). A vision should guide a startup towards their desired future and in the case of larger companies create coherence and alignment among employees.

This workshop was conducted in 2 (week) separate parts of both 1.5 hrs long, in order to keep the workshop efficient and create some time for reflection in between. The results below summarize the vision described by Plense founders Berend and Thijs (personal communication, 2024). The workshop starts from the following picture:

Articulating a Vision



***Vision** provides guidance about what core to preserve and what future to stimulate progress toward. Thus helps you to determine what is important and what not for now and the future of your startup.*

A well-conceived vision consists of two Major components:

1. **Core ideology** defines what we stand for and why we exist.
2. **Envisioned future** is what we aspire to become, to achieve, to create something that will require significant change and progress to attain.

Core ideology

Core ideology defines the enduring character of an organization - a consistent identity that transcends product or market life cycles, technological breakthroughs, management fads, and individual leaders. Core ideology captures what you stand for and why you exist.

→ **The core ideology is to guide and inspire, not to differentiate!**

Example: Tony Choclonely

"Crazy about chocolate, serious about people"

→ *We can improve the cacao industry!*

Everything they do is related to this core ideology

- *Hiring new employees*
- *Inspiring other chocolate companies*
- *Product attributes*
- *Branding*



Defining the core ideology

The core ideology consists of two distinctive parts:

1. core values, a system of guiding principles and tenets;
2. core purpose, the organization's most fundamental reason for existence.

Take about 40 min. for this exercise

Core Values

Core values are the essential and enduring tenets of an organization. A small set of timeless guiding principles, core values require no external justification; they have intrinsic value and importance to those inside the organization.



- Safety
- Quality



- Imagination
- Wholesomeness

- Environment

Exercise: Core value exploration (25 min.)

Step 1:

Individually: take a look through the list of core values on the next page. Mark those that resonate most with you and the startup. If there's a value missing, write it down on the paper. Don't overthink it! (5 min.)

Questions that can help you with step 1:

- What are the values that you would tell your children you hold at work, and hope they will hold when working?
- If you were to hire new employees tomorrow, what values should they bring to work?

Step 2:

Together: share your core values and group them on page x. Create a maximum of 4-5 grouped values. (5 min.)

Step 3:

Summarize each of the groups into one word. This can be one of the core values inside the group or a new core value. This step should conclude to the most important core values. (5 min.)

Step 4:

Now it is time to test and sharpen your core values. Therefore you can go through the list of questions. These questions help you to evaluate your core values. Take your time and go back to the previous steps if necessary. The outcome of this step should be 2-4 core values that withstand the list of questions! (10 min.)

Step 5:

Write down you core values, let them sink in for a week and get back together. Do they still pass the list of questions,? Do you still stand behind them 110%? Discuss your thoughts!

Values Group 1

Values Group 2

Values Group 3

Values Group 4

Values Group 5

Core value Questions

Is the answer not 100% yes? Reconsider or change the core value.

- Would the team want to be true to these values for the next 100 years, regardless of environmental change?

YES?

- If the environment were to change to the extent that the organization felt it was penalized for a value, would that value still be kept?

YES?

- Does this value provide a clear guide for behaviour, and has it proved helpful in the past?

YES?

Extra questions to consider, but shouldn't be leading in redefining the core values:

- Does this value set the brand apart from competitors?
- Is this value still credible, consistently achievable, and resulting in an outcome welcomed by customers?

FINAL CORE VALUES



*come back to these next week

Core Values Are a Company's Essential Tenets

Merck

- Corporate social responsibility
- Unequivocal excellence in all aspects of the company
- Science-based innovation
- Honesty and integrity
- Profit, but profit from work that benefits humanity

Nordstrom

- Service to the customer above all else
- Hard work and individual productivity
- Never being satisfied
- Excellence in reputation; being part of something special

Philip Morris

- The right to freedom of choice
- Winning – beating others in a good fight

- Encouraging individual initiative
- Opportunity based on merit; no one is entitled to anything
- Hard work and continuous self-improvement

Sony

- Elevation of the Japanese culture and national status
- Being a pioneer – not following others; doing the impossible
- Encouraging individual ability and creativity

Walt Disney

- No cynicism
- Nurturing and promulgation of "wholesome American values"
- Creativity, dreams, and imagination
- Fanatical attention to consistency and detail
- Preservation and control of the Disney magic

Core purpose

An effective purpose reflects people's idealistic motivations for doing the company's work. It doesn't just describe the organization's output or target customers; it captures the soul of the organization.

Whereas you might achieve a goal or complete a strategy, you cannot fulfil a purpose,- it is like a guiding star on the horizon-forever pursued but never reached.



Nike: To experience the emotion of competition, winning, and crushing competitors



Walt Disney: To make people happy

Exercise: Core purpose exploration (15 min.)

For this exercise we want to go as deep as possible, answering the question, why are we doing what we are doing? What deeper sense of purpose would motivate you to continue to dedicate your precious energies to this startups efforts?

To get to the core of your purpose, think about the following question:

- ➔ We are making X product or we deliver X service, then ask yourself: why is that important?

The answer will be the first purpose definition of this exercise.

Now take a look at this first purpose definition and ask again: why is that important?

Repeat this a total of 5x, together.

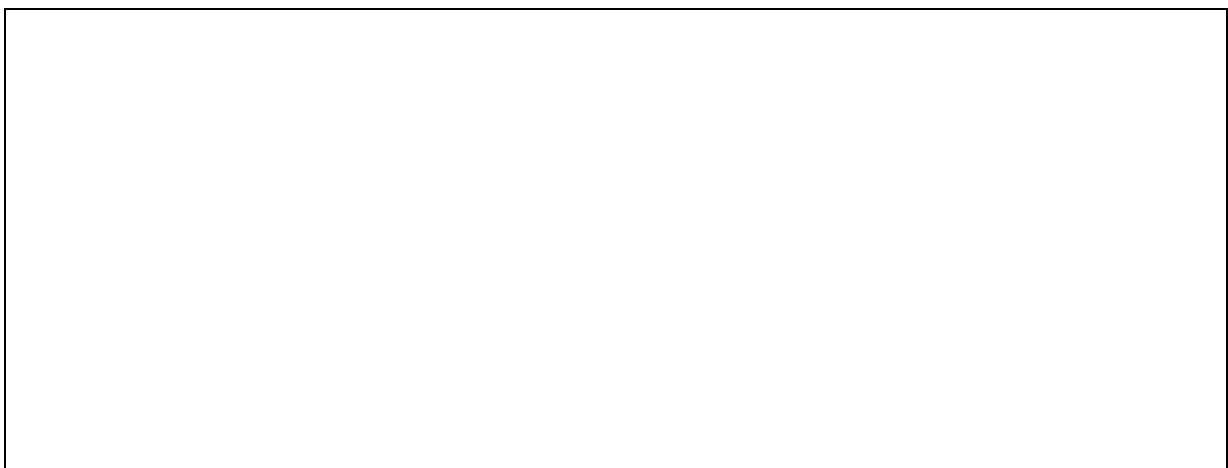
1. We are making X product or we deliver X service, then ask yourself: why is that important?

2. Why is it important to 'written down above'?

3. Why is it important to 'written down above'?

4. Why is it important to 'written down above'?

5. Why is it important to 'written down above'? THIS IS YOUR CORE PURPOSE



Envisioned Future

The second primary component of the vision framework is envisioned future. It consists of two parts:

1. 10-to-30-year big hairy audacious goal(s) – mission
2. vivid descriptions of what it will be like to achieve the goal

When defining the envisioned future don't be afraid to go beyond what seems possible now. A important element of the envisioned future a bit of 'gulp factor', so don't hold back!

- Take about 30 min. for this exercise.

Example Henry Ford

1. 10-30 year goal: *Democratize the automobile (Ford Motor Company, early 1900s)*
2. Vivid description of the goal: *"I will build a motor car for the great multitude.... It will be so low in price that no man making a good salary will be unable to own one and enjoy with his family the blessing of hours of pleasure in God's great open spaces.... When I'm through, everybody will be able to afford one, and everyone will have one. The horse will have disappeared from our highways, the automobile will be taken for granted...[and we will] give a large number of men employment at good wages."*



Vision-level BHAG (Big, Hairy, Audacious Goals)

Mission

BHAG is a powerful way to stimulate progress. It has a clear finish line, so the organization can know when it has achieved the goal; people like to shoot for finish lines. A BHAG engages people-it reaches out and grabs them. It is tangible, energizing, highly focused.

➔ People get it right away; it takes little or no explanation.

The BHAG is the mountain to be climbed. Once you have reached its summit, you move on to other mountains.

Exercise: defining the BHAG (10 min.)

When defining your BHAG it could help to think in different BHAGS's:

BHAG Examples

- *Target BHAGs*: Become a \$125 billion company by the year 2000 (Wal-Mart, 1990)
- *Common-enemy BHAGs*: Crush Adidas (Nike, 1960s)
- *Role-model BHAGs*: Become the Harvard of the West (Stanford University, 1940s)
- *Internal-transformation BHAGs*: Transform this company from a defines contractor into the best diversified high-technology company in the world (Rockwell, 1995)

Now, try to define your startups BHAG!
First separate, then discuss together.



Vivid Description

A vivid description is a vibrant, engaging, and specific description of what it will be like to achieve the BHAG. Think of it as translating the vision from words into pictures, of creating an image that people can carry around in their heads. The vivid description contains passion, emotion and conviction!

Vivid description Example

Churchill during WW2 didn't just say, "Beat Hitler."

He said, "Hitler knows he will have to break us on this island or lose the war. If we can stand up to him, all Europe may be free, and the life of the world may move forward into broad, sunlit uplands. But if we fail, the whole world, including the United States, including all we have known and cared for, will sink into the abyss of a new Dark Age, made more sinister and perhaps more protracted by the lights of perverted science. Let us therefore brace ourselves to our duties and so bear ourselves that if the British Empire and its Commonwealth last for a thousand years, men will still say, 'This was their finest hour.'"

Exercise: future description (10 min.)

Use the following questions and your defined BHAG as guidance to describe your envisioned future.

- If we're sitting here in 20 years; what would we love to see?
- What should this company look like?
- What should it feel like to employees?
- What should it have achieved?

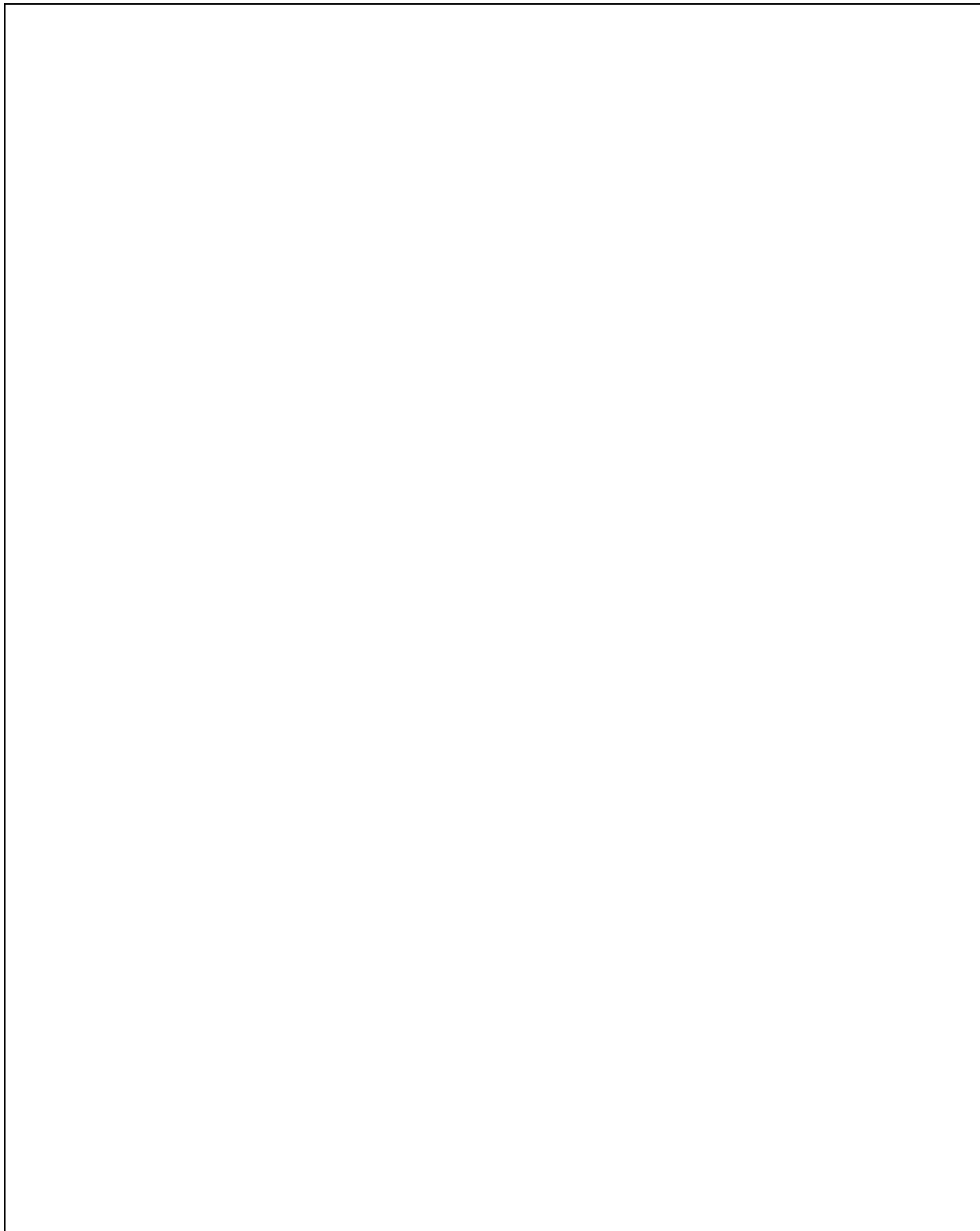
- If someone writes an article for a major business magazine about this startup in 20 years, what will it say?



Now try to visualize this envisioned future (10 min.)

The following tools could potentially help you:

- Pinterest
- Google Images
- Open AI
- Or make a drawing!



Evaluating envisioned future

- Has the envisioned future made it explicit in which domain the brand is obsessed with winning?
- How will the new future stretch the organization?
- What ideas will be challenged to bring about this future?
- Will the envisioned future excite and motivate staff?

- If a senior person leaves the organization, will there still be a notable desire
- and commitment to continue bringing about the new future?

Questions to test the Envisioned Future

1. Does it get our juices flowing?
2. Do we find it stimulating?
3. Does it spur forward momentum?
4. Does it get people going?

Putting It All Together: Sony in the 1950s

Core Ideology

Core Values

- Elevation of the Japanese culture and national status
- Being a pioneer – not following others; doing the impossible
- Encouraging individual ability and creativity

Purpose

To experience the sheer joy of innovation and the application of technology for the benefit and pleasure of the general public

Envisioned Future

BHAG

Become the company most known for changing the worldwide poor-quality image of Japanese products

Vivid Description

We will create products that become pervasive around the world.... We will be the first Japanese company to go into the U.S. market and distribute directly.... We will succeed with innovations that U.S. companies have failed at – such as the transistor radio.... Fifty years from now, our brand name will be as well known as any in the world...and will signify innovation and quality that rival the most innovative companies anywhere.... “Made in Japan” will mean something fine, not something shoddy.

1.1 Core values

Connection through trust

5. Both founders of Plense believe that trust is one of the most important values to create an equal and fair working environment. Connection is added because they want to work together, within and outside the startup. Trust alone doesn't necessary bring that. Therefore connection through trust.

Responsible societal advancement

6. One of the main reasons Berend and Thijs started Plense is because they want to discover something and deliver something new. That something new does need to lead to societal advancement, like more food available for everyone in the case of their current startup.

Collective growth by learning

7. For Berend learning leads to perfecting your craft, for Thijs developing new skills, but both agreed that this untimely should lead to growth. Collective is important because they believe others should do the same. They love to see others supporting and learning from each other.

1.2 Core purpose

Give a man a fish and he will eat for a day, teach a man how to fish and he can eat for a lifetime.

8. This mindset is recognizable in everything they do and want to achieve. From its core values and starting the company till their ultimate goal: teaching the best way of horticulture all over the world by learning from the plant itself. They are not here to feed the world, they are here to teach the world how to feed themselves.

1.3 Big Hairy Audacious Goal (BHAG)

Control (10% of the world) greenhouses based on plant's needs

9. This mission wasn't exactly defined like this before, but is close to what Plense's goal from the start. It is very much in line with the core values and core purpose, which is good. However, it isn't as 'hairy' or bold as it should be. Plense's actual goal mentioned by the owners would be: 'Greenhouses controlled by plants' which should be the most efficient way of reaching the highest yield. The problem is that the grower (the most important person within the agriculture, and most important person for Plense) won't be needed anymore, clashing with their core purpose and values. Therefore the BHAG above, that leaves space for someone else to actually control the greenhouses.

1.4 Vivid Description of the future

After a few iterations over a timespan of 2 weeks Plense founders, together with the workshop facilitator (me) came to the following vivid description:

We will empower growers with the tools they need to feed the ever-expanding population, while saving the little nature we have left around us. We will be able to make plants talk to growers and make their conversations accessible all around the world. It will be so easy to understand, that everyone with hands, can grow 2x the number of plants. They will be singing together with the plants and broadcasting this to anyone who would like to listen along.

When we are done, growers will harvest plenty of fresh and healthy vegetables while civilians can explore vast and lush green forests with birds, insects and mammals.

2 Customer

2.1 First customer segmentation

Plense Technologies high tech ultrasound innovation to map the inside of plants is interesting only for the horticulture industry, specifically greenhouse horticulture. Plense founder de Klerk (2023) identified 4 different customer segments in this thesis, within the Dutch horticulture industry:

- The breeder: those developing new type of crops, selling the seeds to propagators
- The propagator: growing the breeders seeds to small plants
- The grower: growing the small propagator's plants to fruits and vegetables they sell to supermarkets
 - o High-tech greenhouses
 - o High-tech open field
- Researchers

Through the MVB workshop 1 more customer was added:

- Technical suppliers: who are eager to sell technology to growers

In the same thesis de Klerk (2023) concluded that the Dutch high-tech greenhouse growers were the most promising because of their market size, accessibility and compelling reasons to buy. 1 year after this thesis, in the MVB workshop both Plense founders Berend and Thijs made the same conclusion: the grower is central and essential within the horticulture sector, fits best with their core purpose and the future they envision and remains the most promising in terms of technology application and reasons to buy. This means I have to study the grower anyway in order to explore the **assumption that brand building (MVB) by yes!Delft startups leads to deeper, valuable customer insights (chapter 2.9)**.

From a brand building perspective the grower will be the most relevant customer to study too. According to Berend and Thijs, breeder companies are very competitive, trying everything to build monopoly over this market segment. Breeders won't be interested. in for example Plense's functional or emotional benefits or how it is different from competition. They want to know whether they can own the tech in order to build a competitive advantage. From a product perspective these customers seem a far reach for now as well, since Plense's ultrasound sensor is probably too expensive for breeders. They are breeding ten thousands of crops and need a sensor for every single one of them, which means pricing should be in the range of 1-3 euro's, whereas the ultrasound sensor might cost a tenfold just to produce. The propagator can't use the sensor, that is in development for the adult plant stem. Researchers are less interested from a branding perspective too, since they mainly care about the products technical opportunities. This market is thereby too small to develop a brand for. Based on the advice of Mameren (personal communication, April 2024), who explained that wholesalers only care about profit margin and user interest, the technical supplier also seems less interesting from a branding perspective.

That leaves both the greenhouse and open field grower, but because the Dutch horticulture sector mainly exists of high-tech greenhouse growers, this will be the most interesting customer to study.

- Besides selling product to the customer, attracting students, like me, also plays an very important role in the growth and success of a Yes!Delft startups (Beneitez, personal communication, 2024). If there's enough time left, I want to study TU Delft and potentially WUR students to understand what jobs they want to be done and how to make Plense's brand to resonate with them. An assumption here (based on personal communication with Plense's employees and Yes!Delft staff) is that students are attracted by the first completely inside-out MVB. If the Yes!Delft startup is able to deliver a strong story about the core purpose of their work and future vision, students will be more likely to work for that startup.
- Another very important note here is that Plense identified the horticulture software companies as potential targeted customer too. They

2.2 Pre-knowledge

Before actually starting the 'grower research', I have already gained quite some insights through:

- A greenhouse visit
- MVB workshop
- Interviews transcripts conducted by Plense

The following paragraph will summarize these insights and assumptions which form the starting point of the customer research throughout this chapter. On basis of the 'job to be done' framework (Christensen et al., 2016) relevant questions are formed and added. The total overview of insights, assumptions and questions below forms the basis of the first semi-structured interviews and desk research in next chapter.

Persona

Answer the following questions through the eyes of you customer, working during free time.

I hope that (work):
We get a nice, sunny year
We can grow almost year-round

Name: Ted
Age: 58

I Like to (hobbies):
Race cycling
Drinking alcohol
Women
Grow (just love my job)

I struggle with (work):
Scared of diseases in their crops or other things like watering failure
Labour shortage
The political future of growing and energy costs



Fun fact about me:
I either really like tomatoes or I do not eat them
I like shirts with patterns

Persona made in the MVB workshop

➔ *Actual customer persona looks quite different!*

2.2.1 Assumptions through MVB workshop

- Growers feel underappreciated for the work they do
 - o They are not understood or appreciated by society
- Free/more time is more than welcome (since the sensors reduce time spent on crops). If so, what does this additional time mean for the growers?
 - o more time for other tasks
 - o free time to do things outside the horticulture work
- Growers want their greenhouse to be in control, more then they want to be in control of the greenhouse
- Knowing how my plants feel makes growers feel in control
 - o Control is important to feel safety and secure about the greenhouse
 - o Or control is important to feel confident, like a master of the greenhouse
 - Maybe both is possible too
- Growers will follow software companies when they advise a new sensor

2.3 Customer's Job to be Done

When we buy a product, we hire it to do a certain job for us and if it does a good job, we will probably hire it again (Christensen, 2016). Jobs to be done is a respected approach to create successful innovation. Understanding the growers job to be done could create a more specific direction for Plense their technology and a clearer direction for the brand communication.

Jobs to be done has 4 principles:

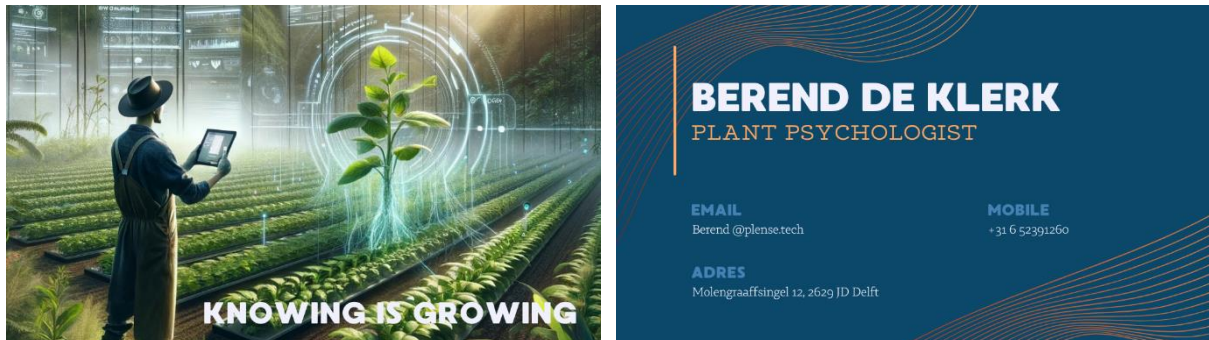
1. Jobs aren't just tasks, they involve **experience**
 - a. Like looking for new data that predicts the future, the experience can be exciting
2. Customer **circumstances** are more important than customer characteristics
 - a. Less staff to work in the greenhouse = sensor that doesn't need any attention to fully function
3. Good innovations solve problems that had inadequate solutions, or none at all
 - a. Distinction of Plense between 2Grow, Vivent & Gardin
4. Jobs have powerful social and emotional dimensions
 - a. Like control about the greenhouse to **feel more secure**, instead of control to increase yield and safe costs

2.3.1.1 Customer's perspective on competition

To understand the competitive landscape the customers perspective is key. Shiffman and Kanuk (1987) 'consumers views about brands' will form the basis questions that map out the competition and the growers view on this competition.

2.3.2 Inside MVB questions

These are the questions related tot the in-field testing of the MVB workshop output



- What do you see in this picture and the tagline?
 - o Explain the story behind it
- How do you recognise yourself story or picture?
- How important is knowing and knowledge for you?
 - o What do you think about the plant psychologist?

→ What (competition) other greenhouse technology providers to you recognise in this picture?

2.4 Customer Interview 2.0

After the first 2 interviews I found out that the persona described by Berend and Thijs wasn't an accurate description of their customer. Their customer is the entrepreneur that runs the greenhouse horticulture business, their user is the grower working for this entrepreneur. To match this different person some questions were added and changed.

DMU (decision making unit) questions (Chernatory, 2010)

I need to understand the relation between the employees, growers and entrepreneurs running the greenhouse business.

- When and does the entrepreneur buy new technologies?
- When and how does the grower (manager) ask, agree on disagree on new technologies?
 - o How do both influence the decision making?
- Who is installing and using the technology and in what way?
- What are the key functionalities of the sensor, that need to be communicated?

2.4.1 Interview guide 2.0

with W.O

Oblique text are more personalised introductions to questions

Growing as a passion

- Why are you a grower? (*General introduction and start with passion*)
 - o Why are you proud to be a grower and what made you become a grower?
- What makes you smile every morning you start working in and around your greenhouses? (*more in detail*)
- What if you wake up and everything is going well in the greenhouse? The whole day.
 - o How does that make you feel?
- Did you ever started your day with a big mistake or problem to fix? (*viruses 2 years ago*)
 - o How did that make you feel?

Growing Entrepreneur

- Kwekerij O. has grown a lot the past 10 years, how and why did that happen?
- How is your job different now, from that of your grand(father)?
 - o *How does your day look like?*

Wouter told me that you are working together with 2 other growers to cover all the greenhouse ground owned by O..

- Do you work together with the other 2 growers? (*Community growers, social dimension*)
 - o How do you learn or teach other growers? (*Please core purpose*)
 - What do you share with them and they with you?
 - o What is important to share and talk about with Wouter Overgraag?

Innovation & Competition

On the website is also mentioned that Kwekerij O. is ready for the future. But that does not stop the development of our company. We see the world around us changing.

- How do you prepare for the future at Kwekerij O.?
 - o And how/what do you keep developing?
- What is most important in this future? Sustainable production, healthy products, yield optimization?

Someone else (other interviewee) told me that 'Innovation is necessary to survive as greenhouse horticulture business, what do you think about that?'

- What technology are you using to control the greenhouse? Is it controlling for you? What if one of these technologies fails on you? (can you give an example) (*Broad understanding of job to be done*)

- Ask questions accordingly
 - Sensors
 - Software (**Source**)
 - Complete systems
- Why not use x/y competitors?
- Who is using this technology?
 - How are you using this technology?
 - What is important for you, when looking at the data of these systems? What do you want to know, and what do your growers want to know? (*Serving as co-pilot?*)
- Why is this technology part of your greenhouse?
 - How did it get selected and with who did you make this decision?
 - What if a grower wants to use new technology? (*understanding the DMU*)
 - How does he/she have a saying in this?
 - How often do you speak with growers and listen to what they need or think about the greenhouse?
- When are you looking for new (technologies) to improve the greenhouse?
 - What if you could look into the future? Say 1 week from now, what would you look for first? (*says a lot about the potential and direction of Plense's sensors and how to communicate those 'predictive' benefits*)
 - Control or Master?
 - Vivent, 2Grow and Gardin
- Checklist (*ask why not these?*)
 - Direct competition: Vivent, 2Grow, Gardin
 - Sensors: Sigrow, wireless value, quantified, sendot, gremon, aranet
 - Platform: 30mhz
 - All-in-one: hoogendoorn, priva, ridder, hortimax
 - Software: source, blue radix, lets gro

MVB

- What do you see in this picture and the tagline?
 - Explain the story behind it
- How do you recognise yourself story or picture?
- How important is knowing and knowledge for you?
 - What do you think about the plant psychologist?

Future of Greenhouse horticulture

- What do you think about startups, like Plense bringing in new students, 'smart people' to the greenhouse horticulture sector? (*students assumption*)
 - o How would you like to work together with these people
 - Involve them into your own business?
 - Learn new things from them?
 - o What do you think about their background? Since they don't have any knowledge about growing, plants etc.
- What will be your biggest challenges?
- What will keep you continue doing the work you do now and should never change going into this future? (*nice ender*)

Little bit personal

- Outside of growing, what do you like to do? (*what are they into?*)
- Say you have a day off, everything went well, what would you do?
 - o What will your evening look like next?
 - What beer/wine will you drink that night??
- With who would you like to spend it?

2.5 Most important insights customer overview

ENTHUSIAST

Would love to be him (again)



Curious towards innovation and technology. Just from school, but great responsibility in the greenhouse

Agriculture students (like in Den Bosch or Delft, Inholland) get to learn with and learn about different innovative technologies

Autonomous farms will exist, but we need growers to keep an eye out, because sudden problems can't be solved by machines

Advances in farming is still set up by humans, the farming itself and climate adjusting is just easier

Especially to educate the importance of checking and alerting signs of plant viruses and diseases is vital for the health of our greenhouse

"Growing is knowing is 100% fact is another if you make the wrong decision as long as you can explain why you made that decision". You need to see the whole greenhouse grow, not one plant."

New people coming in don't even need to have green hands, as long as they show dedication to their work and collaboration with the horticulture

we said the harvest robot like a human being for harvested fruit an hour

BUSINESS-MAN



'bringing in smart people is good for our sector, like a Source is doing'

Tom believes working together is the future, sharing each others knowledge and make it tangible for others to learn from

Needs to end in the top 3 of the Prominent 'harvest competition'

technology serves as co-pilot

we have to teach new (immigrant) employees everything. Takes some time, especially because they don't all work here that long

Together with more blue-hand work its time to find more space to build a business is quite limited



Technology is very promising to bring more of these green fingers by teaching people and transferring the expertise knowledge.

Wim and Mars would ideally have all available data, from seeds - sales in one overview

Sensor data + eye - recognising patterns and optimising you current and next year's growing plan.

You need to have some green fingers to work in this sector

The amount of sensors plays a very important role in the success of the sensor. You may think too expensive, but too little does not give you an complete overview

Thoroughly checks the new technology before trusting its data. Visually and comparing with other data.

Technology has to do something the growers expect. If it does something unexpected growers won't understand and thus use it



Loves to be around his plants

there's too much available in terms of new sensors...

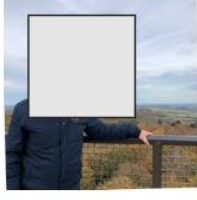
ultrasound kills algae in our bassin

A sensor just needs to show something tangible and useful (he needs to understand it almost directly)

Camera's can't see everything

Vincent clearly determines what new technology is introduced into their greenhouses

Vincent likes the clear visualisation of data



Sebastian tested Zgrow sensors, but stopped using the sensor after he thought he had learned enough

the Zgrow sensor provided valuable insights, but what does that mean? Sebastian didn't know, but did use the data after connecting it to other greenhouse data.

New greenhouse technology should make growing more easy, like showing only the relevant information on 1 screen.

Being a manager is very dynamic, I like it!

The real growers go inside the greenhouses, look at the numbers and look at the plants.

New greenhouse technologies should make the most important data more approachable for the grower

Sebastian likes seeing new smart people coming into the horticulture greenhouse sector

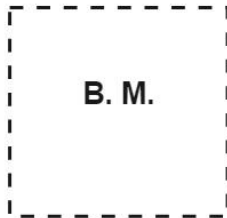
whatsapp does help quite well with this

difficult to teach new employees about the importance and characteristic of viruses and pilogue

CHAMELEON



GROWER 'Organic Day-Trader'



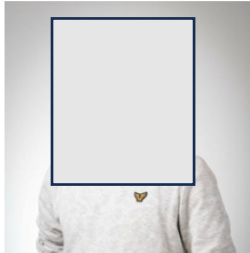
IMITATOR



2.6 Customer Persona's

Enthusiast

The enthusiast like Joris likes to try out innovation. He is curious and has the energy and drive to experiment. He is younger and understands the importance of new technologies in greenhouses. Quite annoying that not everyone thinks the same about that!



Joris is born and raised in the Westlands, in and round the greenhouses. He finished his education 5 years ago and has a great responsibility in his fathers farm already. He loves to be around the greenhouse and try out new things in his day-to-day work. Joris believes everyone can contribute to the development of the greenhouse horticulture sector and is more then open to welcome those that are putting in the effort. Joris likes to try out technological innovation since he believes it will shape his future work, but will never replace him!

Personality



Joris van Boven

AGE 27
 FAMILY Married, 1 child
 JOB Location Manager
 SIZE 15 Ha.
 ARCHETYPE 'The Creator' / 'Explorer'

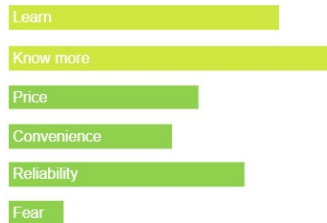
CURIOUS PRACTICAL GO-GETTER

"Everyone can become part of the greenhouse horticulture sector"

Green Hands Technology Hands

Motivations

(to purchase new tech)



HORTICULTURE

Business: plant-based data



Goals

- Know as much as possible from the greenhouse, always.
 - About the whole greenhouse
- Learn by testing technology that could potentially support our job and that of our employees

Pains Points

- Progression of the greenhouse horticulture sector is not fast enough
 - Not everything is compatible with each other
- Most new horticulture tech ins't able to provide data about the whole greenhouse
- Diseases and Plagues

patagonia



Chameleon

The chameleon like Wouter sees innovation as a necessity to keep up with the rest of the sector. He is looking for new technologies to help him become more sustainable in 2040. As long as this tech is practical and helps him to remain somewhat ahead of the curve. He is closer to his plants and less busy with becoming the biggest greenhouse business in his area.



Wouter is born and raised in the Westlands, in and round the greenhouses. He took over his family business 10 years ago and became the 3rd generation de Jong growers. Since then he isn't much working with his hands anymore, which was he was necessary to run the business, but not of his likings. Wouter loves his work, the plants and the people around him. When he sees his employees learn and develop new skills it gives him an enormous boost of energy. Wouter thinks about innovation as necessity to keep up with the developments within the horticulture sector.

Personality



Wouter de Jong

AGE 45
 FAMILY Married, 2 children
 JOB Greenhouse Manager
 SIZE 25 Ha.
 ARCHETYPE 'The Everyman'



Motivations

(to purchase new tech)



HORTICULTURE

Business: plant-based data



Goals

- Making sure the greenhouse business continues as best as possible
- Know as much as possible from the greenhouse, always.
- Keep up with customers demand

Pains Points

- Decrease of available expert growers and trained employees
 - Few connection to the family
- Data from sensors isn't always robust and thus not reliable/trustworthy
- Increasing distance to the greenhouses
 - Busy with blue-hands work



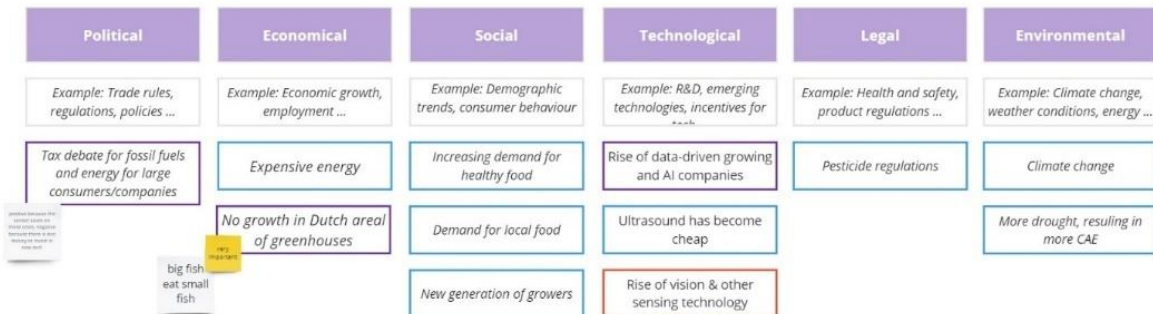
3 Trends & Developments

3.1 Pre-knowledge

PESTLE analyses

Write down relevant trends and developments that determine the (future) context of your startup.

- Mark those that offer opportunity **blue** and those that form a threat **red**



MVB workshop outcome

3.2 Political

- Greenhouse Horticulture in the Westland (the heart of Dutch greenhouse horticulture) needs to be climate neutral in 2040 (Omroepwest.nl, March 2024) and half its CO2 emissions in 2030.
 - o Subsidies are available to work towards less CO2 emission with sustainable and innovative energy systems (rvo, 2024). However some of these subsidies don't work with higher gas prices (wos, 2024).
 - o Growers need to invest heavily to become more sustainable, but it is very unclear where and how to invest because the government is unclear in their policies legalisation. (gas erop, documentary 2024)
 - o Growers want to know exactly what is expected and what is possible.
 - o The government doesn't listen well enough.
- Tax increase debate on fossil fuels and energy consumption for large consumers/companies.
 - o Expected to increase energy tax, but no one knows when exactly (Omroepwest.nl, March 2024). Growers do pay lower, favourable taxes on gas right now, also because gas is the only and most efficient (sustainable) way they can create electricity, for both themselves and citizens living around the greenhouses. By using the energy generator W/KK (a big dynamo).

- The varying energy prices make the future expenditures on energy even more unclear.
- *Political & social:* Growers are just as important as ASML (Telegraaf, April 2024).
 - Dutch politics also have to look at what the greenhouse horticulture brings (CEO priva, 2024)
 - As a response on recent critics in the media (writing about , of which a part was true, the dependability on migrants workers, but the overall critics of this media was misplaced.
- Greenhouse horticulture starts promoting their economic and societal value in the Netherlands (Nieuwe Oogst, Apr. 2024). The sector wants to become pro-active instead of reactive. Meant for civil servants, politicians and NGOs.
 - Super innovative sector
 - Important player in the energy transition and circular economy
 - The silicon Valley of greenhouse horticulture

Conclusion

The greenhouse horticulture isn't appreciated and valued enough by Dutch politics and media. This is mainly because people don't understand the true value of the sector. The coming years the sector will try to improve their image, by showing these values.

Furthermore, unclear possible future climate change regulations make the greenhouse horticulture's unpredictable, while they have to create a plan and strategy to become climate neutral in 2040. The government is for example supporting greenhouse growers to reach this goal with subsidies that don't work for all greenhouse horticulture business. There is friction between the horticulture sector and Dutch politics. There is a hard goal to reach within 15 years from now, but the horticulture sector isn't completely supported by the government to achieve this goal (gas erop, documentary 2024).

3.3 Economical

- Increasing energy prices
 - Lead to a small increase in bankruptcy of horticulture food businesses (NieuweOogst, Oktober 2023)
 - Has also led to a strong reduction (-27%) of the energy consumption and CO2 emissions (-25%) within the Dutch horticulture (WUR, Nov. 2023)
- There's very limited space in the Netherlands for new greenhouses (Groetennieuws, Nov. 2023; WOS.nl, Jan. 2024).
 - Growing outside of the Netherlands (for Dutch greenhouse horticulture businesses) is the future (Klapwijk, personal communication, Apr. 2024)

- Municipalities and greenhouse horticulture organisations are looking for poorly maintained greenhouses to build new houses, nature or greenhouses (Groentennieuws, Feb. 2024)
- The greenhouse horticulture is expected to have even more fusions, take-overs the coming years (Telegraaf, Jun. 2022; Klapwijk, personal communication, Apr. 2024; Mena, March 2023). Most of the more successful greenhouse horticulture business I have seen online, or spoken too directly have been busy with these fusions and take-overs too and are continuously looking for new ones.
 - Economies of scale and efficiency are becoming more and more important

Conclusion

The growing economic challenge of running a greenhouse horticulture business, together with the limited space available and future of scalability and efficiency lead to the bigger fish becoming bigger and the smaller fish disappearing. Eat or get eaten!

- Interesting is that the economic trends and development lead to more sustainable behaviour then the political trends.

The economic factor, in combination with the political factor (unappreciation of the greenhouse horticulture sector) also 'forces' Dutch agriculture production to move outside the Netherlands. Large investments that will probably eat away even more smaller fish; family business.

3.4 Social

- Greenhouse horticulture business have always been passed through from generation to generation, but the latest generation(s) seemed to be less interested, leading to an end of most greenhouse horticulture family businesses (Mena, March 2023; Klapwijk, personal communication, April 2024)
 - This same trend is talked about by all growers and entrepreneurs in the sector (personal interviews, 2024). The proud of taking over the family business and the difficulty of involving their own kids into the business.
 - This trend also adds to the bigger fish eating the smaller fish, the shift towards less greenhouse horticulture family business or more entrepreneurial business.
- Thereby Klapwijk (personal communication, Apr. 2024) adds that there isn't enough proper grower education, making it quite difficult to find good growers at the first place. A shortage of specialization.
- Estimated is that we (as world) need to produce 50% more food by 2050, to keep up with the expanding world population. The FAO (Food and Agriculture Organisation) believes that current systems are capable of producing sufficient food (dllgroup, 2021).

- Current systems however won't be able to deliver the amount of protein rich vegetables (dllgroup, 2021).
- Increasing demand for sustainable produced food (WUR, 2021)
 - Blockchain technology implementation for more transparent food chains, like the products origin, production quality and sustainability (WUR, 2023)
- 1/3 of the Dutch grown-ups wants to eat more healthy product, which is about the same as the years before (cbs, 2023)
- Demand for different products throughout the year (Interviewee 1*, personal communication, Apr. 2024)
 - Growing towards 'disposable' plants, with a lifecycle of 18 weeks, instead of a year long lifecycle. To keep up with changing demand in different tomatoes over the year.
- Housing for employee immigrants is becoming more difficult because of the limited available space around and within Westland (Rabobank, Feb. 2024)
- Thereby minimum wages for these immigrants are increasing
 - *Technological development*: this leads to increased investments and innovation on labor-saving technology.

Conclusion

The lack of family business successors and overall challenge to attract new employees into the (greenhouse) horticulture sector is heavily influencing the future of the sector and the strategic decisions made right now. Mainly leading to increasement of technological innovation, to fulfil the lack of available working forces and the bigger fish becoming even bigger.

- What adds to the employee challenges is the limited housing space available around most Dutch (greenhouse) horticulture businesses and the growing minimum wages.

Looking at the end-user of horticulture products (everyone that eats vegetables), there is demand for healthier and more transparent food. A demand that can be delivered if the sector keeps innovating.

3.5 Technological

- Greenhouse horticulture of the future runs on Data, AI and robots (Horti Heroes, 2024; WOS.nl, Oct. 2023; Groentennieuws, Dec. 2023).
 - By embracing AI, growers have the power to work more efficiently, reduce waste and optimize crops (WOS.nl, Oct. 2023). Becoming the driving force behind greenhouse horticulture.
 - The increasing use of data (to train this AI) within greenhouse horticulture raises a question: who is going to gain control over this data in the future? (Mena, March 2023)
 - Thereby this data needs to be from high quality and trustworthy in order to train and use the AI models. And be big enough to create reliable models from.

- Automation of greenhouses
 - o Complete autonomous farms with robots are expected in 15-30 years from now (WUR, 2020). For now automatization means replacing more simple tasks and serving the grower, not replacing him.
 - o Digitizing the knowledge of the grower becomes more and more important (WUR, May 2021), especially in regards to the shortage of specialized growers.
 - Digitizing their knowledge should also help Dutch greenhouse horticulture businesses expand to new countries.
- Building more and more high-tech greenhouses (Mena, March 2023)
 - o *Social forces drive the innovation and search for more high-tech*
- Ultrasound has become cheaper (de Klerk, personal communication, Apr. 2024)

Conclusion

The political, economical and social factors are leading to a lot of challenges, need for change and thus opportunities. Technical developments like AI and robots perfectly fit in this future landscape of opportunities. The future of Dutch Horticulture greenhouses will be driven by AI and (increasingly more) robots, that, which is very important: serve the grower and digitize his knowledge. Helping the few growers left to cultivate their greenhouse and learn from them within the coming 15 years at least. Complete autonomous farms are the far future (15-30 years), but are expected to be build.

3.6 Environmental

- Climate change
 - o Resulting in more extreme weather conditions, that make the cultivation less predictable (Rabobank, Feb. 2024).
 - o Wetter and dryer periods
 - o Higher and lower water level
 - o Overall increase of temperature
 - o These extreme weather conditions mainly impact open-field horticulture, but can impact greenhouses too:
 - o Leading to increased chance of greenhouse damage by for example stronger storms, heavy hail, or wet periods flooding the inside of the greenhouse (Rijksoverheid, 2020)
 - o New weather patterns growers haven't experienced yet, which may lead to worse yield
 - o This leads to increasing concerns of supermarkets, about the consistency and availability of vegetables throughout the year.

Conclusion

In general, climate change is one of the biggest forces influencing the political and legal factor and thus indirectly influencing the horticulture sector. More specifically climate change for greenhouses results in less certainty for production and more robustness for the physical spaces. On itself the environmental factor doesn't influence the brand atmosphere for greenhouse sensors that much.

3.7 Westland 2040 ambition

From gemeente westland

As extension to the macro-environment analyses, the future landscape of the brand atmosphere, Westland (the hart of Dutch Horticulture greenhouses) has collectively written down 3 important ambitions that take action in their future landscape. These ambitions are important because they show what trends and developments are most important for the growers and greenhouse horticulture sector themselves.

1. *Circulair economy: Together we form an important economy. We do more than just produce. We would like to expand this economy as environmentally friendly and progressive as possible. It is therefore our ambition to make and maintain the greenhouse horticulture economy worldwide, spread out, healthy and future-proof.*
 - Learn from other economies
 - Entrepreneur efficiently
 - Work circular with the least amount of material input, in closed systems
2. *Innovative horticulture greenhouse hub of the world: We lead the way in Westland and the world. We will continue to do that! It is therefore our ambition that the Westland greenhouse horticulture economy will be the center of innovation in the sector by 2040.*
 - Actively share knowledge and new developments
 - Stimulate start-ups that bring innovation into the sector
 - Greenport Horti Campus Westland is central in this ambition
3. *Create a liveable environment: The population continues to grow, just like our villages. Greenhouse horticulture also means buildings. The connection with nature, between city and country, is therefore becoming increasingly vulnerable. It is our ambition that Westland will be a liveable area for residents and users by 2040. The greenhouse horticultural landscape can absorb changes in the climate well and respond well to developments in production horticulture.*
 - Don't 'use' the ground and environment, but strengthen it
 - By creating greener environments around the greenhouses
 - Work circular
 - Attract new employees

For Sources see report

4 Competition

4.1 Pre-knowledge

Horticulture visit insights:

- Everyone there has very close affinity to horticulture
- All communication is super product-technical focussed.
- Communication mainly exists of a tomato farm picture, icons explaining what the product does and the product itself.
- Software companies show more story, brand identity and thought through communication. Probably because their competition is stronger and place within the sector undefined. Software within greenhouse horticulture is newer and potentially super profitable.



Visit to horticulture competitor summary

4.2 Direct competition

Vivent

- ➔ Point of difference: makes **early corrections** in the greenhouse possible, before visual symptoms appear.
- Key Strength: technology with which plants can communicate when they are experiencing **stress**. Real-time information to farmer. Applicable to all plants.
- Weaknesses: Electrical signals throughout the plant. Put something into the plant.

- Tries to soften this weaknesses by saying. Electrical signals are actually very nature like (like a flesh eating plant) and studied by great scientists 100 years ago.
- Apparently quite hard to attach to plants (Berend)
- Value proposition: Information from the plant itself, that makes early corrections possible. Understand **what is going on in your greenhouse 3x more quickly** than the grower is able to observe (plant communicates way quicker than grower is able to observe himself).
 - Makes agriculture more sustainable while increasing crop yield
 - Development of technology has made this possible (innovative)
 - Plants are talking, we let you listen to them
 - Forefront of innovation
- Size: 22 employees



(2022, October 4). Alja van der Schuren on LinkedIn: Voor iedereen die wat meer wilt weten over wat we doen bij Vivent SA is... LinkedIn.com.

https://www.linkedin.com/posts/vanderschurenalja_voor-iedereen-die-wat-meer-wilt-weten-over-activity-6983001940632739841-L59l/

UpLink - World Economic Forum. (2024, January 5). *These sensors can see if your tomatoes are "stressed" before you do.* YouTube. https://www.youtube.com/watch?v=RQvEYP1y_2I

Customer's perspective

- No specific information has been retrieved during customer interviews, still a quite unknown startup within the Dutch greenhouse horticulture sector is seems like.
 - The only customer information I have about these sensors is that of Berend, who heard that some growers didn't like this sensor because it fell out of the plant quite easily.
 - The brand and sensor is known at educational institutions

2 Grow

➔ Point of difference: offers an plant monitoring and **advising service** with which the grower can talk to plants, so he **knows what to do**. 'Talk to you plants' with 2grow as active translator.

- Key Strength: reaction of plants to external factors in real time. Indoor and outdoor.
- Weaknesses: doesn't explain what there sensors are, how they work and what they actually do. For who is it? (different customers)
 - Lot of work to attach to plant (10 min.)
- Value proposition: talk to your plants! They can tell you everything so you know what to do. **Advising Service** for growers. **We translate** their words to the grower.
 - Different advantages
 - Don't need all other external measurement devices anymore
- Size: 7 employees
 - University of Gent, very close relation



<https://2grow.earth/nl#customers>

Plant feedback from sensors in autonomous control. (2021). Hortibiz.com.

<https://www.hortibiz.com/newsitem/news/plant-feedback-from-sensors-in-autonomous-control/>

Customer's perspective

- Enthusiast Jeffrey: they only had 1 sensor for the whole greenhouse, so I wasn't able to properly use their system. One plant doesn't say enough to control or steer the whole greenhouse.
- Business-man Vincent: The data need to be translated into something tangible and useful, but that wasn't there for the grower.
- Business-man Sebastiaan: did get one insight from them after about 2 years, but didn't think they would provide more, so removed them afterwards.
- Chameleon Roel: they send me advice every week or so

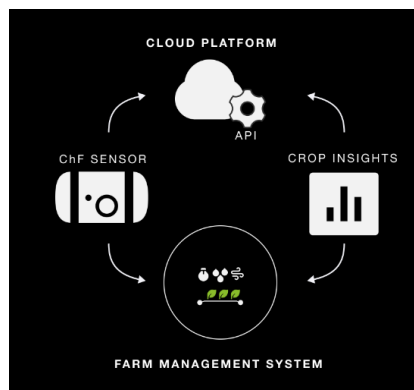
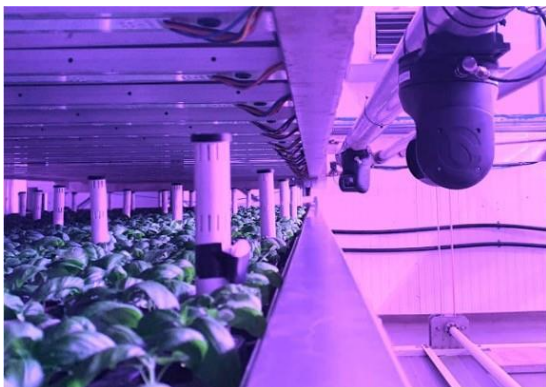
- they are cheap and interesting to test with. Now they are trying to sell me 6 sensors in total to get more data and a better picture, but I am not sure it that will be worth it.

Gardin

➔ Point of difference: provides real time greenhouse data, so the grower can optimize his farm through **direct response**.

- Key Strength: real time and response for **all agriculture**
- Weaknesses: camera with extra insight, could feel like replacing the eye of the grower.
- Value proposition: **optimize your farm through direct response**
 - High end and affordable
 - High productivity
 - Simple to integrate
- Size: 27 employees
- Collaboration with Bayern (testing still). Giant within the agriculture sector.

The **Gardin Platform** is a cloud-based crop intelligence system with high-tech optical **sensors**. **Gardin** measures plant physiology in real time.



How the Gardin Platform Works. (2024). Gardin.co.uk. <https://www.gardin.co.uk/product>

Customer's perspective

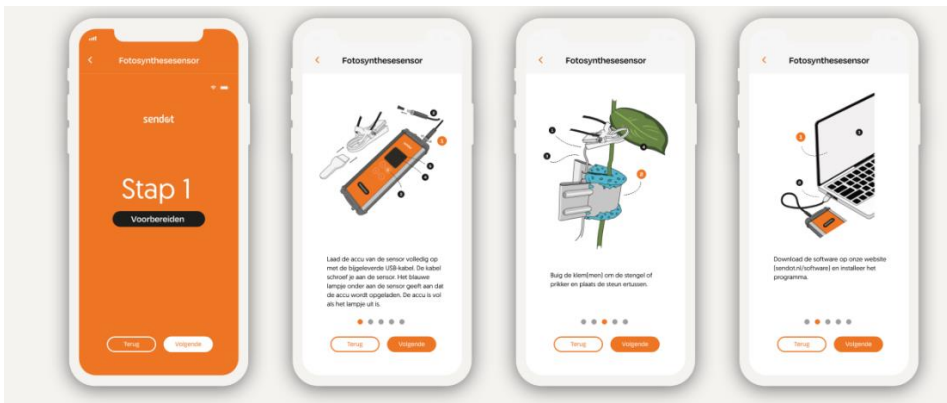
- No specific information has been retrieved during customer interviews, still a quite unknown startup within the Dutch greenhouse horticulture sector is seems like.
- However, similar camera systems have been discussed:
 - Business-man Vincent: Gearbox has been used to make harvest prognoses, but didn't work well enough yet. They also use camera's from gearbox to understand the growth of the plants, by measuring the length. Camera's can't really see everything, like plagues under the leaves.

4.3 Same category competition

Sendot

Very much connected to 30MHZ

- ➔ Point of difference: **innovation and research** to continues growth and improvement of the horticulture (and their products)
- Key Strength: more horticulture customers (then only the growers), offers both sensors and data insights.
 - Also mentioned **innovation** and **research** / product development as important aspects of the business!
- Weaknesses: showing their product everywhere, that looks the same too. Kind of boring.
- Value proposition: 'we help you grow'
 - Knowledge: they are trying to learn the customer something. Focussing on the knowledge they can share.
- Size: 9 employees



Sendot - Yellowbrand. (2024, April 3). Yellowbrand.
<https://yellowbrand.nl/projecten/sendot/>

Gremon

→ Point of difference: **complete package** to see how your plants feel

- Key Strength: diagnose what your plant needs, also about talking to plants! Offer both software as hardware. *How do we know the plants feel good?*
 - **Nice insightful overview**
 - **Decision support**
- Weaknesses: from Hungary (for Dutch market). Complete package needed to install, not just one sensor.
 - Too broad, they also deliver workers overview + greenhouse overview. On the other side, this could also be a strength, if they would become the biggest. For now a weakness looking at the strong software competition that are also providing these overviews.
- Value proposition: GAIN INSIGHT INTO THE LIFE PROCESSES OF PLANTS.
 - Problem-solution (video), with tomato central
 - Get to the plants maximum, wherever you are!
- Size: 14 employees



Gremon Systems- Monitoring and evaluation system solutions ????? (2023, June 16). Gremon Systems Zrt. <https://gremonsystems.com/>

Customer's perspective

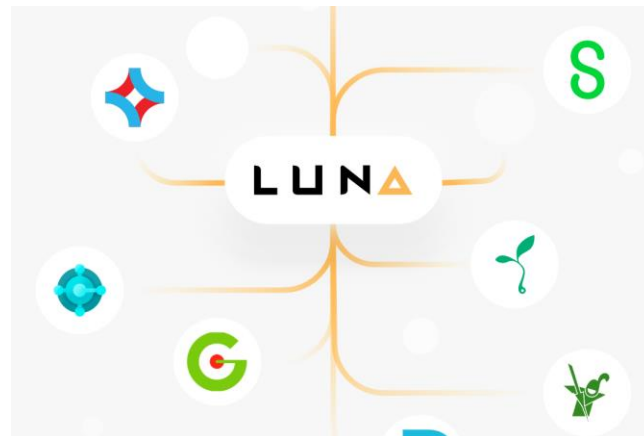
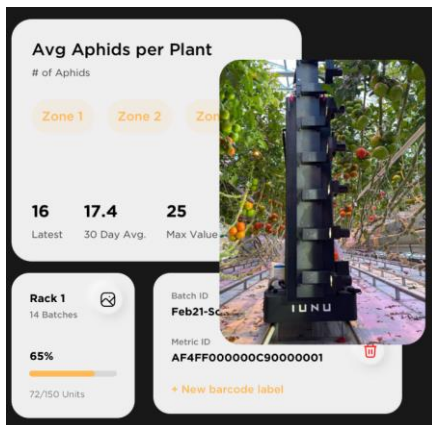
Enthusiast Jeffry: we are maybe going to try out this Technology, because it provides data over the whole row of plants. Tells us more about the whole state of the greenhouse.

Semi-Direct competition

lunu

➔ Point of difference: sensors for **autonomous farms**

- Augmented growth team
- Key Strength: autonomous growing & integratable with other horticulture companies
 - Looks like the future of greenhouse horticulture
- Weaknesses: very high-tech futuristic. kind-of replacing the grower. Instead of a grower, it is a bit camera machine going through the isles.
 - USA based
- Value proposition: *Your partner in autonomous growing*
 - *Your data is your data*
- Size: 84 employees

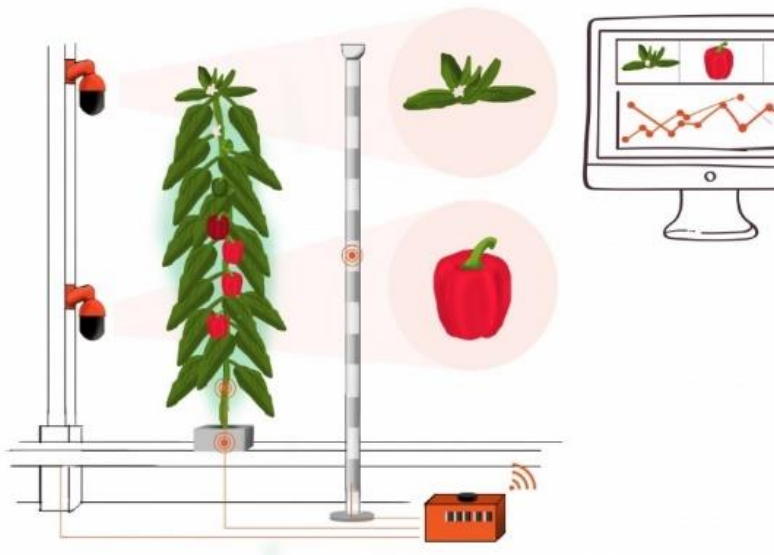


IUNU. (n.d.). lunu.com. <https://lunu.com/>

Gearbox

→ Point of difference: optimize your cultivation strategy based on followed crop growth. Monitoring and analysing in their cloud-based platform.

- Key Strength: experts in vision technology
- Weaknesses: mostly focussed on packing and selection processes, after the fruit is harvested.
 - Work together with Letsgrow
 - Quite vague what the gearsense product means (their plant-based sensor option)
 - Not as much plant-based as the other available sensors
- Value proposition: *ENHANCING GROWERS, BREEDERS & TRADERS, TO SAFEGUARD QUALITY, WORK SMART EVERY DAY*: deliver the whole vision system, from harvesting till package and shipped goods → all in one overview
- Size: 40 employees



What determines the quality of your product? We do not analyze the environment, but really look at the plant... because we understand horticulture and we know how to convert data into clear information. With that information, growing becomes easier and better. Only the best quality is our drive

Vision, AI & Motion Software for horticulture | Gearbox. (2024, August 20). Gearbox. <https://gearboxinnovations.com/en/>

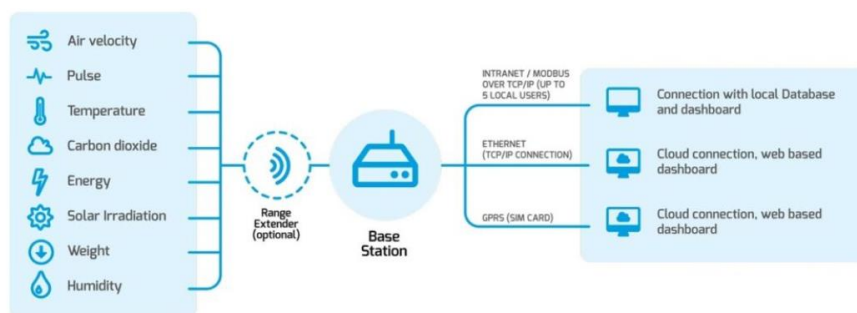
Customer's perspective

- Business-man Vincent: Gearbox has been used to make harvest prognoses, but didn't work well enough yet. They also use camera's from gearbox to understand the growth of the plants, by measuring the length. Camera's can't really see everything, like plagues under the leaves.

Wireless value

➔ Point of difference: easy to use and **reliable**, since it can and is used in different type of industries. Products will do their jobs as promised.

- Key Strength: wireless sensors for every industry, **complete package** to gain insight at a glance into what is currently happening in your greenhouse and you can monitor the effect of adjustments. **Easy to install** and **wireless**
- Weaknesses: quite 'uninvolved', not really personal. No branding, really product focussed.
- Value proposition: *Wireless Value develops, produces, and sells products that allow measured values from sensors to be transmitted wirelessly to points where further processing and monitoring can take place.*



Our brand promises



Reliable

Precise and reliable measurement data



Available

Measured data always within reach



Involved

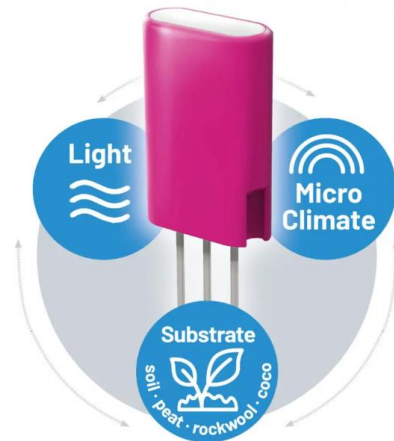
Always a tailor-made solution

Wireless Value | We develop the future of wireless measuring. (2023, October 26).

Wireless Value. <https://wirelessvalue.nl/en/>

Sigrow

- ➔ Point of difference: easy to use and **passionate** about what they deliver. Stands out.
- Key Strength: objective observations to complement the human senses, more technical and specialized for agriculture (compared to wireless value for example). Free Sigrow app with smart and informed decisions.
 - Exceptional service from people that made it their *mission in life to help others continuously grow better plants*.
 - Delivers the whole package
- Weaknesses: not clear what their exact value is as a company. No unique sensors?
- Value proposition: increase crop yield, decrease costs: grow more high quality plants
 - Easy to use
 - Custom
 - Made in **Wageningen**: ahead of the curve
 - Passion and love
 - Really pink product is very interesting (contrast with soil and plants)



sigrow.com. (2024). Sigrow.com. <https://sigrow.com/>

Quantified

→ Point of difference: **affordable quality** sensors

- Key Strength: works together with other software companies, thus more focus on the sensors they deliver. Affordable sensors.
- Weaknesses: does not offer the complete package (software somewhere else)
 - Their sensors look cheap, not that professional
- Value proposition: grow more, using less
 - Enriching your data collection (extra sensor)



FireFly agricultural Sensors for Quantified Technology. (2024, July 30). Groen & Boothman. <https://groenboothman.com/projects/firefly-agricultural-sensors-for-quantified-technology/>

Quantified. (2024). Quantified. <https://www.quantified.eu/>

30 MHZ

- ➔ Point of difference: **platform of data and insights**, with other horticulture tech integrated
 - Optimize your strategy



- Key Strength: innoveert same met andere partijen: (competitors: sendot, aronet, 2grow). Open platform that can be used by everyone within the horticulture.
 - **Collecting all knowledge at one place**
- Weaknesses: very dependent on other horticulture companies
- Value proposition: *sense, act, impact & Slimme oplossingen bouwen voor alle tuinbouw*
 - Samenwerken met telers om tot innovatie te komen
 - Duurzaamheid
- Size: 8 employees
 - Went from 40 to 8 the past 2 years

Iedereen kan zich verbinden - 30MHz (2023, October 30). 30MHz.
<https://30mhz.com/nl/producten/connectiviteit/>

Customer's perspective

- Business-man Sebastiaan: sensors fell off way to easy, makes if difficult to use.

Aranet

➔ Point of difference: **highest quality** sensors

- Key Strength: everything in one, simple, quality good looking product service (looks clean)
- Weaknesses: net specifically for horticulture, also other industries. Does not deliver something unique
- Value proposition: '*Smarter than others*'
 - From saving power to saving lives, working with an effective IoT ecosystem solves real-world problems.
 - Marco environmental plant, plant itself and the plants roots
 - Modern



Customer's perspective

Chameleon Wouter: installed Aranet because they work together with Source

Grodan Sensors

Propagation Solutions

Grodan's diverse blocks and plugs determine irrigation strategy, ensuring uniform plant growth in various conditions for growers' specific needs.

[See Products](#)



Grodan. (2024). Grodan.com. <https://www.grodan.com/global/product-overview/>

Customer's perspective

- Grower Bart: cannot use these sensors together with Source, *quite a shame because now we are missing important data in the Source environment.*
- Chameleon Wouter: eventhough they are fragile, they deliver great, trustworthy data. They are not compatible with Source however...

4.4 Related competition

Hoogendoorn & Priva & Ridder

- All very large companies, Priva the biggest. They all deliver both software and sensors, pretty much the whole package that helps growers control their greenhouses.

Hoogendoorn

Offers greenhouse automation for all growers. Clearly show they are one of the most experienced companies that makes sure the job will be done correctly.

- Expert perspective

Customer's perspective

- Grower Bart: Hoogendoorn is very similar to Priva, only the layout on you screen is different. He uses Priva now, because that's the system his greenhouse uses.

Priva

'Creating a climate for growth' more focused on the people working with their technology and products. They are central.

- Customer centred perspective
- Also bit more positive impact on climate

Customer's perspective

- Grower Bart: On a day to day basis Bart uses **Priva**. Priva show a rich, nuanced overview of the greenhouse settings (climate & irrigation) and offers the opportunity to change greenhouse settings on basis of Bart's observations inside and outside the greenhouse.
- Enthusiast Jeffrey: has always been nice, their climate overview, the new smart functions they add here and there, Jeffrey is satisfied and thinks Priva develops enough new, innovative features.
- Business-man Tom: Priva is like shell, they exploit their current business model but don't innovate in anything.
- Business-man Wim: They use Priva because they are used to the system for years already.
 - o Plantonomy, Priva's own smart system that should be able to autonomously steer greenhouses was very bad and removed from the greenhouse very quickly. The 'smart system did things the growers would have never done themselves.

Ridder

More sensor and product focussed. They resell sensors. They do say *'helping you grow your way'*. Offering a lot of products.

- Product, sensor focussed

Source & Blue radix & Lets grow

- Deliver software to make the sensor data more approachable and insightful

Source

AI to make horticulture data more insightful and understandable but also to *maximize profit and scale without boundaries.*

- *Our mission is to empower growers to provide everyone around the globe with sufficient fruits and vegetables, in a climate-resilient and resource-efficient way. We do that by building the world's best AI software for growers - to help start, run, and expand successful growing businesses worldwide.*
- Connecting the power of AI with the importance of the grower

Customer's perspective

- Grower Bart: Source isn't nuanced enough to control 100% of the greenhouse with. *You can control like 80% of your strategy with it, but the 20% extra is where you make a difference as grower.* It does add to the overall strategy and sharing data with other growers.
- Business-man Tom: Source is great, they bring-in smart people which is very important towards the future of greenhouse horticulture. Thereby, source is trying to make a whole of the ag tech industry, while most other companies are ego's trying to get the best for themselves. He uses their platform daily.
- Business-man Vincent: Source is nice, but...:
 - o Data overview is very easy to understand and learn others
 - o Sharing data with colleagues is easy and learn full
 - o BUT: they aren't able to deliver any prognose or greenhouse steering information yet. They aren't much more then a data overview (yet).
- Business-man Wim: Source is pretty much a strategy-checker, to see in broader lines if your strategy is working or not. Source does provide an nice simple overview to confirm his feelings about his plants and the greenhouse.
- Chameleon Wouter: Source does not always deliver what they promise (in-time), but they are great new market entrants. Harvest House as growers association has invested in them.
 - o Source supports the future with less experience Wouter understands. Source makes learning easier.
 - o The other advantage for Wouter personally is the interface. Everything is visible in 1 overview! He can see 8 different greenhouses in 1 screen, which is super convenient, especially in the transition from green-blue hands.
 - o His first thought was more hold back actually; what is Source going to do with the data Overdijk is providing? The Netherlands has a the growing knowledge in the world, will they keep it like that?

-

Blue Radix

Autonomous growing, increasing your expertise with our technology.

- Expertise focus, making growers go autonomous and optimize. Growing the growers enterprise. Autonomous, growing,

Customer's perspective

- Business-man Vincent: Blue Radix is able to deliver greenhouse steering advice with their AI. They are closer to autonomous farming
- Business-man Wim: Blue Radix is a bit further in self-managing the greenhouses.
- Business-man Sebastiaan: I don't like how that they are determining to much for me.

Lets grow

Also optimizing the growers work, but a bit more together then as expert teaching 'top-down'. Very technical focussed. Interesting: plant empowerment instead of grower empowerment.

- Experts trying to improve growers greenhouses with data. Similar to Hoogendoorn's perspective, which makes sense since Lets grow is their company.

Customer's perspective

- Enthusiast Jeffrey: nice to share data and use the overview to compare our strategy with that of other growers (at prominent)
- Chameleon Roel: works well to share data
- Business-man Sebastiaan: also says it works well to share data, but they need to keep up with business like source the remain relevant. Source is just way easier to use.

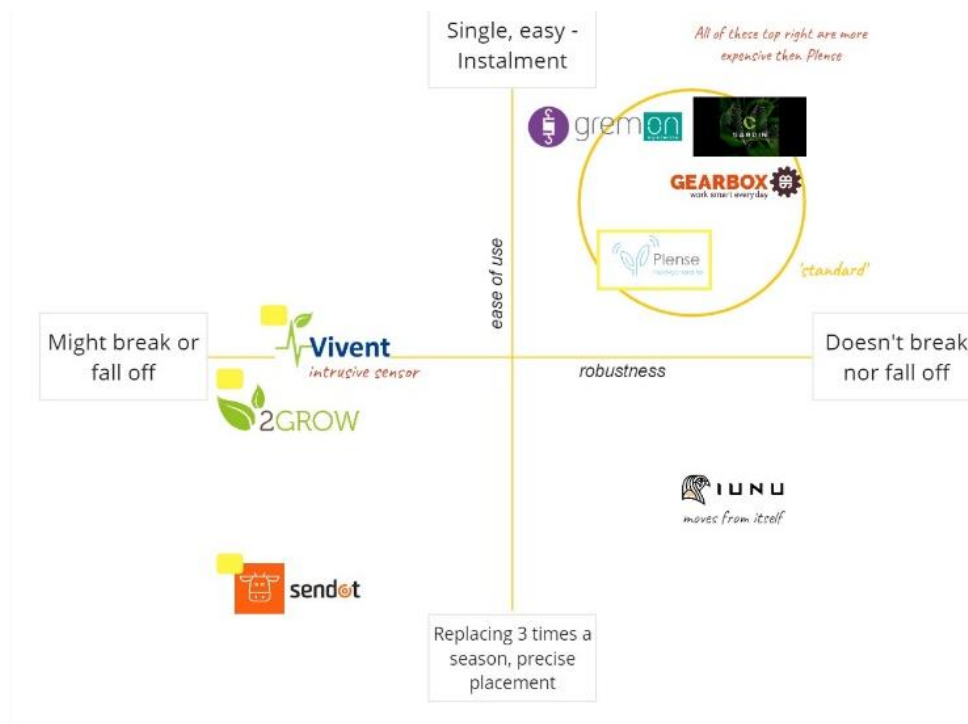
4.5 Potential brand positioning

This Appendix chapter shows the different perceptual maps and their potential position statement explored after the brand atmosphere analyses. These are form the different design explored before choosing one to form Plense's brand DNA and Identity.

1. Product based position

Illustrating the key competitors landscape based on the physical product features, to see whether communicating these could provide a unique product position.

- Ease of use: a sensor has to be placed/moved a maximum of 2 times a season. Preferable with large room for error, thus easy to install.
- Robustness: a sensor cannot break nor move from its originally place.



KNOWING MORE FOR LESS
 For **greenhouse business**, Plense offers **affordable plant-based sensors** that are **robust** and **easy to install**, that deliver **reliable plant-based data** and gives people the **control to learn** more of their greenhouse.

€...

1sec.

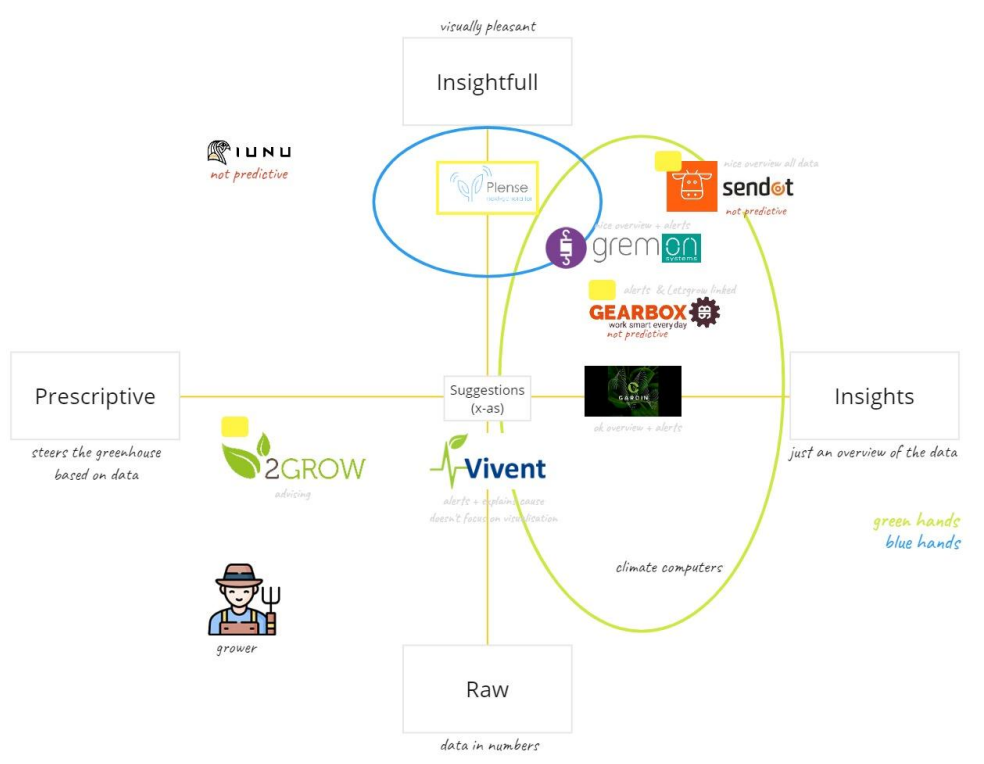
We would ideally have all available data, from seeds – sales in one overview, real-time all the time (Marc)

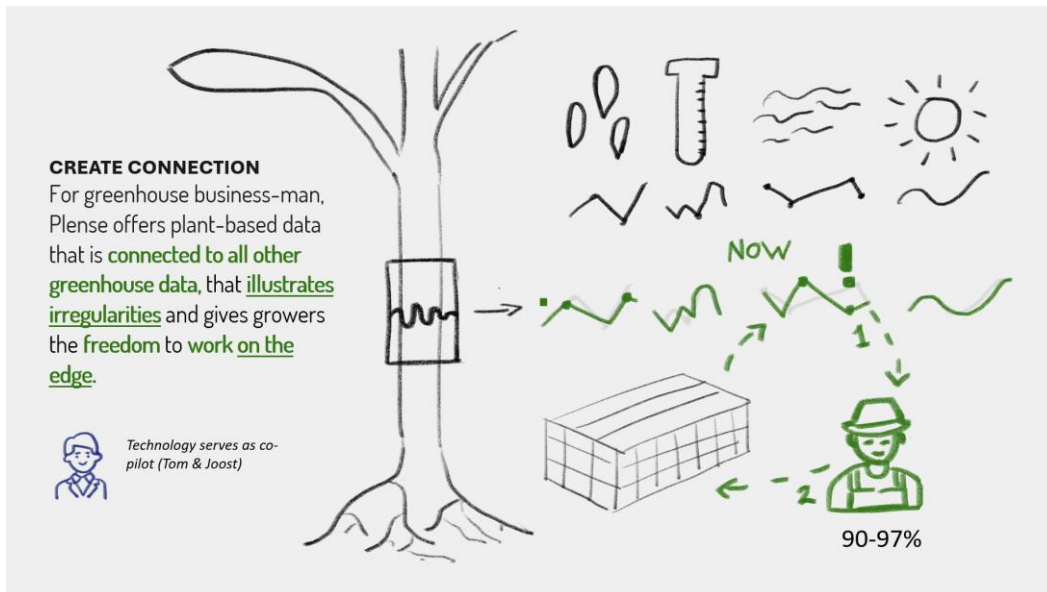
Data needs to be Robust, otherwise you can't learn from it. Thereby it needs to be open-data (Wouter)

2. Data based position

All key competitors provide plant-based data, but how they provide this data and its communicate its value is different. Here the goal is to find out how the plant-based data could best be communicated in a unique product/brand position.

- Insightful vs raw (nuanced): is referring to the presentation of the data. Blue-hands prefer insightful data that clearly summarizes what is happening within the greenhouse, whereas green-hands prefer more nuance within this data, in order to control the greenhouse from 90-97%.
- Prescriptive vs insights: describes how the data is transferred. Some key competitors tend to advice more, top-down explaining what should be the best to do on basis of the plant-based data (prescriptive), whereas green hands prefer to get insights on which they can base their own decisions. Blue-hands are somewhere in-between.

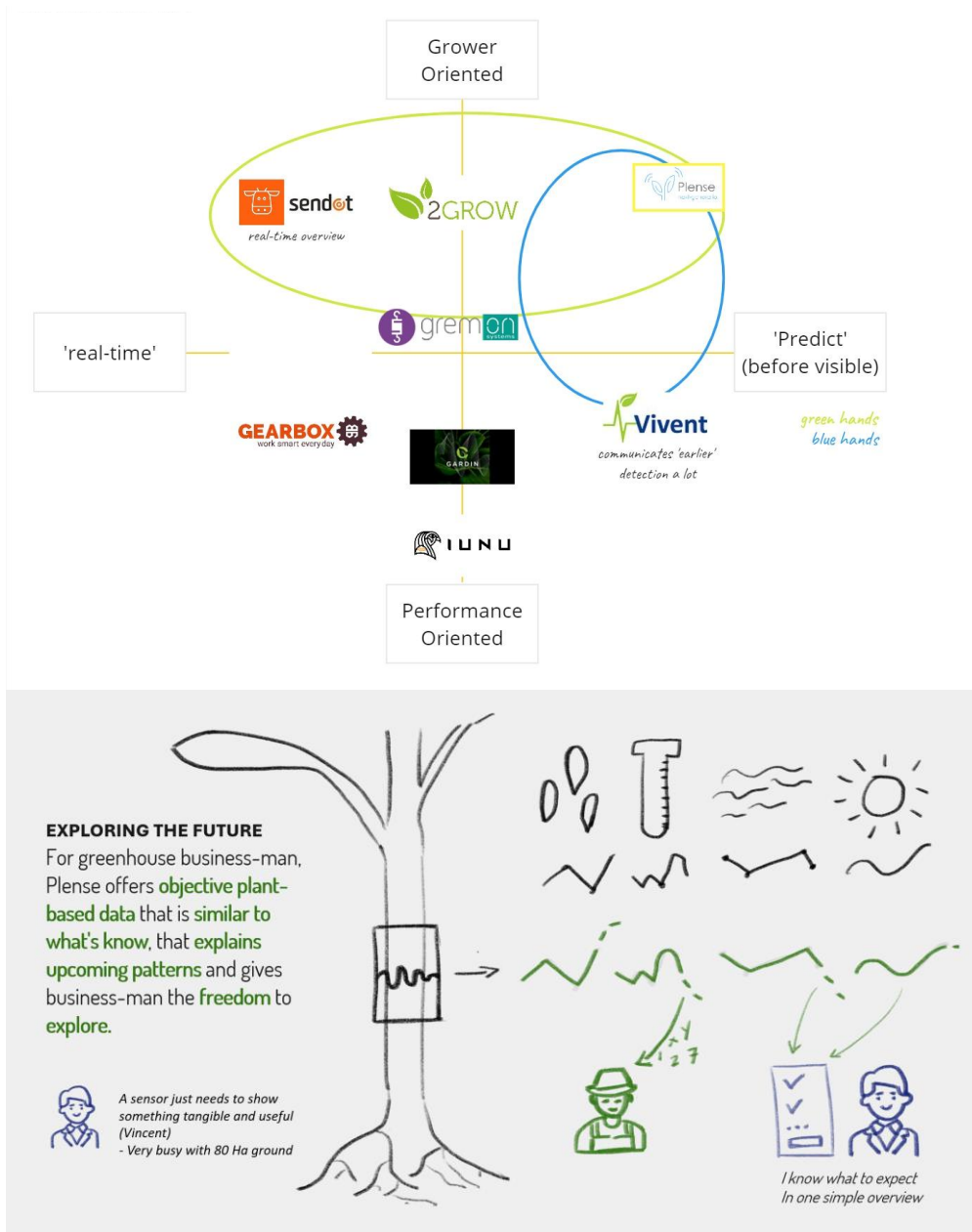




3. Brand value position

This map is based on how key competitors communicate the value of their brand and product. The axis mean the following for the customer:

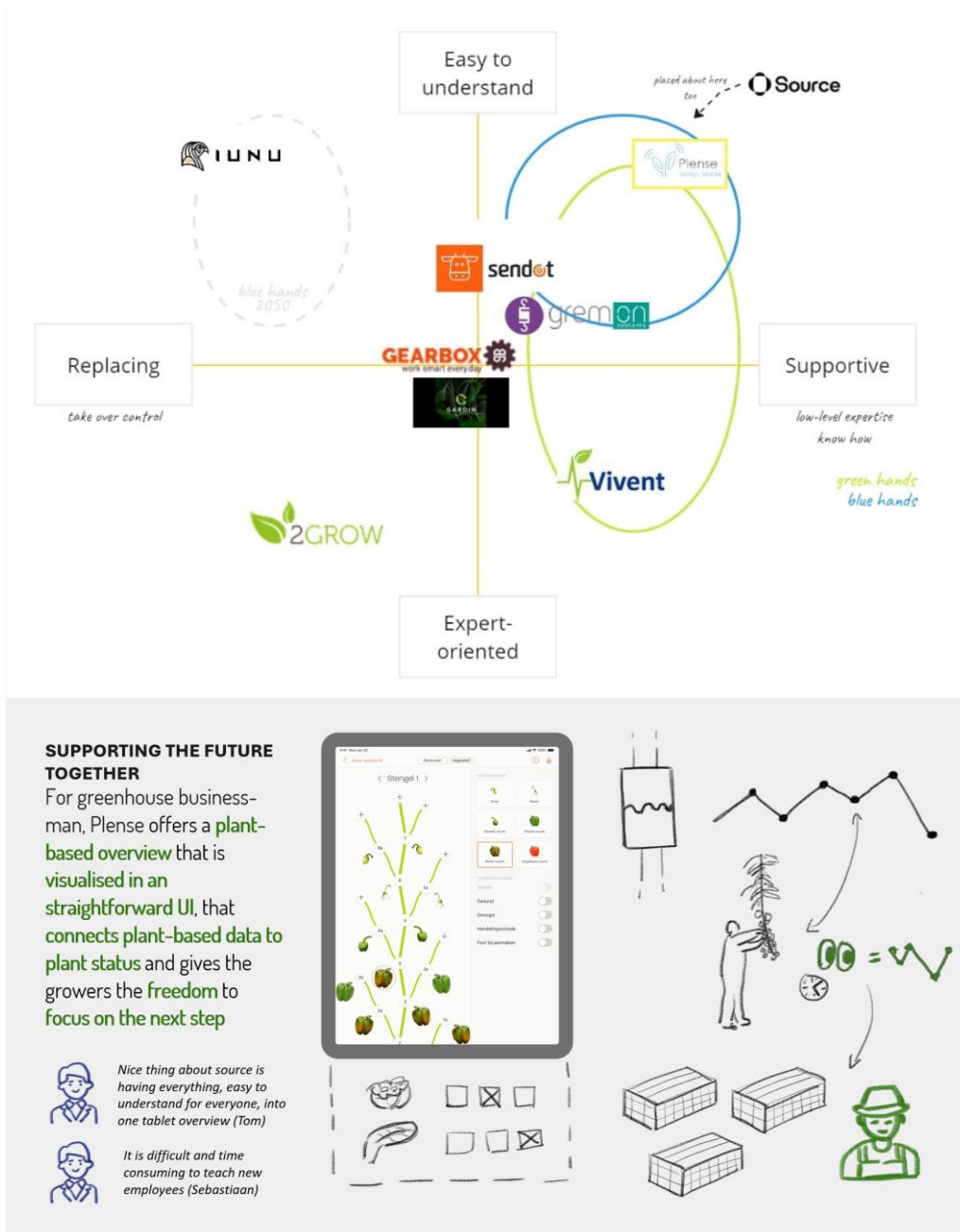
- Grower vs performance oriented: is the brand value communicated by the competition, which is either more focussed on getting the highest yield (performance) or the enhancement of the growers work like fine-tuning his growth strategy. You would expect the blue-hands would be placed on the performance side, but on basis of the interviews I would place them on the growers side, since he is the one determining the performance of the greenhouse. If the grower is empowered, his performance will increase, thus the results for the business-man will improve.
- Real-time vs 'predictive' (before visible): explains what the plan-based data could mean to the its users. Some competitors focus more on the real-time information with which the grower can take direct action, while others compare the plant-based data with conventional data and explain how much quicker the plant-based data explains the state of the plant, like the grower is able to look into the future.



4. Future oriented position

This map is based on what horticulture business-man will be looking for the coming 20 years.

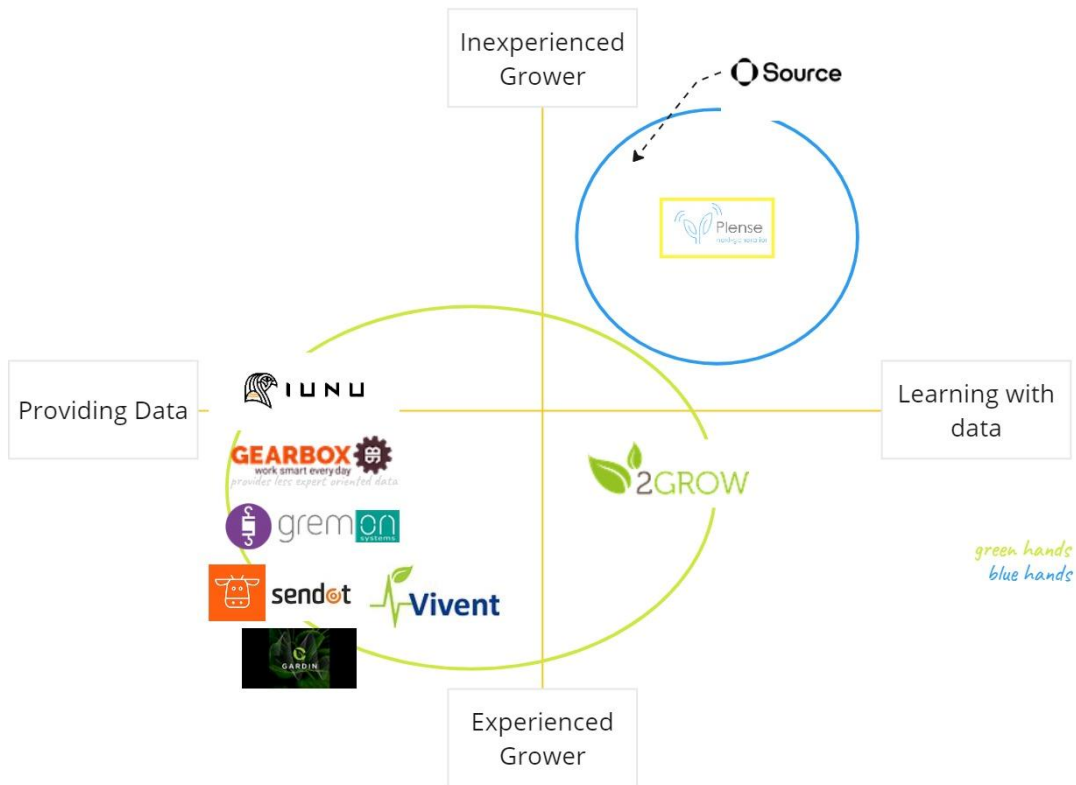
- Easy to understand vs expert oriented: comes from the growing decrease of the grower expertise within the horticulture greenhouse sector. Software companies like Source are developing more easy to understand software to solve this future problem. These kind of developments are very much valued by the sectors blue-hands.
- Replacing vs supportive: Similar to the prescriptive vs insight metric, but more future oriented. The plant-based data can be either branded as replacing greenhouse work or supporting greenhouse work. Iuni for example clearly communicates they are working towards autonomous farms, while a source communicates how their software supports the growers focus on his strategy (key competition doesn't seem to communicate like this).



5. Plense's vision

This map is made on Plense's vision and ideal contribution to the horticulture sector.

- Providing data vs learning from data: This metric is based on the core value of Plense; *'teach a man how to fish and he can eat for the rest of his life'*, which seems to resonate with the blue-hands that spend more time then ever on teaching and searching for experts, something that wasn't a problem 20 years ago.
- Inexperienced vs experienced grower: similar to the easy to understand vs expert oriented metric. But refers to both growers and (immigrant) employees.

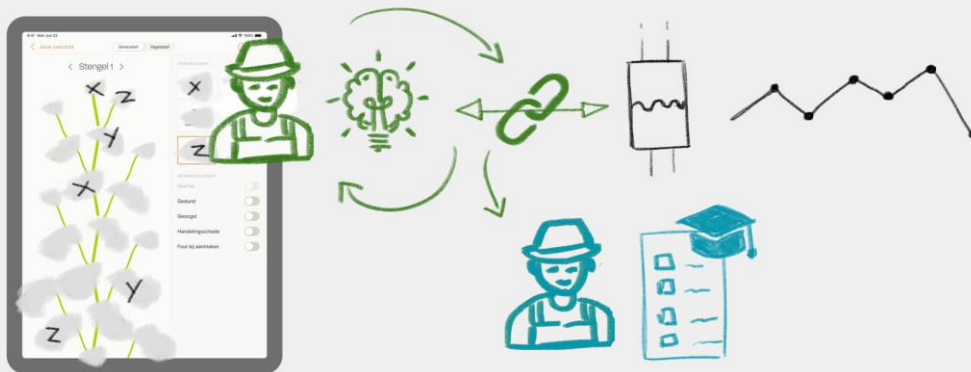


KNOWING IS GROWING

For greenhouse business-man, Plense offers a **plant-status tool** that connects growers' subjective evaluation to objective plant-based data, to educate the next generation of growers and make business-man feel confident to take the next step.



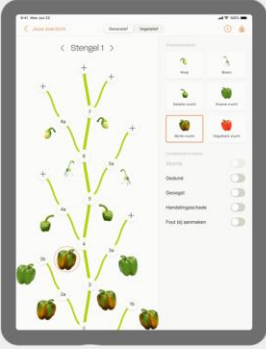
Technology is very promising to bring more of these green fingers (Wim)

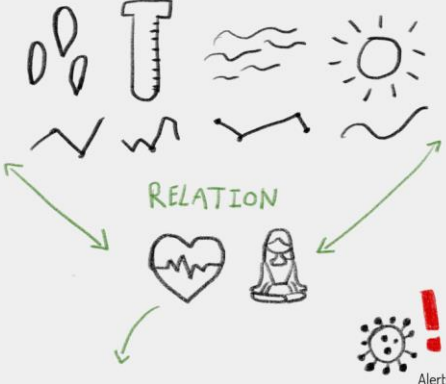


Example design direction of final selected position statement (p. xx). This will be further elaborated in chapter xx and made into an touchpoint in chapter xx.


SUPPORTING THE FUTURE TOGETHER

For greenhouse business-man, Plense offers a **plant(s) status tool** that is **connected to all other greenhouse technology**, that **actively supports greenhouse navigation** and gives growers the **freedom to explore new (p)lands**






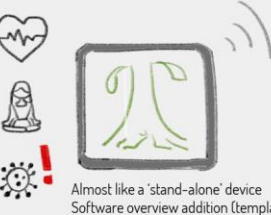
RELATION




Technology serves as co-pilot (Tom)



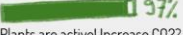
Junior growers need a co-pilot that helps them and provides them only the most important data, so they can be free in the weekends (Joost & Sebastiaan)




Almost like a 'stand-alone' device
Software overview addition (template)




Alerts



97%
Plants are active! Increase CO2?

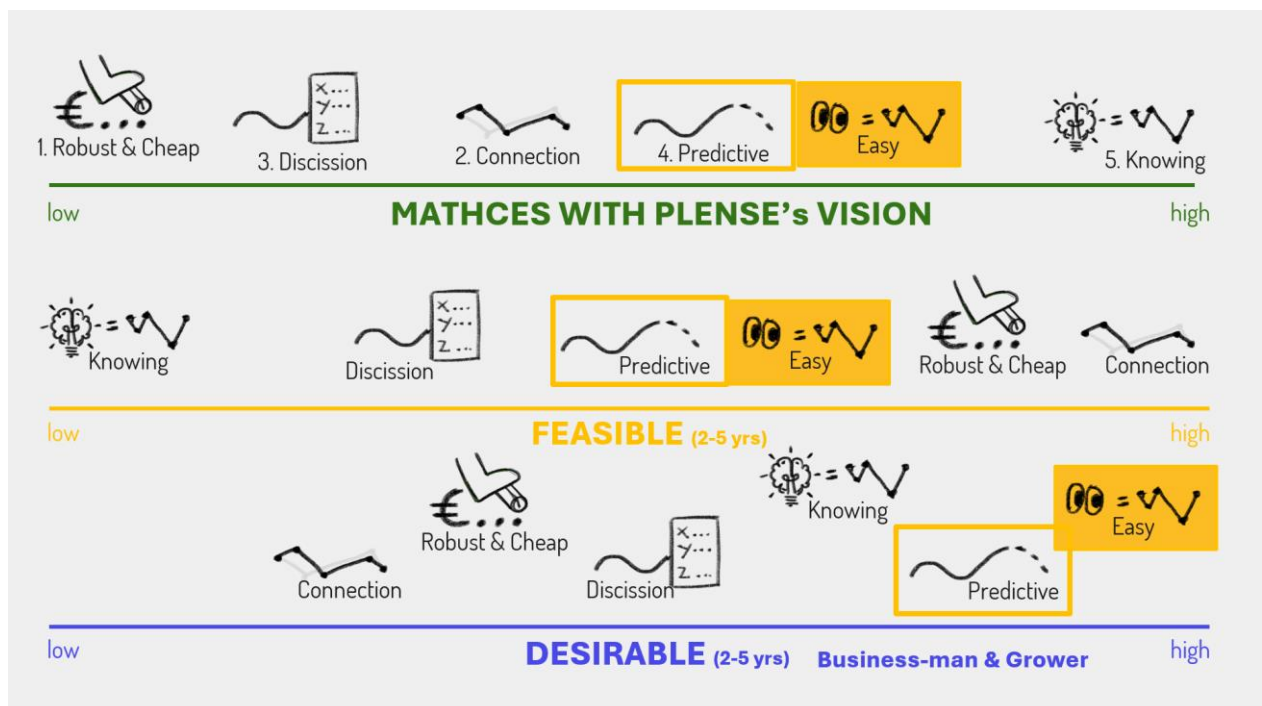




50%
Sapflow is slowing down. Close the sunscreen?

4.5.1 Position selection

Figure below shows the different positions placed against each other based on the selection criteria explained in chapter 4.4.5.1. Easy here refers to the co-pilot and integrated part of the final position for Plense. Predictive is selected as potential addition to the 'easy' position here, but as of now not included because Plense's isn't sure if they will actually be able to predict plant status.



5 Visual identity inspiration

COLOR SCHEME

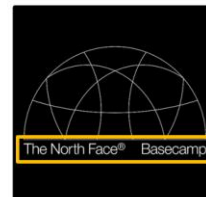
- Reliability = blue
- Light-Blue is also:
 - Bright future
 - Innovation (tech)

- Exiting = red/orange



FONT - THE EXPLORER

Spacewalk Updates



Basecamp.
Kom naar onze events in de hoge bergen.

Ons programma alleen voor leden.

LAYOUT

- Reliability/Competent = delicate
- Exciting = contrast
- Ambitious = dynamic shapes

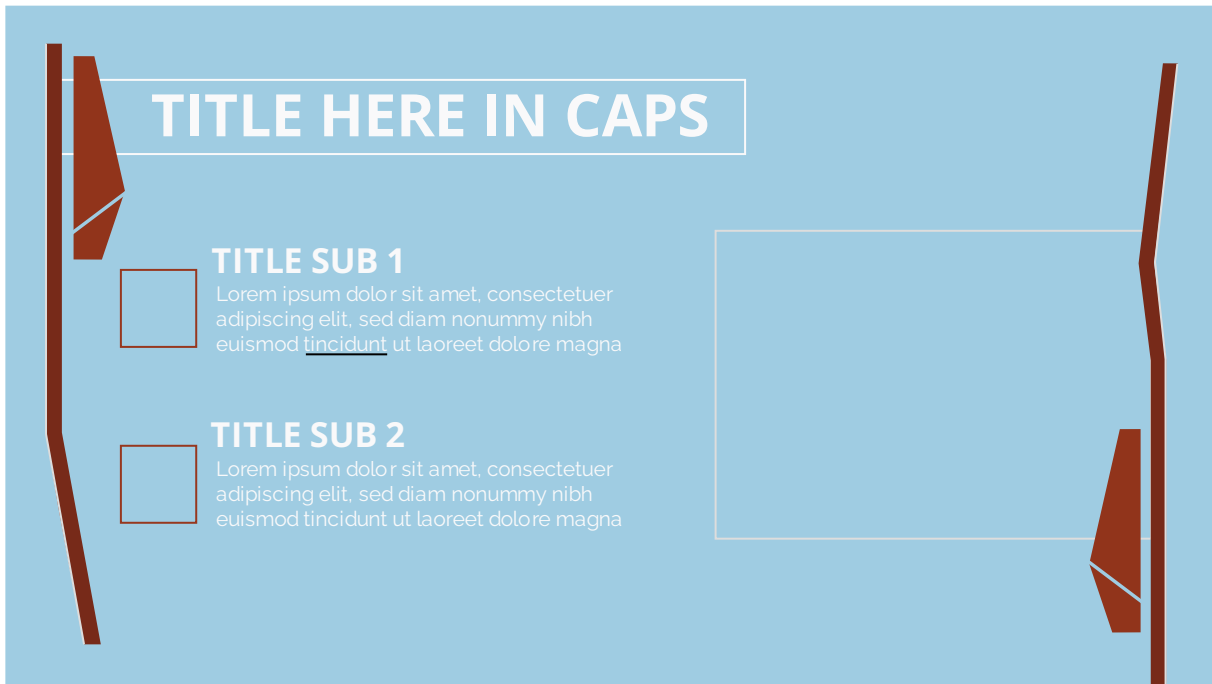
Brand personality	Package design
Sincere	natural
Exciting	contrasting
Competent	delicate
Sophisticated	natural or delicate
Rugged	contrasting or massive

(Orth & Malkewitz, 2008)



5.1 Visual identity options

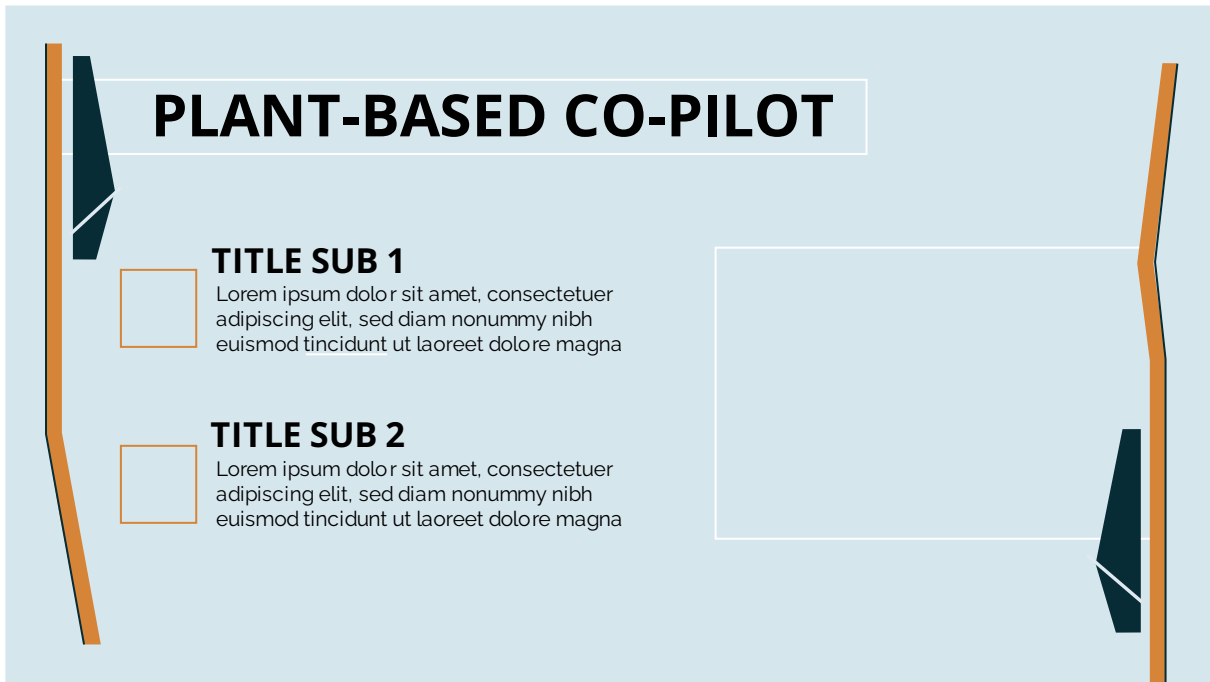




Almost a bit tropical. Too far from horticulture colours.



Too dark and serious with the brown



Nice colors, but design too many small details

5.2 Logo (re)Design



REDESIGN CURRENT LOGO



'PLANT STATUS AT YOUR FINGERTIPS'



'YOUR GREENHOUSE ALWAYS IN TOP FORM'



Logo redesign between other greenhouse tech brands

5.3 Plensor (re)Design

This chapter shows the Plensor Redesign process:

1. Define design requirements
2. Collect Inspiration
3. Ideation
4. Select and combine based on requirements
5. Final design

Design Requirements

The design requirements are based on Plense's brand personality, the customer interviews: what are they looking for when purchasing new sensors, and the product functionalities of the current Plensor:

Brand Personality (most important)

1. The Plensor's first impression is: Reliable → Robust
 - a. Looks like it will never fall off once attached to a plant
 - b. Looks like you roll over it with an iron trolley without breaking anything
 - c. Looks like it won't harm the plant
2. The Plensor feels exciting
 - a. Looks like something new within the greenhouse
 - b. Fun to use, attach and detach the sensor

Customer

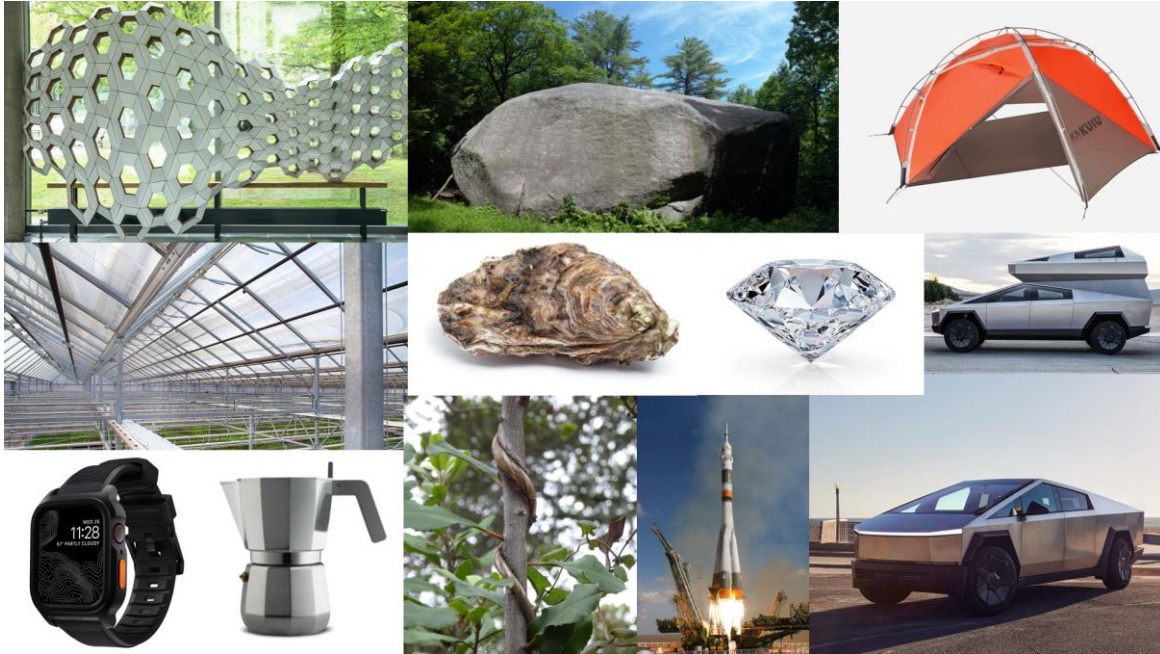
3. The Plensor is easy to use
 - a. Correctly attached within 30 seconds
 - b. Can only be removed or replaced a max. of 2 times a season

Current Plensor

4. Redesign needs to obtain reliable data
 - a. Sound proof
 - b. Water proof
5. Redesign needs to contain the same circuit boards as current design
6. Redesign needs to be 3D printed
7. Redesign needs to be assembled within the same time and effort
8. Total costs redesign doesn't exceed current costs

Inspiration

Inspiration is based on the brand personality requirements. These will form the design possibilities, after which the other design requirements will determine what design is selected/combined. The following mood boards were formed as inspiration:

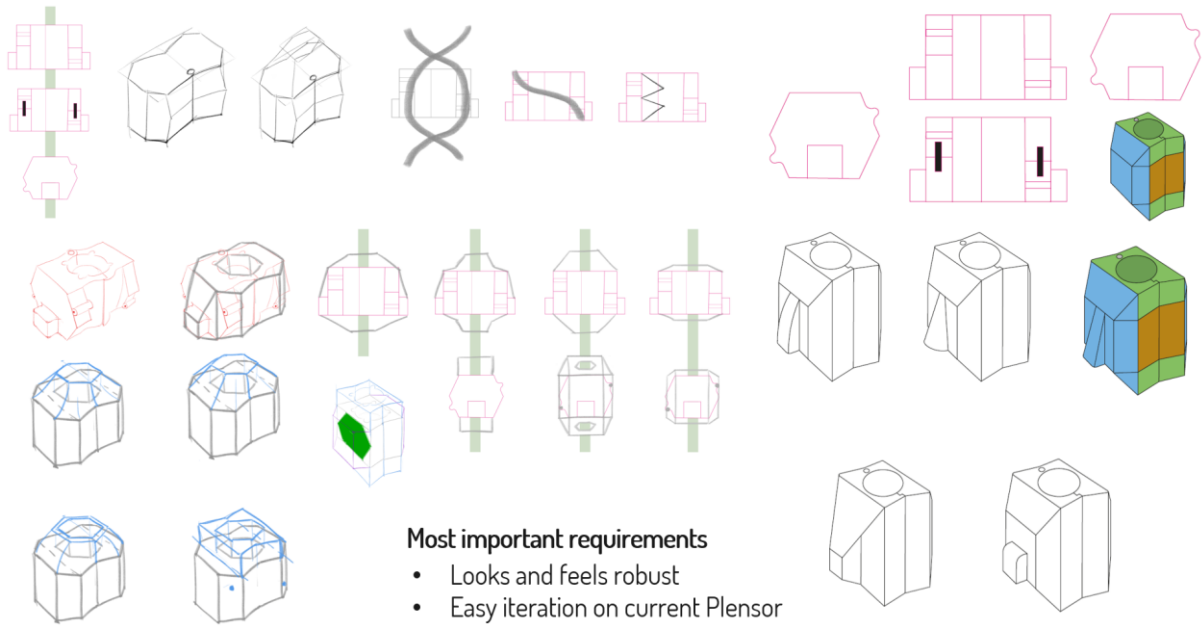


Exciting means energetic in terms of shape, dynamic. Freedom (emotional benefit) more lightweight. Robust means solid and strong, like a diamond, unbreakable.

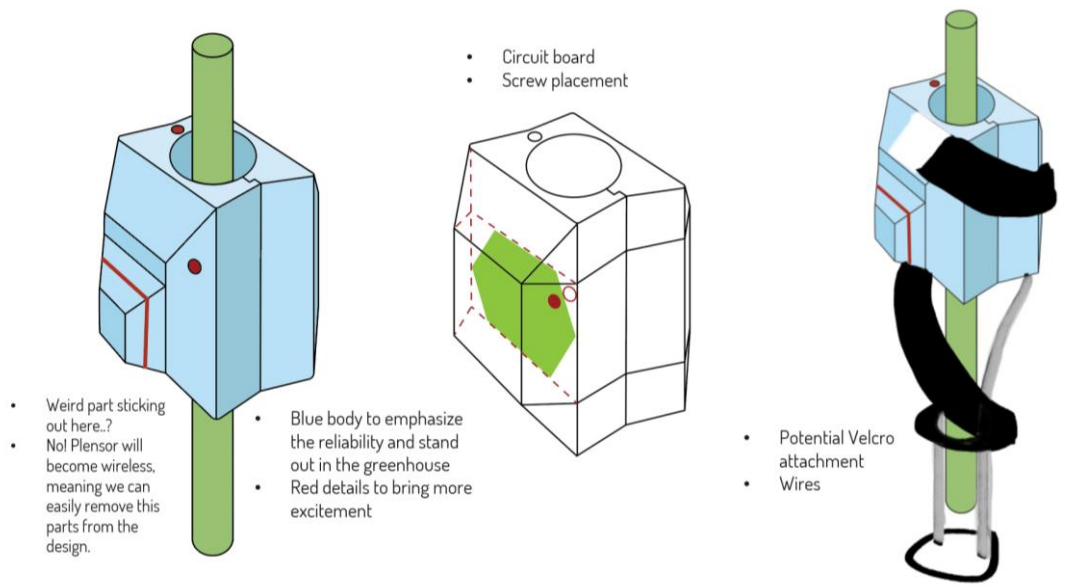
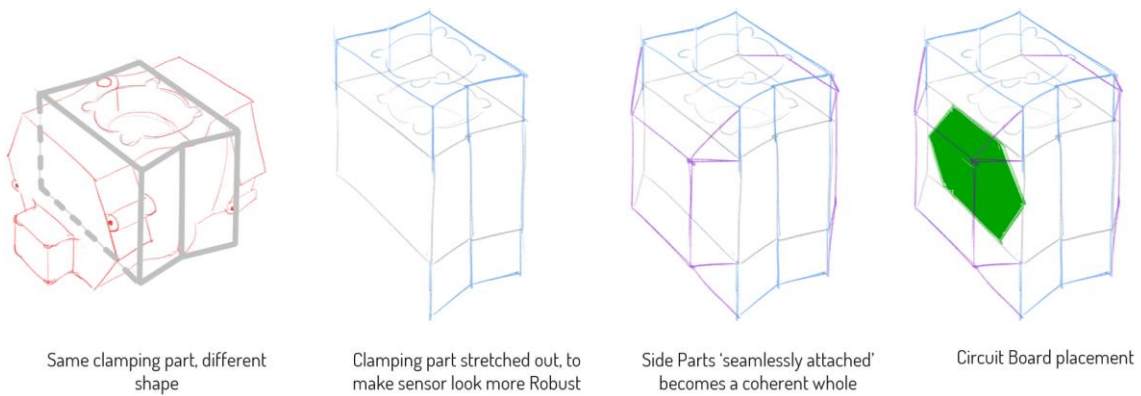


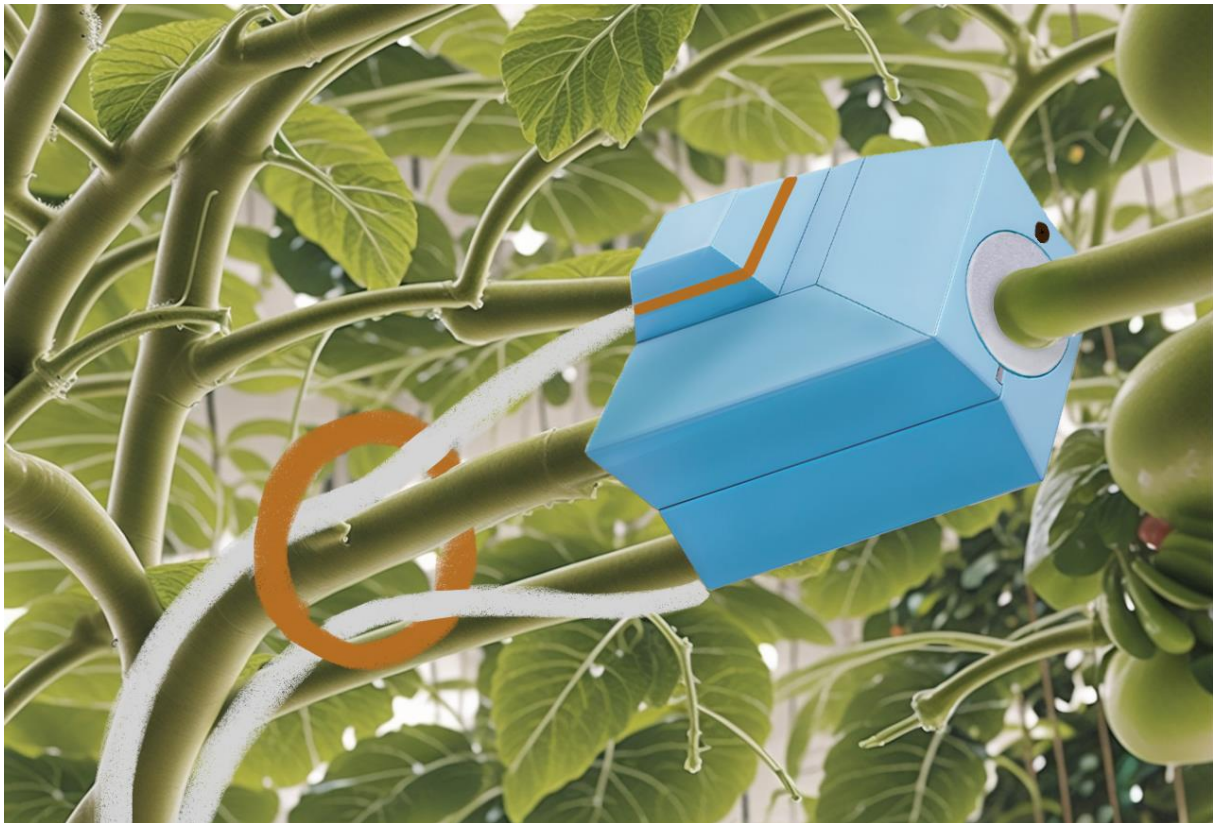
Exciting & reliable products found with the 'explorer' brand archetype products. The orange markings are exciting details.

Ideation & Selection



Final Design





PLENSOR 2.1

More plant-friendly: less aggressive

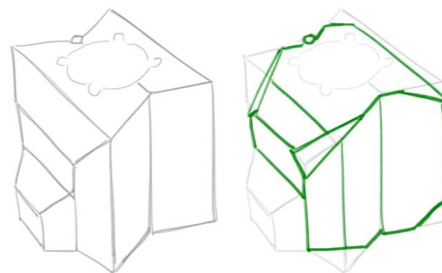
- Sharp corners cut off
- Small fillets 0.3mm

Reduce weight:

- Cut of material
- Check wall thickness

Fix printing errors

- With Thijs



Plensor Production

- Primer: Tamiya 87064 Fine Surface Primer Light Grey
- Paint: VAL-70961
- Tape: Brother-Tze-B31-fluor oranje 12mm
- Foam Rubber: polyether sg 35 (blue)
- ASA 3D print (white)

Plense next to other greenhouse sensors



6 Brand promise & Customer Journey

Your greenhouse in top form
feeling or doing things as well as possible
Your greenhouse always in top form
Your greenhouse in top form, always
Your greenhouse in top form, everywhere
Your Plants in top form, always

Always connected to your plants
Always connected to your top-sporters
Always informed about your plants

The smartwatch of horticulture
The analogy story directly
Always and Everywhere connected
Always and Everywhere connected to your greenhouse
Probably the most recognizable
Might not be distinctive enough

Growing together
Convey new ways of horticulture
Directly taken from the brand purpose
Co-pilot on your wrist
Greenhouse in your pocket

Training your greenhouse

2% more precise
Connected to your plants
Elevate your growing strategy
Plant status At your fingertips
Greenhouse partner in crime
Every second counts

6.1 Smart watch concept story

This story is directed to the team leader technological innovation for 3 big horticulture businesses. Edited when directed to growers.

Telers vergelijken hun kas wel eens met een 'team vol topsporters'

Net als een voetbalcoach die zijn spelers in top-vorm moet houden, houden telers hun planten in top-vorm, om zo de beste prestatie te kunnen leveren. Daarvoor passen ze continu hun trainingsschema aan, voeding, licht, irrigatie etc. Iteratief bekijken ze naar het effect van dit trainingsschema op hun top sporters en passen ze het schema/strategie opnieuw aan.

Nu kan het voorkomen dat een aantal spelers, misschien het hele team, eigenlijk te ver gepuust wordt door het trainingsschema, maar de coach heeft het nog niet door, want de spelers houden zich groot en doen wat de trainer zegt. Ervan misschien wel stress, maar laten dit niet zien aan de trainer. Pas wanneer spelers geblesseerd raken vraagt hij zich af, hoe kan dat? En past die zijn strategie aan, te laat.

Het voordeel van een smartwatch, die bij voetbal nog niet gebruikt wordt, maar atletiek wel veel, is dat zowel de speler als de coach zien hoe fit de top-sporter daadwerkelijk is, objectief. Door zijn beweging, hartslag en temperatuur continu bij te houden kan de smartwatch in veel gevallen aangeven hoe fit een sporter is. En steeds beter kan die ook voorspellen hoe fit een sporter zal zijn, op basis van zijn huidige performance.

Plense ontwikkeld eigenlijk hetzelfde als een smartwatch, maar dan voor planten. De binnenkant van een plant wordt gemeten met de sensor die om de steel heen geklikt wordt, waarna de fitheid van de plant eenvoudig weergegeven kan worden. De teler kan met deze objectieve nieuwe data zijn strategie vervolgens aanpassen, de plant verder pushen of juist met rust laten; op het randje telen.

Het voordeel van de smartwatch daarnaast is dat deze altijd aanstaat en verbonden is met de plant. Berichten eenvoudig weergeeft en verbonden is met alle andere apparaten, zoals de klimaatcomuter. Zodat een teler altijd kan zien hoe fit zijn planten zijn, ook buiten de kas of even snel in het weekend, om vervolgens zijn trainingsschema aan te passen waar nodig.

Zo is zijn kas altijd in top-vorm!

6.1.1 Smart watch concept questions

Uniqueness

- Where does this concept remind you of? (Related to horticulture greenhouse tec)

Favourable

- How would you use this concept during your daily work within or outside the greenhouse?
- How much would you spend on a product like this?

Credibility

- How believable is this concept?

Likes/Dislikes

- What did or didn't you like about this concept?

Brand Identity questions

- What do you think about the shape of this sensor?
 - How Reliable does it look?
 - How Robust does it look? (do you think it will survive a fall or stay attached to the plant?)
 - Would you use this sensor in your greenhouse?
- What do you think about the sensor colours? Does it remind you of something?

How does the consumer react to this more creative and out of the box value proposition story?

- How do you recognise yourself as coach in the greenhouse, keeping its plants in top form?

What do you think about the 'greenhouse smartwatch'? Keeping track of your plants fitness and providing all information simple and insightful

Overall impression questions

How does the consumer react to this more creative and out of the box value proposition story?

- How do you recognise yourself as coach in the greenhouse, keeping its plants in top form?
- What do you think about the 'greenhouse smartwatch'? Keeping track of your plants fitness and providing all information simple and insightful.

6.2 Customer Journey extra

Awareness

- **Next gen growers education:** collaborating with horticulture colleges. One of the interviewees, J.N. introduced new technology at the uncles greenhouse that way. (this touchpoint thus could even stimulate purchases). The advantage is that students, often related to horticulture from their youth, test and interact with Plense's product.
- **Horticulture magazines:** were often found in canteens across different greenhouses. These magazines have worked together with other startups and Plense before.
- **Local football club sponsor:** to enforce the 'your plants in top form' association. Might be too expensive, but will look nice and leave an involved impression

Consideration Touchpoints

Horticulture stand: on one of the greenhouse horticulture fairs (2 times every year). Good to inform and interact with industry experts, less with direct customers like the businessman, or with users like the grower.

7 Brand Touchpoint Design

7.1 Customer email

DUTCH

TITEL: JOUW PLANTEN IN TOPVORM

'Hey Hans,

Ik hoop dat het goed met je gaat.

BRAND PROMISE: *Wij zijn Plense, een spin-off van de TU Delft, en ontwikkelen een Co-pilot die de teler helpt zijn planten altijd en overal in topvorm te houden. Net zoals een smartwatch de conditie van atleten volgt door de binnenkant van hun pols te meten, geeft onze technologie inzicht in de conditie van je planten door de interne structuur van de stam in kaart te brengen!*

Desirability? REASON TO COLLABORATE: *Deze maand bleek uit onze 4e test dat we de sapstroom van tomatenplanten tot op de milliliter nauwkeurig kunnen vaststellen, waardoor je op elk moment van de dag weet hoe actief je planten zijn, of de teelt grens verder gepusht kan worden of dat ze juist meer rust nodig hebben om in topvorm te blijven.*

Uniqueness? REASON TO MAIL THIS SPECIFIC CUSTOMER: *We zijn op zoek naar de eerste telers die onze nieuwe kasttechnologie wil uitproberen en verder wil begrijpen hoe dit zijn groeistrategie verbetert. We denken dat jij perfect zou passen op basis van Bryte zijn passie om te innoveren en vooruitgang te leveren!*

Heeft u interesse, laat het ons weten, dan komen we graag langs voor meer uitleg!

Groet, Berend de Klerk

Co-Founder Plense Technologies

ENGLISH

'Hi Hans,
Hope you are doing well.

BRAND PROMISE: We are Plense, a spin-off of the TU Delft en WUR, developing a Co-pilot that helps the grower to keep his plants in top form anytime, anywhere. Just like a smartwatch tracks the condition of athletes by measuring the inside of their wrist, our sensor detects the condition of your plants by scanning the internal structure of the stem!

REASON TO COLLABORATE: This month our 4th test showed that we can measure the sap-flow of Tomato plants to the millilitre precise, which means we know how active you plants are at any moment of the day and if they can be further trained or if they need more rest, to remain in top form.

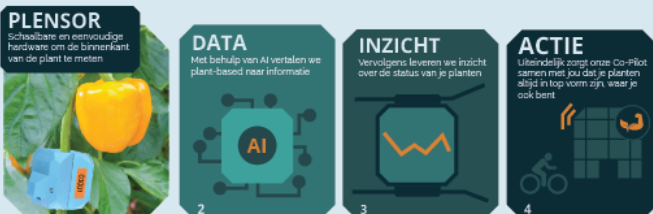
REASON TO MAIL THIS SPECIFIC CUSTOMER: We are looking for someone that wants to try out new greenhouse technologies like ours and further understand how it improves the growth strategy. We think you would be a perfect fit based on your Bryte's (company name) drive to innovate and progress forwards!

If you are interested, please let us know and we will come by to explain more!

7.1.1 User Case 1-pager



Plense ontwikkelt een glastuinbouw co-pilot die helpt je planten altijd en overal in topvorm te houden. Net zoals een smartwatch de conditie van atleten monitort door de binnenkant van hun pols te meten, monitort Plense de conditie van je planten door de interne structuur van de plant's stengel in kaart te brengen. Vervolgens vertalen we deze plant-based data naar inzichten en kas gerichte acties, waarvoor deze pagina je de eerste testresultaten presenteert!



HANS VAN BRYTE

Het afgelopen jaar heeft Hans Plense getest met het telen van 1 Ha. vleestomaat in Bryte's nieuwe kas. Halverwege het jaar begon Hans een verbinding te zien tussen het uiterlijk van zijn planten en de inzichten van Plense. Daarmee heeft hij op een slimme manier 2% meer uit deze Ha. weten te halen!

CASE STUDY HANS

Gebruik quotes!

'Het was fascinerend om te zien hoe snel de planten water opnamen, op dagen dat ik eigenlijk minder water zou toevoeren!'

'Soms moet je snelle beslissingen maken en daarvoor helpt het om te zien hoe de planten reageerde op mijn vorige beslissingen.'

LOPENDE SAMENWERKINGEN

Momenteel zijn Jan van Zaanstreek Tomaten en Peter van Peter Paprika aan het testen of ze:

- X
- X

Volg de ontwikkelingen van deze telers door je aan te melden op onze nieuwsbrief via www.plensetech.com/new

Liever zelf testen? Neem contact op door te antwoorden op deze mail!

7.2 Physical Reminder

Since many of the greenhouse business-man, growers and employees cycle as hobby and sport, Plense could bring a branded cycle bidon as 'thank you for your time'. This way they leave behind something tangible that reflects the brand promise and reminds the customer of their contact with Plense.



7.3 Website Inspiration

Some website examples that have been used as inspiration, for both layout and contents.

<https://www.plenty.ag/>

<https://bowery.co/>

<https://readyssetgrow.nl/nl/>

<https://neoncentury.com/>

<https://bootstrapbrain.com/bootstrap-websites/> (multiple websites)

MAIN PAGE

On this page you can scroll down and get a general overview of everything part of the website. This is very common since it informs the viewer about everything in a few scrolls.

OUR TEAM!

JOURNEY

CONTACT

YOUR PLANTS IN TOP FORM

The first thing you see entering the website is what should have stuck the last time you interacted or heard about Plense, meaning you are in the right place here! But how did they get my Plense in top form again?

EXPLAIN WHAT PLENSE DEVELOPS

Here is step by step explained what Plense does, not just making a sensor, but mutiple things to deliver valuable actions. Aha yes I get it, but what can Plense do for me?

BENEFITS

Explaining what Plense can mean to you.

PARTNERS & TEAM

Showing with who Plense works to add credibility to its metioned benefits.

Showing these partners in combination with the team also adds to the credibility of the team.

Want to become our next partner?!

JOURNEY PLENSE


Finish the main page with what is coming to invite the viewer to subscribe for updates and follow Plense's developments.

why work with us?

what to expect from us?

JOURNEY

This page shows the past and present Journey of and the mission fueling this Journey Plense.



MAIN PAGE OUR TEAM! CONTACT

OUR JOURNEY


Shows again what to expect from Plense, but also where they come from: what prizes they have won (credibility), how they've growing as a team and what they have done for horticulture so far

OUR MISSION

This journey is drive by their mission, which combines Plense's purpose with that of the customer.

THE TEAM

This page shows the team and what they stand for summarized in the values. Next to informing the customer about the team, this page also tries to target new students and employees to work together with Plense.



MAIN PAGE JOURNEY CONTACT

INTRODUCING THE TEAM

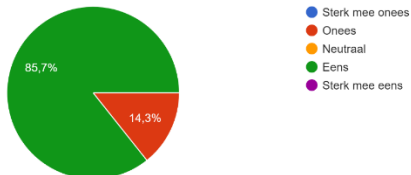
Showing the young team, full of energy an creative, new, smart ideas. A welcoming place to work with and at!

OUR VALUES

This is what Plense stands for. These values should inspire other entrepreneural students/graduates to join!

8 Brand touchpoint evaluation results

De presentatie van Plense hierboven is duidelijk:
7 antwoorden

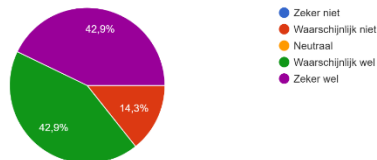


Waarom wel of niet?

7 antwoorden

- Een extra paar ogen is nooit verkeerd, en kan ondersteunend helpen. Teler moet altijd wel geïnformeerd worden en op de hoogte gebracht worden van veranderingen.
- Duidelijk verhaal, kijk uit dat je de problemen niet te groot laat lijken.
- Niet duidelijk wat de toegevoegde waarde is. Wat levert het extra op t.o.v. al die sensoren die we al hebben hangen?
- er zijn zoveel bedrijven die dé sensor aanbiedt, dus moet veel duidelijker zijn wat de voordelen zijn. Andere bedrijven die er al gebruik van maken moet je er zeker in opnemen. Als het nog nergens in de praktijk draait, besteed ik er weinig tijd aan.
- Kort en bondige uitleg van de techniek en kunnen van de sensor
- Ik mis de onderzoeksresultaten/referenties
- helemaal omdat ik al meer gehoord heb, maar idee wordt goed geschetst.

Ik wil op de hoogte gehouden worden over de ontwikkelingen van Plense:
7 antwoorden

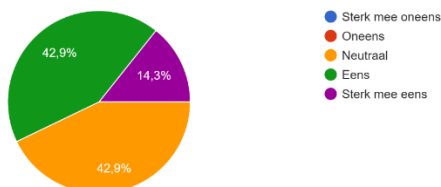


Waarom wel of niet?

6 antwoorden

- Interesse in innovatie
- Weéééer een bedrijf dat een sensor heeft.
- interessant
- Afhankelijk van praktijk referenties, nu nog alleen verhaal
- Innovatie, meten = weten
- vind het interessant om te volgen

Wat Plense gaat toevoegen aan de glastuinbouw is relevant voor mij:
7 antwoorden

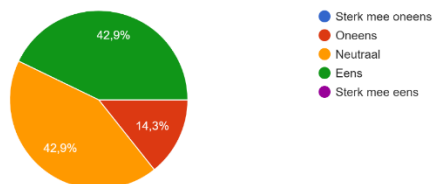


Waarom is Plense wel of niet relevant voor jou?

6 antwoorden

- Geen idee, er is nog geen product live en klaar om te gebruiken
- Onduidelijk wat het oplevert.
- Beter inzicht in de groei van de planten door een meting is objectiever dan de inschatting van een teler
- Extra tool voor metingen en verbanden. Leggen met klimaat en watergift
- Meten = weten -> meer met minder.
- ik wil eerst zien wat het doet in de praktijk

Wat Plense belooft te leveren is geloofwaardig:
7 antwoorden

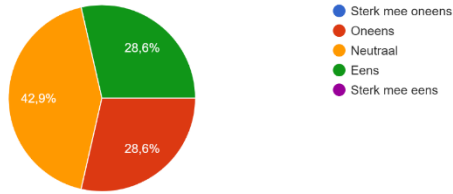


Waarom is Plense wel of niet geloofwaardig?

7 antwoorden

- Er is vandaag veel mogelijk,
- heb nog geen resultaat gezien. Daarom sta ik er neutraal in.
- Geen referenties.
- Techniek is bekend. Het gebruik van de techniek in plantenteelt zal bewezen moeten worden
- Nog Theorie
- Tot nu toe wel, afhankelijk van daden.
- het klinkt goed, maar ik wil het eerst zien

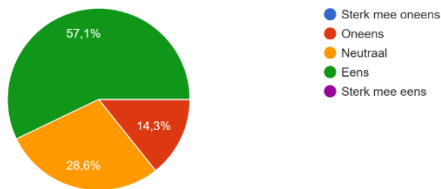
Het verhaal van Plense is uniek vergeleken met andere (tech) bedrijven binnen de glastuinbouw:
7 antwoorden



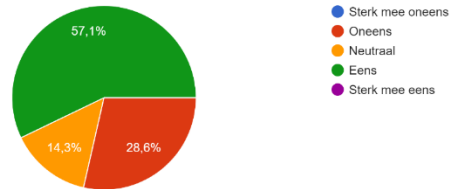
Waarom is Plense wel of niet uniek?

Er zijn al andere partijen,
Moet eerst een werkend iets hebben om uniek te zijn
veel bedrijven met sensoren, metingen, etc.
Nog niet van een alternatief gehoord voor de bepaling van de plantgezondheid en groei
Is al eerder een sapstroom meter geïntroduceerd
Iedereen draagt steentje bij, iedereen is uniek.
ik ken geen andere partij die dit doet

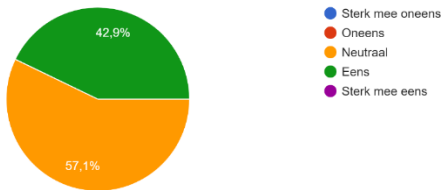
De uitstraling van Plense (de afbeelding hieronder) is Eerlijk en Vriendelijk:
7 antwoorden



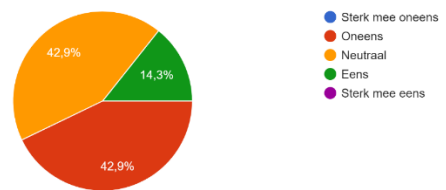
De uitstraling van Plense is Cool en Energiek:
7 antwoorden



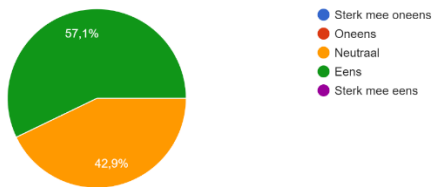
De uitstraling van Plense is Betrouwbaar en Intelligent:
7 antwoorden



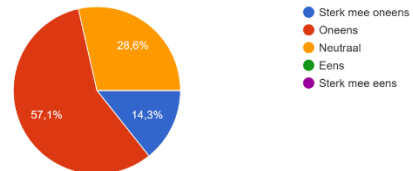
De uitstraling van Plense is Charmant en Prestitueus:
7 antwoorden



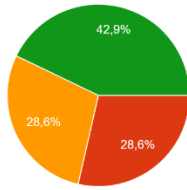
De uitstraling van Plense is Robuust en Krachtig:
7 antwoorden



De uitstraling van Plense is uniek vergeleken met andere glastuinbouw tech bedrijven:
7 antwoorden

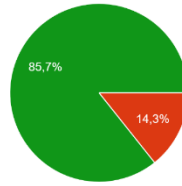


Ik vind de uitstraling van Plense er aantrekkelijk uitzien:
7 antwoorden



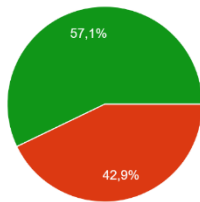
- Sterk mee oneens
- Oneens
- Neutraal
- Eens
- Sterk mee eens

Ik zou het eerste product van Plense willen testen wanneer dat mogelijk is.
7 antwoorden



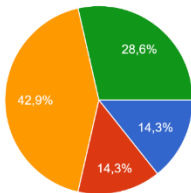
- Zeker niet
- Waarschijnlijk niet
- Neutraal
- Waarschijnlijk wel
- Zeker wel

Ik zou het verhaal van Plense delen met collega's of vrienden, op basis van presentatie 1 en de uitstraling van Plense?
7 antwoorden



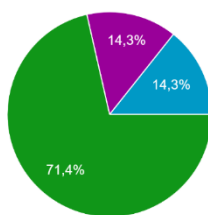
- Sterk mee oneens
- Oneens
- Neutraal
- Eens
- Sterk mee eens

Ik zou graag een Plense bidon ontvangen als beloning voor het meedoen aan deze test, en om zelf in top vorm te blijven!
7 antwoorden




- Sterk mee oneens
- Oneens
- Neutraal
- Eens
- Sterk mee eens

Ons glastuinbouw bedrijf is continue bezig met het uitzoeken en testen van technologische innovatie:
7 antwoorden



- Sterk mee oneens
- Oneens
- Neutraal
- Eens
- Sterk mee eens
- Waarschijnlijk wel


9 Results internal branding co-creation



Plense real-time analysis makes up for more sustainable horticulture

With the use of Plense's real-time crop monitoring, improved evaporation models can save up to X% in energy use

TEST




More disease-resistant corn varieties through accurate plant measurements

After a successful pilot with an undisclosed breeding company Plense succeeded in delivering more detailed information on corn crops Fusarium resistance

Through more accurate information about the plants health status, we were able to improve the cycle time by 50%

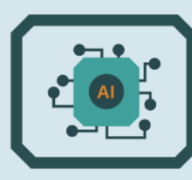
Are you interested in early warnings of a Fusarium infection in your crops? Contact us now and keep your plants in top form!



Improve your energy models with the real-time help of Plense tech

Plensor data improves evaporation model accuracy by 12%, actively adding to energy-use reduction.

USER CASE



Plensor data improves evaporation model accuracy by 12%

In order to keep your plants in top form, with limited energy costs, evaporation is an important measure. Previous environment-based evaporation models were widely applicable, however lacked accuracy.

In a recent trial with Plant Lighting we implemented information about the plant itself in the models, increasing evaporation model accuracy by 12%!

Through user testing we plan to improve the model efficiency by another 12% to allow growers to grow crops with less energy costs, while keeping them in top form!



Plense improves evaporation measurement

With the Plense ultrasonic plant sensor, the evaporation rate measurement of chrysanthemums has improved by 12%, ensuring the flowers can be grown more efficiently.




Plense shows the effects of heat stress in tomatoes

For the first time, ultrasound has been used to study the effects of heat stress. Their innovative ultrasound detection device gives direct access about the crop's reaction to x. Plense has the ambition to help growers make better decisions in their cultivation, such as screening and irrigation. Their ultimate goal is to empower growers with real-time and remote insights, allowing growers to become more efficient and more scalable.



Grow the plants without worry

The real-time evaporation rate measurement gives direct and precise insight in the current status of your crop. Empowering the grower to make well-informed decisions on how to manage the greenhouse.



Plense's remote cropdata speeds up advice about new varieties

With the proven ultrasound method to detect heat-stress in real-time, growers can now get remote advice from consultants. Whether you have adopted a new cultivar or changed to a new substrate, with this innovative and robust sensor technology, growers get an extra pair of eyes.

10 MVB workshop

10.1 MVB workshop set-up

This chapter will explain the set-up of the MVB workshop, its participant requirements, the desired outcome and how to get there. As mentioned in chapter 2.9 this workshop is made to explore the value of brand building processes for (Yes!Delft, high-tech) startups. The outcome of this workshop, a MVB touchpoint further explores the potential value of brand building for startups. Therefore a simple set-up is explained by the end of this chapter.

Besides the research reason to create this MVB workshop, it also bring other advantages to capture and make use of for the main brand building assignment of this thesis, building a brand for Plense. These advantages are:

- A playful and more interactive way to gain the first basis of information about the startup, the competition, the customer and the context (Hultink, 2023). By inviting Berend and Thijs to participate I can capture their current knowledge about the brands atmosphere.
- Make Berend and Thijs part of my thesis project and, more importantly, a bigger part of the final brand. One of the most important things when creating brands for startups (Rode & Vallaster, 2005; Whickham, 2001)

Please note that chapter 3 *MVB building* is also used as basis for my own analysis in creating a brand for Plense. This chapter explains a bit more in depth what the brand atmosphere is about, as addition to the literature research.

MVB ADVANTAGES		
PAUL (ME) Retreive valuable information from Plense's earlier brand sphere analyses	PLENSE Become part of the brand building process	STARTUPS Case study knowledge on something possibly valuable. Nothing written about this MVB approach in literature

10.2 MVB participant's

To take part in the MVB workshop, participants should have +-1 year of knowledge about their startup and its environment. Participants are not expected to have any branding skills or knowledge.

Pre-knowlegde

Expected is that a startup by that time has knowledge about the potential customer(s), which customer would be the most valuable or desirable, about the market and its competitors and about the product they are developing (Beneteiz, 2024).

Branding skills

Expected is that the tech startup founders have none – very few experience with branding nor designing, since most of them have a technical and engineering background (Liao & Welsch, 2008).

- Therefore explanation of each building block and the tools used to create these blocks should be clear.
- To support visualisation, the following tools will be provided:
 - o Canva
 - o Open AI

With a MVB, you expend the least amount of time, effort, and money necessary to develop enough of a launch brand concept to centre your organization, convey your value, and to collect learning."

10.3 MVB Desired outcome

The outcome of the MVB workshop should capture the brand identity of the startup and communicate this through an brand touchpoint in order to learn more about both the MVB itself and its potential extra value within the startups validation phase. Since the MVB touchpoint should complete the startups MVP it should provide additional information that could validate or enrich the startups idea about the potential meaning of their technology.

In the context of startups one of the more approachable minimal brand touchpoint that evokes such information would be a '(minimal print) advertisement', which is often used mid-funnel (consumer decision journey) to captures, among others, the perceived value of the customer on the brand and its products (Batra & Keller, 2016).

However, what's most important is the process of the workshop. It's a 'nice bonus' if that results in something tangible that reflects the startups rationalised brand DNA in a good looking or strong way. The value of the workshop is however more about the exercises itself and **the thoughts, assumptions and insights** it should evoke. It is a learning experience, that hopefully stimulates more learning through using and testing the outcome: the MVB.

MVB touchpoint

The MVB touchpoint is the final outcome of the MVB workshop. The touchpoint should look somewhat like a print advertisement, which are used by companies to market their product or brand. Fennis et al. (2012) distinguishes informational and transformational print advertisements. Informational advertisements focus on product attributes and features whereas transformational advertisements focus on the experience and emotional appeals that comes with the product or brand.

In this MVB workshop the participants will create 2 transformational advertisements (MVB touchpoints), based on the inside-out approach of brand building. The first one is only based on the vision, mission and values, thus capturing the startups raison d'être/core identity (Kapferer, 2012). This MVB touchpoint will become the starting point for the brand atmosphere analyses, after which the participants can create a version 2.0 of their MVB. This way the workshop brings in the outside, within crossing the borders of the startups core identity, making it an inside-out brand building workshop (Urde, 2014)

A few examples of transformational advertisements are shown below:
Note that these examples are made by branding professionals and thus not expected as outcome of the MVB workshop.



To make the MVB touchpoint a little bit more relevant within the startup context, the minimal print advertisement should partly resemble a 'business card', this include startup contact and company information. This shifts the focus of the touchpoint from 'trying to sell something' to providing information, which is important because customers often hold back when they see you are trying to sell them something (Plense's founders; Mameren, 2024). Thereby, the business card concept is a nice way to stimulate future contact.

The MVB output could be valuable for the startup, thinking about the building process and summarizing this with the tools provided is as important. The process should provide (new) insights into the meaning of the startup and its innovation.

10.4 MVB building

Yohn (2013), one of the only branding experts written about recommends to use the same building blocks defined on page x.

What's different in this workshop is the order of these building blocks. As described in last chapter, participants are asked to create a MVB identity and touchpoint two times, one right after their vision analyses.

To define and explain each exercise within each building block, the literature research and *brand and product commercialisation* (TU Delft, 2023) course material is used, since this material is made for students with no prior knowledge about brand building. In addition some exercises have been simplified on bases of Johnson's (2016) book 'branding in five and a half steps' which provides some coherent and easy-to-understand tools (Amazon, 2024). Altogether this MVB building set-up should match the tech startup founders pre-knowledge and skills defined in chapter 1.4. The total amount of time available for this workshop (+- 3 hrs)

1. Vision

Ideally the MVB workshop takes place after startups have worked on understanding their vision: core values, core purpose, mission and future description (Collins & Porras, 1996). (Note: this step also defines the purpose of the startup, important to build brand DNA)

2. Auditing the brand's atmosphere

Now, the participants are asked to put their inside-out created MVB into its future context: the brand atmosphere. 4 key forces (+1 for B2B startups) make part of the brand atmosphere. This exercise will first reflect the startups knowledge about each key force and after that create a more, visually, in-depth insight and direction towards the brand position in the next exercise.

Company

In addition to the startups vision the startups operations regarding their key resource will be analysed. Describing their key recourse, in other words, most valuable asset, should captures the distinctive capabilities and core competencies of the startup (Chertanory, 2010). For this a few questions and strengths vs. weakness overview will guide the participants thinking.

This process is quite product oriented. To get more into 'brand thinking', the participants will thereafter be asked to write down the functional versus emotional benefits of this most valuable asset (Johnson, 2018). This forms a good bases for the personality exercise in the MVB DNA.

Competitors

To start of the competitor analyses in brand building, a startup can ask themselves 3 simple questions:

- Who are your competitors?
- Why are they competing?
- How strong are they competing?

To answer this question visually, participants will fill in the 'level of competition' diagram (Hultink, 2023).

After that the participants are asked to fill in 2 competition matrix, 1 based on functional value and 1 on brand meaning (Edwards, 2017). The first one should be easier since the tech startups should have a good understanding of this already. The outcome can support the MVB positioning and help going into the second matrix. With the second matrix they continue to 'think branding' and understand the underlying value their competitors are trying to deliver/convey.

Customers 1

The first part of analysing the customer is very important: defining the customer segment. Startups operate in uncertain environments, where different customer segments seem promising (Ruzzier & Ruzzier, 2015). For this workshop however, we don't have time to either create multiple MVB's or find a MVB that covers all customers at once. Therefore the startups will be asked to look back at their vision, and based on that determine what customer segment would fit best in that picture.

Customers 2

After that the participants are asked to summarize the target segment with one persona, a communicative and insightful tool to describe (fries, 2012) and empathize with the customer (Klapwijk & van Doorn, 2015).

PESTILE analyses: Trends & development

To finish the brand atmosphere analyses the tech startups are asked to summarize the most important trends and developments influencing (positively or negatively) their technology. Therefore they are asked to fill in de PESTILE (Hultink, 2023) analyses. The outcome could be used to evaluate the relevancy of the MVB in the current and future world.

3. Positioning

The brand positioning summarizes the brand atmosphere analysis. There are different ways to define and build a brand positioning (Urde & Koch, 2014). In this MVB workshop, the positioning has been defined through an inside-out approach, with the brand identity made in exercise 2 as guidance throughout the brand atmosphere analyses.

Based on the work of Rossiter and Percy (1997), Jongerius and Berghuis (2023) have proposed a helpful structure to create a good brand positioning statement:

For (target audience), (brand) offers (product category) that is/has (product attributes), that (functional benefits) and gives people the (emotional benefits) to (self-expressive benefits).

The brand position derived from following this sentence is very much in line with Aaker's (2012) definition of the brand-oriented positioning; *"The part of the brand identity and value proposition that is to be actively communicated to the target audience and that demonstrates an advantage over competing brands."*

For this exercise participants of the MVB workshop will be asked to create their MVB brand positioning the same way. It is a challenging exercise, but they should be able to make one if the brand atmosphere exercises have been executed with thought and attention. A few examples will be given to show the depth that the MVB position statement could have.

4. MVB Touchpoint

The goal of this assignment is to translate the position statement into a tangible brand touchpoint: the business-card (appendix 2.3). Therefore participants are asked to create a catchy tagline that captures their position statement and an image that reflects that tagline and the self-expressive or emotional benefit the startup (thinks) they are delivering to their targeted customer. Some examples were added.

5. Evaluation

In the last exercise participants are asked to reflect on their work on this workshop. What did they learn about themselves, about their startup and its context? Did the workshop bring them any new thoughts or insights? Are they happy with their outcome and ready to test it with customers?

10.5 MVB testing

After the workshop is finished it is time to continue with its output; the new assumptions and the MVB touchpoint. The assumptions can be further explored how the startup participants seem fitting. For the MVB touchpoint, the following questions could help as a guide to get a better understanding of the customers perspective on the startups minimum viable brand communication and its relation to competition.

- Just like the MVB workshop, testing should be minimal too, in order to fit within the context of startups.

Customers impression to the startups MVB touchpoint

- What do you see in this picture and the tagline?
 - o *Explain the story behind it*
- How do you recognise yourself story or picture?
- How important is 'tagline' for you?

Customers impression to competition, based on the MVB touchpoint

- What other '*description of market you are in as startup*' do you recognise in this picture?

As explained in chapter 2.9, the richness and newness of information that comes from showing and talking about the MVB touchpoint is the what the startups should be gaining from testing the MVB!

10.6 Extra MVB info - DMU

B2B customers are influenced by different parties/people before making a purchase decision, called 'decision making units' (chartony, 2010, Mameren, 2024). Targeting these units could be as important as target your customer. Therefore startups are asked to identify these parties/people influencing the customers purchase (brand) decisions. If they identify a party (unit) that has a great influence on the purchase decision, they are asked to think whether their MVB touchpoint would successfully target this party too. If this is not the case, they should consider going back to step 2.3 (customer analyses) and redo this exercise for the identified party. Insights here could be used to slightly change the MVB DNA and MVB touchpoint towards this party. This analyses is recommended, changing the MVB for this party only when the startup thinks this is important for the time being.

10.7 MVB workshop reflection & improvement

The MVB workshop created for the first test with Plense founders did contain everything needed to conduct a successful workshop, but it wasn't perfect yet. The following improvements should make a better workshop, which will be tested with another startup within the Yes!Delft environment (coming up in June).

- **A facilitator is required.** The workshop was designed to be executed without any help, thus more approachable within the startup context. However, the founders of Plense needed more guidance, examples and especially support during the design phases of the workshop.

- **Output of the MVB workshop can be textual.** Visualisation of the MVB touchpoint (output) lead to more discussion and ultimately nuance, but took a lot of time and focus on unnecessary details, because the participants want to create a output they could be proud of. It will be to have a more experienced designer (the facilitator for example) capture the idea and discussion of the workshop and create the MVB touchpoint accordingly.
- **The workshop's total size and thus time will be reduced.** A 2x 1.5 hrs workshop, with some days in-between is expected to be the perfect size. The workshop with Plense took too long for the participants agenda.
 - o **You do want to take the time!** Don't rush the workshop. It's about discussion, sharing thoughts and insights. 3 hours total will be more then enough, which is needed to give space for these valuable workshop outcomes.
- **Make the identified (in-direct) value of the workshop more apparent.** Discussion, insights and assumptions more apparent for the workshop participants. This could increase the quality of this value and keep the participants more motivated throughout the workshop.
- **The MVB touchpoint 2.0 doesn't need to be made!** This far in the workshop the participant and myself noticed that there are too many assumptions and possibilities to be checked before continuing on to the MVB touchpoint 2.0, that includes the brand atmosphere into the inside build MVB touchpoint 1.0. As physical output of the workshop this first MVB touchpoint is more important. The MVB touchpoint 2.0 should more act as guidance towards future work around the startups brand.

11 Project Brief



IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

In this document the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document may also include involvement of an external client, however does not cover any legal matters student and client (might) agree upon. Next to that, this document facilitates the required procedural checks:

- Student defines the team, what the student is going to do/deliver and how that will come about
- Chair of the supervisory team signs, to formally approve the project's setup / Project brief
- SSC E&SA (Shared Service Centre, Education & Student Affairs) report on the student's registration and study progress
- IDE's Board of Examiners confirms the proposed supervisory team on their eligibility, and whether the student is allowed to start the Graduation Project

STUDENT DATA & MASTER PROGRAMME

Complete all fields and indicate which master(s) you are in

Family name	de Bruin	7088	IDE master(s)	IPD <input type="checkbox"/>	Dfi <input type="checkbox"/>	SPD <input checked="" type="checkbox"/>
Initials	P.		2 nd non-IDE master	<input type="checkbox"/>		
Given name	Paul		Individual programme (date of approval)	<input type="checkbox"/>		
Student number	46663144		Medisign	<input type="checkbox"/>		
			HPM	<input type="checkbox"/>		


SUPERVISORY TEAM

Fill in the required information of supervisory team members. If applicable, company mentor is added as 2nd mentor

Chair	Pinar Cankurtaran / Sylvia Mooij	dept./section	MCR	<p>! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.</p> <p>! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.</p> <p>! 2nd mentor only applies when a client is involved.</p>
mentor	Ellis van den Hende	dept./section	MCR	
2 nd mentor	Berend de Klerk			
client:	Plense Technology			
city:	Delft	country:	Netherlands	
optional comments	Both Chair and Mentor are from the same section because this project is specifically focussed on their specialty within MCR. Both members do have their own quality's, the chair is specialized in brand & marketing strategy while the mentor has experience with sustainable innovations.			

APPROVAL OF CHAIR on PROJECT PROPOSAL / PROJECT BRIEF -> to be filled in by the Chair of the supervisory team

Sign for approval (Chair)



Digitally signed by
Pinar Cankurtaran
Date: 2024.03.13
12:03:10 +01'00'

Name Date Signature

CHECK ON STUDY PROGRESS

To be filled in by SSC E&SA (Shared Service Centre, Education & Student Affairs), after approval of the project brief by the chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total EC
Of which, taking conditional requirements into account, can be part of the exam programme EC

<input checked="" type="checkbox"/>	YES	all 1 st year master courses passed
<input type="checkbox"/>	NO	missing 1 st year courses

Comments:

Sign for approval (SSC E&SA)

Robin den Braber Digitaal ondertekend door Robin den Braber
Datum: 2024.03.19 10:15:10 +01'00'

Name

Date

Signature

APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM -> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

YES	<input checked="" type="checkbox"/>	Supervisory Team approved
NO	<input type="checkbox"/>	Supervisory Team not approved

Comments:

- Pinar is leaving the faculty at the end of August, then Sylvia will take over

Based on study progress, students is ...

<input checked="" type="checkbox"/>	ALLOWED to start the graduation project
<input type="checkbox"/>	NOT allowed to start the graduation project

Comments:

Sign for approval (BoEx)

Monique von Morgen Digitally signed by Monique von Morgen
Date: 2024.03.21 10:34:21 +01'00'

Name

Date

Signature



Personal Project Brief – IDE Master Graduation Project

Name student Paul de Bruin

Student number 4,663,144

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT

Complete all fields, keep information clear, specific and concise

Project title Branding AgTech Startup - Plense Technologies

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

Yes!Delft startup *Plense Technologies*, specialized in 'listening to plants', is planning to bring its patented agriculture technology to the market within the coming 2-3 years. Through ultrasound sensors in the shape of a thick ring around the plants stem, Plense understands plants their needs, after which it's growing environment can be optimized. Ultimately producing more food with less farming. This makes Plense super interesting for the cultivation industry, its researchers, farmers, the government, NGO's, and the food-conscious consumer. As a graduation project interesting for the industrial design faculty's emphasis on sustainability and sustainable innovation.

Plense technology, consists of a small team of 6 TU Delft students and 2 entrepreneurs that founded the startup. Their goal is to become an indispensable part of the cultivation industry, specifically for autonomous farms. This is still a far reach, since the team is currently developing their MVP.

To stimulate the development of their MVP and reach their ultimate goal, branding could play a vital role, making Plense's technology and its added value tangible and understandable. With the right brand strategy Plense could be able position themselves to attract smaller customers to further fund and develop their technology now, while remain of interest to larger cultivation players that could implement their technology on a bigger scale.

The focus of the project will be on the Dutch cultivation market, since this is their main area of interest and most promising entry market.

→ space available for images / figures on next page

introduction (continued): space for images



image / figure 1 Plense Technologies current (only) brandtouchpoint (webiste front page)

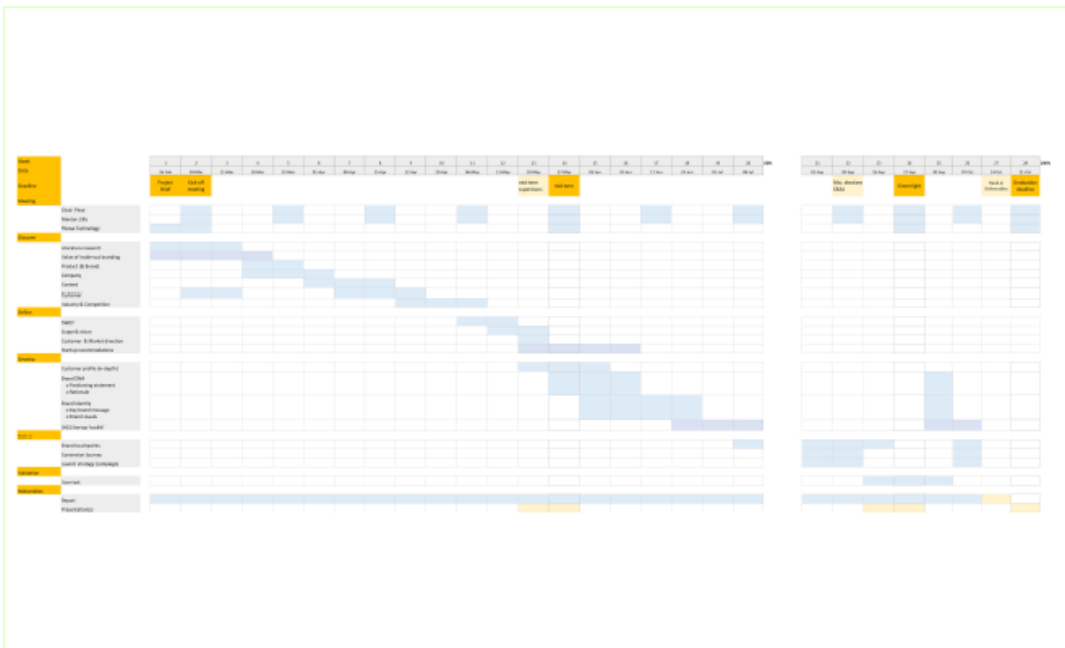


image / figure 2 Graduation Project - planning (first 20 weeks: 3 days a week, last 8 weeks: full-time)

Personal Project Brief – IDE Master Graduation Project

Problem Definition

*What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice.
(max 200 words)*

Plense Technology has a good understanding of the market and the potential customer(s). They believe in their technology and the value it brings. However, they seem to struggle with the last part of their product commercialization. After 1.5 years they still haven't decided who to target exactly, what market to enter and what their unique selling point is. There are a plenty of potential customers and even more product advantages. Their unique technology makes almost everything seem possible within the agriculture industry.

The problem becomes that there is no clear focus and strategy that bridges the gap between their technology and customer. Here lies an opportunity as strategic product designer to be from great value. I can make their knowledge tangible and complete, after which I can help them getting closer to the right customer with a rationalized brand strategy.

What makes this project extra interesting is that branding is valuable in both external (customer) as internal (startup) environments. My assumption is that branding doesn't just bring the technology closer to the customer, but the process of branding can also help/guide the startup in making strategic decisions regarding for example their value proposition. Especially the process of inside-out branding can be of great value for startups.

Assignment

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence) As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Develop a Brand Identity with Brand Touchpoints for Plense technology, by exploring the value of inside-out branding for (tech) startups.

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

- o **Literature research:** understanding startup branding and its contexts, tools, approaches and methods, looking at the following topics: Brand strategy of tech startups, Brand positioning of startups, Branding within the AgTech market, inside-out branding (for startups), the (added) value of branding processes for startups
- o **Methodology/approach:** setting up the research questions & hypothesis, selecting the appropriate methods and planning the data collection + analyses
- o **4C analyses:** Branding & Startup expert interviews. Customer interviews processed into personas, agriculture culture. Competition matrices and market (entry) analyses. Context analyses: DEPEST turned into edges and insights. Company analyses: strengths and weaknesses, industry analyses
- o **Define:** SWOT, scope and vision, customer & market orientation, Learnings from inside-out branding approach and techniques
- o **Develop:** Brand DNA, Brand Identity, Startup branding recommendations
- o **Deliver** Customer journey, Roadmap (funneling), Touchpoint design
- o **Validation:** user test
- o **Evaluation & Discussion**

Project planning and key moments

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a kick-off meeting, mid-term evaluation meeting, green light meeting and graduation ceremony. Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities).

Make sure to attach the full plan to this project brief.
The four key moment dates must be filled in below

Kick off meeting	5 mrt 2024
Mid-term evaluation	28 mei 2024
Green light meeting	23 sept 2024
Graduation ceremony	24 okt 2024

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time. Indicate here if such applies to your project

Part of project scheduled part-time	<input checked="" type="checkbox"/>
For how many project weeks	20
Number of project days per week	3,0

Comments:
In order to pass 15 EC of electives. Summer Holiday will come in-between the project +8 weeks after day 60.

Motivation and personal ambitions

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five.

(200 words max)

The main reason I set up this project is that I see myself working within the branding & marketing industry. After following the BPC course, an internship at marketing agency TBWA and working on my own clothing brand, I want to expand and prove my branding competencies through this graduation project.

To find a client that could use the outcome of such a project I specifically looked for startups, since there's more freedom and value to in the work you deliver. Specifically Plense Technology because they are working on something with a lot of potential. The Yes! Delft environment will thereby be an great opportunity to learn more about entrepreneurship and apply this to my own business.

My personal learning ambitions for this project are based on my future work direction and the professional area's I want to improve:

- o Branding project executed on my own, with a different approach
- o Help other startups to improve/set-up their branding
- o Experimenting with 'community branding'
- o Improving and experimenting with open interviews
- o Seek the creative edge of brand DNA and brand touchpoints