



**B4PLASTICS**

# BioBased Building Blocks (B4)

## *Design and upscale of custom-made eco-plastics*

Stefaan De Wildeman

GreenWin International Conferences, May 8th - 9th, Gosselies, Belgium



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# Trends in plastic products

Raw materials **shift** to green



**Greener** products asked by the market

Opportunities for extra/different **functionalities**

**Legislation**

**Customer awareness**



# The Status Quo is this... Any longer acceptable?



We aim at the heart of the Trash Planet Problem:  
the chemical re-design of polymers developed in the 20th century

# Microplastics



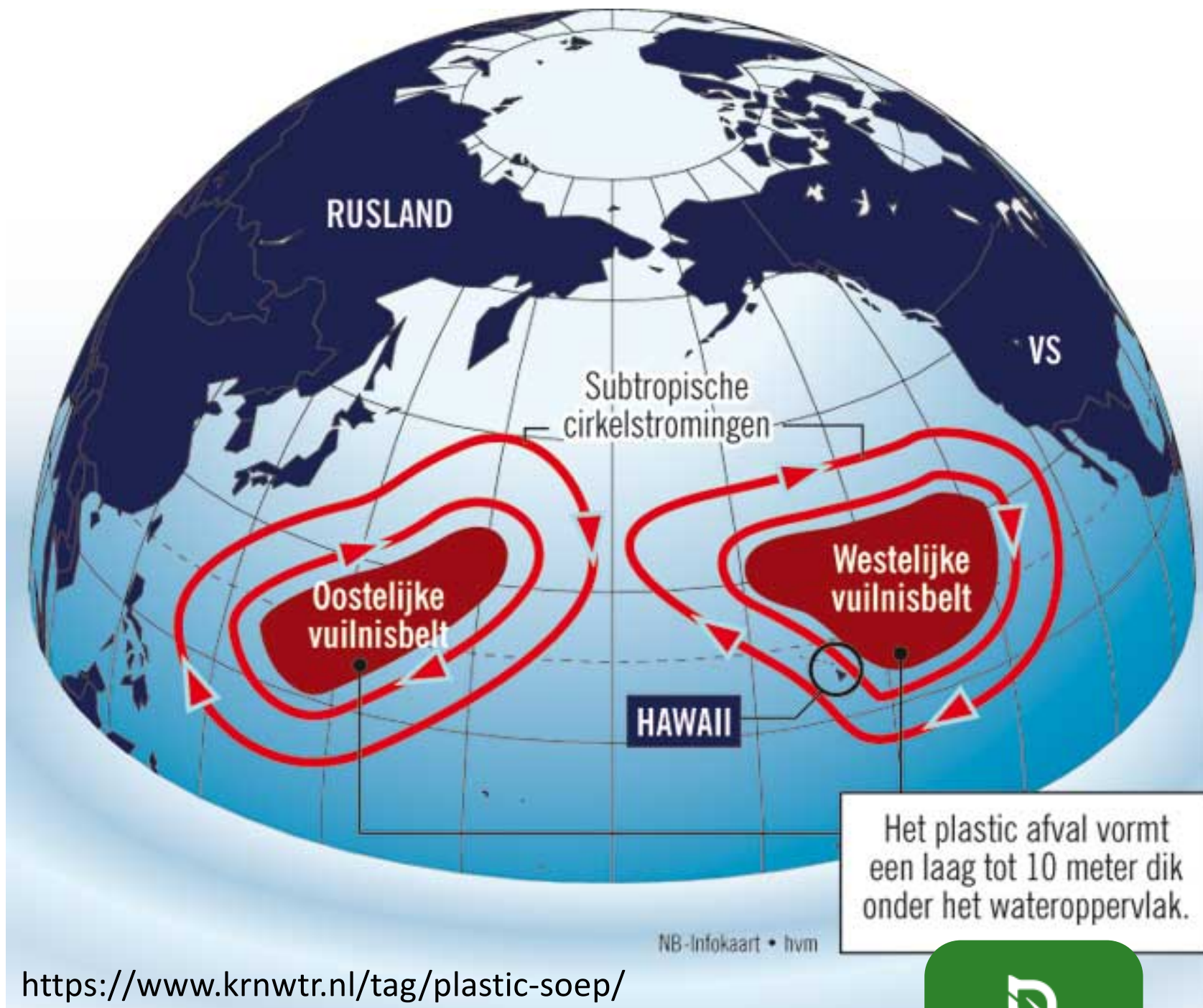
**RISE ABOVE  
PLASTICS.**

FIND OUT HOW YOU CAN HELP TURN THE TIDE ON  
PLASTIC POLLUTION AT [WWW.SURFRIDER.ORG/RAP](http://WWW.SURFRIDER.ORG/RAP)

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<https://www.krnwtr.nl/tag/plastic-soep/>



It is fossil...



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...and it comes from far



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## Who explains the logic...

*... of sticking to our current set of fossil building blocks,*

*while completely switching our resources from fossil to renewable ?*



## In other words...

*...are the blocks that contribute to ultimate sustainability,  
per definition those that arose  
from a non-sustainable era ?*

*(Stefaan De Wildeman, DSM, December 2012)*



# “The New Plastics Economy”

Ellen McArthur Foundation – Report January 2016

## FOREWORD

H. E. Mogens Lykketoft

President of the UN General Assembly for the 70th session

**We live in a defining moment in history – a moment where the international community has come together to agree on an ambitious framework to resolve some of the world’s most daunting challenges.**



# “The New Plastics Economy”

Ellen McArthur Foundation – Report January 2016

**There are many innovation and improvement efforts that show potential, but to date these have proved to be too fragmented and uncoordinated to have impact at scale.** Today's plastics economy is highly fragmented. The lack of standards and coordination across the value chain has allowed a proliferation of materials, formats, labelling, collection schemes, and sorting and reprocessing systems, which collectively hamper the development of effective markets. Innovation is also fragmented. The development and introduction of new packaging materials and formats across global supply and distribution chains is happening far faster than and is largely disconnected from the development and deployment of corresponding after-use systems and infrastructure. At the same time, hundreds, if not thousands, of small-scale local initiatives are launched each year, focused on areas such as improving collection schemes and installing new sorting and reprocessing technologies. Other issues, such as the fragmented development and adoption of labelling standards, hinder public understanding and create confusion.

*Fragmented*

*Disconnected*

*Small-scale local initiatives*

*Hindered public understanding*

*Confusion*



**We present...**



**B4PLASTICS**

# Vision

*Plastics as they exist today,  
are under pressure.*

*Their resources, their production processes,  
their current way of use, and their after-life,  
ask for incremental to radical changes.*

*Changes to a higher ecological level  
balanced with acceptable cost and functionality.*



# Mission

*We want to make it **easier** for our customers,  
partners and end-consumers*

*to change current fossil-born plastic products to  
**greener and more local** alternatives*

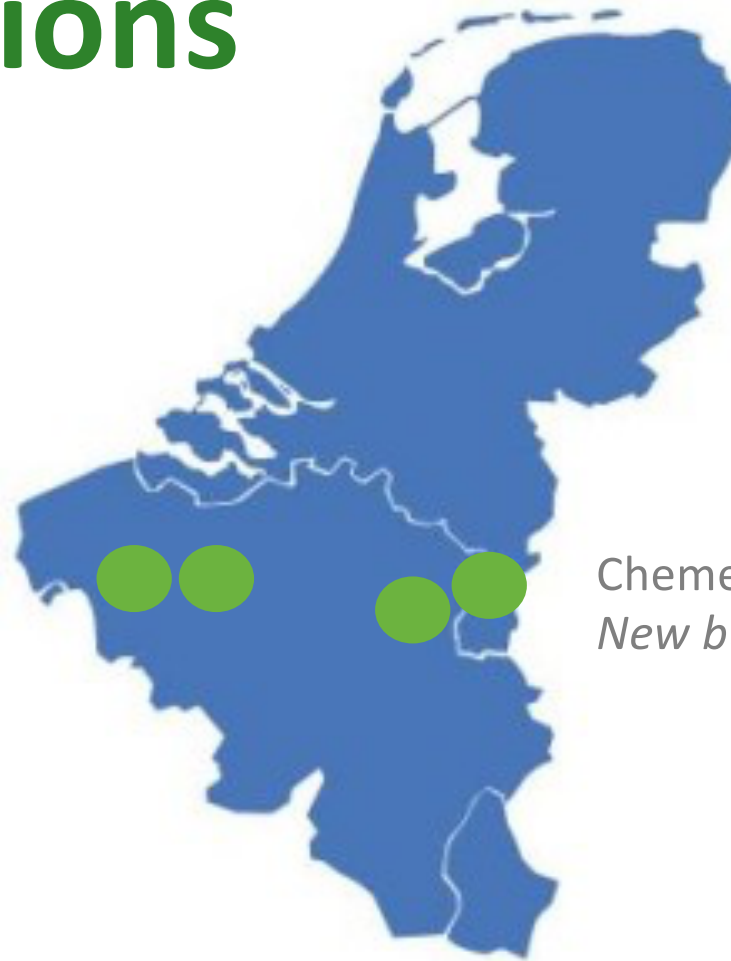
*thereby gearing up their **relationship** with  
everyday plastics to a higher ecological level*



# Our locations

Biobase Europe – Ghent (B)  
*Biochemical*

VKC/partners – Kortrijk (B)  
*Plastics processing*



Chemelot – Geleen (NL)  
*New building blocks & backbones*

B4plastics – Maasmechelen (B)  
*Central coordination and logistics*





# B4plastics is different



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# B4plastics is different

*“bio-based building blocks”*



- ***Established or novel chemicals – optimized for local and renewable sourcing***
- **Fine chemical R&D and partnering**
- **Modeling “winning bio-based building blocks”**



# B4plastics is different

**NEW BACKBONE**



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# B4plastics is different

## **NEW** BACKBONE

- Novel backbones leading to new (combinations of) functionalities
- Polymer R&D and partnering



# Our innovation funds

**VIPRISCAR** (8 partners, BioBased Industries, EU) 2018-2021

New IS building blocks incorporated in novel materials

“This project has received funding from the Bio Based Industries Joint Undertaking (JU) under the European Union’s Horizon 2020 research and innovation programme under grant agreement No 790440. The JU receives support from the European Union’s Horizon 2020 research and innovation programme and the Bio Based Industries Consortium.”.



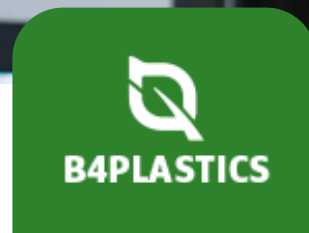
**TriggerPlastics** (2 partners in Benelux, EU) 2017-2018

Development, prototyping and pilot production of designed plastic backbones for triggered functionalities



# Our messages to the world

*Founder speaks at TEDx Maastricht 2017*



PHOTOSTIQUE

# Our Products & Services



**B4PLASTICS**

Reduce. Refuse. Rethink.

START OUTDOOR

**New**  
improved product

*think biodegradable*

# ECOTRIM®

## Biodegradable mower trimming line

Mineralizes 100 times  
faster than conventional  
trimming lines



The only one without  
colorants or toxic additives  
such as oxodegradables



Wear and tear resistant  
when used on stone,  
bricks and concrete



### The most ecological trimming line? Ecotrim®!

Ecotrim® sets new standards in mower trimming lines: it is the best balance between mowing efficiency and ecology in the market today without use of any oxodegradables. Ecotrim® kicks in where classical metal knives do not work: precision mowing close to stones, metal or wood. A square profile further improves mowing efficiency. Avoid woody herbs or trees.

  
**100%**  
degradable

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Made in Belgium



# B2C

## Ecotrim® 3.0

**strongest trimming line  
in the market with  
tunable degradation  
(performance tunable  
per region)**



Reduce. Refuse. Rethink.

START IN YOUR OFFICE

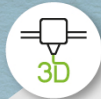
**New**

*think compostable*

# COMPOST3D®

**Home compostable 3D filament**

World-best balance  
between printing comfort  
and eco-friendliness



Calculate the afterlife  
compost time of your  
prints before they exist



Natural silk-look  
radiating ecological  
softness and glamour



The world-best  
ecological 3D filament?  
Compost3d®, naturally!

Compost3d® leads the 3D printing world to the next eco dimension: the fibrous material is dominantly made from natural resources and is 100% compostable in your own garden! Based on the printing software, you can now calculate the time to compost your prints. Compost3d® lets you drive your own end-of-life race of all your printing projects, even before you realized them. A revolutionary step to tomorrow's sustainable world.



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# B2C

## COMPOST3D® 1.0

**First plastic product in the market with IT-supported service package  
*(end-of-life simulation before use)***

Reduce. Refuse. Rethink.

START WITH  
TABLE & DINNERWARE

**New**

*think compostable*  
**BIORIX**  
Biodegradable straws

**Compostable**  
Completely mineralizes  
in your home compost



**Practical**  
The straw that escapes  
much less from the flask



**Smallest footprint**  
The only one produced  
in Belgium instead of Asia



**Biorix, the ecological  
straw that is ours**

Biorix straws are not made from conventional plastics, but are the first ones tuned to become optimally compostable. Throw them in the compost bin, and you see them mineralize into resources that can start a new cycle on earth. Even the ones that would end up beside the bin, are not any longer contributing to microplastics in the environment. Did you know that Biorix is the only straw that is produced in Belgium, in stead of Asia? Best suited for cold drinks.

**100%**  
degradable

 **B4PLASTICS.COM**

Made in Belgium



**B2C**

**BIORIX® 2.0**

**Fastest degradable bio-  
plastic drinking straw in  
the world  
*(proven home-  
compostability)***

# B2B



## **NEW BACKBONE**



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Reduce. Refuse. Rethink.



**XXX 1.0**

**NEW functional materials**

- ***Kg prototyping within 3-6 months***
- ***Upscale protocol included***
- ***Supply agreement option***

# Product portfolio

## B2B

- **Custom-made production of specialty plastics (100 ton/yr)**
- **Design and development of novel and exclusive (combinations of) functionalities**
- ***Trigger-forming or Trigger-degradable backbones***



# Our people

## H1 2019

- **Headcount**  
**6 payroll**  
***3 outsource***  
***(production, legal, sales, marketing)***
- **Highly educated/specialized**
- **Payroll diversity**  
**BE – DE – NL – UK**  
**Age 24 - 65**
- **Strong HR pipeline**



# Our offices

H1 2019 – Mobile – Circular – Made in Belgium

*Systimber  
technology*



# Outlook

## *B2B and B2C expansion*

- Novel B2C products and *plastic experiences*
- Pioneering B2B technologies via sampling/projects
- Upscale of novel materials in supply agreements
- First mover advantage / Strategic patent positions / *Eco-plastic sustainability trendsetter*
- Headcount growth
- *Media - Consumers*



An underwater photograph showing a large amount of plastic waste, including bags and fragments, floating in clear blue water. The scene is a stark representation of marine pollution.

**Reduce. Refuse. Rethink.**



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