

Green Chemistry Campus

Welcome to our Friends from Finland

D. van der Pas
Green Chemistry Campus

Green
Growth

Tekes
Rahoitusta ja asiantuntemusta




Accelerating Biobased Business



SAFETY FIRST

In case of an emergency, the following alarms can be heard:

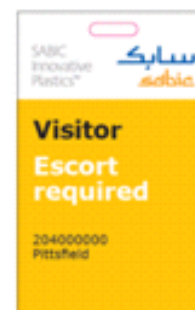
Fire: — — —
Interrupted sound
We will go to the muster location outside

Gas: 
Whooping sound
We will go to the muster location inside

Stay calm, your host will give you further instructions



- Know where the emergency exits are located
- On the stairs, holding the handrail is mandatory
- Smoking is only allowed outside of the buildings, inside the special smoke cabins
- Running or walking fast is not allowed
- Inside the plants the use of proper personal protection equipment is mandatory
- Persons with a V-badge (yellow visitor badge) have to be escorted by a SABIC employee at all times



We would like to hear from you how we can make today even safer!

Agenda

- 9.00hr : arrival at Green Chemistry Campus
- 9.00-9.30hr : registration, safety instruction and morning coffee
- 9.30-10.00hr : plenary introduction Biobased Delta & Green Chemistry Campus
- 10.00-10.30hr : plenary Biorizon introduction
- 10.30-12.00hr : break outs based on interest and matching / visit to SABIC laboratories
- 12.00-12.30hr : lunch (possible including continuation of earlier break outs)
- 12.30-13.30hr : break outs based on interest and matching
- 13.30-14.00hr : wrap up & farewell (travel to Bergen op Zoom train station)



Accelerating Biobased Business



Biobased Delta



Biobased Delta



- Based on strengths of the region
- Focus: Green feedstock, building blocks, Sustainable process industry
- Excellent geographic position and infrastructure
- Triple Helix approach
- Open Innovation
- International orientation



Cluster organisation

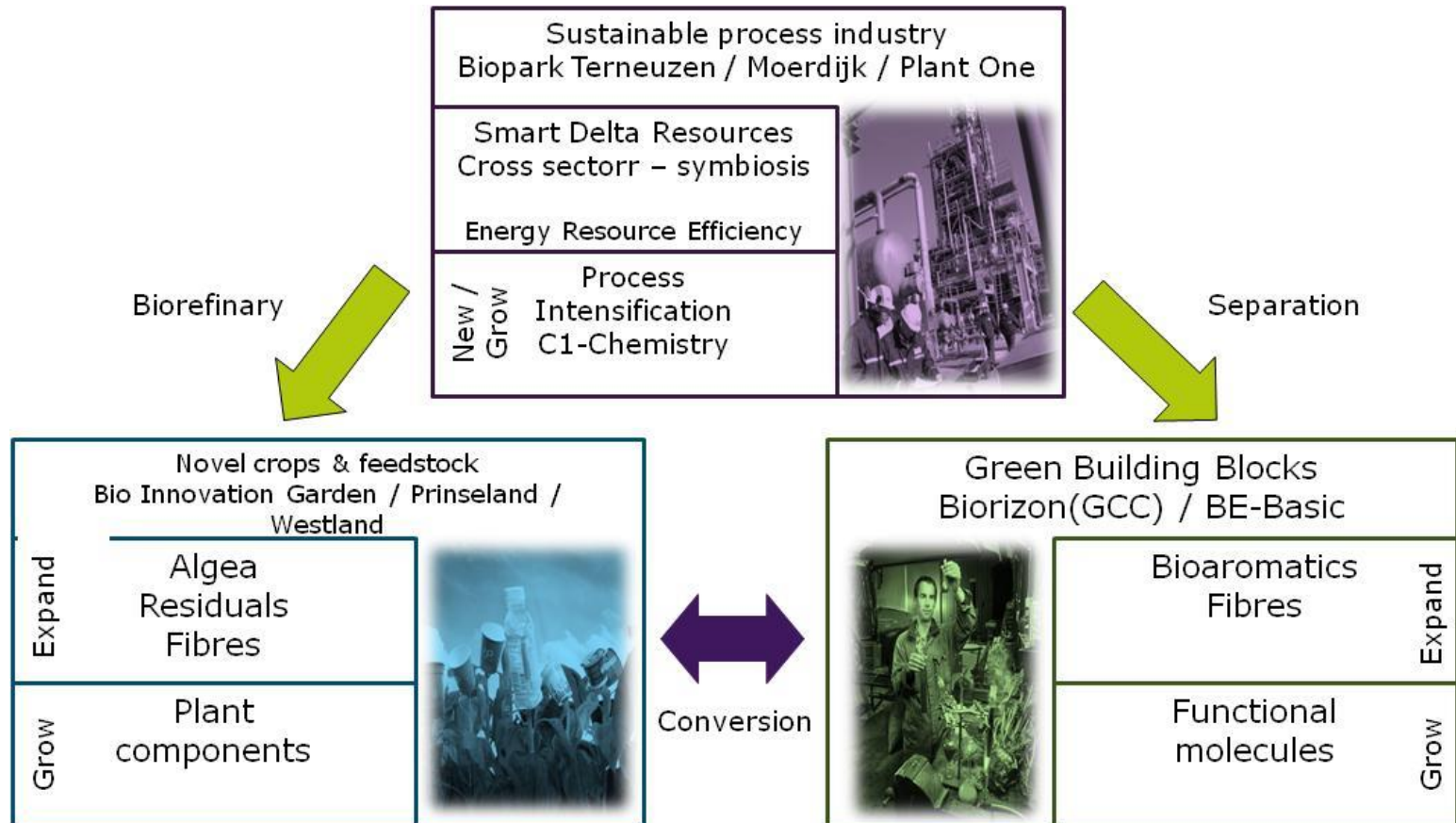


- Biobased Delta Foundation
- 5 member Board (all business background)
- Triple Helix Supervisory Board with business majority
- Core execution team
- Scientific Council
- Biobased SME Panel
- Biobased Brigade

Biobased Delta



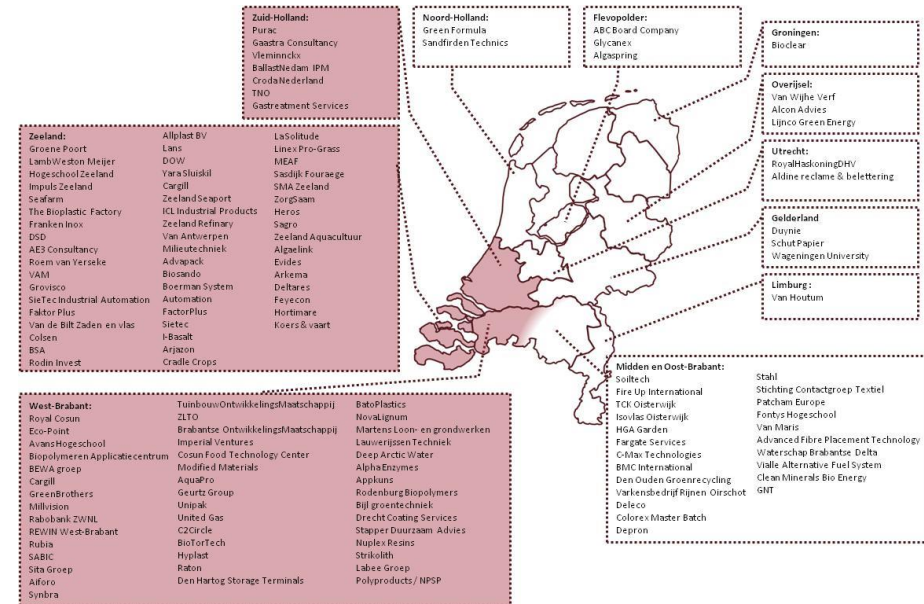
- Three main themes
- Solving the puzzle



Developments



- Valorisation: involving SMEs to effectuate short time to market of new biobased business



- Transition: longer term effectuation of transition to biobased economy. Focus on sugars & lignin

Biorizon
The way to aromatics

Green Chemistry Campus

General introduction

D. van der Pas
Green Chemistry Campus

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Green Chemistry Campus

Brief introduction

- Focused on strengths of the region: chemistry and agro
- Based on business need: more sustainable products & processes
- Awarded Center for Open Chemical Innovation
- Increase the success rate of biobased innovations
- Offering housing, lab and incubator services
- Initiated by SABIC, REWIN, Province Noord Brabant and municipality of Bergen op Zoom
- SABIC is landlord & active participant in developing the campus



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Two stage approach

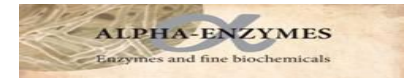
Results and outlook

- **Fase 1, proof of concept:**
- **Success:** companies & knowledge institutes attracted...
- ... but financially lagging behind, so more time needed proof true value
- **Fase 2, continuation of fase 1:**
- **Secret to success:** getting the symbioses between companies and with SABIC!
- Sustainable research programs
- Need for demo space, green feedstock and financial instruments

TNO innovation
for life



Nimaro Ageno



Progression-Industry
"GREEN" out of the box technologies



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Green Chemistry Campus Facilities

Campus Innovation Center

- Campus “heart”
- Start-up location
- Office garden
- Open innovation
- External identity
- Networking
- Service providers

Process & analytical labs

- Research and technical focal point
- “Post-starters”
- Possibility for open and closed innovation
- Laboratories, offices

Demo Plant

- Scaling-up focus
- Product & market development
- Open and closed innovation
- Offices
- Market validation

Co-siting

- Manufacturing
- Large scale
- Commercialization

“Life cycle” from start-up to product- & market development



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Creating symbioses (internally)

Combining short term & long term success

Facilitate short term (regional application focus)

Natural dyes

Cluster of SMEs working on bio dyes

Coatings

Cluster of SMEs applying biomaterials to coatings recipe.

Bio building materials

Creation of construction materials (inhouse & industrial)



Longer term (R&D focus)

Bio aromatics

TNO – VITO – GCC
Technology development to produce bio aromatics for performance chemicals, coatings and materials.
Focus on sugars and lignin as feedstock.

Program set up:
1.Green Cracker Feed
2.Catalytic pyrolysis to BTX
3.Sugars to aromatics
4.Lignin to aromatics
5.Value to coproducts



Symbioses met SABIC

SABIC priorities

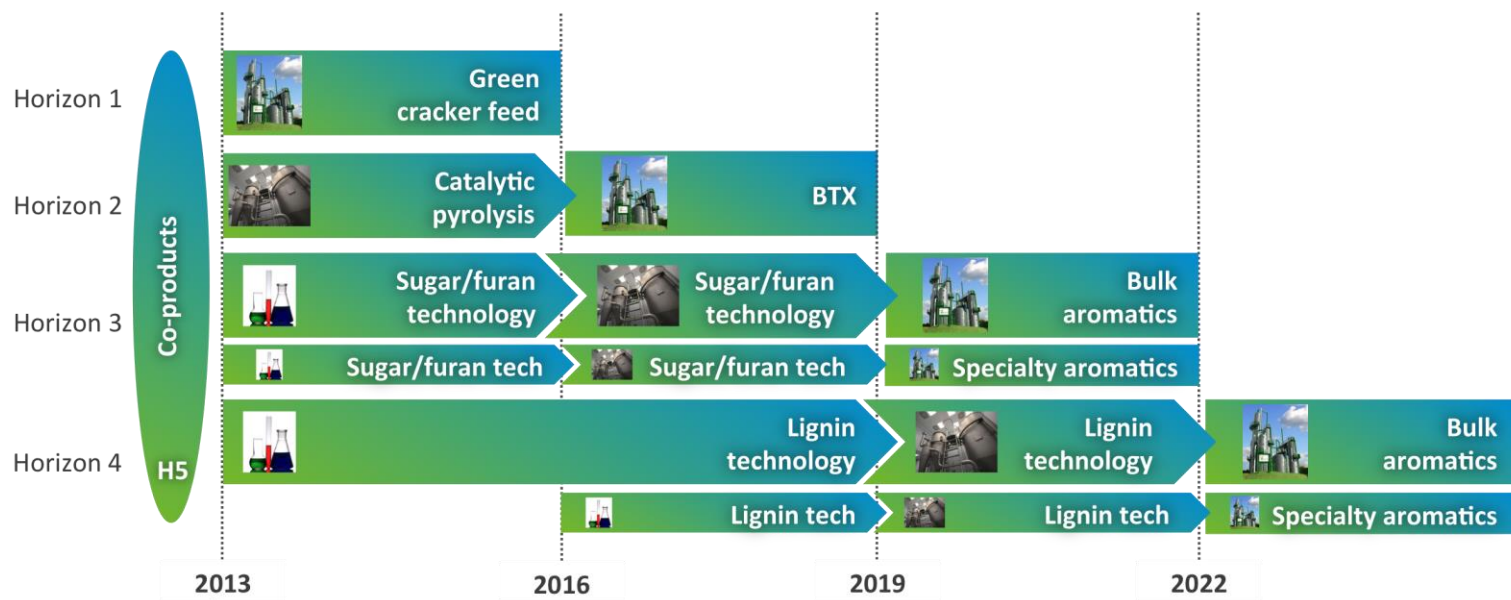
Together with Corporate R&D some themes have been selected and get follow up.
Growing involvement SABIC:

- Corporate R&D (R&D agenda)
- Corporate Venturing (search for relevant companies)
- Communications
- Sales & Procurement (using customer & supplier intelligence)
- Internal steering committee under construction (overlooking the above themes)

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Biorizon



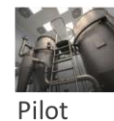
Activities:

SRP lines

horizon

co-products

Scale of activities:



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Thank you for your kind attention

Any questions

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Provincie Noord-Brabant



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