



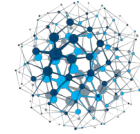
**WHERE
GREAT
MINDS
WORK**

Innovatiecluster
high tech systems Drachten

Co-production



Regio
Nederlands
Jacqueline
Hofstede



Innovatiecluster
high tech systems Drachten



Materials & technology
English
Joost
Krebbekx

Agenda

- **13.15 uur** Woord van welkom door Joost Krebbekx van het Innovatiecluster Drachten (ICD) en Jacqueline Hofstede (Ynova)
- **13.30 uur** **Floris Jan Sander van de Rabobank** neemt ons mee in de inzichten uit het rapport “In de meeste regio’s moddert de economie door”. Hij schetst de 7 onderlinge dimensies die zijn nodig voor bedrijven in een nieuwe toekomstbestendige economie. Zuidoost-Friesland is uitgelicht als een toonaangevende groeiregio, dankzij de kracht van innovatieve clustering
-
- **14.00 uur** **Professor Erik Heeres van Rijksuniversiteit Groningen** vertelt over Smart & Circulaire initiatieven in de Noordelijke regio zoals Smart Circular Alliance Noord Nederland, Innovatie Hub Oost Groningen en BioBTX Delfzijl
- **14.45 uur** Pauze



Agenda

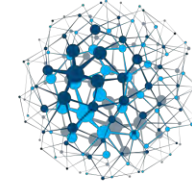
- **15.00 uur** **Arnoud van der Vaart van Noria Sustainable Innovators** vertelt over het monitoren en meten van plastics in lokale waterwegen en hoe deze op een duurzame en betaalbare manier te verwijderen zijn. Arnoud neemt ons verder mee tot welke projecten en samenwerkingen dit heeft geleid in de Noordelijke regio.
- **15.30 uur** **Jelmer Terra vertelt over Green Digital** dat is gespecialiseerd in de verwerking en recycling van oude ICT apparatuur, electronica en engineering plastics
- **16.00 uur** **Baril Coatings** is een gecertificeerde Common Good onderneming in Sustainable Coatings. **Geert Duijghuisen** neemt ons mee in zijn motivatie en ervaringen met duurzaamheid en circulair ondernemen.
- **16.30 uur** ECGIC24 Internationale Conferentie 3,4 en 5 juni 2024 in Leeuwarden: *Converging Future-fit Economic Models and advancing Just and Sustainable Regions* en het daaraan verbonden Future Regions Programma door **Jacqueline Hofstede van Ynova Innovation**.
- **16.45 uur** Plenaire dialoog
- **17.00 uur** Gelegenheid tot netwerken met een hapje en een drankje.
- **18.00 uur** Vertrek



Innovation Cluster Drachten

Focus, Facts & Figures

- 4300 FTE of which >1575 innovation related
- 23 International operating companies
- OEM-ers and market leaders, self-creating
- High tech systems
- 45 nationalities and cooperation with IWCN
- 250-275 internships yearly
- NL Fieldlab en EU Fully operational Digital Innovation Hub



Innovatiecluster
high tech systems Drachten



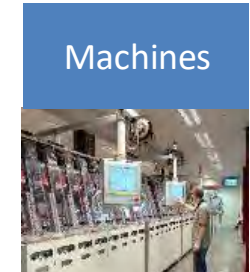
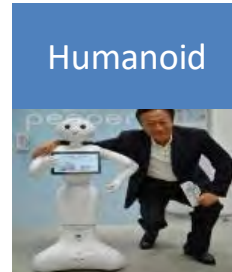
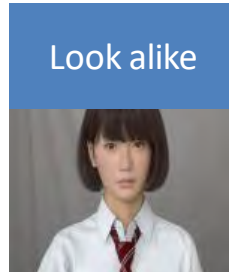
The Innovatiecluster Drachten is connected to the world by autonomous systems

100 % Human

100 % Machine



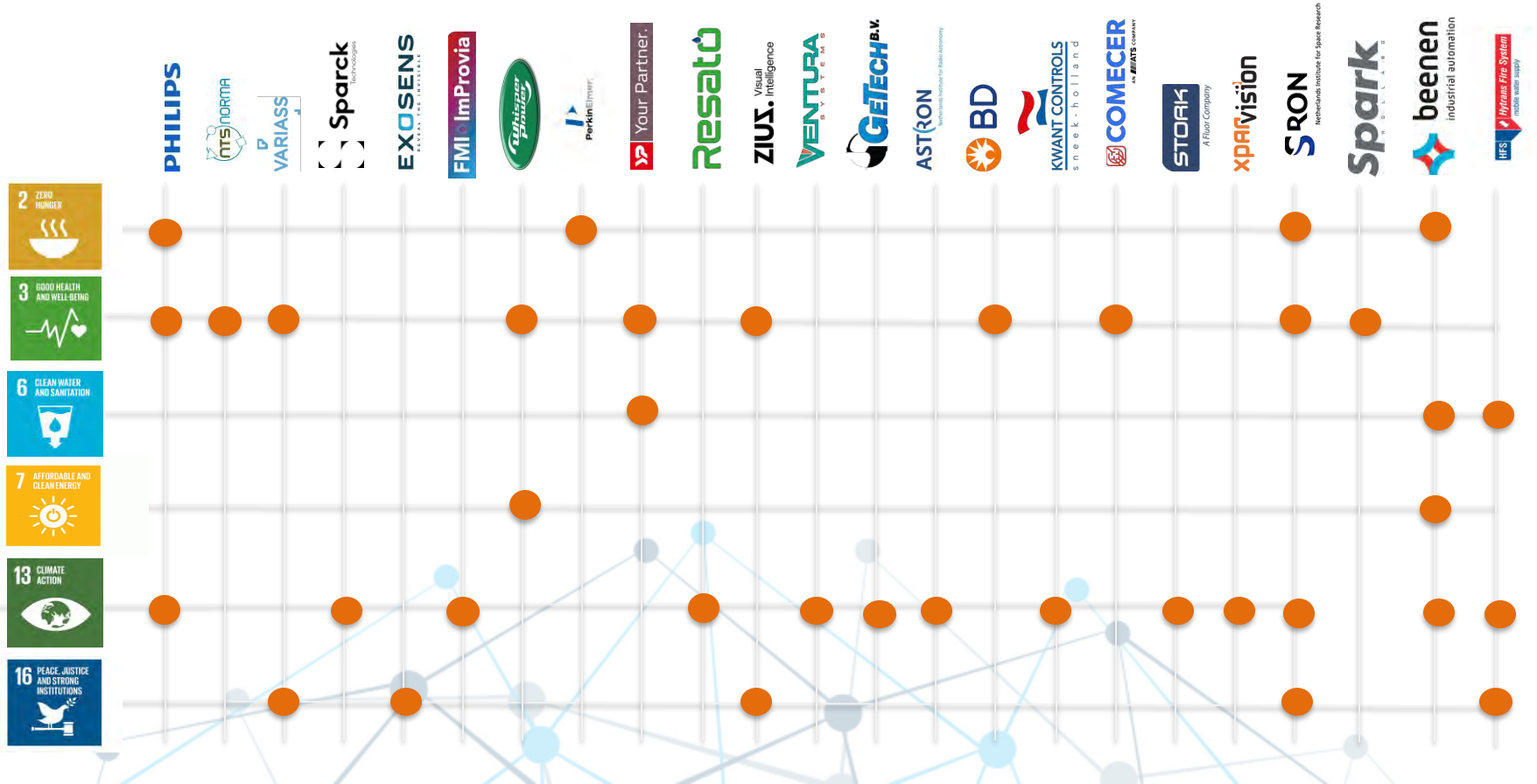
Humans and machines will merge



The ICD bridges the gap and provide co/robots:
Arms, hands, fingers (3D printing en sensing), **feet and legs** (AGV)
mouth, nose, ears (sensors+ voice technology),

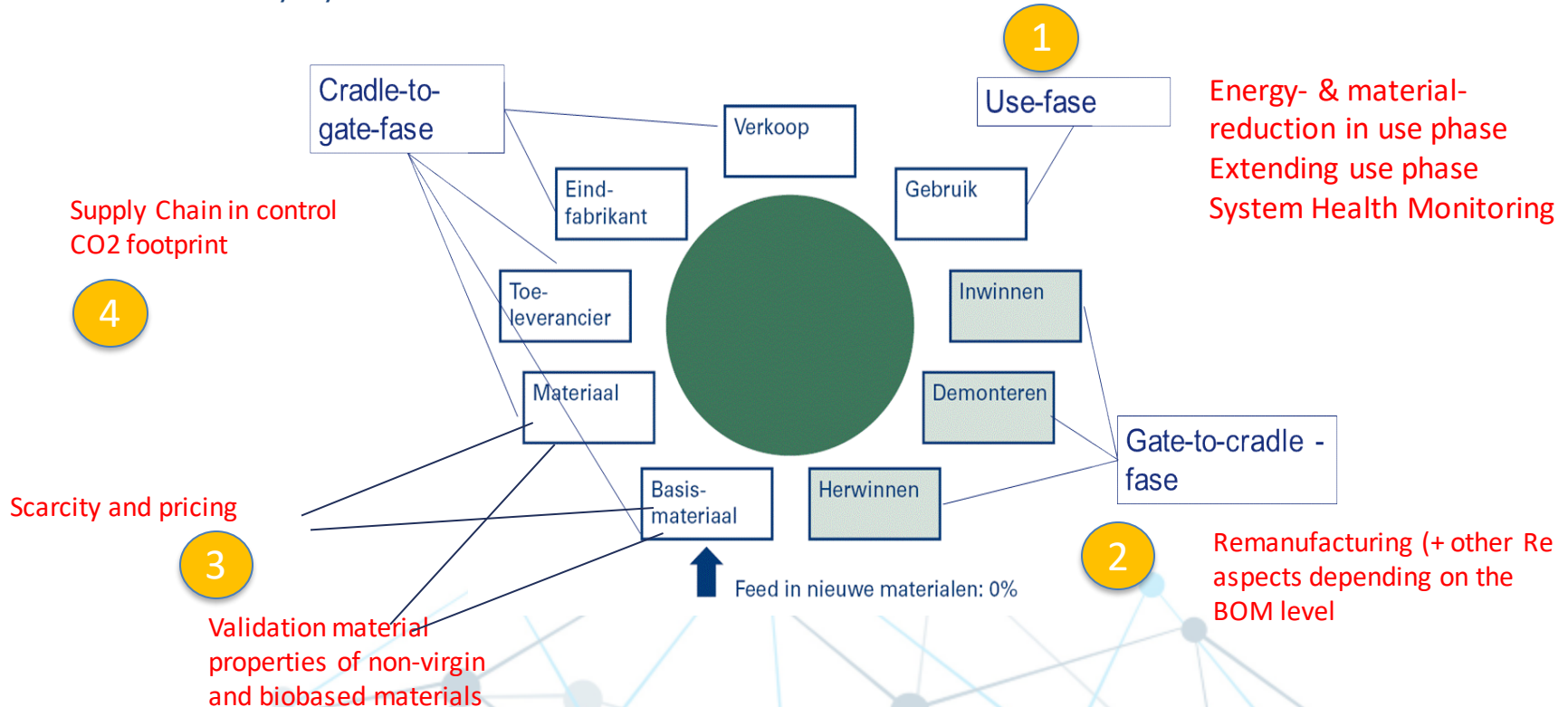
Eyes (vision and neurale networks) & **brains** (computational prower and deeplearning (AI))
 Remote controlled or autonomous

Innovation Cluster Drachten enabler of 6 SDG's :



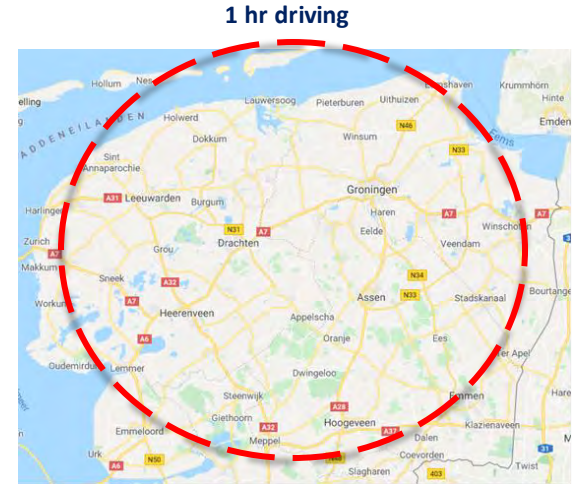
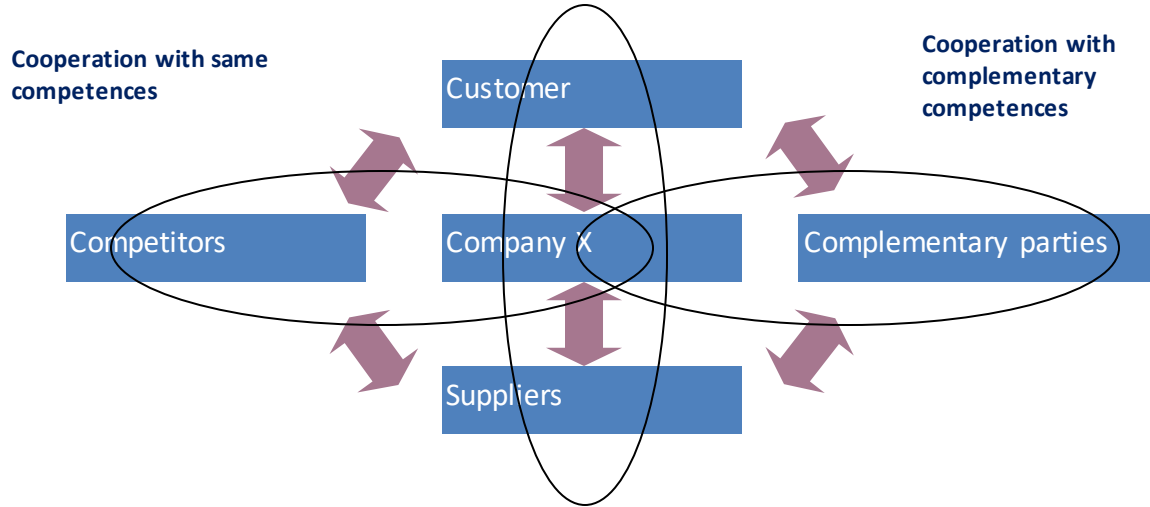
Challenges for OEM-ers

Circulair Economy Systems Industrie



Challenges for OEM-ers

Horizontal and vertical cooperations at max 1 hr driving



Outsourcing and supplying (T&U)

Cooperation in the demand/supply chain

Economische ontwikkeling en brede welvaart in Zuidoost-Friesland

15 februari 2024 – Mini symposium Smart en Circulair in de regio



Economische ontwikkeling

Nederland in een economische recessie?

Nederlandse economie krimpt nog iets harder doordat we minder uitgaven

Door onze economieredactie

22 dec 2023 om 09:19

347 reacties

ANP, Business Insider Nederland
18 dec 2023

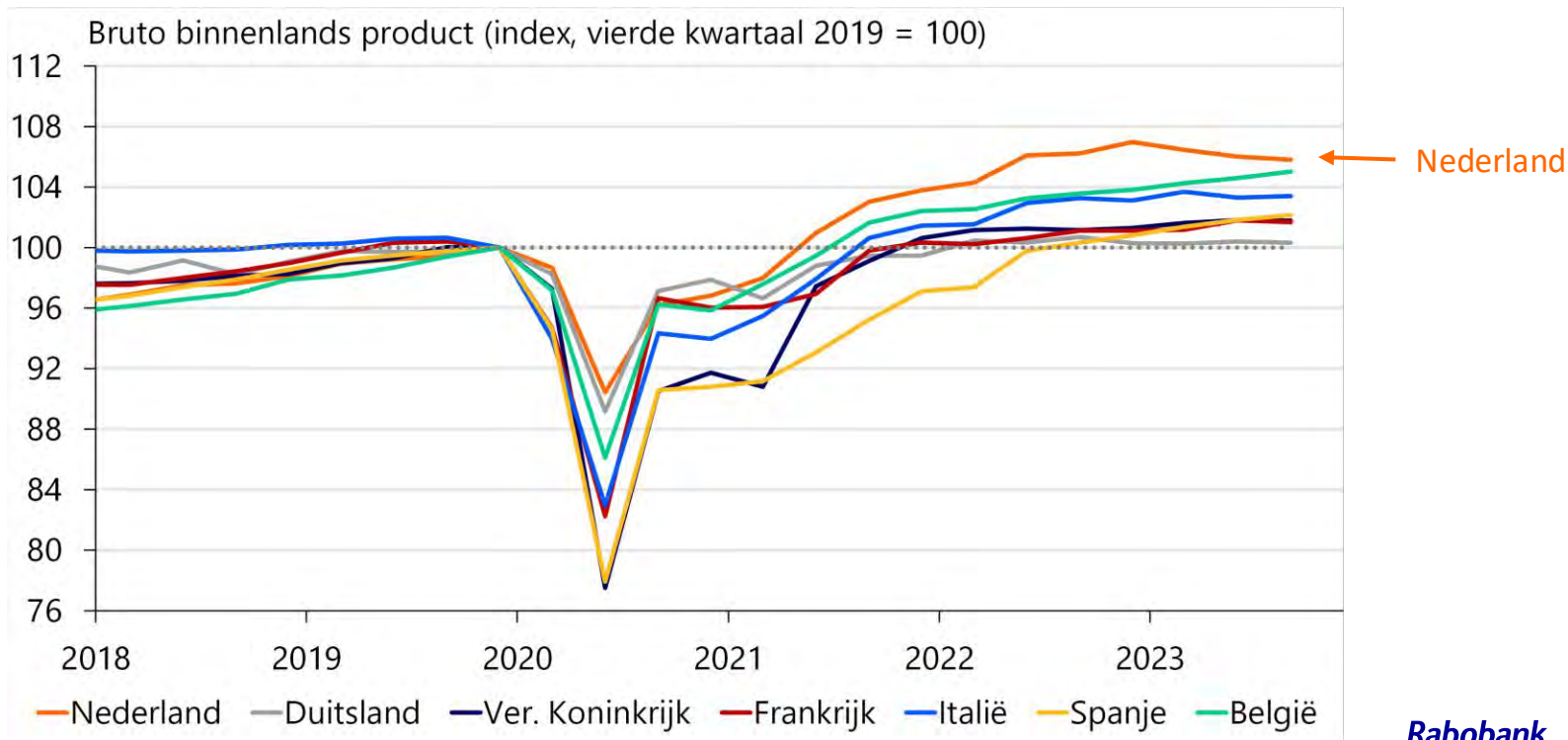
De economie is in het derde kwartaal harder gekrompen dan eerder werd gedacht. Cijfers over de consumptie van huishoudens en investeringen van bedrijven vallen in nieuwe berekeningen van statistiebureau CBS nog iets slechter uit. We zitten dus nog iets dieper in een recessie.

Rabobank ziet economie in 2024 licht groeien

Rabobank verwacht een lichte groei van de Nederlandse economie in 2024 en 2025, onder meer door koopkrachtherstel. Economische ontwikkelingen werken komende twee jaar niet één-op-één door in brede welvaart. Na drie kwartalen krimp volgt komende twee jaar naar verwachting lichte economische groei: 0,5 procent in 2024, gevolgd door 1,0 procent groei in 2025.

Onze economie is harder gegroeid dan elders

Duitsland en Frankrijk zijn de coronaklap nog nauwelijkt te boven gekomen



Wat verwachten we in 2024?

Lichte economische groei verwacht,
onder meer door herstel koopkracht.



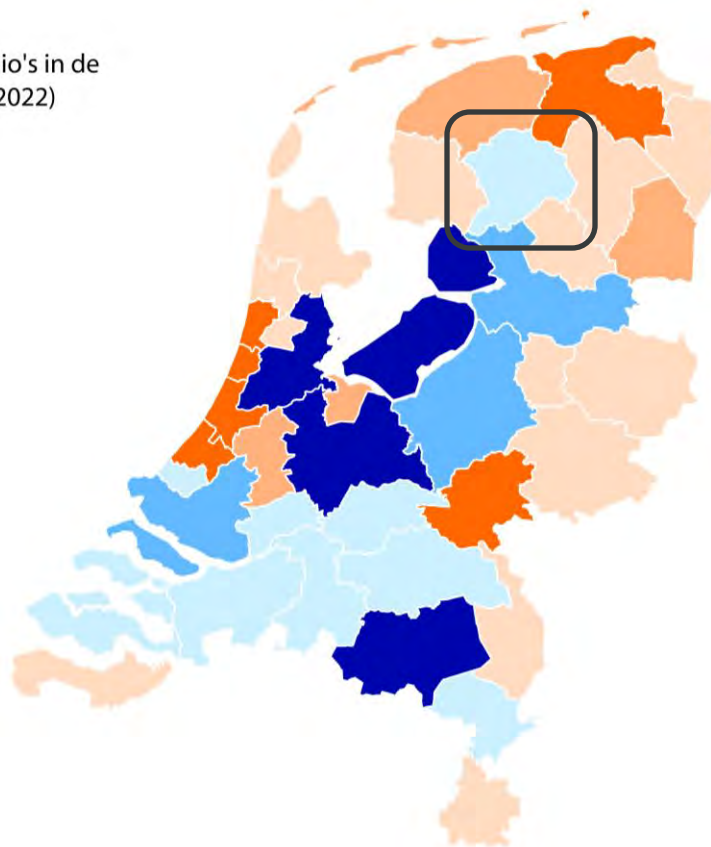
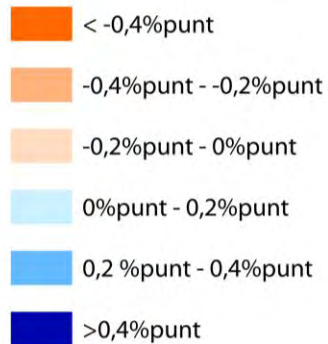
Bbp-groei  = raming RaboResearch



Bron: RaboResearch. CBS

Economische verschillen tussen regio's nemen toe

Verandering van het aandeel van regio's in de Nederlandse economie (bbp, 1995 - 2022)



Zuidoost-Friesland economisch fors gegroeid tussen 2019 en 2023

- De economie van Zuidoost-Friesland is met 8% gegroeid, tegenover 6,4% voor Nederland
- 11e plek van de 40 regio's

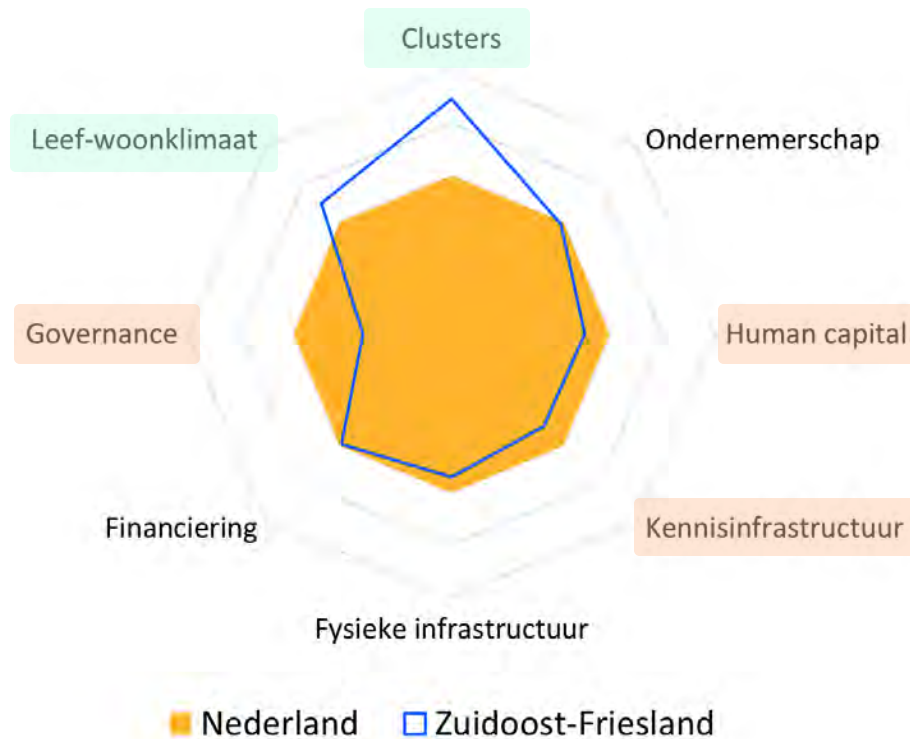
Rang	Regio	2019	2020	2021*	2022*	2023**
1	Zuidoost-Noord-Brabant	100,0	97,9	105,1	111,9	113,2
2	Midden-Limburg	100,0	102,6	105,3	109,0	109,4
3	Noordoost-Noord-Brabant	100,0	97,7	104,4	108,8	109,2
4	Flevoland	100,0	97,7	104,7	109,2	109,1
5	Twente	100,0	97,3	104,4	108,7	109,1
6	Zaanstreek	100,0	96,2	104,6	108,5	108,9
7	Utrecht	100,0	98,1	104,3	108,5	108,9
8	Zuidwest-Gelderland	100,0	99,2	106,2	108,9	108,7
9	Overig Zeeland	100,0	98,4	102,5	108,0	108,1
10	Zeeuwsch-Vlaanderen	100,0	103,4	105,6	109,2	108,1
11	Zuidoost-Friesland	100,0	98,6	103,5	107,2	108,0
12	Midden-Noord-Brabant	100,0	96,7	104,3	107,8	107,9
13	Noord-Overijssel	100,0	96,3	103,9	107,4	107,8
14	Veluwe	100,0	97,9	102,8	106,8	107,4
15	Agglomeratie Haarlem	100,0	95,8	101,5	107,1	107,3
16	Groot-Amsterdam	100,0	91,0	98,3	106,0	107,2
17	Arnhem/Nijmegen	100,0	96,4	102,5	106,9	107,1
18	Nederland	100,0	96,1	102,1	106,4	106,6
19	Delft en Westland	100,0	99,6	103,7	106,5	106,4
20	Noord-Drenthe	100,0	98,4	103,0	106,3	106,4
21	Zuidwest-Friesland	100,0	97,7	102,8	107,5	106,4
22	Achterhoek	100,0	96,6	102,4	106,3	106,1
23	Kop van Noord-Holland	100,0	97,0	102,6	106,6	106,0
24	West-Noord-Brabant	100,0	96,8	103,5	106,2	105,9
25	Oost-Groningen	100,0	98,1	103,1	105,5	105,7
26	Agglomeratie Leiden en Bollenstreek	100,0	95,7	101,2	105,2	105,6



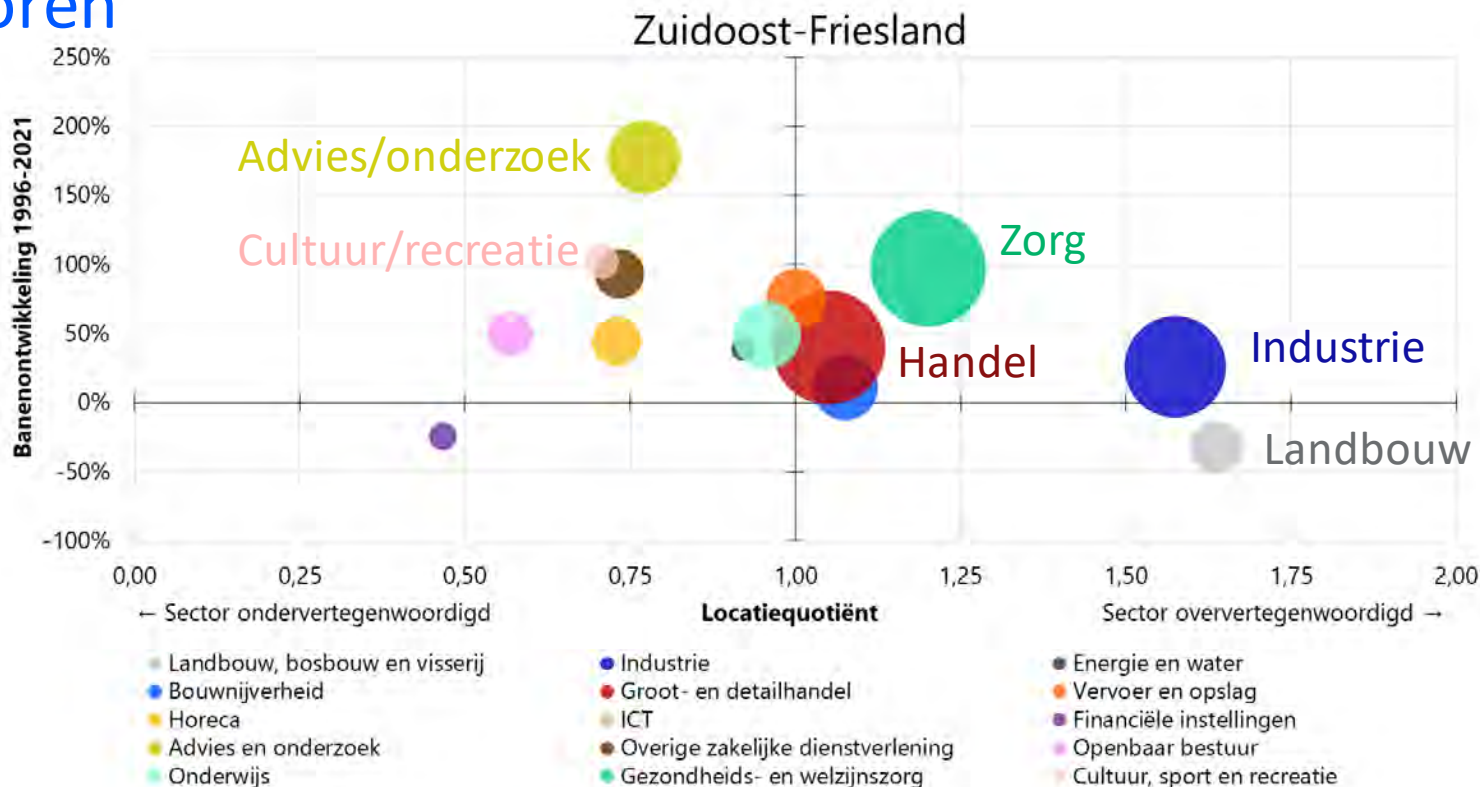
Waarom groeit de ene regio harder dan de andere?

8 bepalende factoren voor regionale-economische ontwikkeling

- Hoge scores op **clusters, leef-woonklimaat** en **ondernemerschap**
- Aandachtspunten zijn **governance, human capital** en **kennisinfrastructuur**



Clusters: industrie, landbouw en zorg relatief grote sectoren



Leefwoonklimaat: behoort tot de hoogste van het land



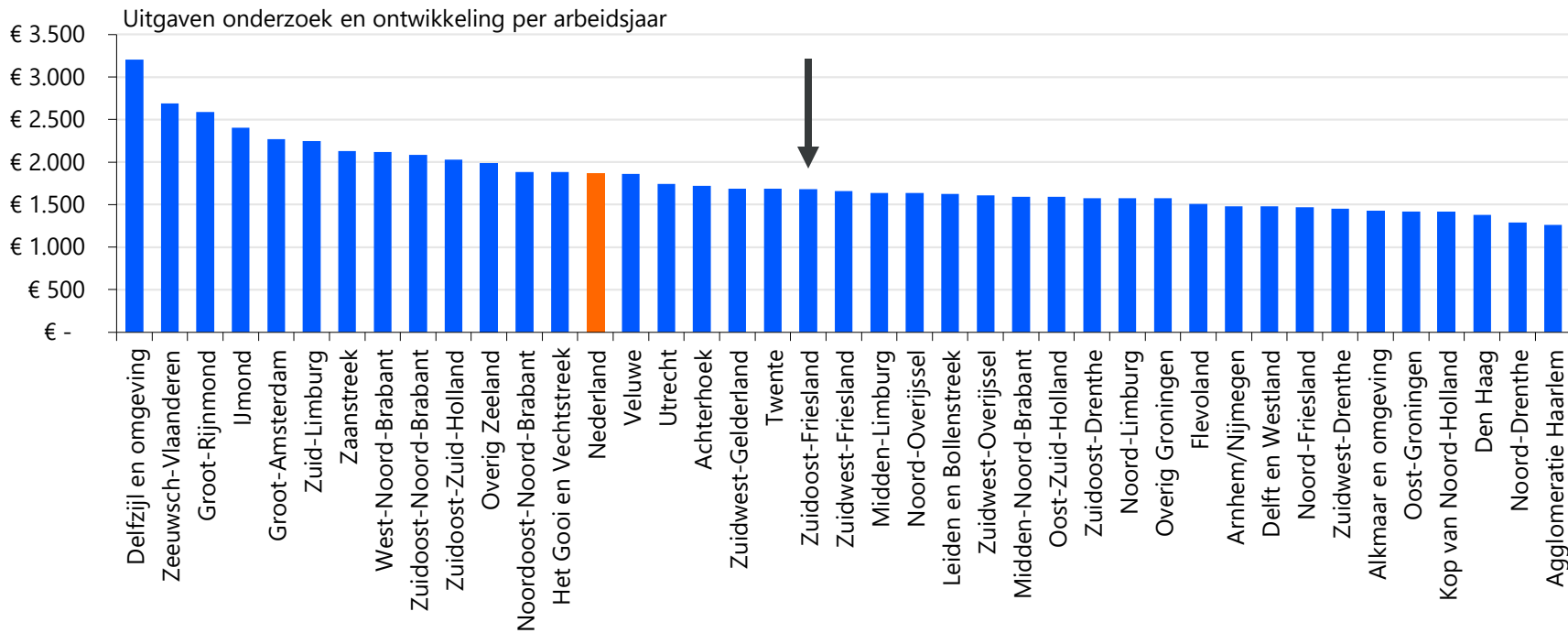
Bron: Visit Friesland

Brede welvaart



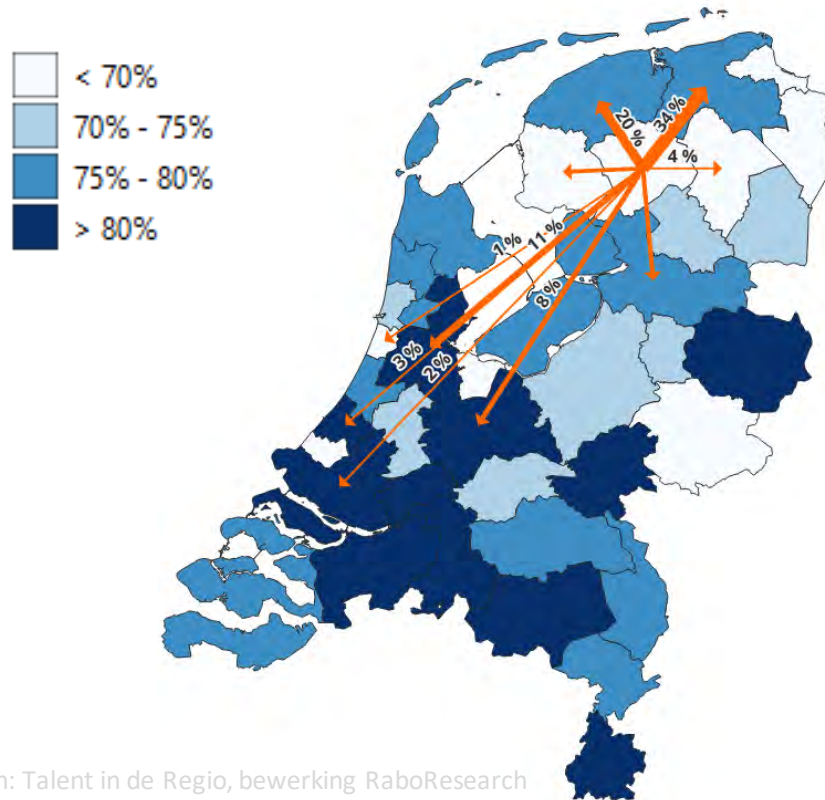
Kennisinfrastructuur: investeringen in onderzoek en ontwikkeling

Belangrijk voor productiviteit en toekomstig verdienvermogen



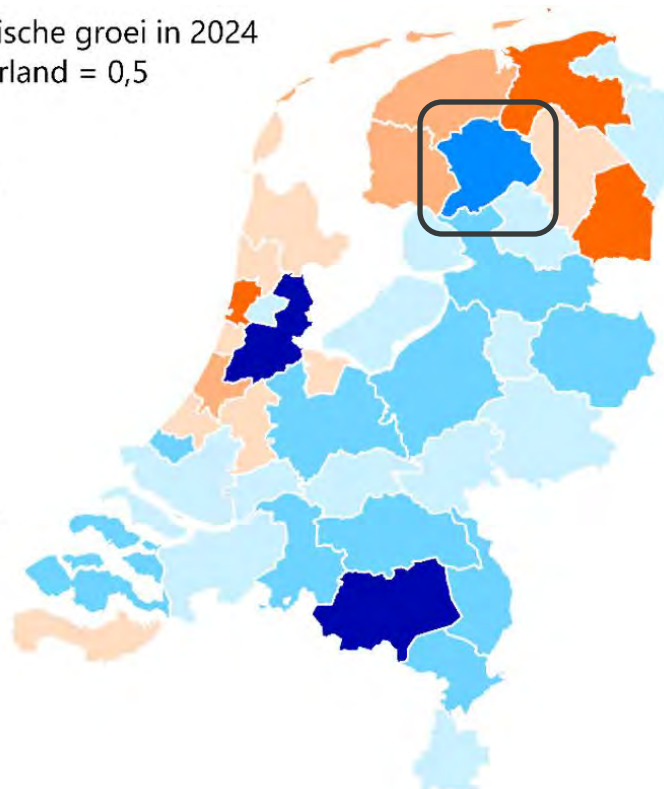
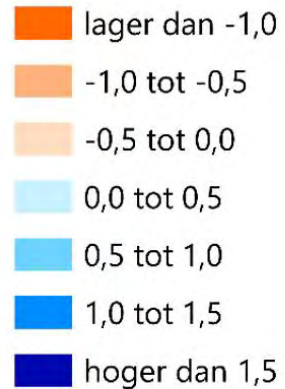
Human Capital: veel jongeren trekken weg

Percentage afgestudeerden dat op hun 28e in dezelfde gemeente woont als op hun 16e



Wat verwachten we in 2024?

Verwachte economische groei in 2024
in procenten, Nederland = 0,5



Brede welvaart



Rabobank

Brede Welvaartsindicator (BWI)

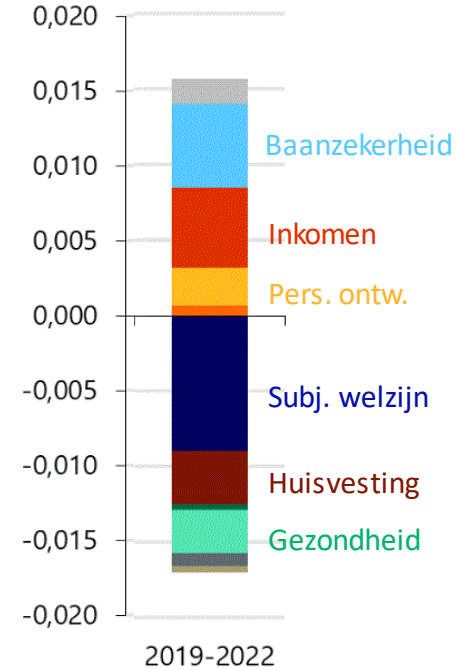
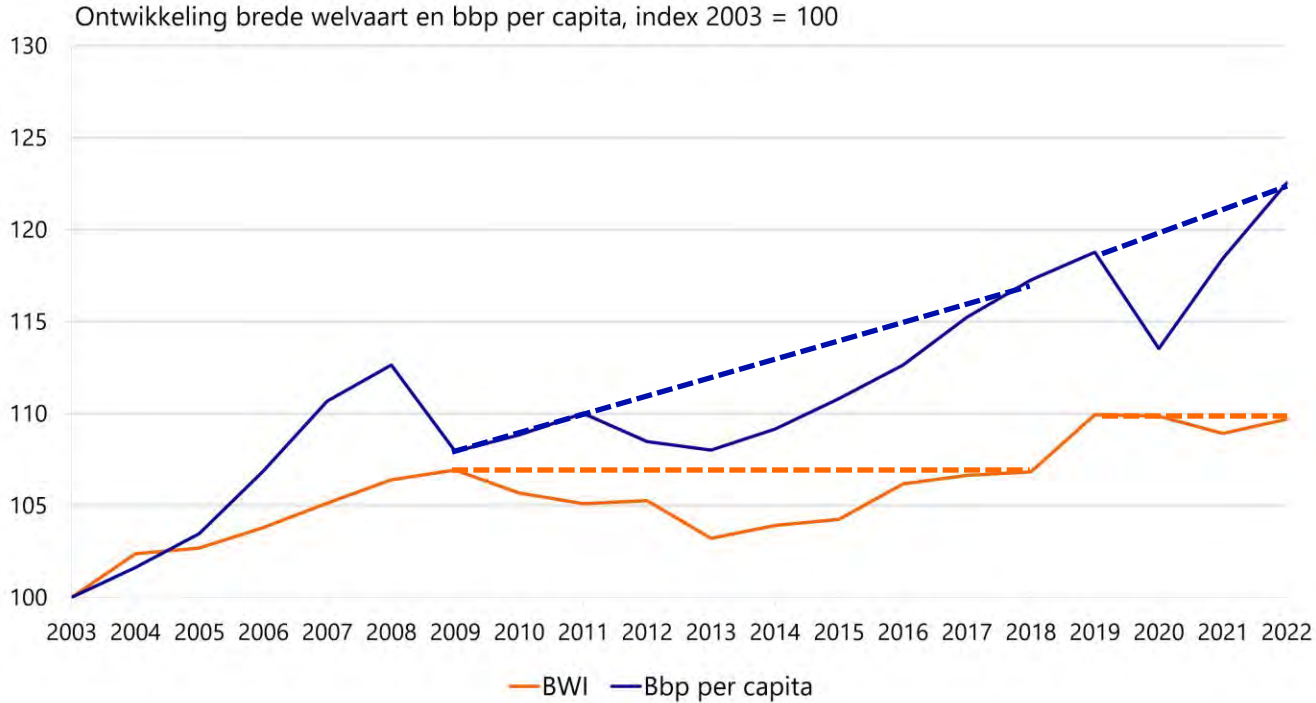
BWI integreert elf dimensies in één integrale maatstaf van brede welvaart



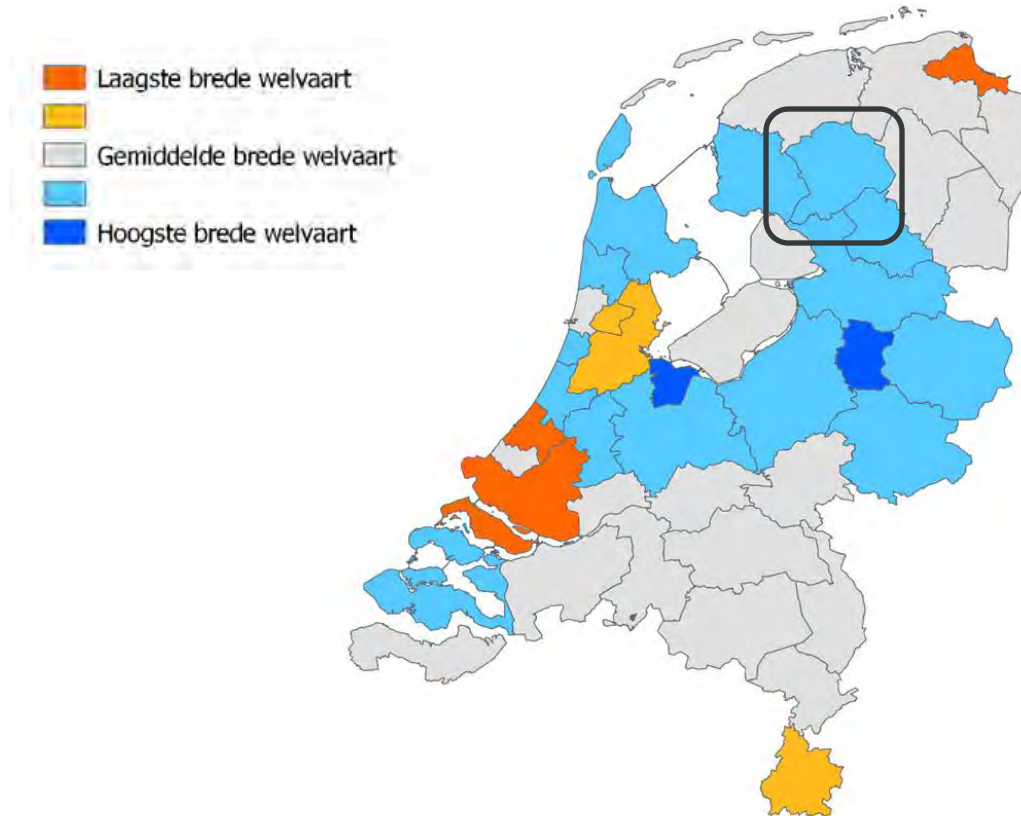
Universiteit Utrecht

Rabobank

Ontwikkeling BWI kent ander verloop dan bbp

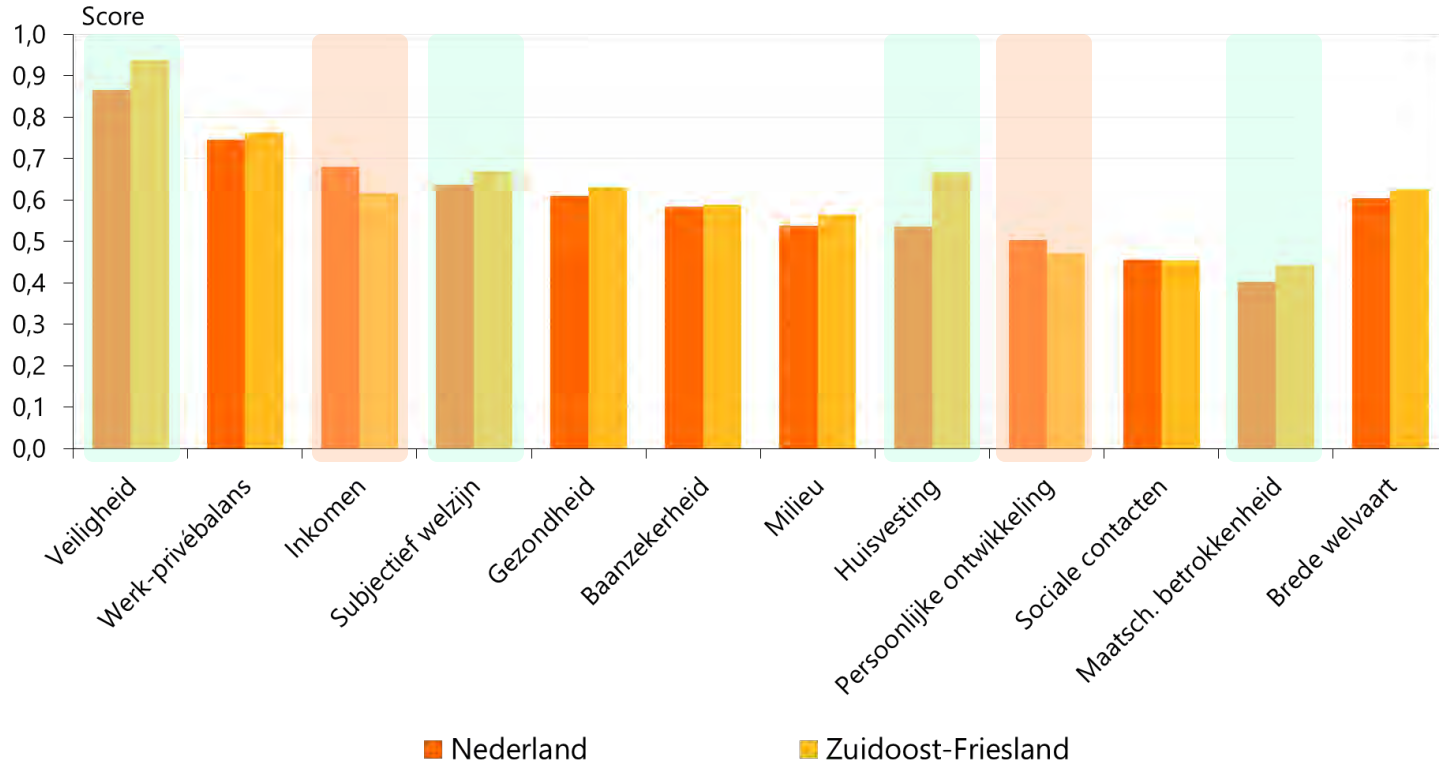


Hoge brede welvaart in Zuidoost-Friesland



Hoge scores op veiligheid, geluk en huisvesting

Uitdagingen op inkomen en persoonlijke ontwikkeling



Conclusie

Hoe gaat het met de economie in Zuidoost-Friesland?

- Enerzijds vanuit een productieperspectief
- Anderzijds vanuit een breed welvaartspectief
- Uitdagingen:
 - Human capital
 - Kennisinstructuur

A flag with horizontal stripes of blue, white, and blue, and several red heart shapes scattered across it, waving against a clear blue sky. The flag is attached to a silver pole on the right side.

Dank voor uw
aandacht!

Rabobank

Verzameling studies

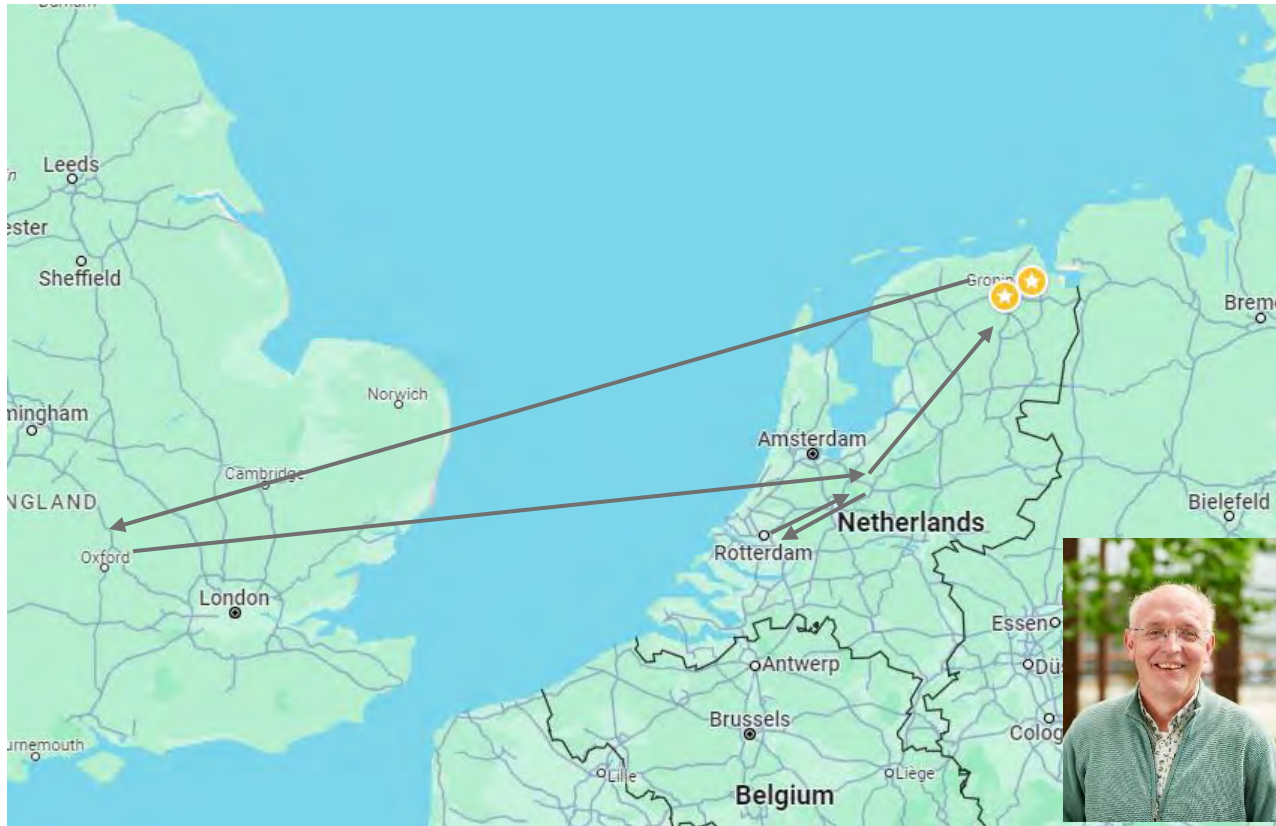
- [Regionale ongelijkheid de afgelopen vier jaar groter geworden - Rabobank](#)
- [Ervaren brede welvaart in Twente consolideert en blijft hoog - Rabobank](#)
- [Brede welvaart afgelopen drie jaar nagenoeg stabiel - Rabobank](#)
- [Welke regio's lopen voorop in de transitie naar een nieuwe economie? – Rabobank](#)
- [Koplopers verduurzaming trekken transitie naar nieuwe economie nog niet vlot – Rabobank](#)
- [Ondernemend naar brede welvaart – Rabobank](#)
- [Gebrek aan inclusiviteit bezorgt 40 procent van de bedrijven een achterstand op de arbeidsmarkt – Rabobank](#)
- [Vier op de tien bedrijven heeft te weinig verandervermogen voor de transitie naar een duurzame en inclusieve economie – Rabobank](#)



Circularity in the region: an academic perspective

- › Erik Heeres
- › Chemical Engineering unit
- › ENTEG
- › Faculty of Science and Engineering
- › University of Groningen
- › The Netherlands







- › Introduction
 - Circular carbon sources
 - Green chemical reaction engineering profile of the RUG

- › Research activities
 - Renewable carbon products using pyrolysis technology

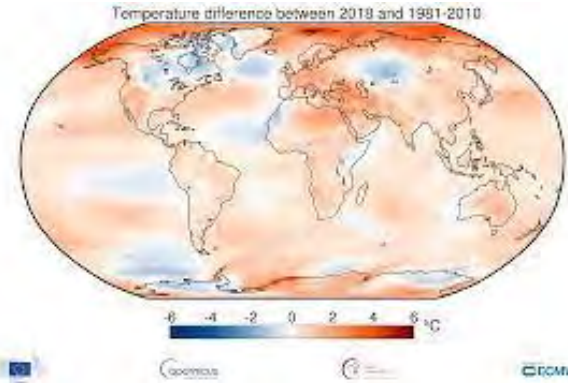
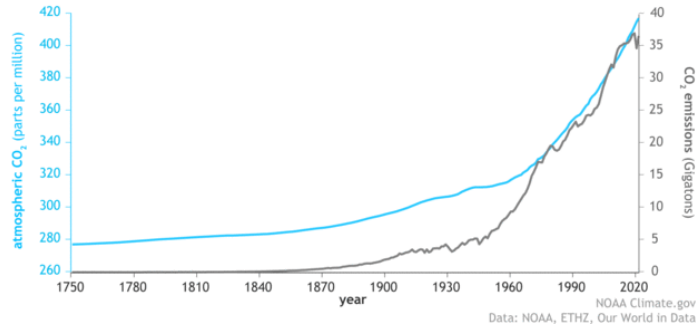
- › Impact activities in the region
 - Start-ups
 - BIOBTX
 - CorePro
 - IHOG
 - Smart and circular alliance

- › Education





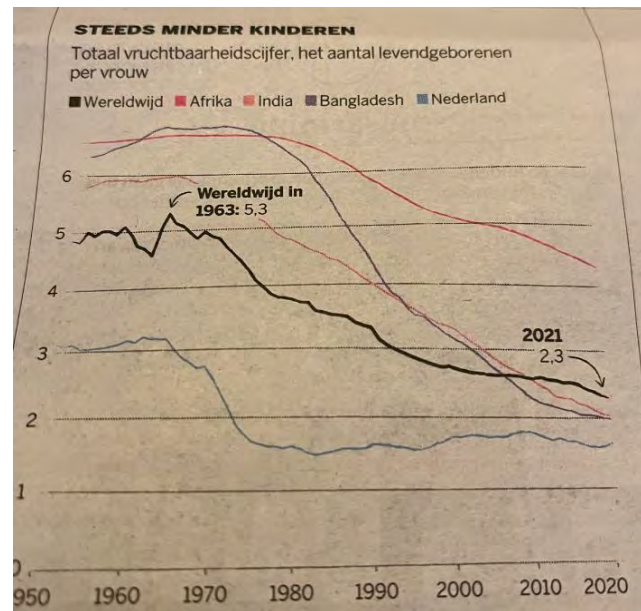
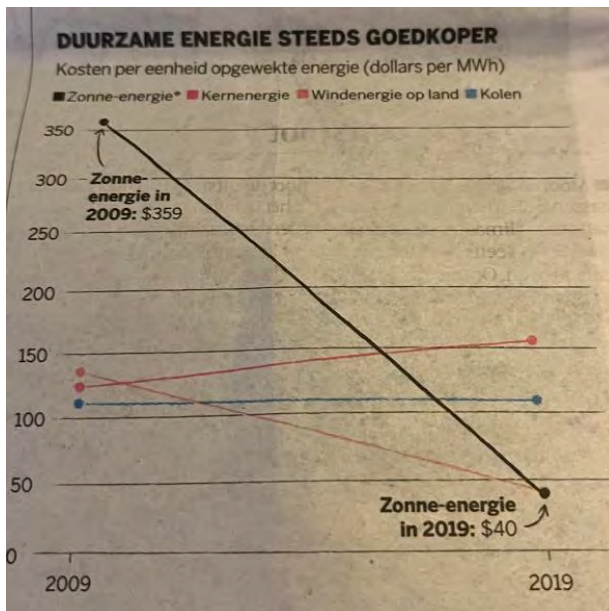
Atmospheric carbon dioxide amounts and annual emissions (1750-2021)



Fossile resources to circular carbon resources



Maar het is niet alleen kommer en kwel

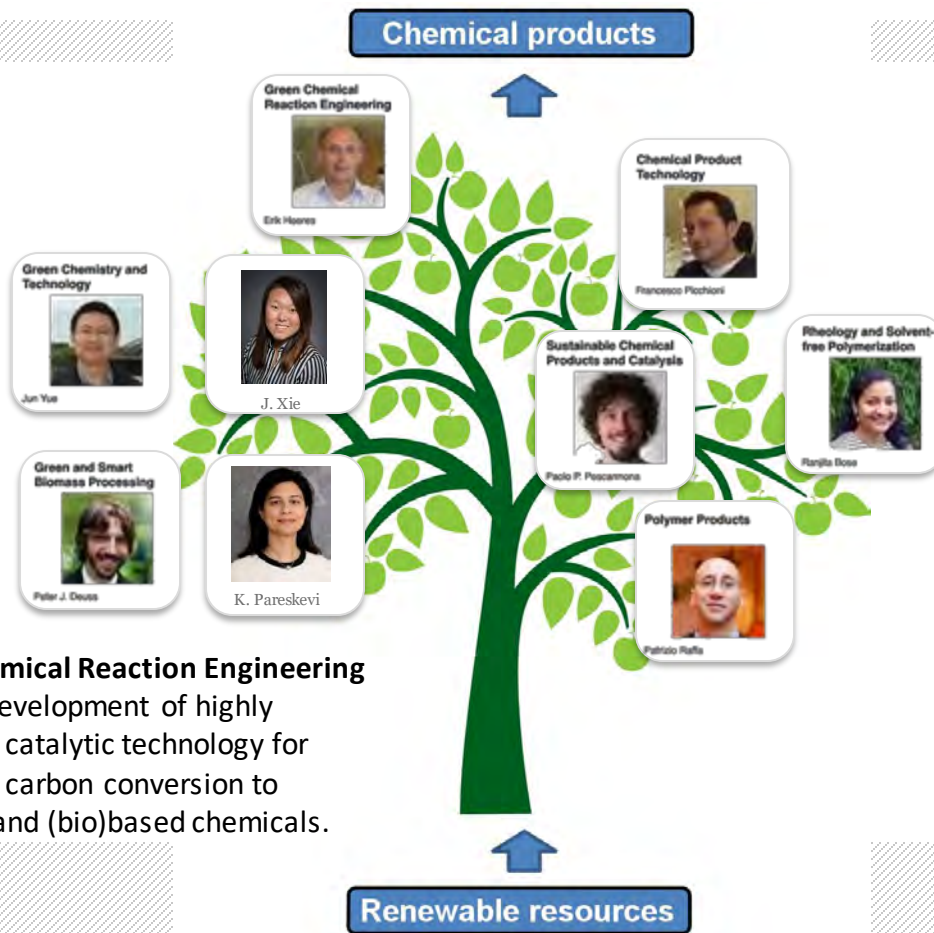




Fossil feeds



Circular carbon feeds

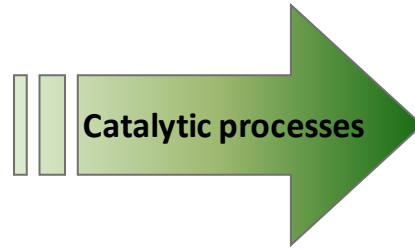


Green Chemical Reaction Engineering

Mission: development of highly intensified catalytic technology for renewable carbon conversion to (bio)fuels and (bio)based chemicals.



Circular carbon



(Bio)fuels

(Bio)based chemicals

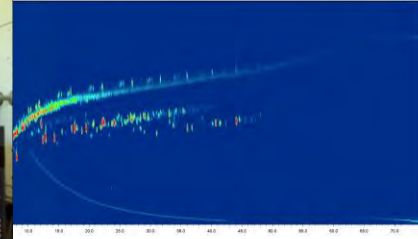
(Bio) based materials

- Research at the interface between chemical engineering and chemistry
- Preferably using real feeds
- Homogeneous and heterogenous catalysis



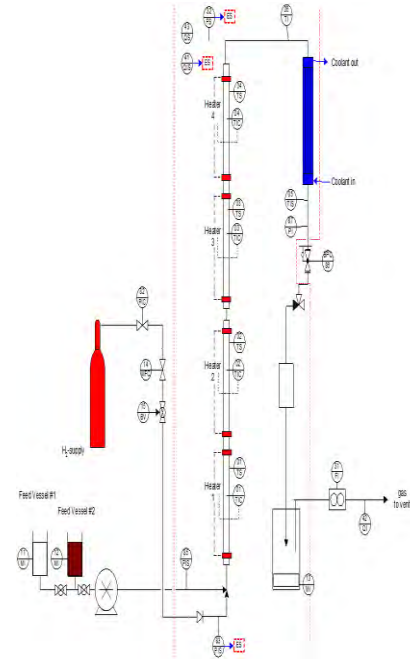
Catalytic conversion of gl
to bio-based aromati

Songbo He





- › Biomass domain
 - ABC salt (EU project 2017-2022)
 - Newwave (EU project 2022-)
 - NWO LIFT (2017-2021)
 - REFOLUTION (EU project 2023-)
- › Plastics domain
 - Various projects with BIOBTX
 - INREP (NWO 2022-)
 - Circular foam (EU project, 2022-)





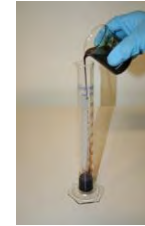
Biomass residues



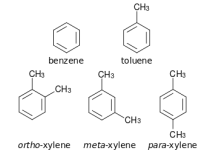
Plastic waste



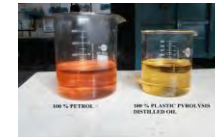
(catalytic)
Pyrolysis



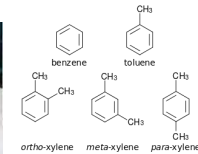
Pyrolysis oil



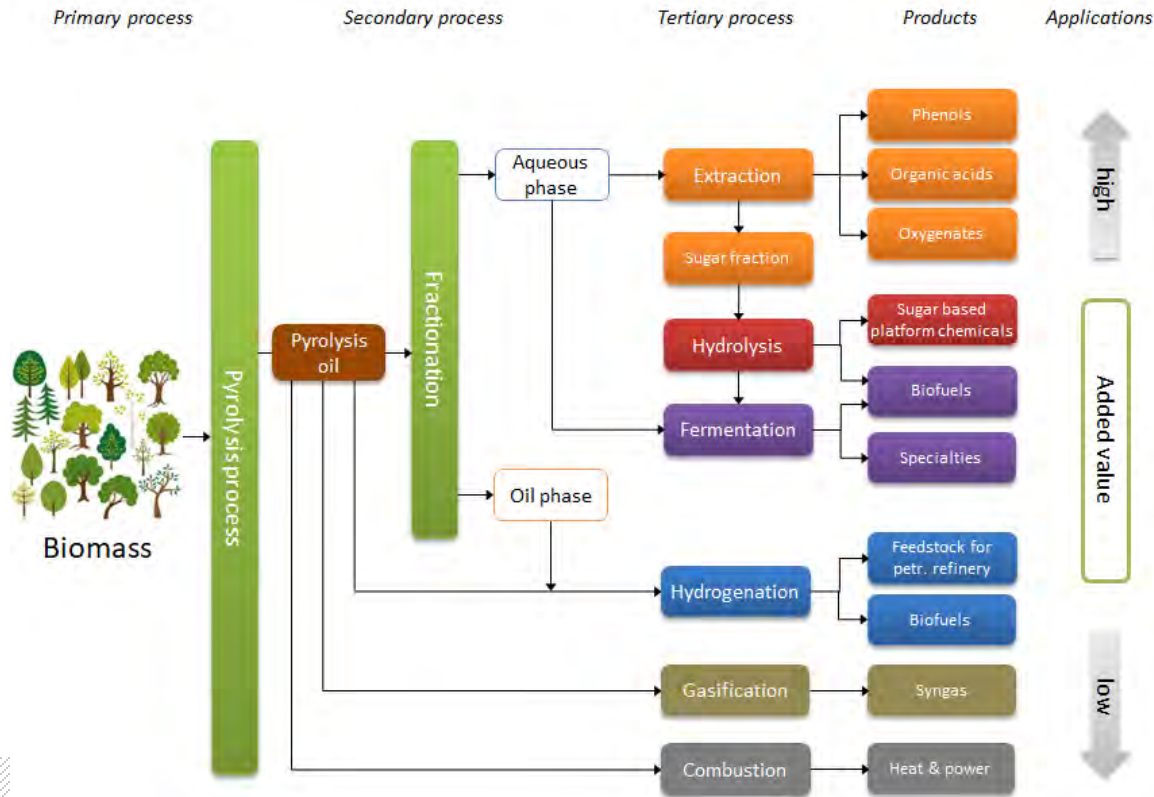
BTX

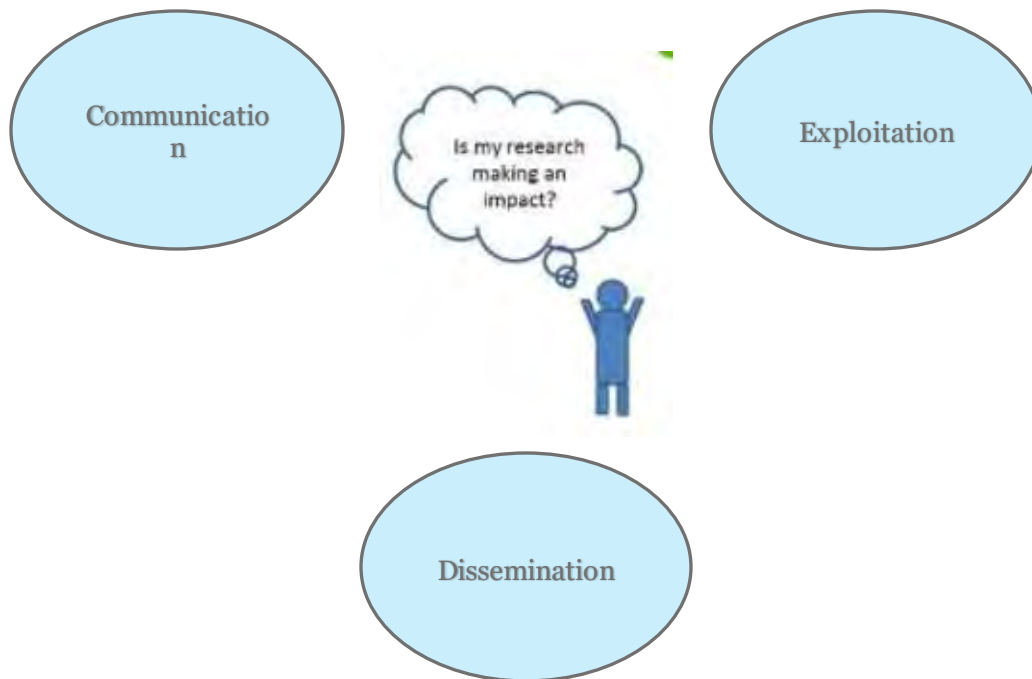


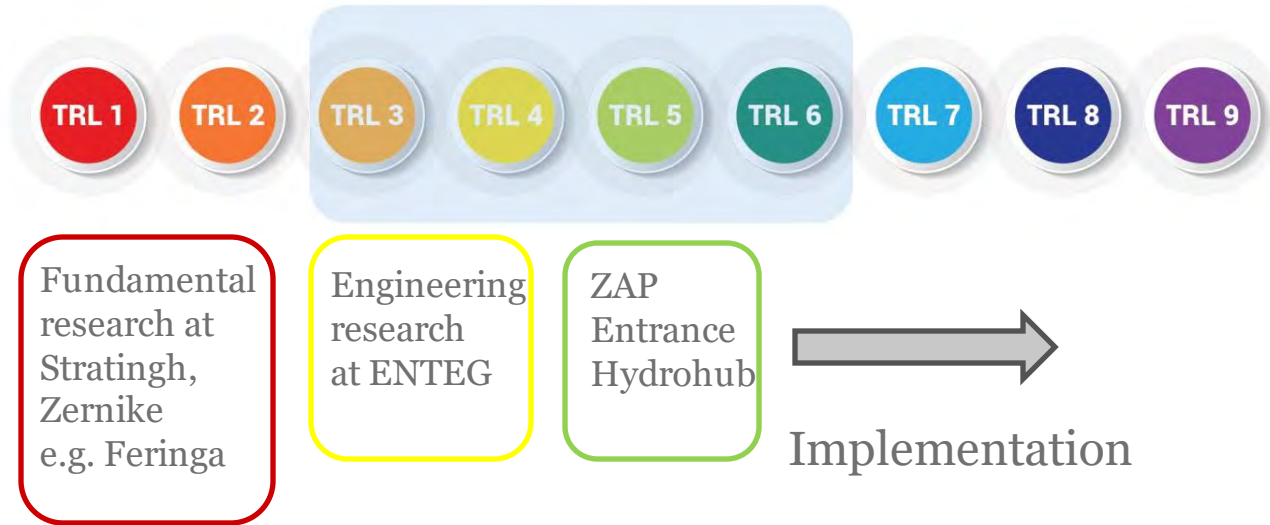
Plastic nafta



BTX







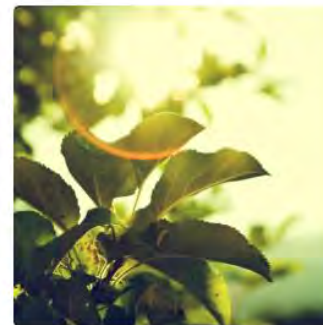


BioBTX: Solution to the plastic waste and fossil resources problem

BioBTX makes it possible to use and enjoy plastic without guilt. We transform non-food biomass and plastic waste into sustainable BTX. BTX are vital components needed to create high performance materials, such as new plastics. Because of sustainable BTX plastics become part of a circular economy and plastics production can liberate itself from fossil resources.

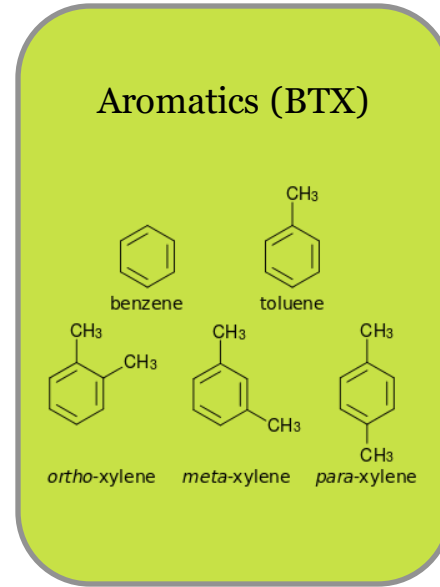
With BioBTX as the new norm, the future looks bright and free of waste, with low CO2 emissions and an independency from fossil resources.

Problems create opportunities for those who dare to imagine solutions





Catalytic
pyrolysis

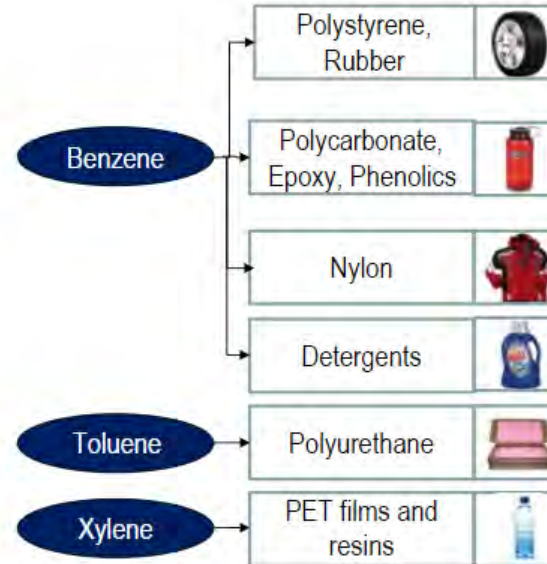
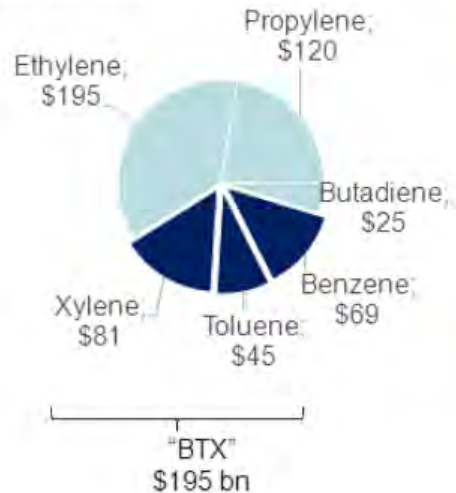


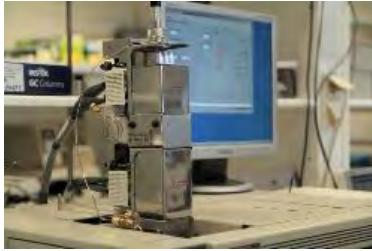
Polymer precursors



3 of the 5 largest commodity
petrochemicals.....

USD, billion





mg scale



kg scale



ton scale



GRONINGEN, Netherlands and **OSLO, Norway** – **April 24, 2023** – **BioBTX B.V.** (“BioBTX”), the global leader in renewable aromatics technology, and **Agilyx ASA** (OSE: AGLX; OTCQX: AGXXF) (“Agilyx” or “the company”), a leading post-consumer plastics recycling company have entered into a strategic collaboration to explore **the scale-up of BioBTX technology at a commercial demonstration plant for the production of renewable aromatic chemicals (benzene, toluene, xylene: BTX).**

The partnership will bring Agilyx technology into BioBTX’s first commercial plant. Agilyx’s pyrolysis technology for difficult-to-recycle post-use plastics combined with BioBTX catalytic technology to convert pyrolysis vapours into aromatic chemicals will create a unique synergy for the production of renewable aromatic chemicals (BTX).

The integration of these two technologies will yield a high quality BTX product, meeting the demanding specifications of the chemical industry whilst also converting difficult to recycle plastic waste streams.



Basic Engineering PETRA plant finished by TransitionHERO

09th May 2022

TransitionHERO has finished the Basic Engineering phase of the PETRA plant. TransitionHero and BioBTX will continue with the detailed engineering... [Read more](#)



UG-spin-off CoRe Pro B.V. develops sustainable solutions to convert renewable materials usefully

12 February 2024

CoRe Pro B.V. has recently signed a license agreement with the University of Groningen, making it an official UG spin-off. The signing marks the start of the commercial development of sustainable solutions for thermochemical conversion of renewable materials.

CoRe Pro B.V. builds on the ideas of Professor Erik Heeres of the Green Chemical Reaction Engineering section of the Engineering and Technology Institute (ENTEG) at the Faculty of Science and Engineering. His research focuses on the development of efficient catalytic technology for circular carbon conversions. CoRe Pro founder Songbo He did his PhD in Erik Heeres' research group.



IHOG



**Innovatiehub
Oost-Groningen**



Innovatiehub Oost-Groningen

- **Missie**

Oost-Groningen laten floreren en verduurzamen met in de regio aanwezige mensen, grondstoffen en kennis.

- **Visie**

IHOG is de katalysator en verbinder in innovatie, kennisontwikkeling en realisatie van duurzame producten, processen en diensten in hoogwaardige ketens in Oost-Groningen.

SWOT Oost-Groningen

Sterktes

- Agrarische sector
- Landbouw verwerkende industrie
- Internationale oriëntatie industrie
- Ruimte en lage prijzen vastgoed en grond
- Goede bereikbaarheid
- Nabijheid van kennisinstututen
- Saamhorigheid
- Unieke grondstoffen

Kansen

- Duurzaamheid (biobased/circulair)
- Koppeling tussen agro en chemie/materiaal
- Bio raffinage
- Van bulk naar niche (hoger in de biobased waardeketen)
- Kennisuitwisseling en samenwerking

Zwaktes

- Geringe werkgelegenheid
- Relatief laag opgeleide bevolking
- Krimp
- Armoede
- Geringe samenwerking in bedrijfsleven
- Mentaliteit (zwart-wit denken)

Bedreigingen

- Trek naar de stad (urbanisatie)
- Verdwijnen van voorzieningen en vermindering van leefbaarheid
- Stikstofproblematiek
- Concurrentie uit andere landen (verwerking landbouwgewassen)

Uitgangspunt: kansen!!!



Beschikbare grondstoffen





rijksuniversiteit
 groningen



Hanze hogeschool
 Groningen
 University of Applied Sciences

IHOG
 Innovatiehub
 Oost-Groningen





Nieuwe mogelijkheden voor onze regio

Magnesium bevattende zetmelen
(Avebe, Nedmag)

**Brandwerende
hennepisolatieplaten**
(HempFlax, Nedmag, Avebe)

Herstel crème
(Zechsal, HempFlax, Nedmag,
Avebe)

Aardappelwit-hennepeiwit
(Avebe, HempFlax)

Magnesium bevattende zetmelen

- Tekort aan magnesium
- Nieuwe functionele zetmelen
- Johanna Thomann
(PhD-traject Hanze-RUG,
Avebe, Nedmag)
- 4 jarig traject



Brandwerende hennepisolatieplaten

- Brandwerendheid omhoog
- Basis is hennep, toevoeging magnesium en aardappelzetmeelijm



Nieuwe ondernemingen (start ups)

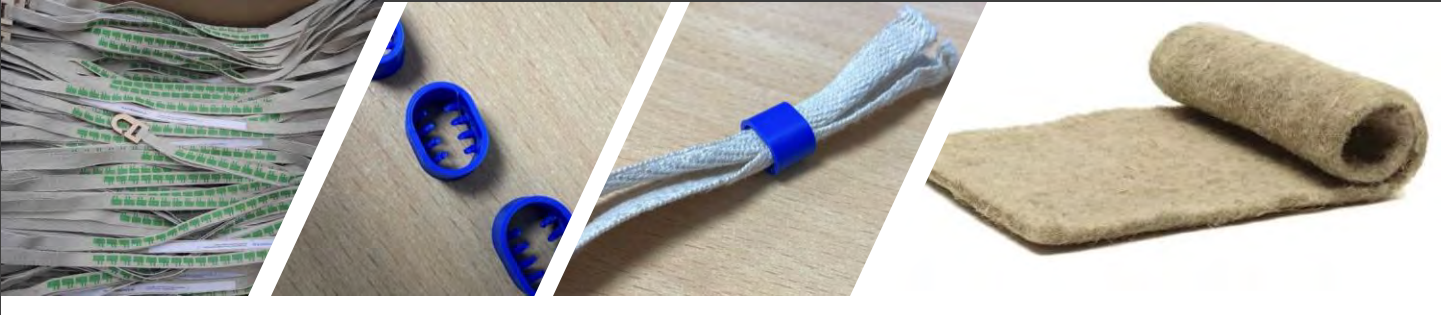




Bewust meubilair/Material Magic[®]

- Jack Brandsma en Minerva studenten
- Op naar productie!
- Mogelijke samenwerking met Vepa
- Diverse exposities; Dutch Design Week
Eindhoven/Milaan/ Frankfurt/Londen/Keulen
- Op naar Milaan; 50 shades of hemp





Plantjebandje

- Bert Venema als ondernemer
- Festivals en congressen; bandje, keycord, hennepmatten
- Aanbod met Earth Flag en Happy Cups voor festivals



Topia Tile

Sarah Peyrel

- Decoratief
- Hoeft niet 'gebrand' te worden



School initiatieven



AdoptIDee (voorjaar 2024, 3^e editie)

Op speelse wijze samenbrengen met innovatieve bedrijven in Groningen.
Groep 7,8 basisscholen. Gestart in Pekela. Nu met 100 leerlingen.

Ondernemersacademie
OOST-GRONINGEN



IHOG-Challenge (najaar 23)



Wie (studenten, inwoners) komt met een briljant idee voor combinaties van de regionale grondstoffen of DUURZAAMHEID? MBO/HBO/WO

Noorderpoort

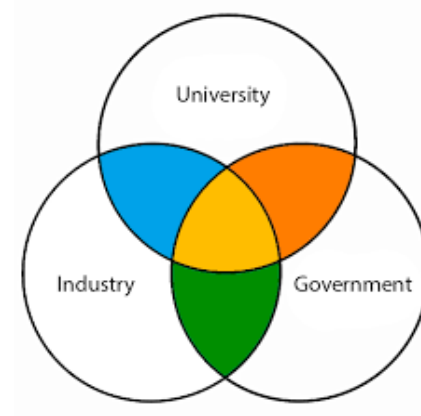


Smart Circular Alliance NNL (SCAnnI)





Smart and Circular



Bridging the gap...



- Energy: 100% CO₂ neutral
- Resources: 100% circular
- Human capital: mobilise all available talent
- Competitive: added value of > 150 k€ per FTE

Becoming a model & test region for smart-circular industry



Impact for many industrial sectors

- Process industry (agrofood, paper, ...)
- Chemistry
- Recycling sector
- High tech systems & manufacturing
- Building and construction companies
- Ship yards
- Medical/Healthcare





- Developing an effective innovation **ecosystem** with research & development roadmap AND human capital roadmap
- Agendas in line with e.g. national roadmaps on HTSM, Chem, Medtech etc. (Autnom. Systems, Semi Conductor materials, energy, metallic and plastic materials...)
- Strong and accessible **community** of innovation partners and stakeholders
- Agenda based on **consortia proposals**, courses, assignments, EngD, Post docs, PhD's, M and Ba, honours. e.g. integrated student/staff interaction with industry
- Regional & scientific impact in line with strategic plan of UG & the region



- › Identify funding opportunities
 - e.g. Growth fund 4/EFRO
- › Create awareness
- › Join forces





Engineering Doctorate - EngD Sustainable Process Design

EngD: gericht op technologische problemen van bedrijven.

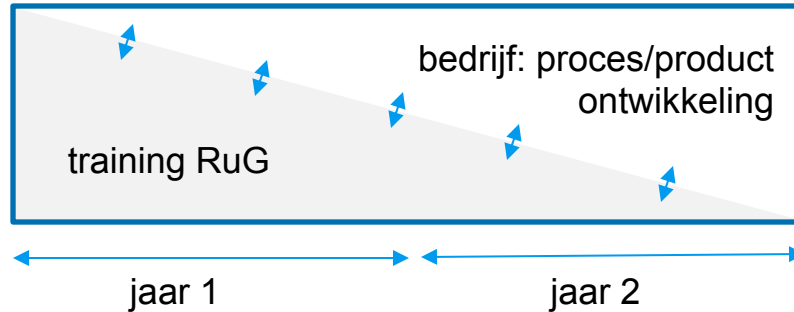
Voorbeeld: - nieuw proces of product,

- uitbreiding huidig proces of productenpakket

- 2-jarige opleiding
- hoogste academisch niveau (gelijk aan promovendus)
- internationaal erkende titel EngD
- brug tussen wetenschap en probleem oplossen
- een jaar topniveau training en masterclasses
- een jaar bedrijfsprobleem oplossen



Engineering Doctorate - EngD Sustainable Process Design



- EngD-kandidaat is afgestudeerde chemisch technoloog (of gelijkwaardig)
- in dienst van RuG of van het bedrijf
- ook voor eigen werknemers
- bedrijf is vanaf het begin betrokken en in contact met onze experts
- voor Noord-Nederlandse bedrijven is subsidie toegekend



Noria

Mini symposium Smart en Circulair in de regio

February 2024



The next 15 minutes

1. Noria - How it started
2. Noria & our 3R-method
3. Stop plastic van Stad naar Wad
4. Cooperation in Noord-Nederland





NORIA
SUSTAINABLE
INNOVATORS

How it started

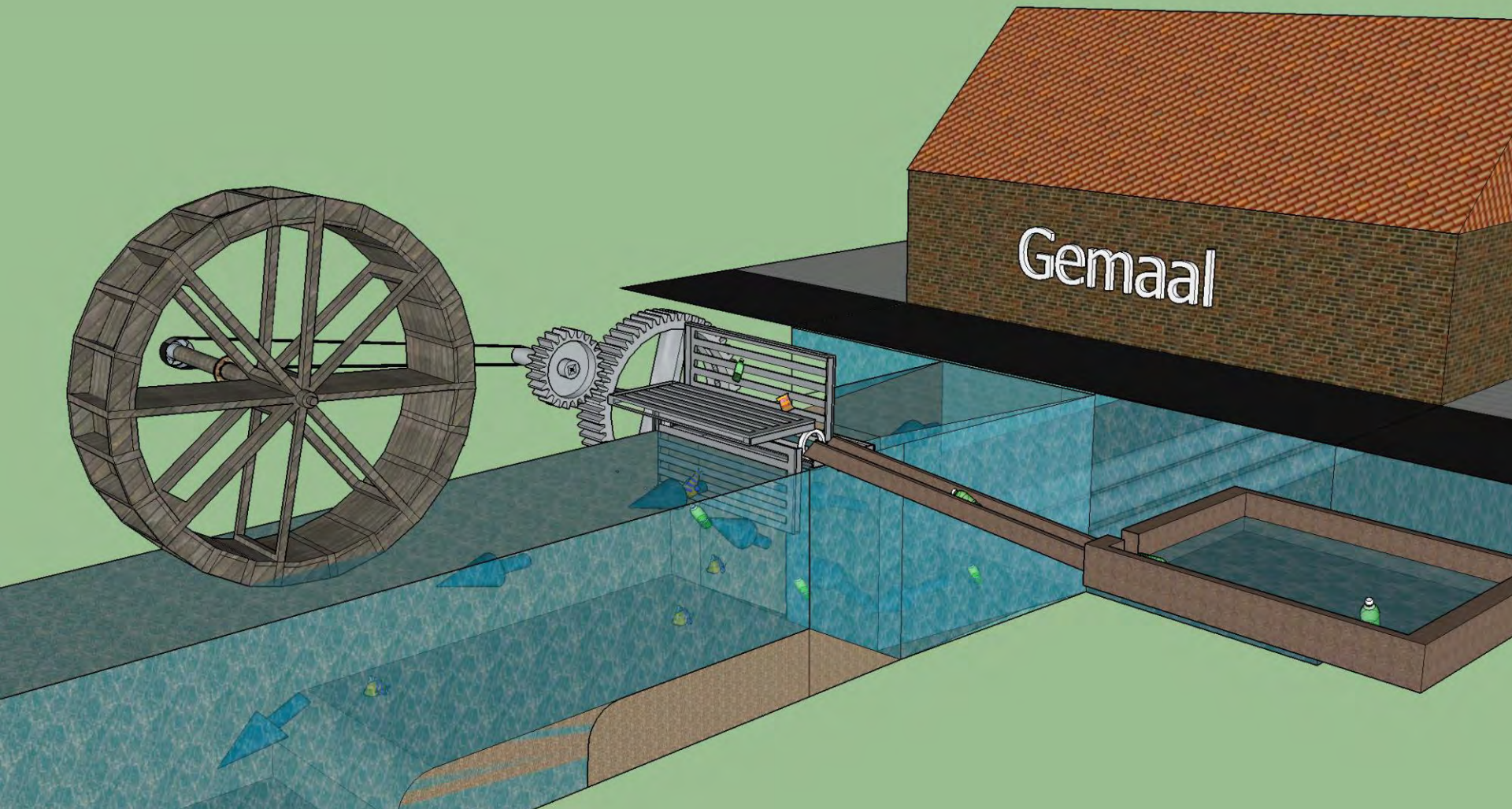
Mini symposium Smart en Circulair in de regio

Noria - How it started



university of
groningen





Gemaal






NORIA



NORIA SUSTAINABLE INNOVATORS

Stop plastic van Stad naar Wad

In dit project doen we onderzoek naar het plastic afval dat door onze wateren richting de Waddenzee gaat. Wat kan er aan afval verstaan, waar loopt het op en hoe kunnen we gezonde maatregelen nemen om deze afvalstromen te stoppen?



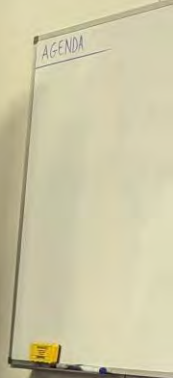

"Alleen door samenwerking kunnen we het plastic afval probleem stoppen"

NORIA
NORIA Sustainable Innovators ontwikkelt innovaties en bestempelen om plastic afval op een duurzame en betrouwbare manier te stoppen. In de vorm, te ontwikkelen innovatie technieken en de innovatieve ontwikkelingen.

Research
Het onderzoek om te zien hoe plastic afval wordt verspreid in de Waddenzee. Dit wordt gedaan door middel van een onderzoek naar de afvalstromen die naar de Waddenzee gaan.

Remove
De afvalstromen worden verwijderd door middel van een innovatieve techniek die plastic afval op een duurzame manier kan verwijderen.

Reduce
Het onderzoek naar de afvalstromen die naar de Waddenzee gaan, om te zien hoe we deze afvalstromen kunnen verminderen.



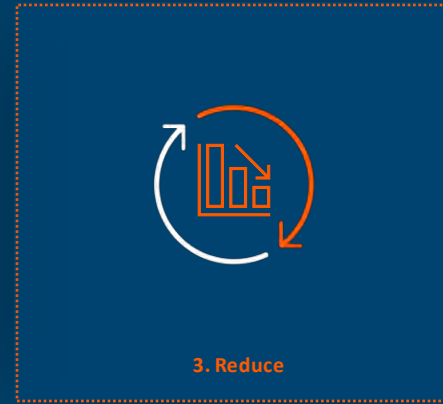
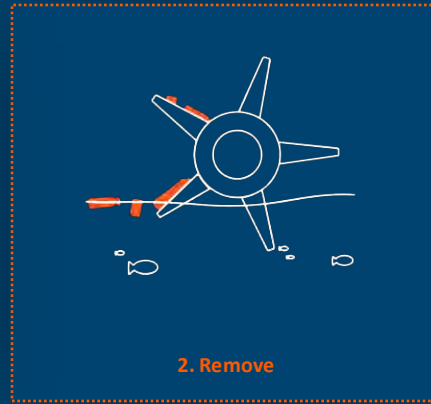


NORIA
SUSTAINABLE
INNOVATORS

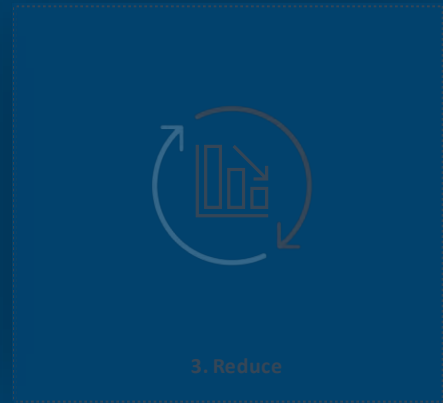
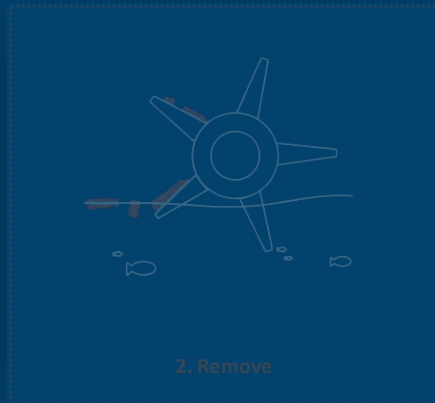
3R-method

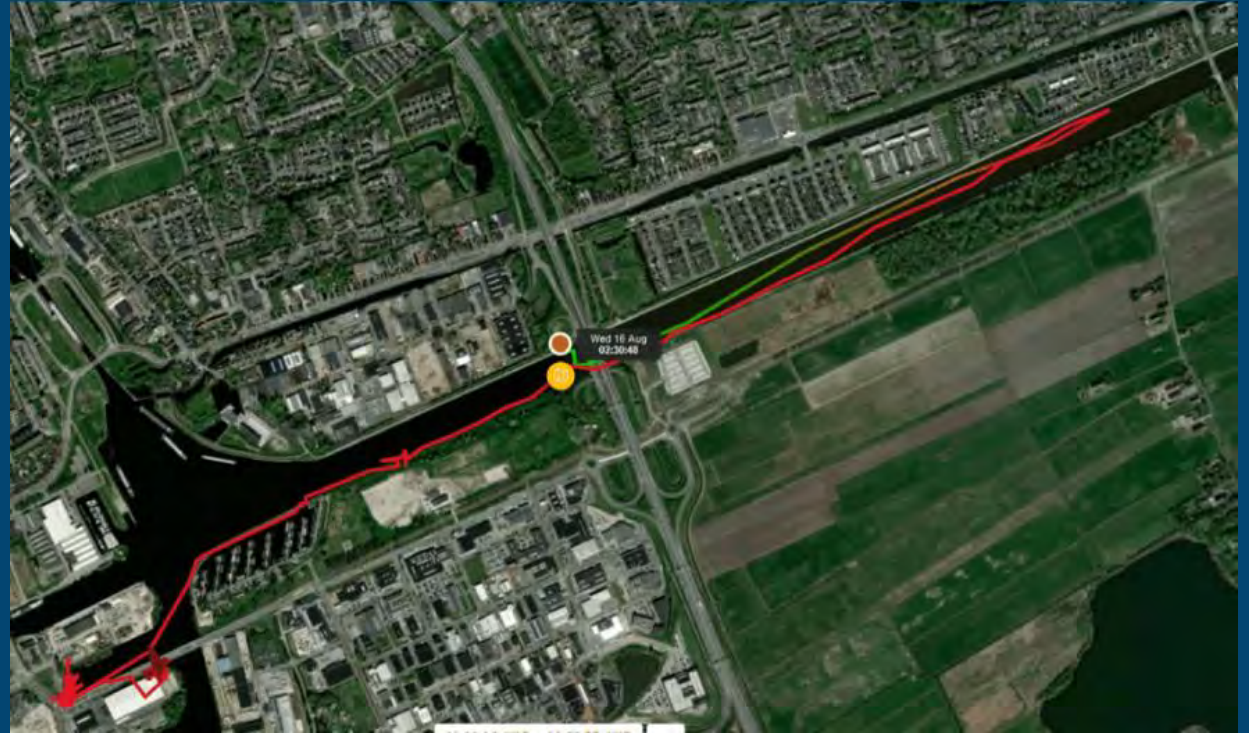
Mini symposium Smart en Circulair in de regio

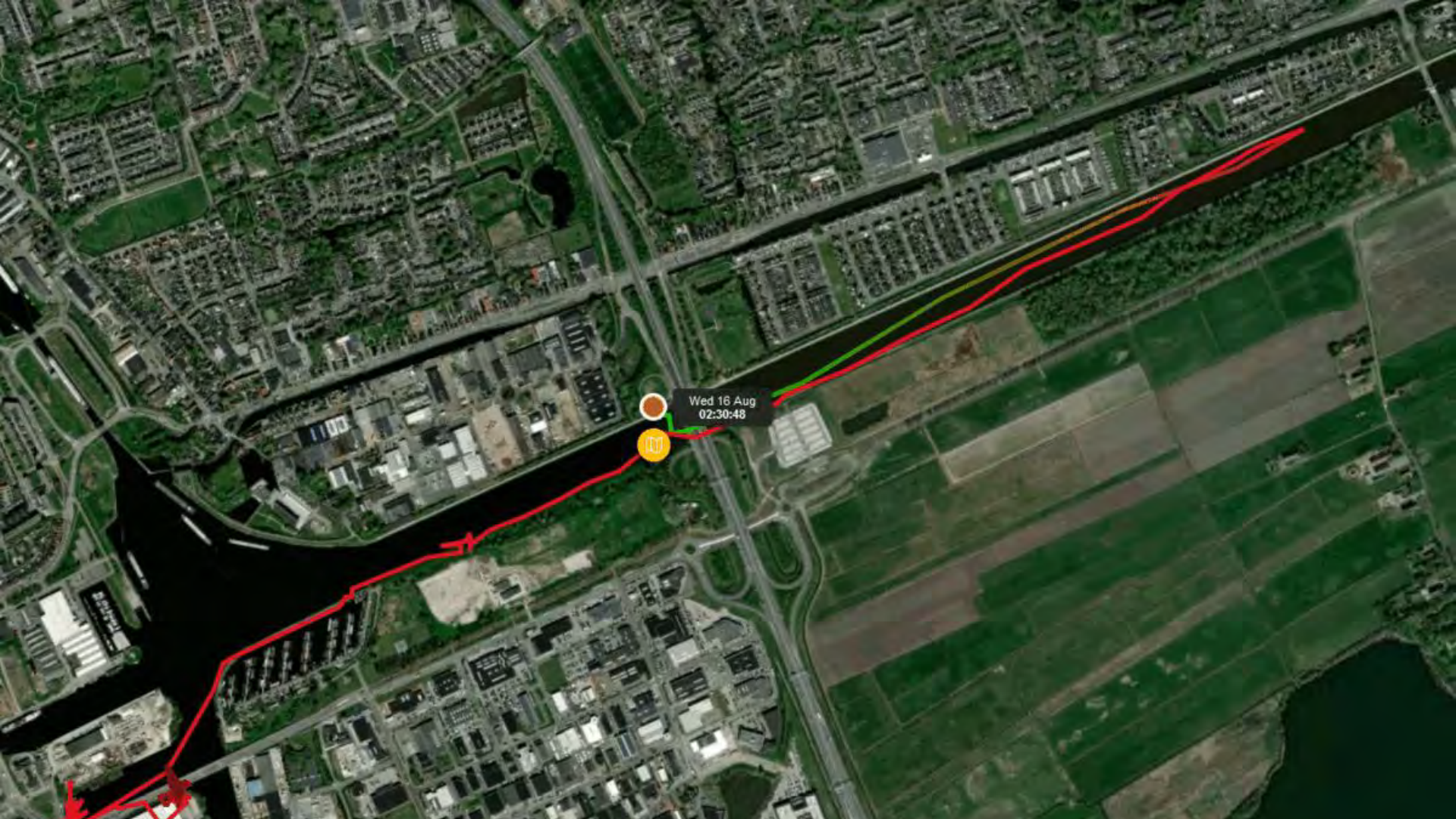
3R method - A sustainable approach for plastic-free water



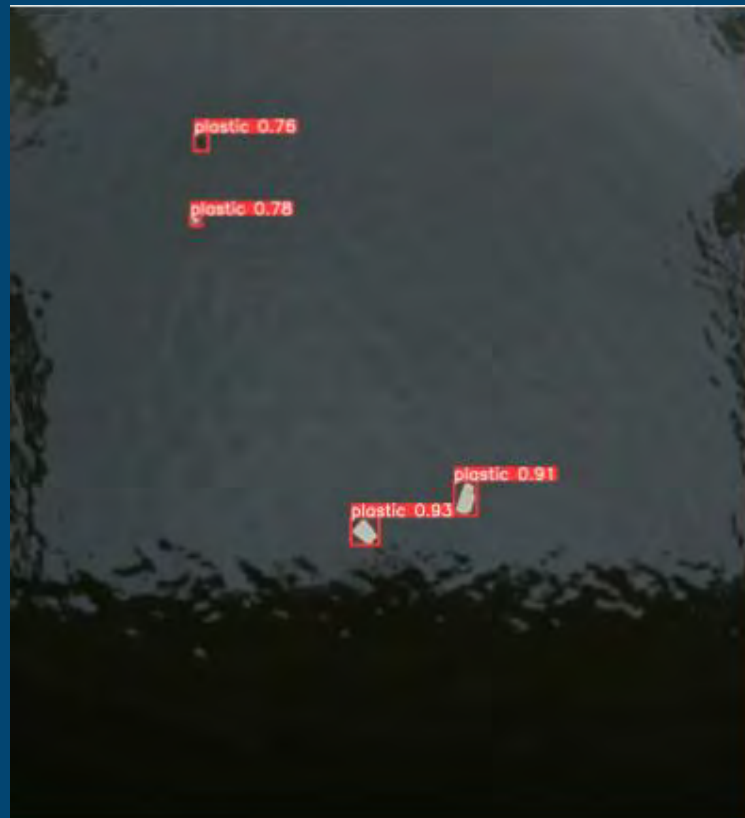
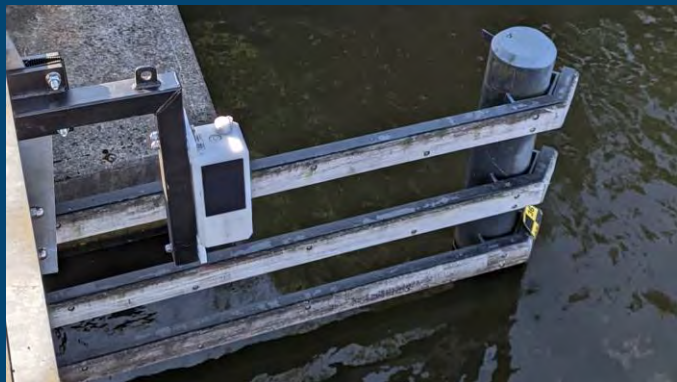
Research - To solve a problem, you must first understand the problem



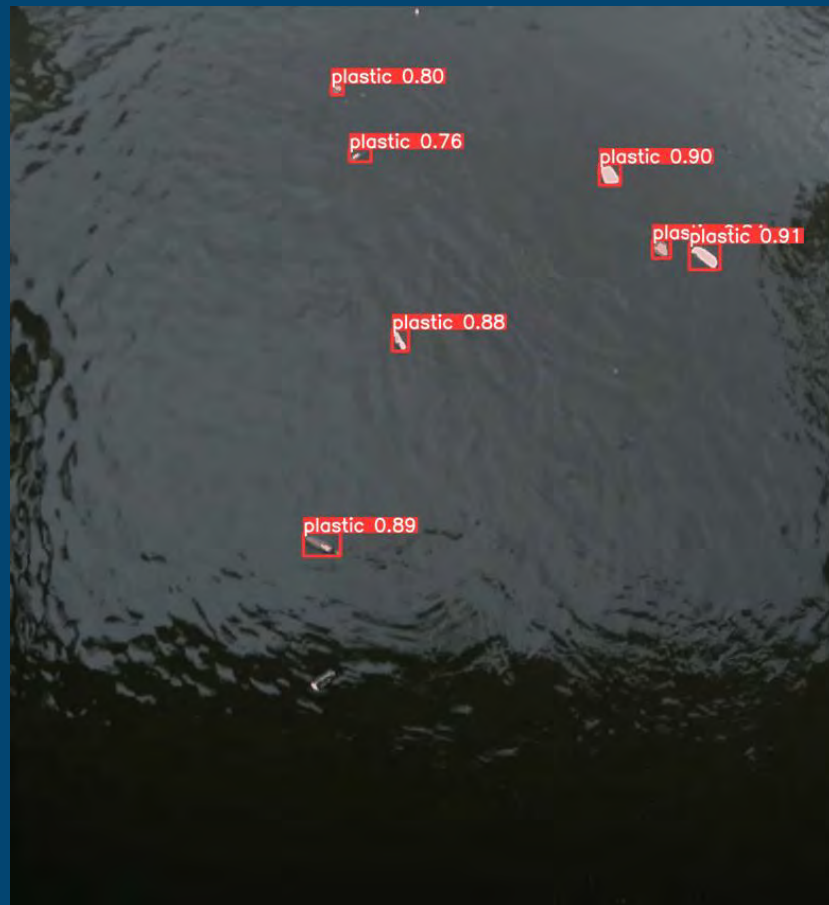




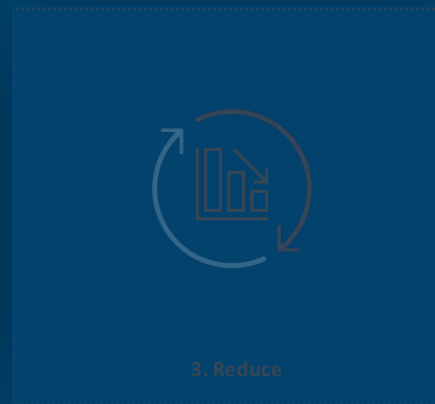
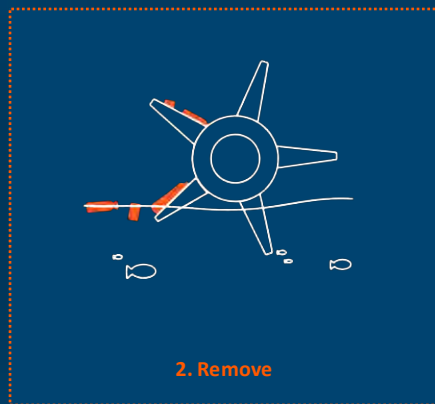
Wed 16 Aug
02:30:48



Floating plastic detection - Camera & AI



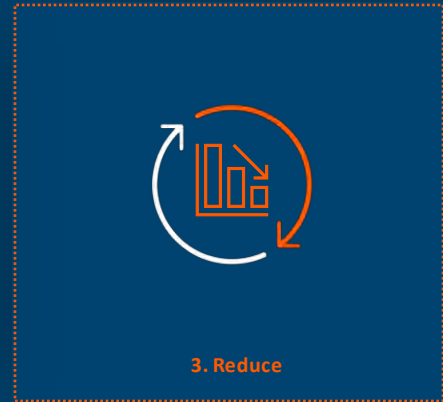
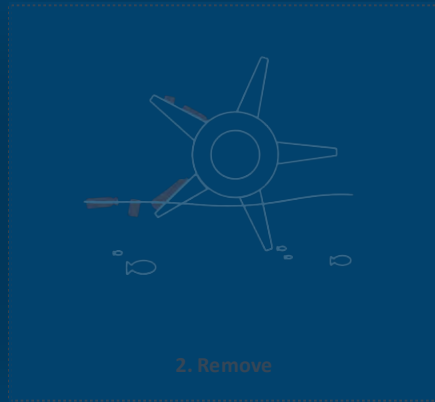
Remove – Sustainable and fish-friendly solutions to remove plastic from water



Remove



Reduce - With insight, a very targeted preventive approach to turn off the tap



Reduce



5:food_wrapping



4:food_wrapping



1:food_wrapping

9:cigarette_butts



7:cigarette_butts



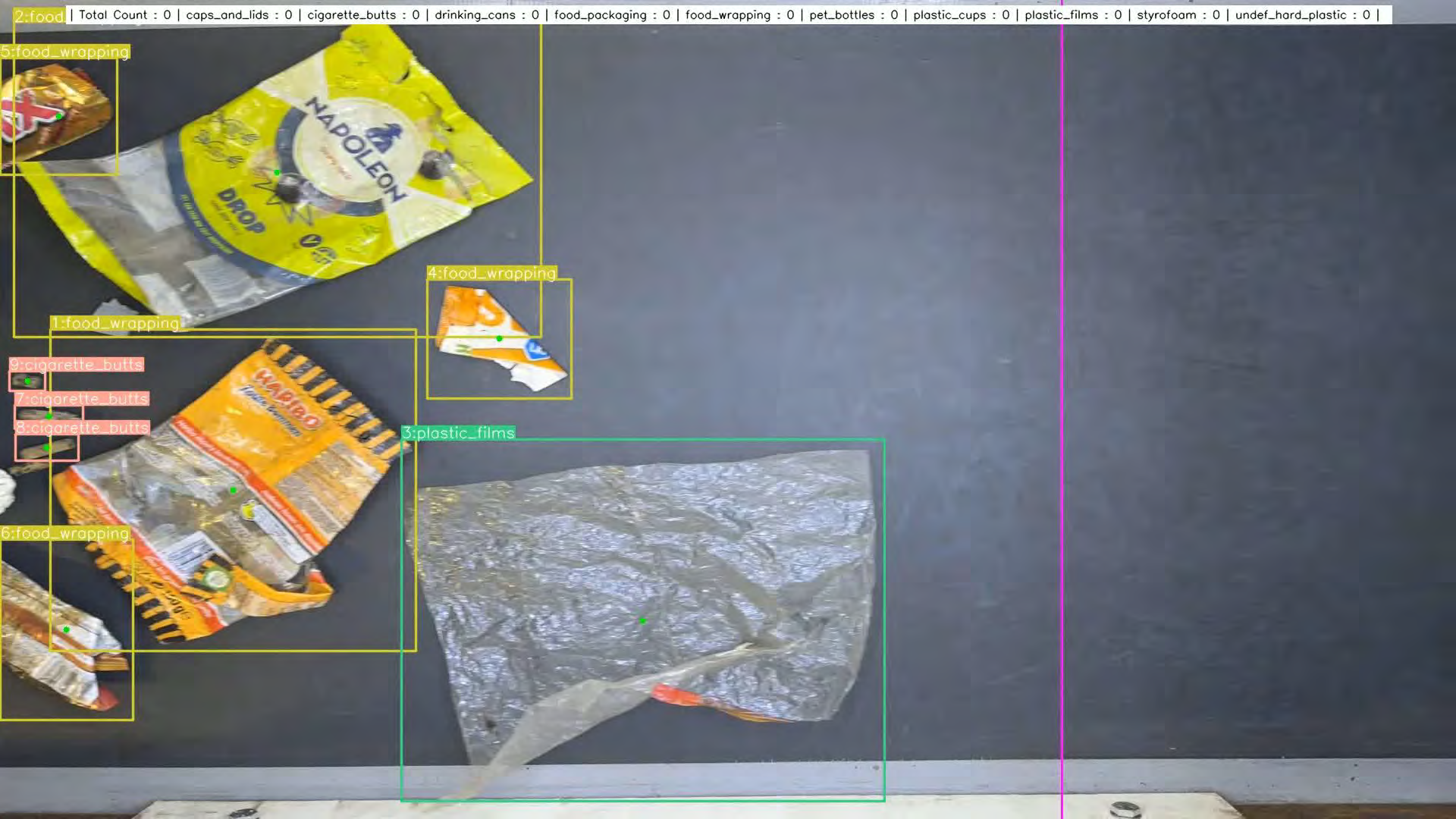
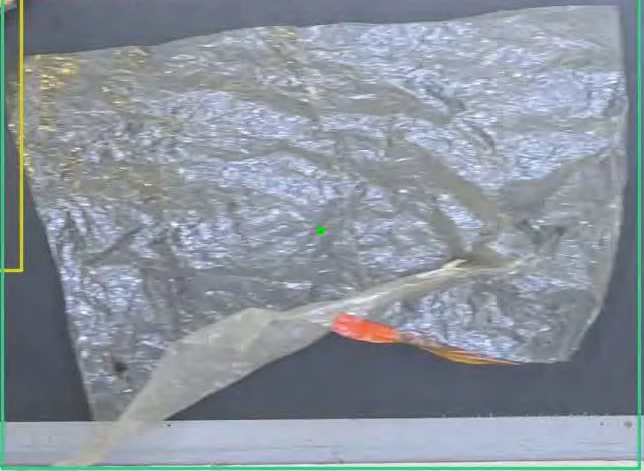
8:cigarette_butts



6:food_wrapping



3:plastic_films





NORIA
SUSTAINABLE
INNOVATORS

Stop plastic van Stad naar Wad

Mini symposium Smart en Circulair in de regio





NORIA
SUSTAINABLE
INNOVATORS

Cooperation in Noord-Nederland

Mini symposium Smart en Circulair in de regio



15-02-2024 | JEROEN DUIJGHUISEN
CEO BARIL COATINGS



New business location Heerenveen





Our wide range of services



ICT PURCHASE & DISTRIBUTION



ICT REMARKETING & TRADING



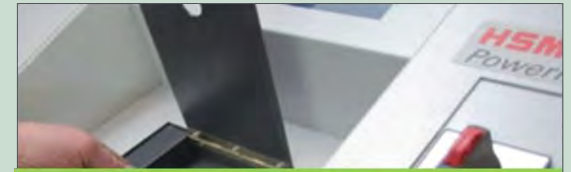
ICT DONATION



ICT REPAIR



E-WASTE RECYCLING



CERTIFIED DATA ERASURE



GOVERNMENT



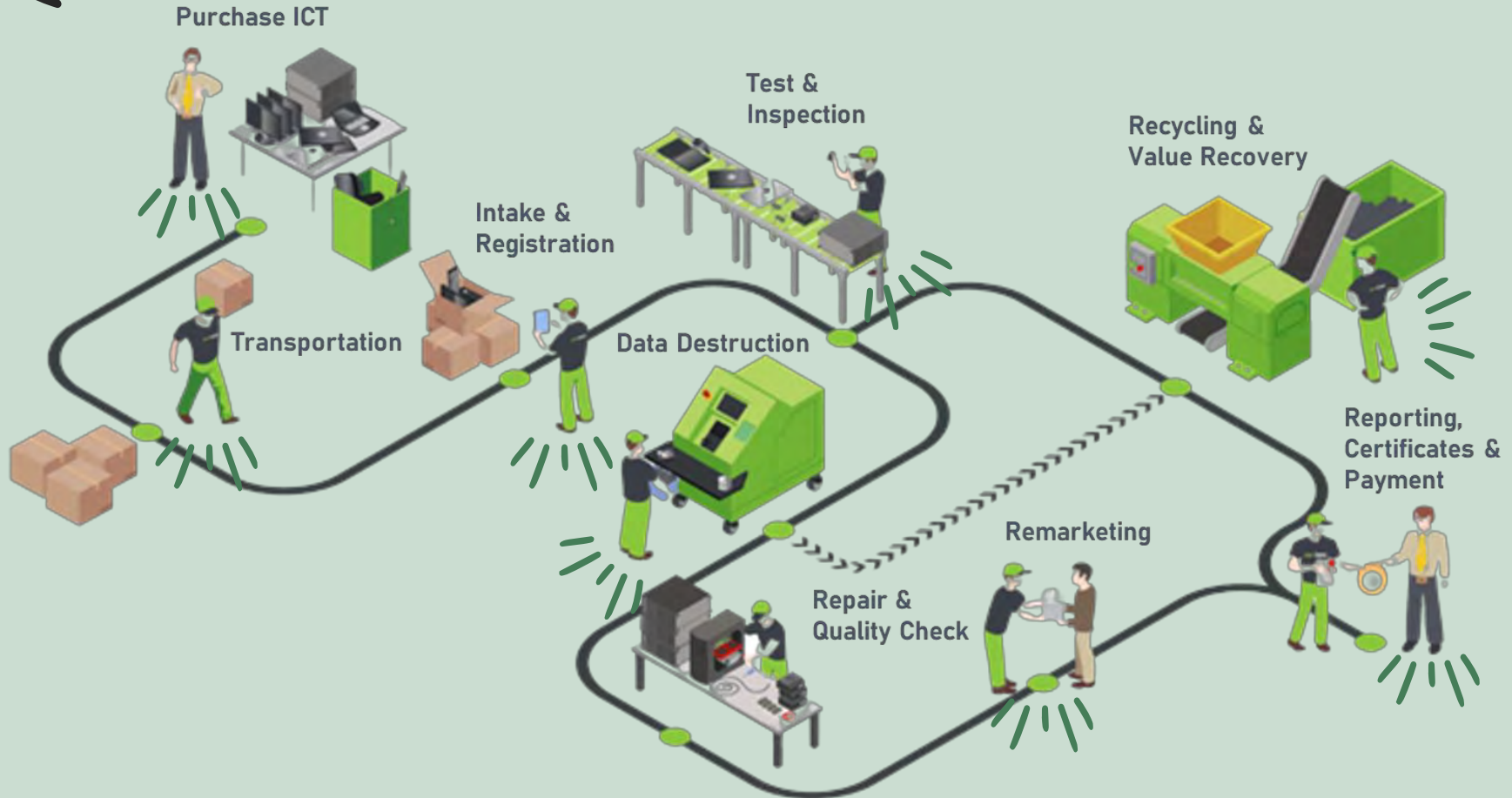
SOCIAL



EDUCATION



Certified process

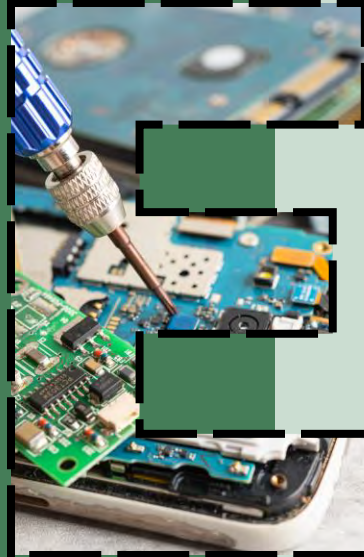




Reuse or Recycle?



Electronic Waste



* WHY GREEN DIGITAL?

Circular Economy 2050

* ONE OF THE FASTEST
growing waste streams in EU.*

* LESS THAN 40%
of E-waste is recycled in EU.*

* OUR MISSION:

To halt the plundering of our Earth's resources by collecting, processing and recycling ICT materials for reuse.

VALUE CREATION

Elevating value of:

- Products
- Components
- Residual materials



<https://www.rvo.nl/onderwerpen/r-ladder>

Currently

Situation & Objectives

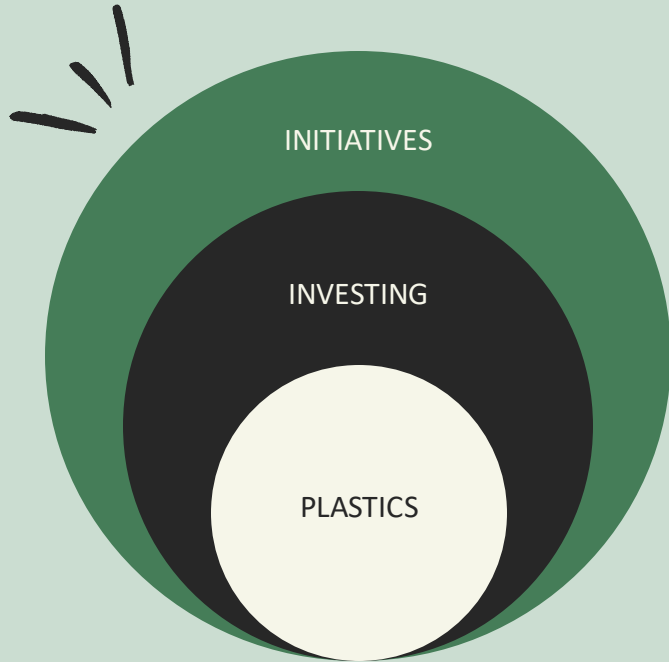
2023 - 386.000 KG COLLECTED
E-WASTE

80% REUSED E-WASTE

20% RECYCLED E-WASTE



Project Circularity



* Stimulating reuse and repair
INITIATIVES

* State-of-the-art recycling infrastructure
INVESTING

* Current project:
PLASTICS

The future



PARTNERSHIPS

Are you joining us?



MONITORING

Circular goals



TRANSPARANCY

Effective communication

Thank you for
your time!

You can contact us
using the following:

WWW.GREENDIGITAL.NL

INFO@GREENDIGITAL.NL

+31 (0) 513201220





**THE EARTH DOES
NOT BELONG TO US**

**WE BELONG TO
THE EARTH**



Chief Seattle

**WHY DO WE
ACTUALLY WANT
A SUSTAINABLE
WORLD?**



02-08-2023

EARTH OVERSHOOT DAY

**1.7 TIMES THE
EARTH REQUIRED**

**EARTH OVERSHOOT DAY
MARKS THE DATE WHEN
HUMANITY HAS USED ALL
THE BIOLOGICAL RESOURCES
GENERATED BY THE EARTH
THROUGHOUT THE YEAR.**



12-04-2023

DUTCH OVERSHOOT DAY

**WE WOULD NEED 3.6 TIMES
THE EARTH IF EVERYONE
LIVED LIKE THE PEOPLE IN
THE NETHERLANDS**



**SHOULD WE AIM
FOR COMPLETE
SUSTAINABILITY
OR EXPLOIT
RESOURCES NOW?**



+2°C

THE URGENCY OF SUSTAINABILITY





**GREEN CHEMISTRY
FOR A SUSTAINABLE
FUTURE**



BARIL

IT'S
BARIL

BARIL COATINGS IN NUMBERS

4 mln
litres
paint

23 mln
euros
turnover

41 years
in business

80
colleagues

1374
solar
panels

20
distribution
countries

2
production
locations

**MISSION**

- > HIGH QUALITY PAINT AND COATING
- > MAXIMUM PROTECTION
- > LESS ENVIRONMENTAL IMPACT

BARIL 2030**100% RENEWABLE****GOALS**

- > 100% BIOBASED BINDER AND SOLVENT
- > 100% RECYCLED MINERALS
- > 100% HIGH QUALITY PROTECTIVE COATINGS (C1-CX)
- > ONLY POSITIVE ENVIRONMENTAL IMPACT

UNITED NATIONS

SUSTAINABLE DEVELOPMENT GOALS



TO ACHIEVE MORE WITH LESS
BY IMPROVING DURABILITY OF
PAINT SYSTEMS



RENEWABLE ENERGY
SOLAR PANELS, CERTIFIED WIND
ENERGY AND FULL ELECTRICAL CARS



LABOUR FRIENDLY WORKING
ENVIRONMENT AND PROGRESSIVE
REWARDING



BARIL ACADEMY
TRAINING OF BOTH INTERNAL
AND EXTERNAL CUSTOMERS



LOW EMISSION PRODUCTS (A+)
LOW EMISSION PRODUCTION (IONISATION)
USE OF RENEWABLE RAW MATERIALS



BIOBASED RAW MATERIALS
AS A BASIS FOR OUR COATINGS,
ACTIVATORS AND THINNERS

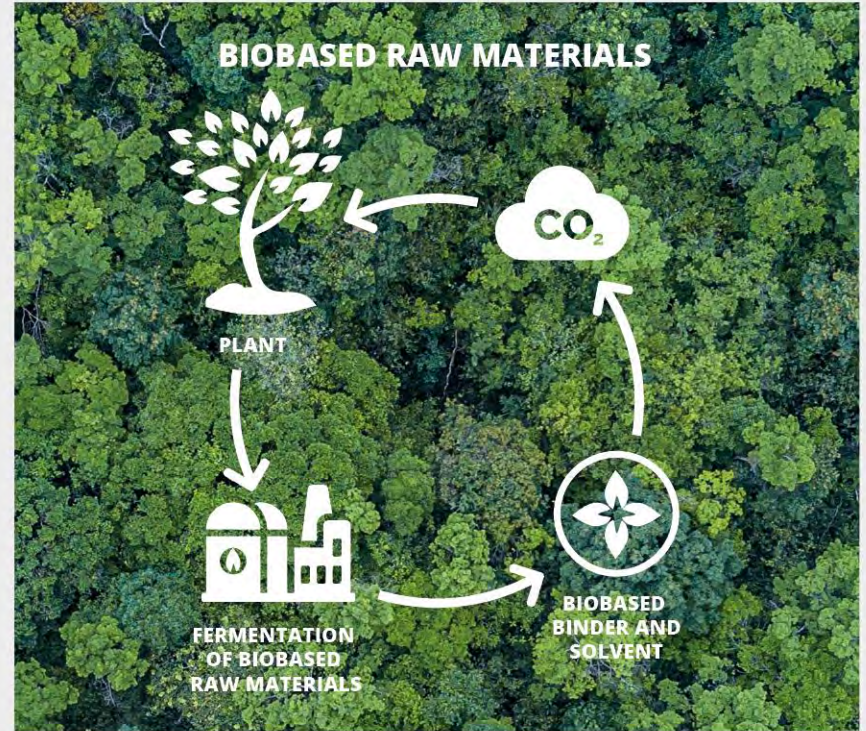
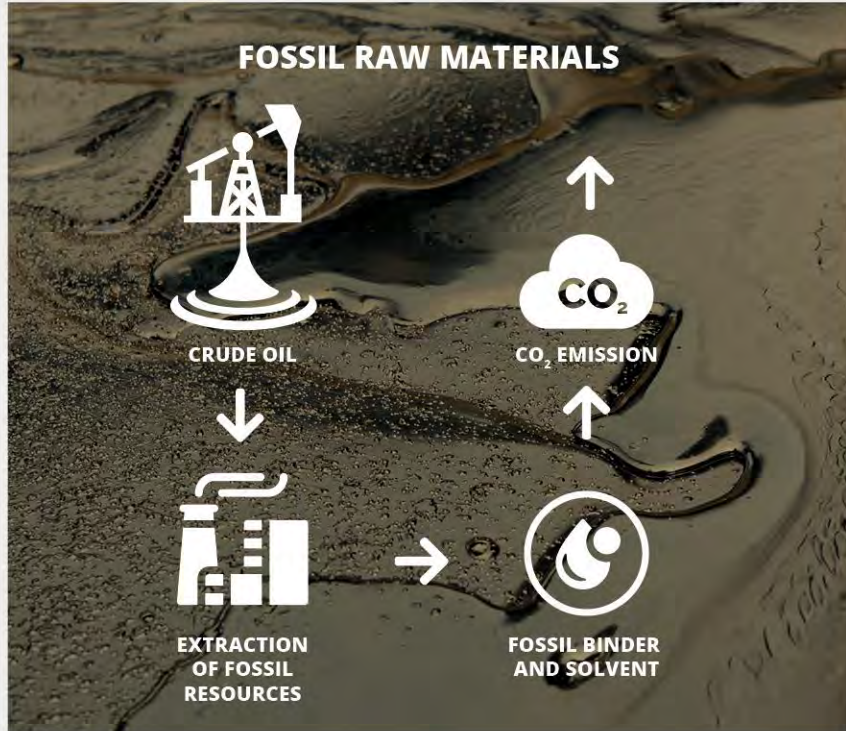


REFORMULATION TO PREVENT USE
OF TOXIC INGREDIENTS AND EXTREME
REDUCED USE OF PLASTIC PACKAGING



COLLABORATION WITH PARTNERS
ACROSS THE CHAIN.

THE POWER OF PAINT TRANSITION FROM FOSSIL TO RENEWABLE RESOURCES



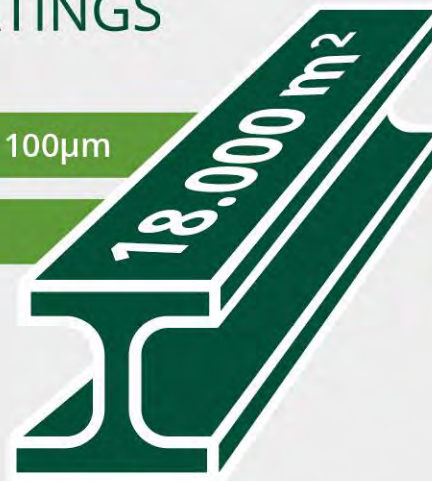
SUSTAINABILITY IN PRACTICE PLANTBASED PAINT FOR BUILDINGS



CO₂-FIXATION OF A STEEL CONSTRUCTION

BIOBASED COATINGS

C1-C2	803BIO SteelKote EP AC+	100µm
6,8 M ² /L	6.000 LITRE COATING	



FIXATION

± 6.600 KG

1,1 KG CO₂/L



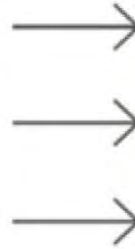
SIMILAR TO
THE EMISSIONS OF
DRIVING AROUND THE EARTH
IN A DIESEL CAR (40,000 KM)

TRUE VALUE

ECONOMY OF THE COMMON GOOD (ECG)

GROSS DOMESTIC PRODUCT

COMMON GOOD PRODUCT



Economy



Society



Environment

THE RIPPLE EFFECT

**STEPS TOWARDS
A SUSTAINABLE
FUTURE**





THANKS FOR THE ATTENTION!



ECGIC24 - Expedition Sustainable Future

Mini Symposium Smart & Circulair
in the Region

15-02-2024

EXCELLEREN IN INNOVEREN VOOR DUURZAAM SUCCES

YNOVA INNOVATION | INFO@YNOVA.NL | +31 651 340 737



Jacqueline Hofstede

Common Good Entrepreneur and mother

Founder Ynova Innovation Platform | Lean Innovation Network

Expert in Lean, Smart, Sustainable, Circulair & Common Good

Co-author - 'Dealen met de Green Deal'

Connected to (inter)national networks

- Partnerships for the Sustainable Development Goals
- Area Coöperation The North of the Netherlands
- Economy for the Common Good
- WeALL – Wellbeing Alliance
- Weconomics Foundation





We live in a change of era

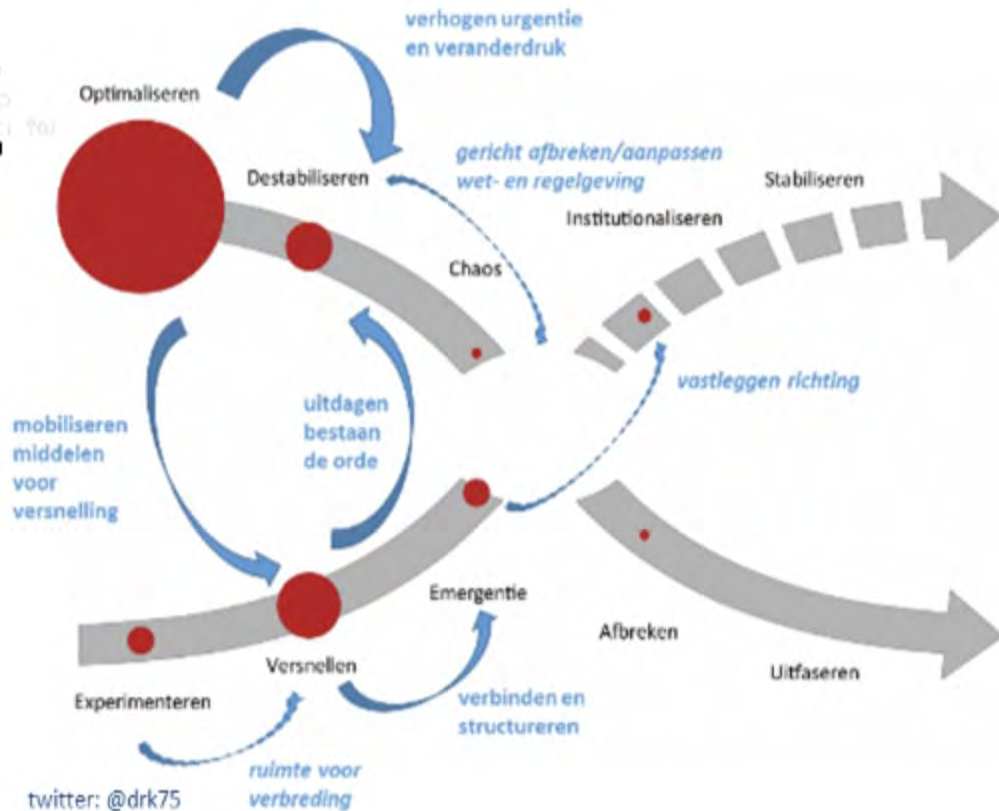
Book 'Omarm de chaos' 'Embrace Chaos' – Prof. Jan Rotmans

10 system transitions

1. Energy transition
2. Digital transformation and artificial intelligence
3. From linear to circular business models (pay for use)
4. Agricultural and food
5. Spatial
- 6. Financial and economic transition – Beyond GDP**
7. Education
8. Healthcare and cure
9. Social
10. Democratic



drift for transition



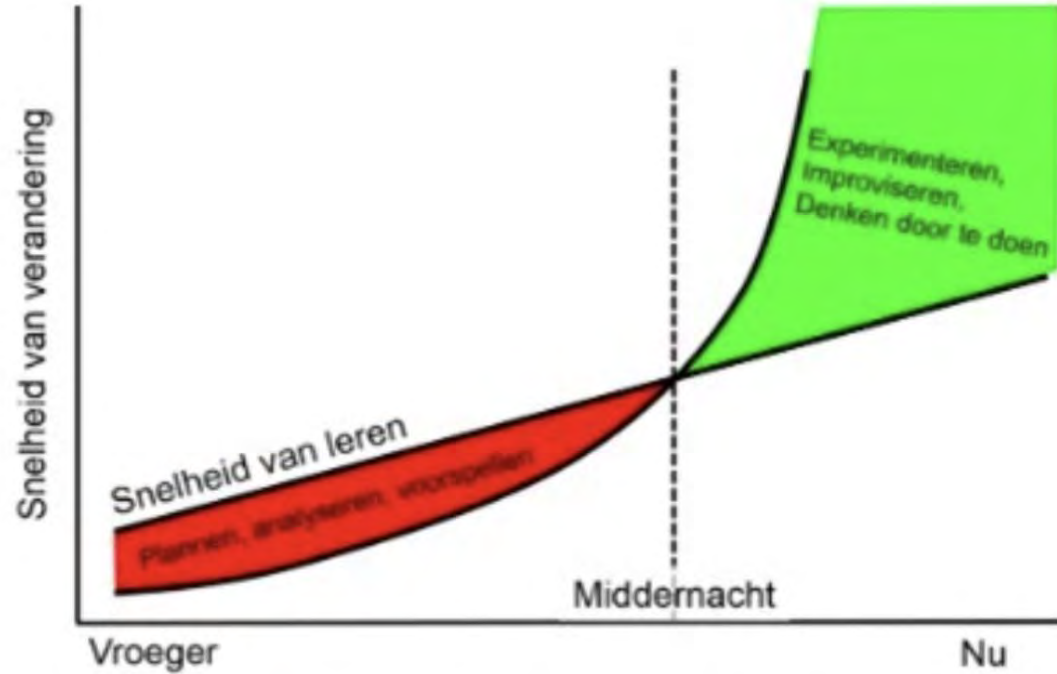
EXCELLEREN IN INNOVEREN VOOR DUURZAAM SUCCES

YNOVA INNOVATION | INFO@YNOVA.NL | +31 651 340 737



After Midnight

Experimenteren, improviseren, denken door te doen







HOW TO TRANSFORM?

- Broad Prosperity – Brede Welvaart – Beyond GDP
- Circular Economy
- Economy for the Common Good
- True Cost, True Price
- Doughnut Economy
- Degrowth, Postgrowth
- Well Being Economy | The Commons



Common Good Matrix

The Common Good Matrix lies at the heart of the Common Good Balance Sheet. Version 5.0 can be seen below.

VALUE	HUMAN DIGNITY	SOLIDARITY AND SOCIAL JUSTICE	ENVIRONMENTAL SUSTAINABILITY	TRANSPARENCY AND CO-DETERMINATION
STAKEHOLDER				
A: SUPPLIERS	A1 Human dignity in the supply chain	A2 Solidarity and social justice in the supply chain	A3 Environmental sustainability in the supply chain	A4 Transparency and co-determination in the supply chain
B: OWNERS, EQUITY- AND FINANCIAL SERVICE PROVIDERS	B1 Ethical position in relation to financial resources	B2 Social position in relation to financial resources	B3 Use of funds in relation to the environment	B4 Ownership and co-determination
C: EMPLOYEES	C1 Human dignity in the workplace and working environment	C2 Self-determined working arrangements	C3 Environmentally friendly behaviour of staff	C4 Co-determination and transparency within the organisation
D: CUSTOMERS AND BUSINESS PARTNERS	D1 Ethical customer relations	D2 Cooperation and solidarity with other companies	D3 Impact on the environment of the use and disposal of products and services	D4 Customer participation and product transparency
E: SOCIAL ENVIRONMENT	E1 Purpose of products and services and their effects on society	E2 Contribution to the community	E3 Reduction of environmental impact	E4 Social co-determination and transparency

II ECONOMY FOR THE COMMON GOOD INTERNATIONAL CONFERENCE 2022 (ECGIC 2022)

«Connecting Sustainability Organizational
Models with SDGs»

9, 10 and 11, March 2022

VNIVERSITAT
D VALÈNCIA

(%) Facultat
d'Economia

 CÀTEDRA EBC
ECONOMIA DEL BE COMÚ
GENERALITAT VALENCIANA VNIVERSITAT
D VALÈNCIA

ECONOMY 
FOR THE COMMON GOOD

 caixa
popular

 GENERALITAT
VALENCIANA
Conselleria d'Economia
Sostenible, Sectors Productius,
Comerç i Treball



ECGIC24

Converging Future-fit Economic Models;

Advancing Just and Sustainable Regions

3, 4, 5 June 2024 – Leeuwarden

- Wetsus
- NHL Stenden
- Hanzehogeschool
- Rijksuniversiteit Groningen
- Economy for the Common Good | Nederland | International



ECGIC 2024

[News](#)[Registration](#)[Submission](#)[Program](#) ▼[About ECGIC 2024](#) ▼[Venue](#) ▼[Contact](#)

III Economy for The Common Good International Conference

Converging Future-Fit Economic Models: Advancing Just and Sustainable Regions

June 3-5

Leeuwarden, Fryslân, The Netherlands

108

Days

22

Hours

18

Minutes

35

Seconds



Day 1 - Science



Day 2 - Practice



Day 3 - Convergence



We need

New narratives (stories)

New metaphors

A common language

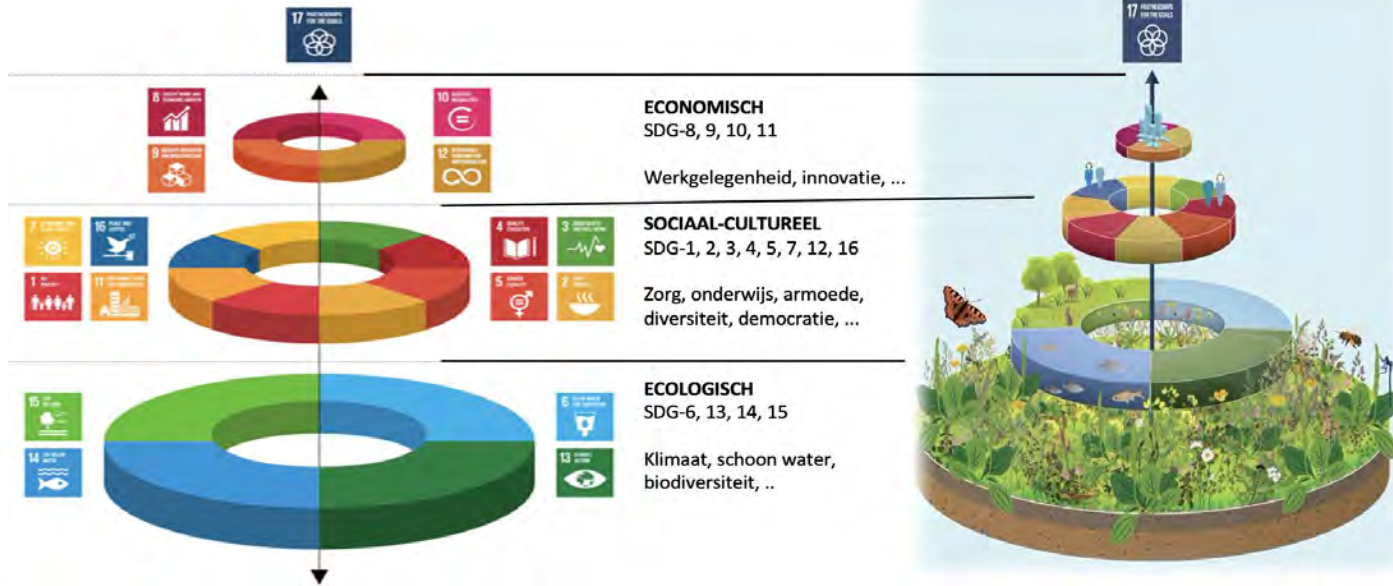
New cooperation in ecosystems





Sustainable Development Goals

2030



EXCELLEREN IN INNOVEREN VOOR DUURZAAM SUCCES



Expedition Sustainable Future

- 1962 - Silent Spring (pesticides)
- 1972 - Club of Rome (Limits to growth; a global challenge)
- 1987 - Brundtland-rapport (Our common future)
- 1988 - IPCC (Intergovernmental Panel on Climate Change)
- 2015 - The Paris Agreement - maximum 2 degrees Celsius (better 1,5)
- 2023 - EU Green Deal, CSR, ESG and more

- 15-02-24 Smart & Circular in the Region (Drachten)
- 11-04-24 Pre-conference - ECG - The North of the Netherlands**
- 26-03-24 Wellbeing Alliance Nederland, WWW en Plekmakers
- 11-04-24 Future Regions Program
- 16-05-24 Strengthen Democracy
- 3,4,5-06-24 ECGIC24 – Leeuwarden**
- 10-10-24 Post-conference ECG Amsterdam – Building Better Business
- 20-03-25 Post-conference ECG The Hague – City of Peace and Justice
- 06-2025 Smart & Circular in the Region

A stack of five large, light-colored rocks balanced precariously on top of each other against a blue sky with white clouds. The rocks are stacked vertically, with the top rock being the most horizontal and the bottom rock being the most vertical. The sky is a vibrant blue with scattered white clouds. The rocks are light brown or tan in color and have a rough, textured surface. The overall scene is a metaphor for balance and stability.

Will you join us?



Meer informatie

<https://www.wetsus.nl/ecgic-2024/>

Jacqueline Hofstede 0651340737
j.hofstede@ynova.nl
www.ynova.eu



Closeby or not?