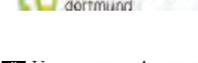




### International collaboration

Our international network with partners that foster the biobased industrial development is expanding. To cover the whole biomass value chain BE-Basic Foundation collaborates internationally by strategic partnerships in the following countries:

- ▶ **Brazil:** In 2012, BE-Basic and TU Delft opened a joint Brazil office to further intensify and facilitate the cooperation with Brazil, in the fields of research, education and business development. Our Brazilian partners are FAPESP, Unicamp and FIESP.
- ▶ **Germany:** The cooperation between the Cluster for Biotechnology Germany (CLIB2021) and BE-Basic will target partnering along new value chains and education in bio-economy.
- ▶ **Malaysia:** The Unit Inovasi Khas (UNIK) has signed a cooperation agreement with BE-Basic with the aim to establish the Oil Palm Biomass Centre (OPBC) in Malaysia. OPBC partners and BE-Basic partners aim to develop concepts of waste biomass utilization for biorenewable production, share knowledge on chain integration and socio-economic and sustainability issues and exchange students and researchers.
- ▶ **United States:** In the U.S.A. BE-Basic has selected the Energy Biosciences Institute (EBI) at Berkeley and the Oak Ridge National Laboratory (ORNL) as its partners for their excellence in research and opportunities for BE-Basic partners.
- ▶ **Vietnam:** BE-Basic signed a Memorandum of Understanding with the Vietnam Academy of Science & Technology (VAST) with the aim to setup and execute a biobased research program within Vietnam. This collaboration is aimed at improving soil quality and nutrient recycling.



Building our Biobased Economy together

#### BE-Basic Foundation

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## BE-BASIC

The BE-Basic Foundation is an international public-private partnership that develops industrial biobased solutions to build a sustainable society. BE-Basic stands for *Biotechnology based Ecologically Balanced Sustainable Industrial Consortium*.

BIOTECHNOLOGY

ECOLOGICALLY  
BASED

BALANCED

SUSTAINABLE

INDUSTRIAL

CONSORTIUM

As we want to switch from fossil fuels to biomass in the near future new technologies and insight are required for all the industries that provide us with food, chemicals, energy and materials. The BE-Basic Foundation initiates and stimulates collaborations between academia and industry, between scientists and entrepreneurs and between the Netherlands and abroad. Only with joined effort we can significantly accelerate the innovation process and build our biobased economy. We coordinate and support the joint submission and realization of new projects.

### Ambitions

- ▶ to build a competitive, secure and sustainable biobased economy through industrial biotechnology that is less dependent on fossil resources and with a positive global climate effect
- ▶ to monitor ecological stresses, control and optimise complex local soil and water environments through ecogenomics technologies
- ▶ societal embedding of the products, services and processes developed by BE-Basic Foundation

### BE-Basic Program

The BE-Basic Program was founded early 2010 and originally coordinated by Delft University of Technology, building on the recognised breakthroughs of the B-Basic and the Ecogenomics consortia. The BE-Basic program started in 2010 with an R&D budget of €120 million of which half is funded by the Ministry of Economic Affairs, Agriculture and Innovation as part of the Economic Structure Enhancement Fund (FES). The other half is funded by industry and knowledge institutions.

In 2013 the BE-Basic Program became part of the new established BE-Basic Foundation which is a separate legal entity. BE-Basic Foundation has an actual R&D budget of €45 million (~ US\$ 60 million) per year.

### BE-Basic Hosting Activities

The BE-Basic Foundation is able to respond and anticipate dynamically to future developments in the national and international arenas. We are involved in developments in the Dutch Top sector Policy in general, and more specific in the Top consortium for Knowledge and Innovation for the Biobased Economy (TKI-BBE). We are able to host new projects within national, European and international research, development and innovation programs such as BRIDGE.

### Research & Development

Our R&D programma is organized in a total of ten Flagships that cover the research fields needed for the transition to a biobased economy. Scientific topics and industrial challenges are brought together to generate true innovations.

- ▶ **Carbon-based compounds:** sustainable industrial processes for carbon-based building blocks for chemicals, material and fuels.
- ▶ **Nitrogen-based specialties:** novel technologies for nitrogen-containing compounds based on renewable feedstocks.
- ▶ **Sustainable soil management and upstream processing:** developing and testing scenarios for waste management from the perspective of closing cycles and prevention of negative side effects of a Biobased economy.

- ▶ **Bioconstruction materials:** development and testing of microorganism-based solutions to self healing of bioconstruction materials.
- ▶ **Microbial production of Biofuels and Biorenewables:** development and optimization of microbial-based conversion process technology of biomass into biofuels and other biorenewables.
- ▶ **Synthetic biology:** development of tools and techniques to improve microorganisms as production organism.
- ▶ **High-throughput experimentation & (meta)genomic mining:** novel high-throughput approaches to explore uncultured genomes.
- ▶ **Environmental impact of chemicals, biobased molecules and processes:** development of novel methods to evaluate and improve chemical safety in the biobased economy.
- ▶ **Societal embedding of a biobased economy:** optimise societal embedding of the products and processes developed by BE-Basic.
- ▶ **Genomics for Industrial Fermentation:** improvement of the conversion capacities of microorganisms, by e.g. non-GMO methods, for industrial scale fermentation.

### Innovation centre

The BE-Basic Innovation Centre (BE-BIC) coordinates, promotes, supports and evaluates all innovation activities within BE-Basic. BE-BIC stimulates the generation of start-ups in the biobased economy and actively collaborates with investors in this area.