

Dutch Trade Mission Brazil - 2012

***DSM and the Biobased Economy -
Developing a Global Value Chain***

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DSM: company profile 2011

Global top 30 chemical industry

- Net sales: € 9,000 billion
- Net profit: € 600 million

22,000 employees

- of which in Europe: approx 13,000
- and in Netherlands: approx 7,000

+200 sites and offices on 5 continents



Ranked global 1st position

in Dow Jones Sustainability Index 6 out of 8 years



DSMs global presence

World total: 200+ locations, 22,000 employees



DSM Latin America Footprint - 2013



LA sales over 800 mln US\$.
Strong growth expectations

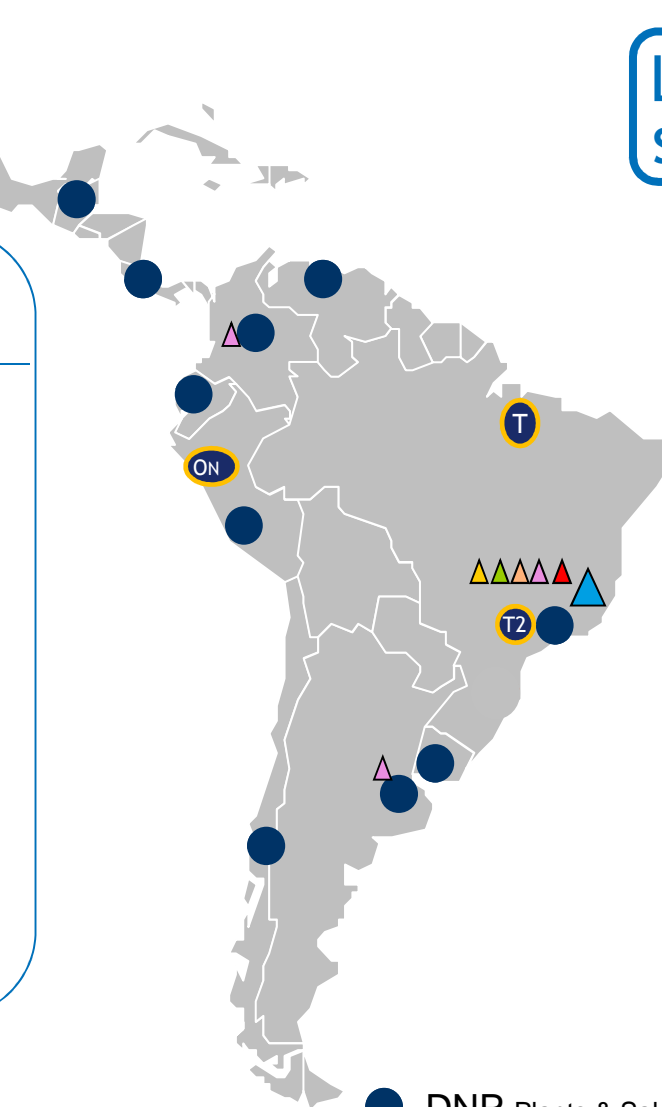
19 Plants & 2,300 Employees

DNP

- Guadalajara, Mexico - 2
- San Jose, Costa Rica
- Guatemala, City
- Maracay, Venezuela
- Bogota, Colombia - 2
- Quito, Ecuador
- Lima, Peru
- Piura, Peru
- Puerto Mont, Chile
- Montevideo, Uruguay
- Buenos Aires, Argentina
- Sao Paulo, Brazil - 4
- Pecém, Brazil

Other DSM Plants

- Monterrey, Mexico - DSP



▲ Regional Center

Commercial Presence

- ▲ DEP
- ▲ DSA (DNR, DBPS)
- ▲ DFS
- ▲ DSP
- ▲ Dyneema

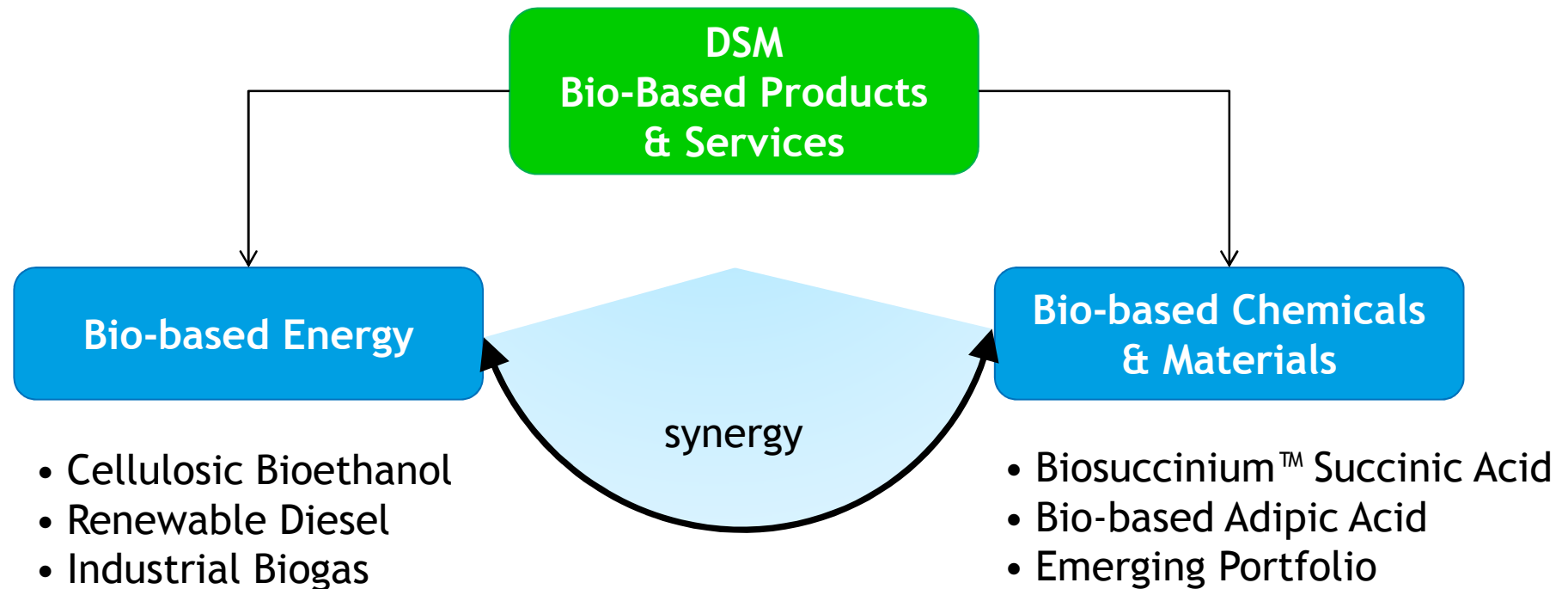
● DNP Plants & Sales Offices

● DSP Plants & Sales Offices

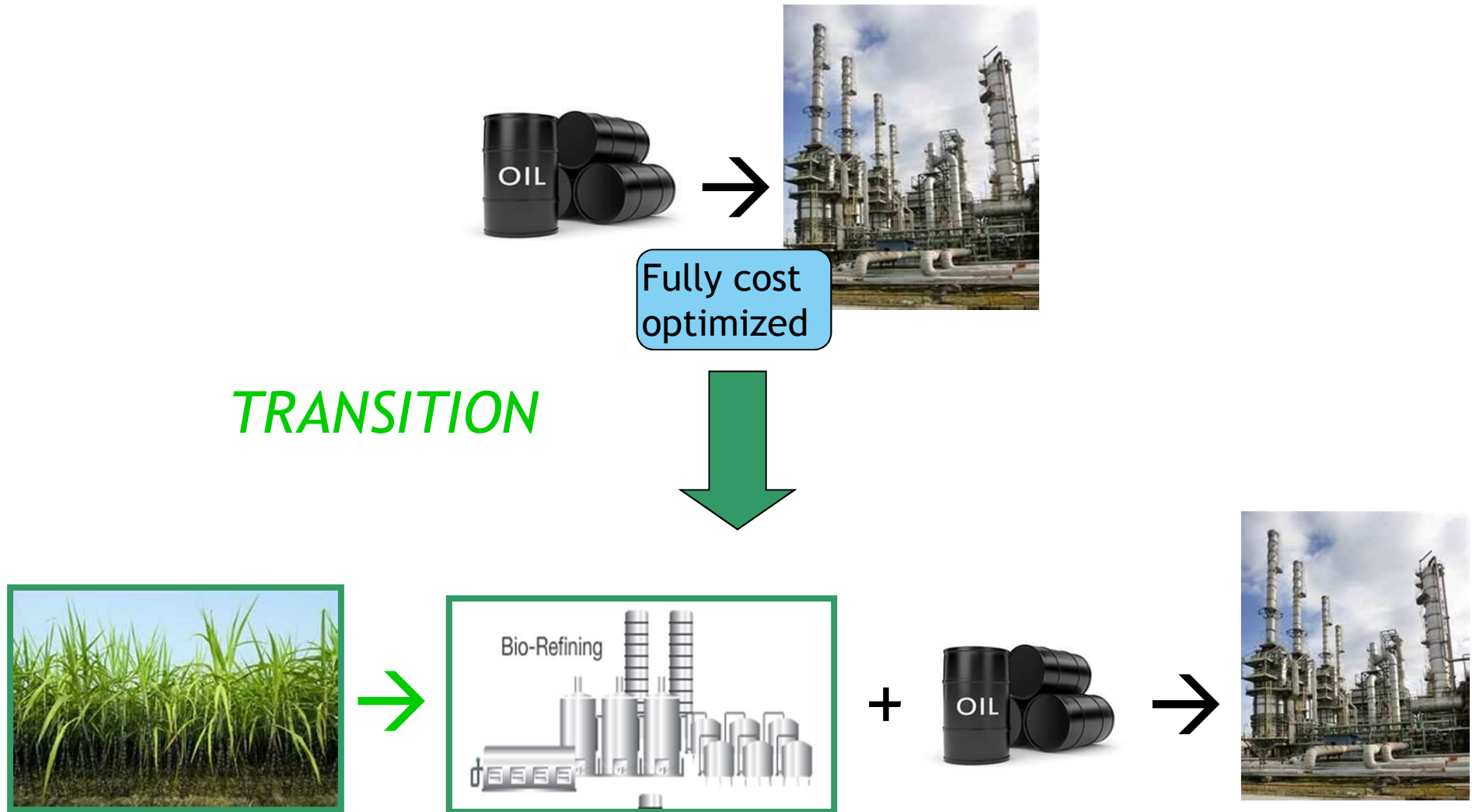
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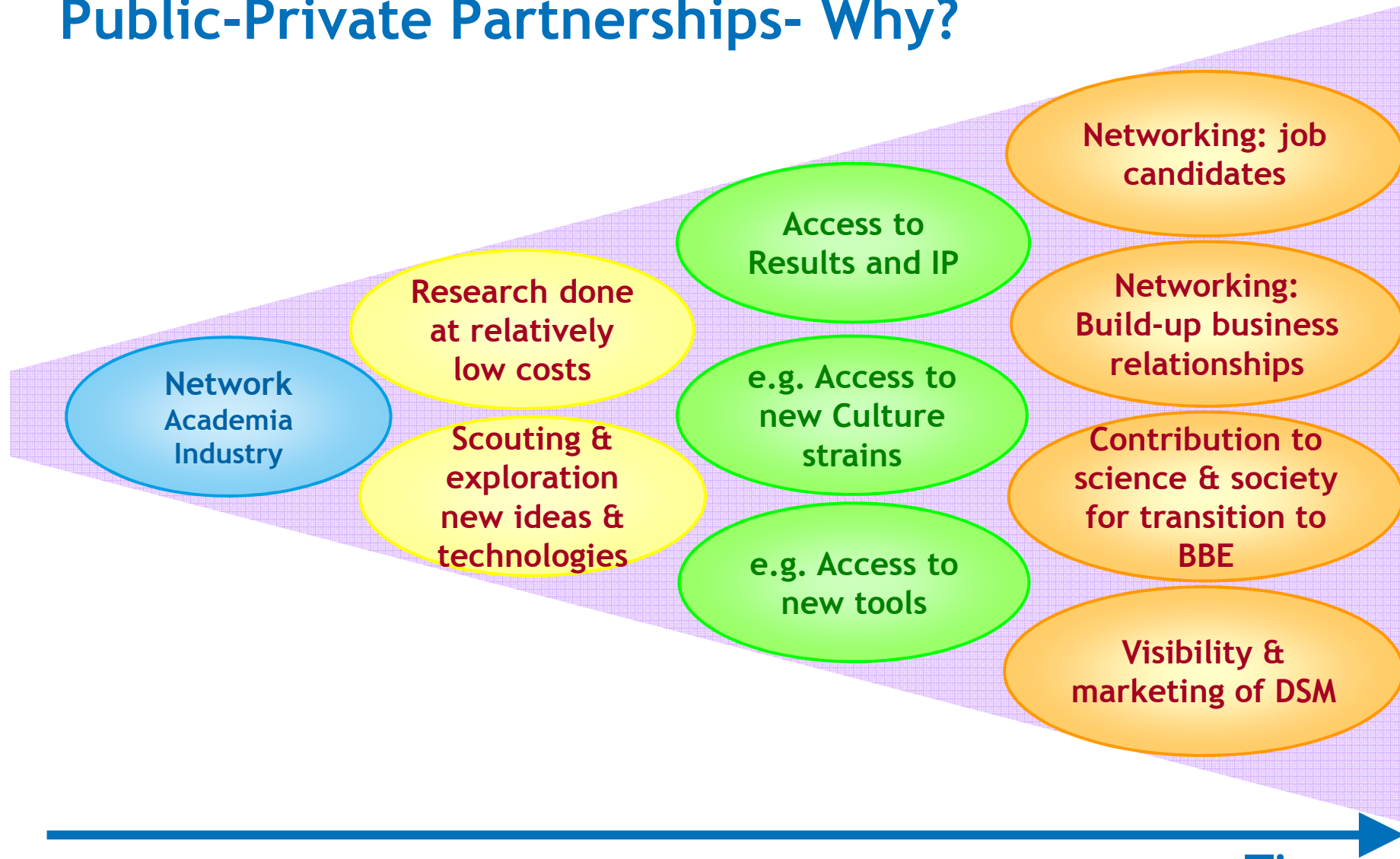
From Biotech to total Business Model



Industry shift - GLOBAL challenge



Public-Private Partnerships- Why?



PAISS

First project approved in PAISS - *“Plan for Supporting Industrial Technological Innovation in Sugar-based Sectors”*

The consortium



Sugar mill



Research & development

Engineering firm

Huge knowledge sharing, but still bureaucracy hurdle

BE-Basic

BE-Basic develops new bio-based concepts for the **chemicals, energy and materials** industry as well as for monitoring, controlling and improving the impact on the environment and society - all at the same meta-genomics basis



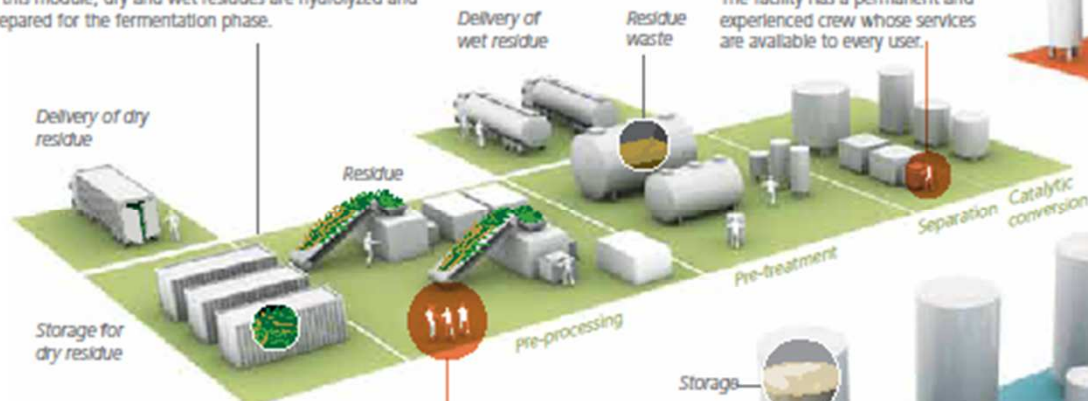
- DSM actively involved in 12 R&D projects, ~3 more in 2012;
- Access to subsidized 200 M€ open-innovation R&D program towards bio-based economy, with links to USA, Brazil, etc.

Delft pilot facility for innovations in sustainable bioprocesses

The Bioprocess Pilot Facility, planned to be built in Delft, The Netherlands, is a unique facility where companies and knowledge institutions can develop new sustainable production processes. These processes serve many purposes, such as converting biobased residues into useful materials or fuels. The facility has been specially designed to enable the transition from the laboratory to production on an industrial scale. It allows users to construct complex operations by linking separate process modules.

Pre-processing and treatment

In this module, dry and wet residues are hydrolyzed and prepared for the fermentation phase.

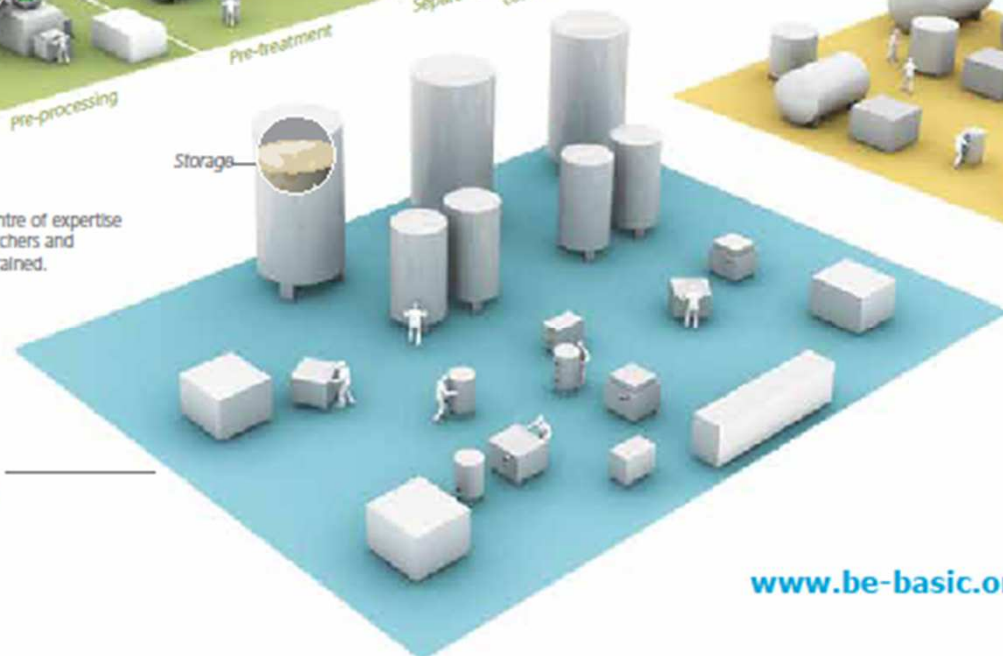


Training

The facility is also a centre of expertise where students, researchers and technologists can be trained.

Downstream processing

This is where products are extracted and refined. The modules can be combined at will to produce all kinds of products, such as raw materials for the construction sector, chemicals for biofuels or raw materials for the chemicals and pharmaceuticals industry.



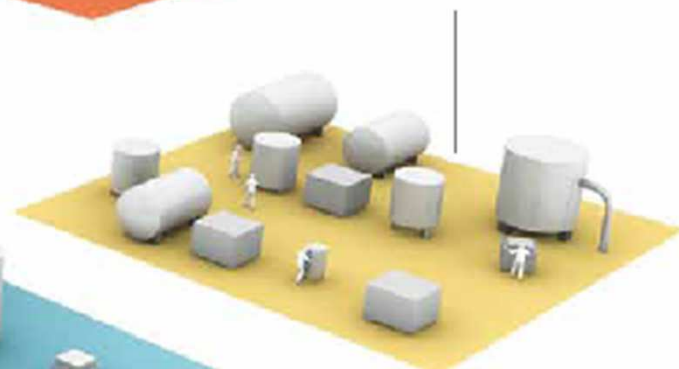
Fermentation

In the fermentation module, enzymes and bacteria are added to the waste to convert it still further. This process takes place in bioreactors with a capacity of up to 8000 litres.



Third-generation bioprocesses

These modules are designed to increase efficiency and lower costs in the production of biofuels and biochemicals.



Governmental and tax incentives

- Renewable Fuel Standard
- USDA 7 CFR part 3201: Guidelines for Designating Products for Federal Procurement

“USDA will designate for preferred procurement those product categories and intermediate ingredient or feedstock categories that are determined to create new and emerging markets for bio-based materials”

- USA Bipartisan bill:

“Tax credit of \$0.15 per pound (330 US\$/mt) for domestic production of qualifying renewable chemicals with a limit of \$25 million per taxpayer/year, 5-year limit with a cap of \$500 million”

- Brazil & Thailand

“Corporate income tax holidays”

Risk level biotech partially offset by governmental incentives

Closing remarks

- New industry is taking shape
- High cost pressure due to petro-based alternatives
- New ideas, speed and lower costs possible via public-private partnerships
- Make use of INTERNATIONAL strengths to ensure success
- Overcome bureaucratic hurdles

THANK YOU

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