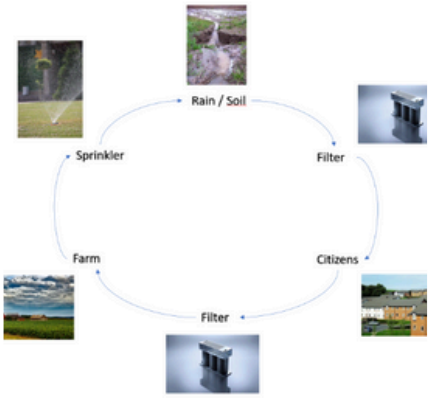
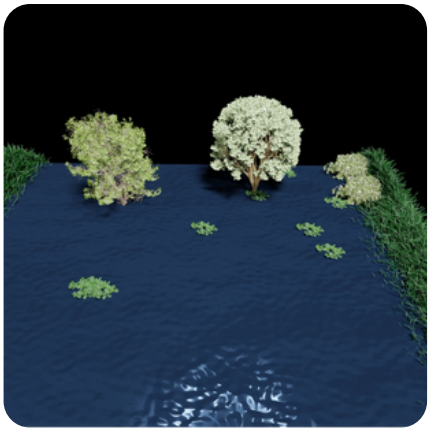
COMMUNITY BLØKHAUS

PRESENTS

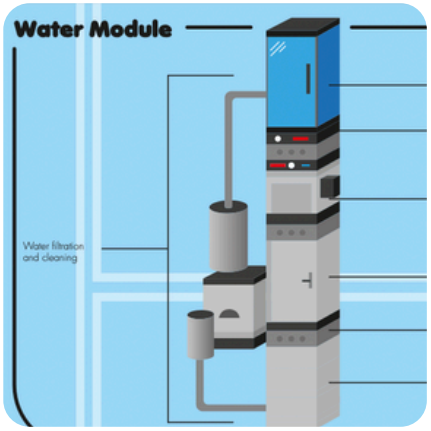
THE FUTURE OF WATER IN FRIESLAND

frisian design factory





In 2030, every drop is sustainable



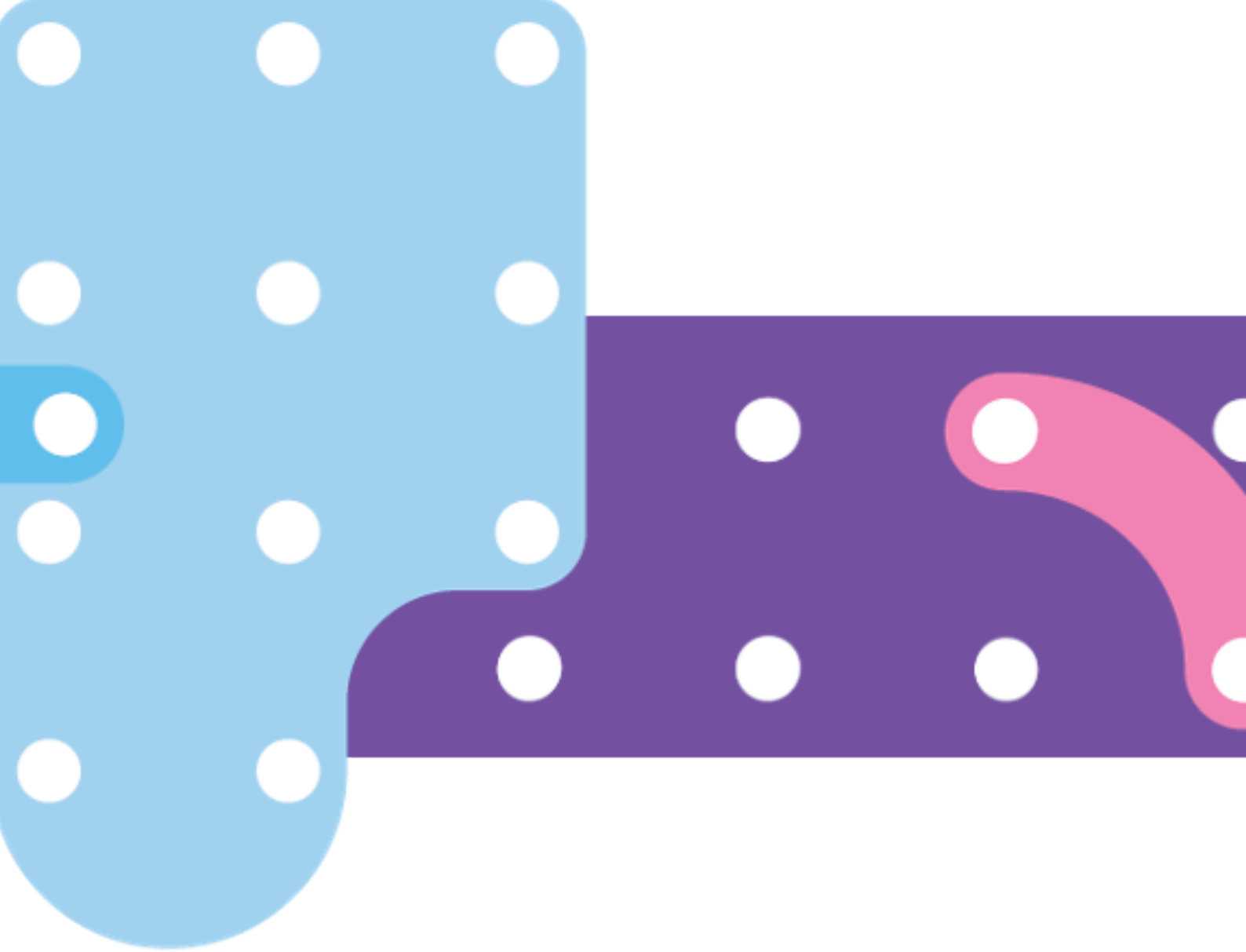
THE FUTURE OF WATER IN FRIESLAND

122 students. 5 days. 4 minors, 5 clients: Vitens, Centre of Expertise Watertechnology, Wetterskip Fryslân, Lectoraat Serious Gaming, and Boer Foarutsicht. The Community BLØKHAUS students were asked to design a solution for our clients and their challenges related to the Future of Water in Friesland. This time, our students worked in interdisciplinary teams, with a background in Sustainable Design Solutions, Business Model Innovation, Neuro Marketing, Sustainable Society, mixed all together. A perfect opportunity for our unique combination of students to work on their problem solving skills and communication skills.

Within the creative community space of the Blokhuispoort, the students could choose which challenge they wanted to work on within their interdisciplinary and mostly international groups. This brought a multitude of unique perspectives to the table of looking at the problem, choosing a nice to work on, and what a solution should comprehend. A full week of Design Thinking and intrinsic motivation led to a pre-selection per minor, and final presentations of the 'best' solution per client for all students in the grand hall of the Kanselarij. The clients chose the Future Award winner of this week. Vitens projectgroup won and later on even gave an interview in the Leeuwarder Courant, as you will read.

This document is a short but proud representation of the end-result of the work of the students, their imagination, and expertise of the participating students, divided per minor. The biggest wins are the interdisciplinary experiences, the inspiration for the clients, the process of Design Based Education and building a community together. Ofcourse we are already looking ahead for next semester: heads up for the Future of Well-being in Friesland!

We wish you happy reading!



THE CLIENTS OF:

THE FUTURE OF WATER IN FRIESLAND

frisian design factory

WETTERSKIP FRYSLÂN

We have been looking ahead for 750 years. We keep our feet dry and our dikes strong. We ensure a good water level in ditches and lakes, monitor the water quality and purify the waste water. In this way we keep Friesland and the Groninger Westerkwartier safe and livable not only today, but also tomorrow. And we must continue to do so. Because the climate is changing, the sea level is rising and we are getting more precipitation or drought.

These changes require an innovative approach. Together with residents, companies and organizations we devise smart, sustainable solutions. Always looking for the answer to that one question: 'And what will we do with water tomorrow?

“Since the dry summers of 2018 and 2019, the water sector has paid increasing attention to saving water. Against that background, it is important to know how the general public can save water at home”.
KWR. 3-11-22. https://www.kwrwater.nl/en/projecten/smart-ways-of-saving-water-at-home/

What is needed for a completely neutral handling of water?
Hereby we are looking for an holistic approach and fully circular with also the involvement of consumer behaviour.

So for example: How do we build homes in the future that on balance have a zero on the water meter?

VITENS

Vitens is the largest drinking water company in The Netherlands. We deliver top quality drinking water to 5.6 million people and companies in the provinces Flevoland, Fryslân, Gelderland, Utrecht and Overijssel and some municipalities in Drenthe and Noord - Holland. Annually we deliver 350 million m^3 water with 1,400 employees, 100 water treatment works and 49.000 kilometers of water mains.

To be able to offer our customers the continuity and quality of drinking water with the proper service in the long term, Vitens improves and innovates its processes continuously. However, the ground water sources, the origin of our tap water, are vulnerable. Vitens does its utmost to clean the sources and keep them clean. This means that the ground and everything above it has to be clean too. Vitens cannot do this alone. Vitens
believes in the strength of collaboration. Only by working together we can ensure that everyone can enjoy a clean living environment, including tap water of the highest quality, now and in the future. Our primary need. Vitens connects, raises issues, and shares its knowledge.

In view of recent developments and the transformation Vitens needs to make simultaneously, Vitens is searching for a more sustainable organization in every sense.How can we organize ourselves in such a way that we are fully able to deal with all current and future challenges?

CENTRE OF EXPERTISE WATERTECHNOLOGY

The Centre of Expertise Water Technology (CEW) conducts applied research for forward-thinking companies looking to take the next step towards a sustainable and circular economy. Every year, we deploy more than 300 students to bring fresh ideas, innovation and insight to our research projects. These students carry out the research, complemented by the knowledge and experience of CEW researchers and applied research professors. With CEW's support, technologies are developed and demonstrated from lab to launch. By conducting applied research, CEW accelerates innovation whilst training the future generation of water technology professionals. Our tailor-made approach to research supports the needs of SME's, end-users, industries, and public organisations.

As a result of climate change, precipitation patterns in the Netherlands are changing. Increasingly long periods of drought will alternate with periods of heavy rainfall. Last summer, this was already very noticeable and it will only happen more often. During the dry periods, there is a shortage of freshwater as a source of drinking water, industrial water (think also of hydrogen production) and water for agriculture and nature. And when it rains again, so much falls that we cannot retain and process it. Something therefore needs to change in the way we deal with water. Can you come up with smart solutions to prevent freshwater shortages in the future, especially in Fryslân?

What solutions can you come up with to have enough water of the right quality available in cities (in Fryslân) during long dry periods? What can be done to anticipate dry periods?

Please think out of the box and don't limit yourself to technological solutions.

LECTORAAT SERIOUS GAMING

The project Aqua Ludens (playful water) is a collaboration between NHL Stenden, researchgroup Serious Gaming and partners, primarily KWR (water research) and WLN (expert fresh water company).

In The Netherlands we have always been fighting against the water. Mainly bringing and keeping the water out. Building dikes, watersheds and pumping out water is what the Dutchies can do as no one else can do. But...also in Fryslân climate change brings longer periods of drought and at other moments heavy showers flooding the streets. Consumers, businesses, the industry, governments all need a fresh water. They need it more and more. At the other end, they can not have their valuable assets been damaged by local floodings. To manage the whole of the water system that we have in the Netherlands, there are a lot of parties involved – you could say water management is quite fragmented. Most of such parties that play a role in finding solutions to the problem of freshwater management, have joint forces in de province of Groningen. This project has direct relations with the province of Fryslân and is an example project for the whole of the Netherlands.
How can we make all the stakeholders in the fragmented water management system work holistically together, so they sustainably meet increasing freshwater needs and lower the risks of heavy showers.

Focus in this project until now is to find (alternative) ways to bring all the stakeholders into an interaction that will result in better overall choices for interventions in the water system.

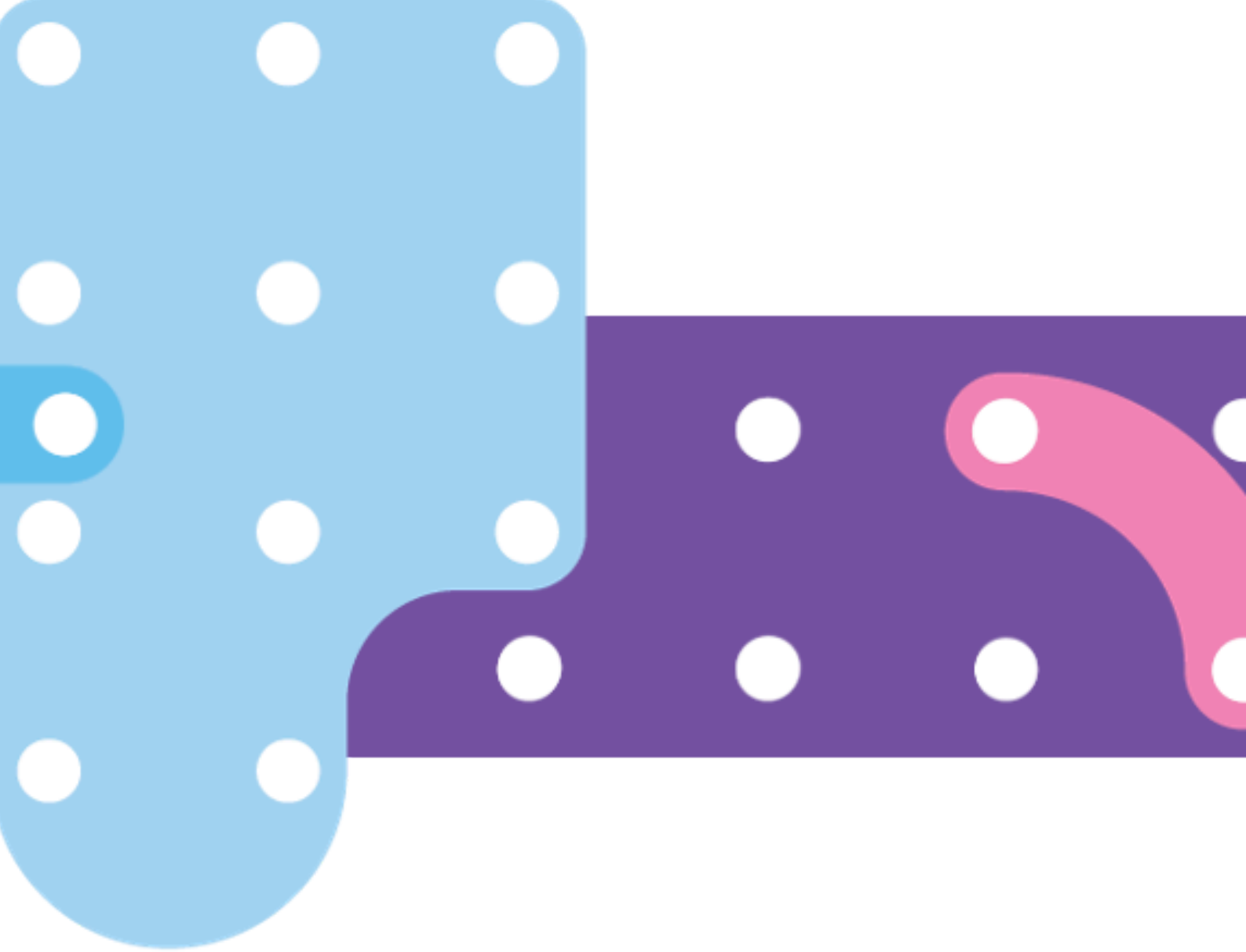
SOIL COOPERATION 'RIJKDOM'

Pieter van der Valk has a dairy farm with 125 cows in partnership with his father. They milk the cows with two robots. The entrepreneurs moved their dairy farming to Ferwoude six years ago. The company in Ferwoude has 40 hectares of land. Pieter van der Valk is also program manager for circularity in the Northern Netherlands at Wageningen Livestock Research.

Three years ago, Pieter researched through Nuffield Scholarship how you can add value to ecological services. After that, he founded, among other things, the farmers' cooperative Agricycling. "It's clear that this works. We don't burn money because we probably give ecology a lasting value. This is difficult for the government. They prefer to depreciate land with a hammer blow.|"

In the coming years, agriculture will face major financial challenges. Farmers are forced to intensify, while there is a social desire to extensify, for example in peat meadow areas. Circularity

How do we add value in a circular system?



THE SOLUTIONS OF:

THE FUTURE OF WATER IN FRIESLAND

frisian design factory

LC ARTICLE ON VITENS

Water besparen moet fun worden

Kunnen studenten Vitens helpen de drinkwatervoorziening 'toekomstproof' te maken? 'Natuurlijk willen we allemaal de planeet redden, maar het is goed op de weg ernaartoe samen te werken met jonge mensen.'

Studenten nemen een kijkje in het laboratorium van Vitens. Zij bedachten ideeën hoe je mensen kunt stimuleren om minder water te gebruiken. FOTO NIELS WESTRA

MAARTEN PENNEWAARD

Het land met misschien wel de beste drinkwatervoorziening van de hele wereld is toe aan een omschakeling. Onbeperkt schoon water uit de kraan wordt minder vanzelfsprekend dan het decennia is geweest. Maar hoe leg je dat uit aan je klanten?

Het laboratorium van Vitens in Leeuwarden is een van de grootste van Europa. Hier wordt continu gemonsterd of het drinkwater voor de 5,6 miljoen klanten – voor het overgrote deel huishoudens – aan de hoge eisen voldoet die Nederland stelt.

Nieuwsgierig lopen studenten van NHL Stenden rond in het lab. Verreweg de meeste handelingen zijn geautomatiseerd en zolang controlelichtjes groen zijn, is het hier rustig. Maar Vitens signaleert dat de waterkwaliteit onder druk staat. Steeds vaker worden ongewenste stoffen aangetroffen in de waterbronnen, zoals medicijnresten, PFAS en bestrijdingsmiddelen uit de landbouw.

Ronan van Langen (24) en Sita van der Zee (20) zijn twee van de studenten die zich bogen over de uitdagingen waarmee Vitens zich geconfronteerd ziet. Daarbij kijken zij niet zozeer naar de verontreinigingen, maar vooral naar het verbruik. Ronan (bestuurskunde) en Sita (neuromarketing) lieten zich tijdens de Future of Water in Friesland-week onderdompelen in allerlei vraagstukken die met water te maken hebben. De week werd georganiseerd door de Future Design Factory, met 120 studenten van vier verschillende academies binnen NHL Stenden.

De werkgroep Ronan en Sita bedacht een app waarmee mensen op hun mobiele telefoon kunnen zien hoeveel water ze eigenlijk verbruiken. „Wij denken dat de meeste mensen geen idee hebben. Dat inzichtelijk maken is een eerste stap", zegt Ronan. Daarna volgt de aansporing om te proberen water te besparen. Misschien lukt dat met een variabele prijs voor water: duur water als het schaars is omdat iedereen het wil gebruiken en goedkoper water buiten piekmomenten. Daarvoor zijn dan wel slimme watermeters nodig die net als de meeste gas- en elektriciteitsmeters het verbruik continu kunnen meten en vastleggen.

Jelle Wildschut, werkzaam bij het waterexpertisecentrum van Vitens: „Deze benadering is interessant. Want water dat niet wordt gebruikt hoeven wij niet op te pompen."

Sowieso is het de bedoeling dat het waterverbruik de komende jaren flink daalt. In een uitgebreide brief aan de Tweede Kamer schreef het kabinet eind vorige maand: water moet van goede kwaliteit blijven en bedrijven en inwoners gaan 20 procent minder drinkwater gebruiken.

'Leuke manier om water te besparen is om te laten zien wat je bespaart'

Wij zijn al in transitie, zegt Wildschut. „Er komen allemaal uitdagingen op ons af. Naast de stoffen die niet in het water moeten zitten en die we hier in het laboratorium opspoeren zijn dat er veel meer. De klimaatverandering, met perioden van langdurige droogte. De geplande bouw van honderdduizenden woningen, die allemaal op het waterleidingnetwerk moeten worden aangesloten. Dat vereist grote investeringen."

Het is interessant om te zien hoe jongeren kijken naar het bedrijf – en hoe dat de toekomst het hoofd kan bieden, aldus Wildschut. „Ik ben onder de indruk van de creativiteit van de ideeën, die in hele korte tijd zijn ontstaan", zegt hij. „Anders dan veel mensen bij Vitens zelf kijken jullie niet met een technische invalshoek." Dat wil allerminst zeggen dat er bij het waterbedrijf, actief in Friesland, Drenthe, Overijssel, Flevoland, Utrecht en Gelderland, niets gebeurt. Wildschut beschouwt de voorstellen van de studenten als een steuntje in de rug.

Een creatief idee kwam ook van een internationale studentengroep, met uitwisselingsstudenten Shiino Asahina (20) uit Japan en Shihni Hua (21) uit Taiwan. Samen met bedrijfskundestudent Niels Douma (23) uit Zwaagwesteinde en Karry Tichelaar (24) uit Leeuwarden bedachten zij een app waarbij een competitie-element moet zorgen voor minder watergebruik. „Wat is nu een leuke manier om water te besparen? Door te laten zien wat je bespaart en dat af te zetten tegen andere gebruikers", zegt Karrie, student aan de Academie voor Popcultuur, maar voor een minor neuromarketing even uitgeweken naar NHL Stenden. Door de koppeling met sociale media moet water besparen 'fun' worden. Zij ziet ook een rol voor Vitens: „Als je in de zomer bijvoorbeeld twee zwembaden aan water hebt bespaard, win je een opblaaszwembadje, beschikbaar gesteld door Vitens."

Leuk, zegt Wildschut. Vooral het element dat het waterbedrijf meer in gespreek moet met zijn klanten is een goede suggestie, zegt hij. „Wij moeten opener worden. Natuurlijk willen we allemaal de planeet redden, maar het is goed op de weg ernaartoe samen te werken met jonge mensen. Jullie zijn de toekomst."

Vitens

Water we waste

"In 2030, every drop is sustainable"

- Climate change (water is a limited resource)
- Drought
- Polluted water
- Overpopulation

- 27% is used for flushing
- 13% is used for the washing machine

1. Power grid like approach
2. Dynamic prices
3. Smart water meters
4. Focus lobby work on consumers interest (also with WFD in mind)
5. Invest in water collection systems (hydraloop & rain water systems)

Community BLØKHAUS Winner

How much do you think you can save?

- Up to 50% with rain water collection system
- Up to 45% with hydraloop

So... how does the future look?

- Business model change
- Before: 100% of revenue with selling water
- After: 70% selling water, 30% selling water saving systems

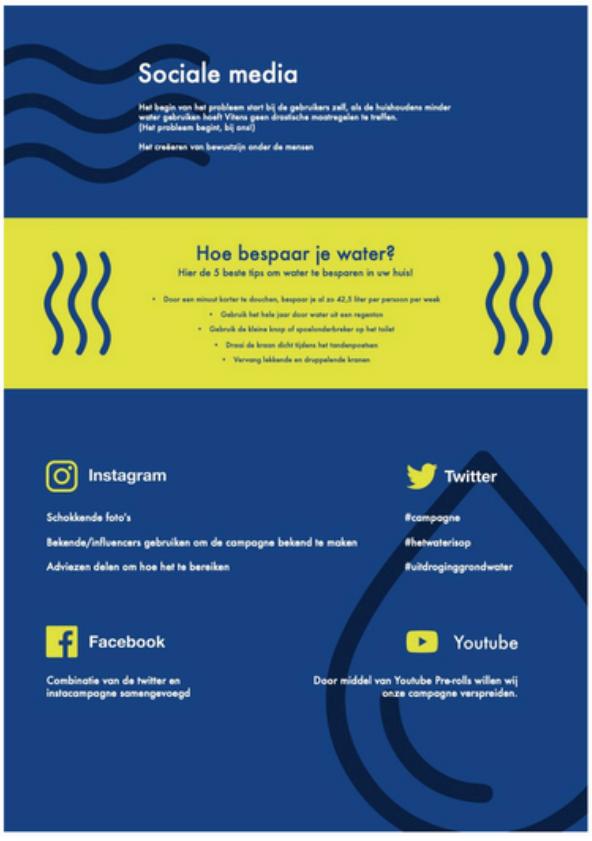
- Positive environmental changes
- More self-sustaining houses
- Affordable prices for consumers
- Easier billing with smart water meters

Vitens

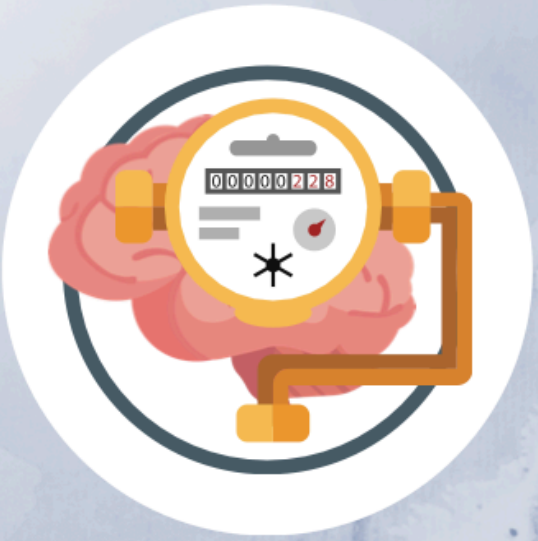
- Make an app to promote to your users
  - Tips on water saving
  - Usage of water per month
  - How much money you have saved
  - Product recommendations that help reduce water usage

social media campagne

- Influencers to advocate for change
- Platforms that promote the app
- Showwcasing the tips
- The use of ads in youtube



SOCIAL MEDIA



WATERSMARTER

TO HELP YOU USE YOUR WATER SMARTER

SHIINO ASAHINA - KARRY TICHELAAR - NIELS DOUMA

THERE'S A CRISIS ON ITS WAY AND WE NEED TO START TAKING IT SERIOUSLY.

IN 2020 HOUSEHOLDS USED 855.300.000 LITERS OF WATER, THAT'S ALMOST ¾ OF THE DRINKING WATER CONSUMED BY THE WHOLE ECONOMY.

WATER-COMPANIES HAVE REACHED OUT TO VOICE THEIR CONCERN ABOUT THE FUTURE.

WITH THE WAY WE OVERCONSUME WATER THEY PREDICT THAT THE HOUSES OUR CABINET WANTS TO BUILD TO COMBAT THE HOUSING CRISIS WON'T HAVE SAVE DRINKING WATER ON TIME. THEY BELIEVE IT'S IMMINENT THAT THE PRICES OF WATER WILL GO UP BY 20 TO 25% IF WE DON'T CHANGE OUR WAYS. EVEN OUR NICE RELAXING SHOWERS MIGHT BE SOMETHING WE HAVE TO PUT UNDER THE CATEGORY 'THOSE GOOD OLD TIMES' IF THE WATER-COMPANIES NEED TO DIAL BACK THE WATER PRESSURE SO THEY CAN CONSERVE WATER TO PREVENT RUNNING DRY.

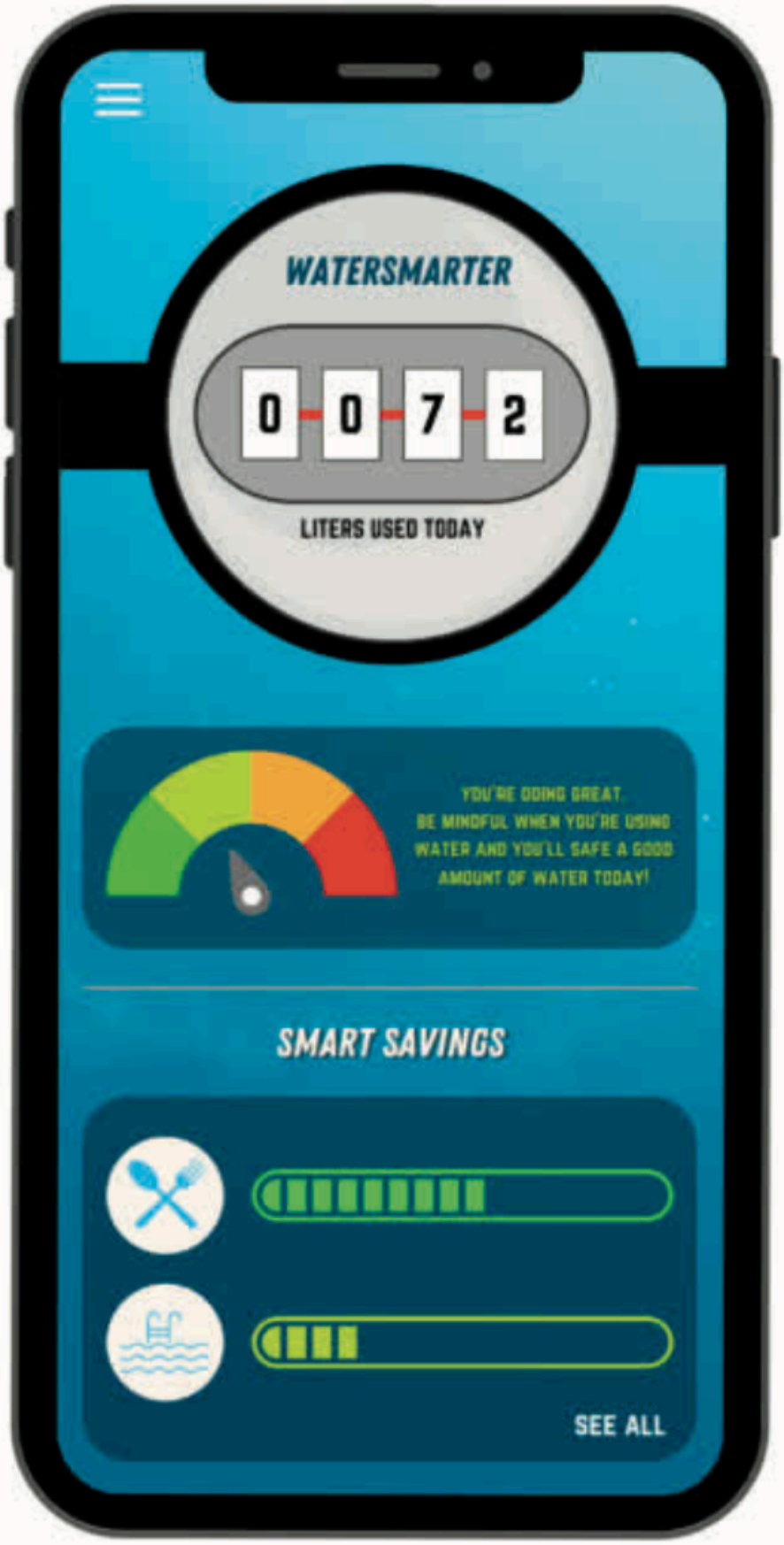
WE UNDERSTAND IT'S DIFFICULT TO MAKE A CHANGE, IT REQUIRES ACTIVE THOUGHT TO CHANGE OUR BEHAVIOR SO WE DECIDED TO HELP YOU OUT BY MAKING IT MORE FUN AND REWARDING.

INTRODUCING THE WATERSMARTER APP, TO HELP YOU USE YOUR WATER SMARTER.

THIS APP WILL BE CONNECTED TO YOUR WATER-COMPANY AND CALCULATES YOUR AVERAGE WATER USAGE PER DAY BASED ON YOUR LAST YEARLY BILL. IT GIVES REAL-TIME INSIGHT INTO YOUR DAILY WATER USAGE COUPLED WITH A COLORFUL WHEEL AND A MESSAGE TO SHOW YOU HOW YOU'RE DOING IN TERMS OF SAVING WATER THAT DAY. THE LITERS YOU SAVE CAN BE PUT INTO DIFFERENT CATEGORIES WHERE YOU CAN SAVE UP FOR DISCOUNTS OR FREE ITEMS. FOR EXAMPLE SAVING UP TO GET A BIG DISCOUNT FOR EATING OUT AT A RESTAURANT OR SAVING UP TO GET AN INFLATABLE SWIMMING POOL FOR THE SUMMER.

TO MARKET THIS APP WE DECIDED ON A POSTER CAMPAIGN FOCUSING NOT ON SAVING THE PLANET BUT ON PERSONAL LOSSES SO PEOPLE GET MOTIVATED TO TAKE ACTION.

POSTERS


WATERSMARTER
0 0 7 2
LITERS USED TODAY
YOU'RE DOING GREAT.
BE MINDFUL WHEN YOU'RE USING
WATER AND YOU'LL SAFE A GOOD
AMOUNT OF WATER TODAY!
SMART SAVINGS
SEE ALL

City of the future

Introduction

Due to climate change the weather pattern in the Netherlands is changing. An increase in the long amounts of dry periods interchanging with an increase in the amount of rainfall in the low seasons. During the long dry periods, there is water shortage. During the periods of heavy rainfall we fail to process and capture the water which puts us in this loop water shortage in the warmer periods.

Solution

Due to developments and technical advancements in the house making industry new solutions have been created to make every house more circular when its comes to their usage of water.

A total of three solutions will be mentioned in this document which will prevent the waste of drinkable water and rainwater in the city of the future. The solution of the water module has the greatest chance of succeeding as the technology to achieve such system is already been worked on. As well as the existance of water absorbing materials, but they are not yet being used in these ways as suggested.

"Sponge" Buildings

Here in the Netherlands we love our brick façades. In the battle against rain and heavy rainfall the idea is to change the current exteriors of buildings to a material that can absorb water. The water can either trickle down through the material or be transported down by tubes which are placed within the material.

Water Module

The water module is a system where all systems that use water are either alligned, or placed within the same room. Every system is connected so they use each others water to function. Water is being filtered and cleaned within the system to make sure no dirt from one system goes to the other.

Inspired by:

Hydraloop Systems

Side walk

During heavy rainfall, cities have issues when it comes to the water drainage systems, with most not functioning well enough to drain all the water from the streets.

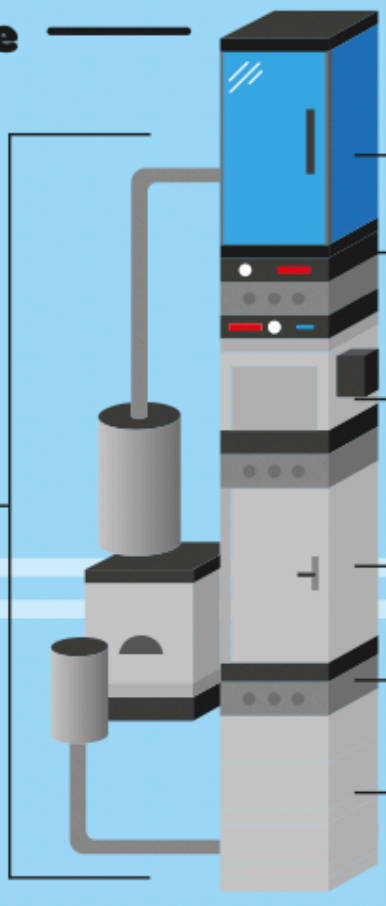
This new side walk will employ a method where the top soil/ layer is able to absorb the excess water and deliver it to the sewer system. After which it can be brought to water storage or housing to be reused in the Water Module systems.

NHL STENDEN hogeschool

Group 7

Kevin Jonker
Raquel Moreno Galan
Jesse Looijenga
Peter Tempelaar

Water Module



Shower

Intergrated wasing machine

Dish washer

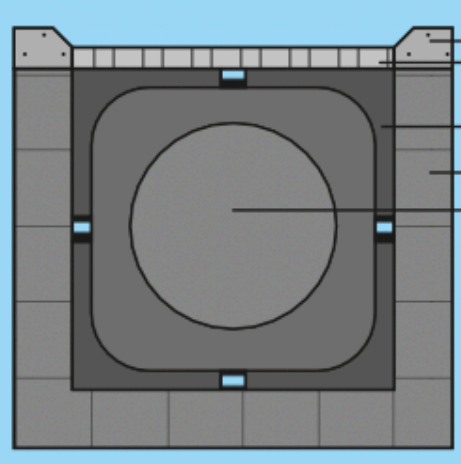
Water filtration and cleaning

Toilet

Water filtring floors

Underground water storage

Side walk



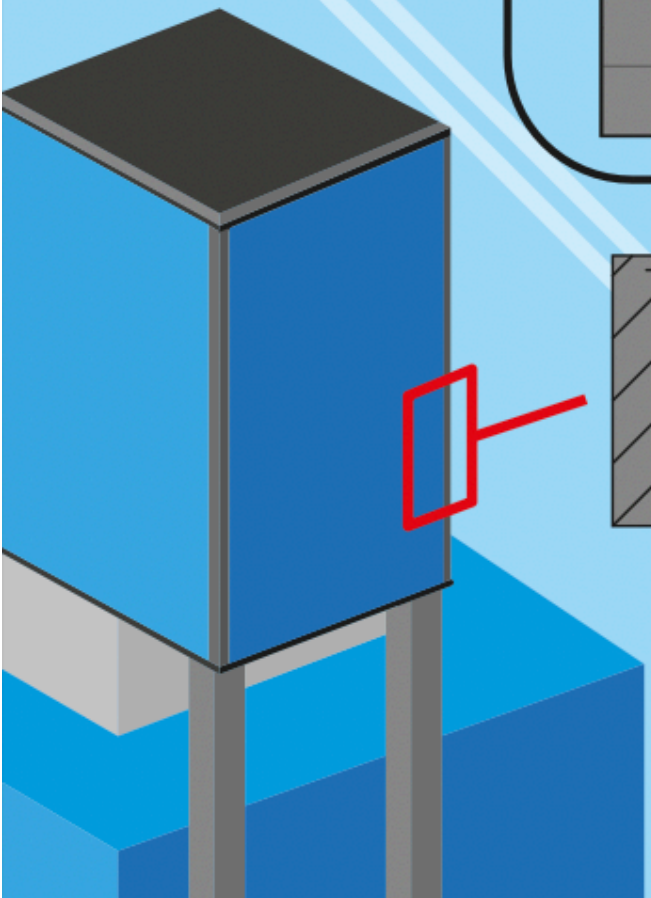
Concrete sides

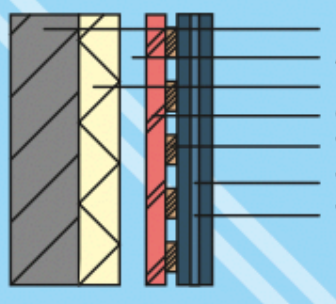
Grid or water absoring material

Concrete casing

Dirt or sand

Sewer





Inner wall

Air space

Insulation

Outer wall

Wooden segments

Water absoring material

Water transport tube

"Sponge" Buildings

Future of water in Fryslan

Add more value to water for farmers

Agricycling

Clean the soil

Problem

Cows on the farm are 'well' looked after by farmers. The cow's diet is very varied. This brings problems. This causes more pollution than desirable. This also applies to groundwater.

Why

Because cows are fed protein-rich food, this causes a chemical reaction in the cows' stomachs. This reaction produces methane gas which affects the environment. This also applies to the faeces of the cow.

How

By focusing on a healthier diet for the cow, this will have positive effects on his faeces and emissions.

Result

Cows pollute the air and soil less. As a result, the rainwater that falls on the land will remain cleaner in the ground. In this way, the water can be used with less effort.

Solution designed by

Emiel Barthmuss Gesa Zicholl Ilse Marije Zijlstra

Save Water

TO SAVE FRYSLÂN

Shower shorter

If everyone in the Netherlands showered one minute shorter each time, we would save 28 billion water a year.

(5 levensreddende tips om water te besparen, 2022)

136 liter drinking water daily

- 41% TO SHOWER
- 29% TO FLUSH THE TOILET
- 12% TO WASH YOUR CLOTHS

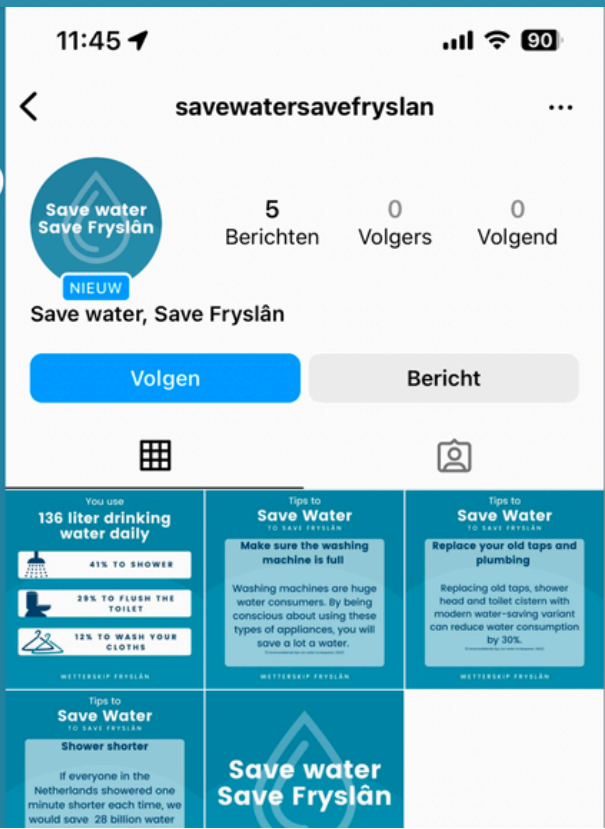
Social Media Campaign

Making frisians aware

Facebook, Instagram and TikTok

Using famous Frisians as ambassadors

Instagram



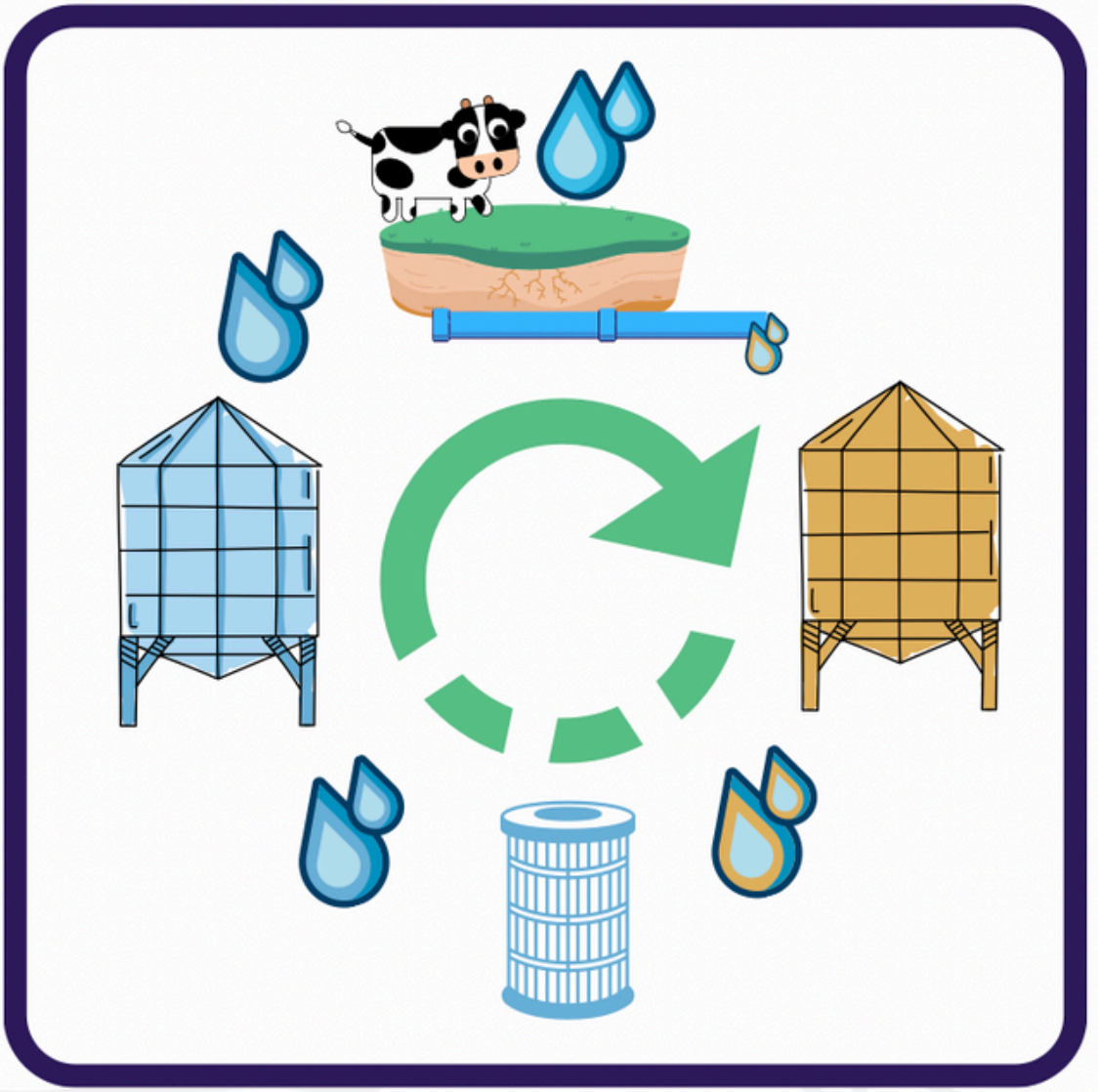
CIRCULAR WATER USAGE

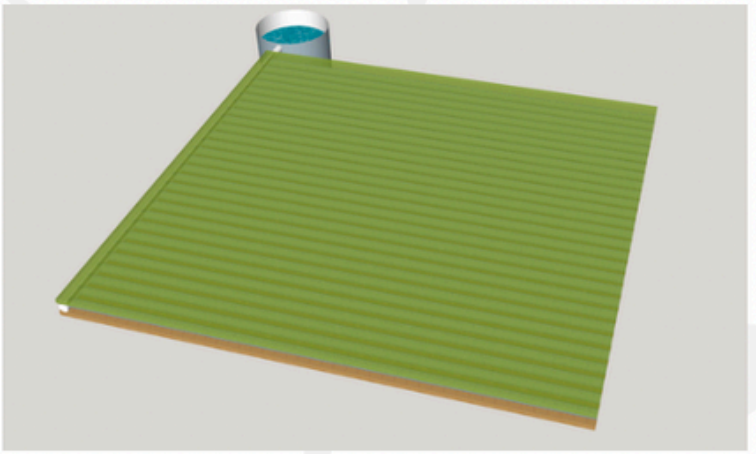
Mr. Van der Valk has a dairy farm with 125 cows. In the coming years, he aims to be more circular. Therefore, research was done on how he can use rainwater more efficiently. This document aims to give a possible solution.

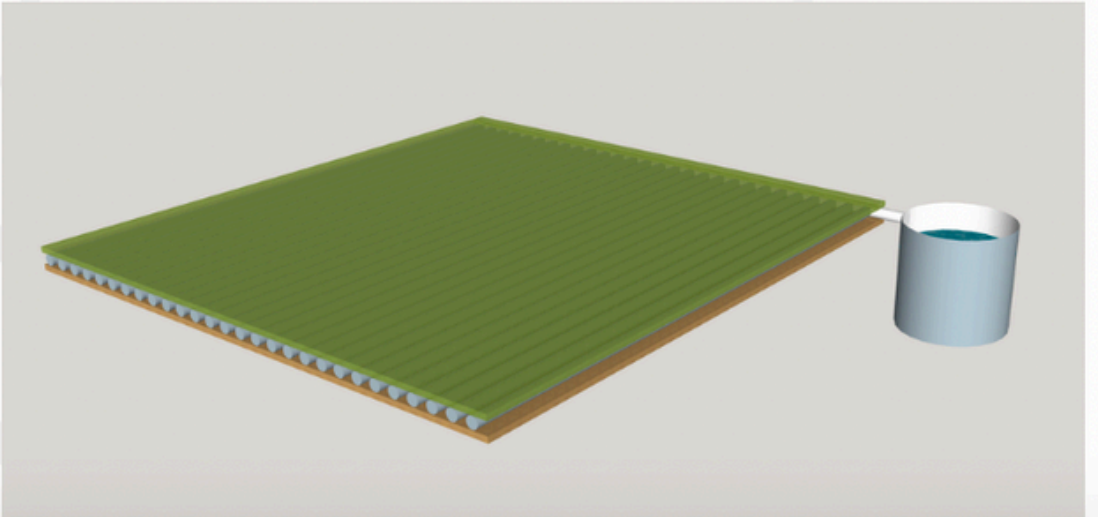
What should be noted is that farms have a big surface area, especially when it concerns meadow cows, which have a lot of grazing area. Loads of rainwater fall on this surface. Secondly, cows can drink slightly filtered rainwater. We combined these two facts. The resulting hypothetical solution will now be shown.

So, first, we add French drains underneath the ground. French drains are a drainage system which allows water to enter the pipe without giving it a way to exit them. By placing these pipes underground, water that enters the ground first moves through the ground itself, keeping it fertile before the excess water is filtered off. This method means that during dry periods, when water isn't entering the ground, there will not be drainage as the ground will take any water it meets as nourishment. Allowing the ground to still be useable for grazing.
This water would then be brought into a storage area where it can re-enter the water system. We considered whether returning the water to the network was viable. However, since the farm itself consumes a substantial amount of water, we believe that reusing the water is both an easier and a more economical alternative.

Groep 20:
Leonie Oosterhuis,Noa de Lange, Gosse Kamminga, Jeroen de Vries, Tjidsger Spinder, Kotomi Isogai







General informations

The population in the Netherlands is growing. The yearly average of the Dutch population growth rate from 2010 until now is about +70.000. One reason for that is the growth of immigrations. More people in the country means also more homes needed.

71 % of the drinking water (ground water) in the Netherlands is used by households*1. For our solution we want to concentrate at rental and owner-occupied homes.

Dutch provinces agreed to build about 917.000 homes. Many of them in viten‘s provided provinces: Nord-Holland 183,600; Gelderland 100,000; Drenthe 13,600; Friesland 17,500
*2

We want to create an offer at the contact-point between vitens and the new customers. It includes rainwater-harvesting-systems and smart water meters.

Rainwater-collector-systems

Options (examples)

- Simple wooden rainwater tanks (from 200 Liter) are very affordable (100 € +) and can be used for watering the garden or washing the car
Depending on the customer it can safe about 5 % of the fresh-water waste

- Rainwater-reuse-systems (from 1500 Liter) are a higher investment (about 4000-8000 € (installation included)) And can be used for flushing the toilet or running the washing-machine. This can decrease the clear-water waste up to 50 % in households (27 % flushing, 13 % washing-machine. It pays back within about 20 years (based on a 5.000 € system for a 4 person household)

- Hydraloop system (Reuses shower-, Bath-, washing-machine-, AC-, Heatpump-water) and can be used for flushing and washing. Depending on the configuration up to 45 % can be saved

Smart water meters

- Help measureing and monitoring the actual water-waste and implement a dynamic price for a more sustainable water delivery

Sources

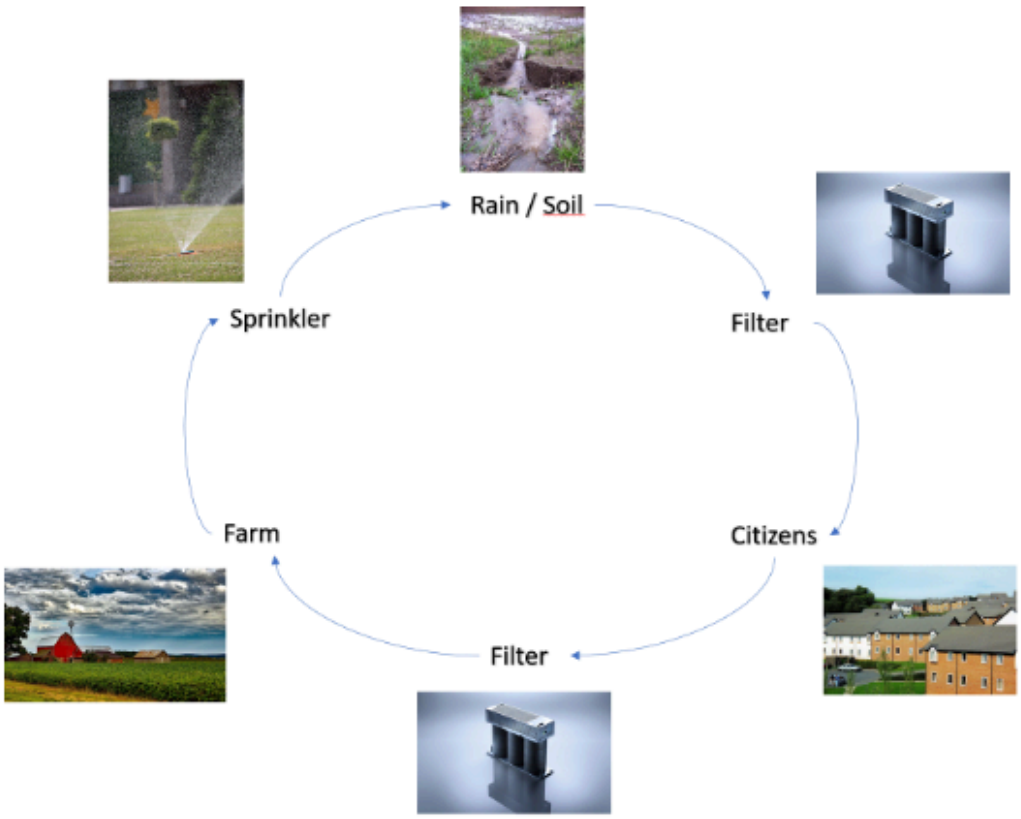
*1 https://longreads.cbs.nl/the-netherlands-in-numbers-2021/how-much-water-do-we-consume/
*2 https://nltimes.nl/2022/10/13/dutch-provinces-agree-build-917000-new-homes-cabinet-allocate-eu11-billion
Vitens Business solution


HYDRALOOP


kamstrup
flowIQ 2200

Ana Nikolayeva – Flurina Thalmann – Fauve Vlegels

Circular water



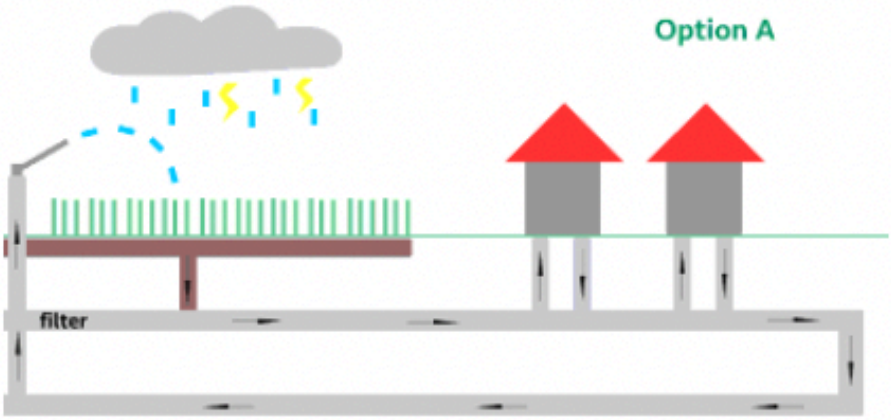
The solution

Water is taken and filtered.

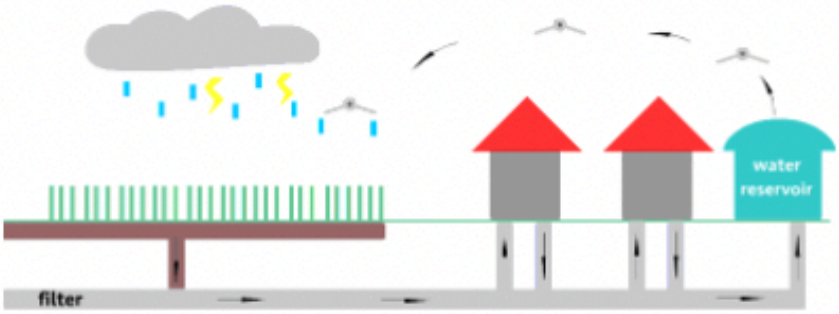
Clean water is brought to Homes.

Water can be stored in a reservoir and pumped back to the farmland to water it during times of drought.

Different possible options

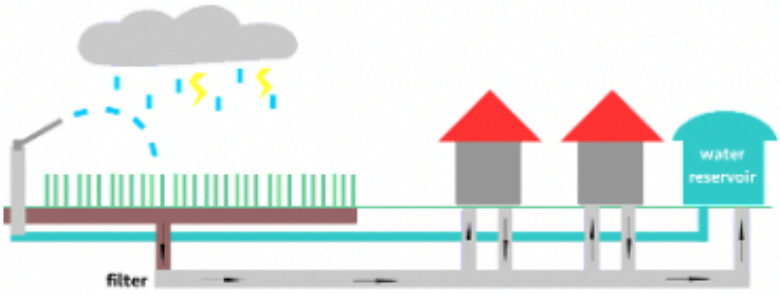


With option A the water will be reused via sprinklers.



Option B

In option B the water will be transported back via drones and sprinkled again on the nice.



Option C

With option C the water doesn't go back directly to the sprinklers, but can be stored in a water reservoirs.

AQUA LUNDES

Groep 23

Joana Rodrigues, Timo Bruining, Jeffrey Jellema, Niek Engel and Maud Rodenburg

How can we get all the stakeholders of the watersysteem work holistically together?

Our solution: "Dating" app to bring stakeholders together to get the conversation started about water

Fill in a statement or solution and the other stakeholders can react!

Why is it going to work?

Based on the Neuromarketing principle from Cialdini commitment and consistency

- People want to be consistent, so their behavior is influenced by what they say
- They want to work together to save the watersystem, so in order to be consistent they will use the app to communicate and work together

BREAK THE FLOW

MOETEN ER NIEUWE MAATREGELEN KOMEN OM HET WATERNIVEAU OP PIJL TE HOUDEN?

DISAGREE

AGREE

MOETEN ER NIEUWE MAATREGELEN KOMEN OM HET WATERNIVEAU OP PIJL TE HOUDEN?

DE VOLGENDE MENSEN ZIJN HET HIER NIET MEE EENS:

MARK, 34
KWR
BEGIN EEN GESPREK >

WILLEM, 38
WLN
BEGIN EEN GESPREK >

MARIEKE, 36
WETTERSKIP FRYSLÂN
BEGIN EEN GESPREK >

ALINE, 40
GEMEENTE LEEUWARDEN
BEGIN EEN GESPREK >

MARK, 34
KWR

JE CHAT NU MET MARK.

HEY MARK IK ZAG DAT JE ER NIET MEE EENS BENT. ZULLEN WE HET BESPREKEN OVER DE LUNCH?

JA IS GOED. ZULLEN WE DONDERDAG 17 NOVEMBER AFSPREKEN?

Students: *Kelvin Strijk, Zoë de Ruijter, YldauBult, Sayaka Kutira, Ilse Benak*

The problem

There are a lot of parties involved in water management in the Netherlands. Most of these parties play a role in finding a solution for the problem of freshwater management, which is important for the future. Because there are so many different stakeholders involved in the water management it is difficult for them to communicate. Every stakeholder looks at things from their own perspective. There needs to become a solution for the stakeholders to work holistically together, so they sustainably meet increasing freshwater needs and lower the risks of heavy showers.

The solution

Plan C is a fair with different activities which will help stakeholders to network, look into each other's work and work together. It is a one day event where stakeholders are invited to. They can participate in multiple activities and visit stands from other parties. The activities include an escape room, a VR experience, a simulation, a lecture on administrative cooperation, a pirate simulation and playing the board game. The escape room and pirate simulation are team building games, which will help different stakeholders work together. The VR experience will give a look into the future, what will happen if the Netherlands flooded? In the simulation a group is given a situation that they have to solve, this will help them to look at things from each other's perspective. Letting the stakeholders play a board game of Aqua Ludens is a great opportunity to test the game. At the stands different stakeholders can explain about what they do, what their role and their view is in water management. Between the different activities there is the option to visit each other's stands or get a drink at the bar.

Why it works

Plan C is an event that will help the stakeholders to network and look into each other's role in water management. The variety of activities are a creative and fun way to help the stakeholders get to know each other’s work and work together. They get a better view of what other companies do and their perspective on water management. They can network and work better together due to the team building exercises. This helps the stakeholders work holistically together.

The nature-inspired strategic water reserves

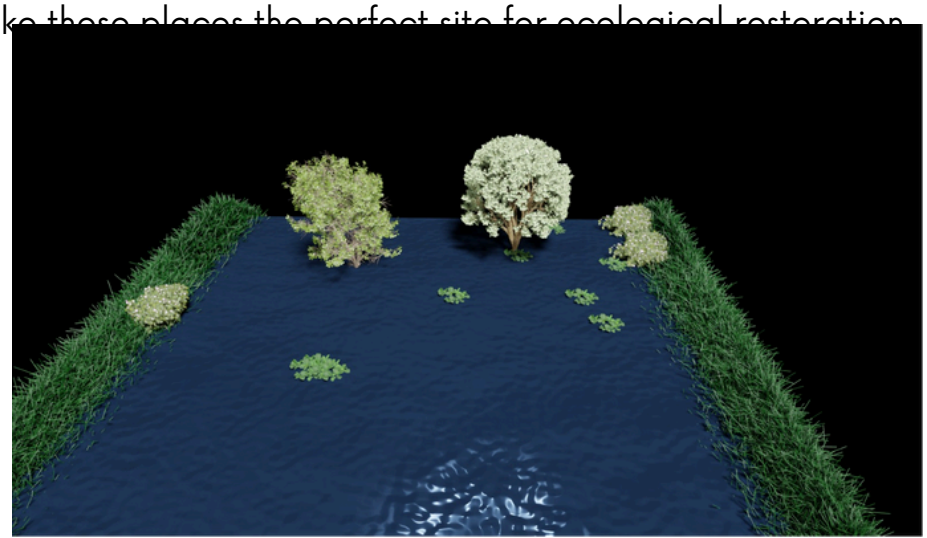
Team: Meike Bonte, Daniël Rijfkogel, Jildert Nadema, Ruben Smit

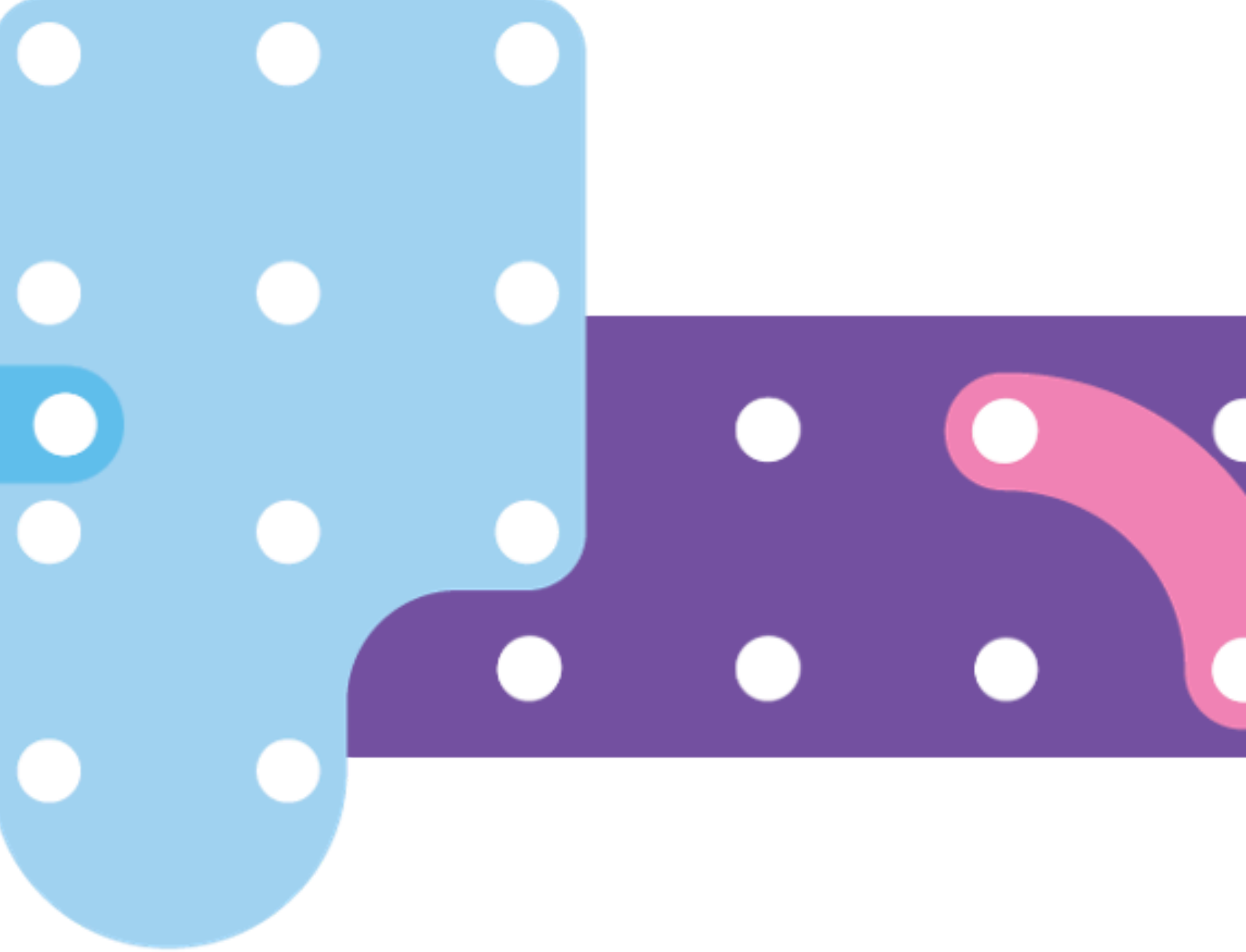
Every year massive amounts of water flow through the Netherlands most of this water goes straight into the ocean. Because of excessive amounts of rainfall during the winter and no possible way to hold this water, a lot of usable fresh water gets wasted this way. Meanwhile there are long periods of drought during the summer.
Therefore we are looking for a solution that uses the excess water during the winter periods to solve the summer droughts.

Our solution to this problem is a nature based solution for seasonal water rationing in winter for usage in summer. The plan is to use freed up farmland and turn that in to so called "floodplains". This is land that is periodically flooded. In nature this is done by overflowing rivers, the plan is to do this artificially with the farmland. Combined with planting new trees and undergrowth in these areas. We create an artificial nature reserve which serves towards a better ecological balance and strategic water supply for dry summer periods. And houses an abundance of water flora and fauna. Because of the long periods of flooding in these areas we believe this will raise the groundwater level sufficiently high enough to be able to sustain groundwater pumping operations during summer periods.

These groundwater pumping stations can be activated in times of drought to increase the fresh water supply without too much negative impact on the overall groundwater level in different areas. This is possible because of the planted trees and undergrowth in these areas. They are specifically chosen to hold as much groundwater as possible. The floodplains are able to handle water levels as high as 1,5m. If we expect a water level of 1m we have a capacity of 10000m3 water per ha of used land.
Because of this plan, the groundwater level in and around farming land will significantly higher. This means that the agricultural sector is able to use less water to use for the farmlands, the water that is being saved by the farms can instead be re-allocated for city usage.

Some trees that do well dry and wet periods and thus can possibly been used in floodplains: European white birch, Grey alder, European black alder/common alder, Hawtorn, Caucasian walnut. These floodplains already in exist in Europe. Primarily round river Donau in Hungary and Romania. Floodplains easily give space to more than 100 species of plants an multiple local fish species. This together with the hundreds of bird species that make these places the perfect site for ecological restoration.





THE MINORS OF COMMUNITY BLØKHAUS

THE FUTURE OF WATER IN FRIESLAND

frisian design factory

Teachers:
Eelco Schutter
Esther Jorritsma

BUSINESS MODEL INNOVATION & LEADERSHIP

Keeping up with the times is becoming increasingly difficult for organizations. Developments are continuously speeding up and businesses find themselves stranded with outdated business models more and more. Pandemics, climate change, digitalization and other developments are affecting organizations all over the world. This creates a need for innovation. Businesses must learn how to come up with new business models that fit with the current times. In this minor we teach students how to do this: we unleash the power of design thinking in our Business Model Studio and design new business models for existing organizations in order to prepare them for the future. During the minor students will design an innovative business model for an existing company. Additionally students will master the skills involved to become convincing consultants and effectively cooperate in teams of fellow students.

Our approach for the Frisian Future Food Week: we are all about Business Modelling. We asked our student teams to come up with a Business Model for a company in 2040. The company should have a Business Model that deals with an aspect of the food industry and deals with one of the problems attached to it.
Students used the double loop to make a design journey and end up with a business model canvas where all relevant aspects of the business were considered.

Each team used different canvases in each phase of the double loop to:

1. understand the issue they want to solve,
2. design creative solutions and ideas
3. build a business model prototype
4. validate the model

Our student teams pitched for their fellow students and eventually selected the best idea and pitch to represent the minor in the grand finale.

Teachers:
Petra Esser
Tom Hoppen
Rudi van Rooij
Siebe Schootstra
Ton de Winter

SUSTAINABLE SOCIETY

Students are gaining a deep understanding of sustainability matters and experience in Sustainability competences (RESFIA+D). They are able to implement various sustainability tools in their own life and in their professional life. Subjects addressed at the start of the minor are Personal Leadership, Circular Economy, CSR, and Energy Transition. Students develop assignment portfolio's on each subject to gain more knowledge about complex sustainability issues. They then apply the knowledge gained in a real life project of their own choice in a multidisciplinary team. In a final assessment they reflect upon their personal growth as a Sustainable Professional.

During this week the students used the book Fundamentals in Sustainable Development (Roorda, 2021) for background knowledge on the four subjects, for self study, selected assignments and the system of RESFIA-competences for a Sustainable Professional: Responsibility, Emotional Intelligence, System Orientation, Future Orientation, Personal Involvement and Action Skills.

Students gained knowledge by working on the challenges by using Design Thinking methods. The first period was focused on gaining a deep understanding of Sustainability at the personal level, organizational level and in society. The second period was dedicated on applying the knowledge and understanding of how sustainability tools can be used or developed to tackle real life problems. They worked in teams on a self-chosen problem. At the end students reflected upon their growth and have a final assessment at the end of the semester.

Teachers:
Mérijn Stam
Eric Voigt

FUTURE DESIGN PLAYGROUND

In the minor FDP, teams of international and multidisciplinary students design the future, together with organizations and businesses in the region. They work in and for practice to create a sustainable and inclusive future, with themes such as Broad Prosperity, Future-Friendly Food Production, and Social Justice and Inclusiveness.

By innovating radically and methodically, students develop the mindset of a future thinker. The students keep that mindset even after the minor; they become future thinkers "for life."

In the Food week students were assigned to do the following;

- Define the problem after the briefing from the client
- Visualize a Future were this problem does not exist anymore
- What do you want to create in order to influence the HERE and NOW to come to that future
- Create a prototype in the workshop
- Check if your prototype is relevant and has value
- Pitch your work to the entire group

Teachers:
Sake Jan Velthuis
Michiel Galama

NEUROMARKETING

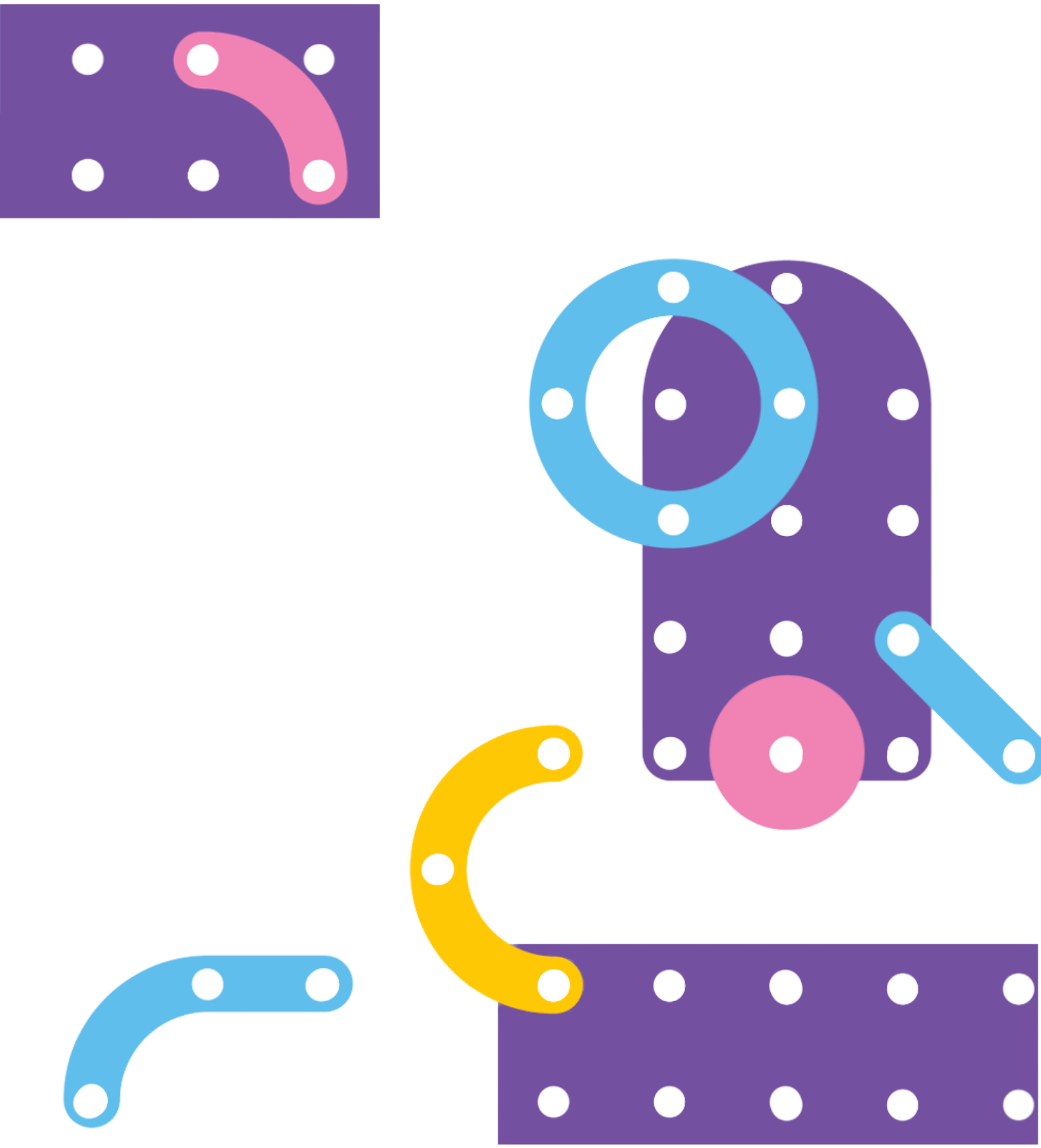
A long time ago we thought people would make rational decisions. They would weigh costs against benefits and then choose for the most optimal outcome. We now know this is not the case. People don't experience the world as it is and they make decisions based upon intuition more than based upon logic.

We use knowledge from the field of neuroscience, behavioral science and (social) psychology to better measure, predict, understand and influence consumer behavior. We use new ways of measuring behavior using eye tracking technology and facial coding software to better understand consumers desires and why they do what they do.

We teach students the basics, where they acquire a profound understanding of all areas that are common in Neuromarketing today. We then train them to find and understand new knowledge based on scientific papers and other state of the art materials. The largest part of the semester is spent working on an assignment for a client. Here we use the steps of design doing to come to innovative solutions.

"Studying Neuromarketing at NHL Stenden means raising the bar for yourself and becoming an equal to most professionals in the field."

For this week the students focussed on the behavioral aspects of dealing with changes in the environment. The design challenges for this week were: how to help your customers in making more healthy decisions? How to make people use less plastic packaging? How to change an attitude so people will have a more positive view on biological food?



www.futuredesignfactory.com