HIGH PERFORMANCE CENTER

DYNAFLEX®

FLEXIBLE SOLUTIONS FOR THE ENERGY TRANSITION AND RAW MATERIALS SHIFT

MODULARIZATION OF BIOTECHNOLOGICAL PRODUCTION PROCESSES

EXAMPLE: RASPBERRY FLAVOR

CONTACT

Dipl.-Ing. Hans-Jürgen Körner
Head of Department
Process Engineering
Phone +49 208 8598-1272
hans-juergen.koerner@umsicht.fraunhofer.de

Dipl.-Phys. Thorsten Wack
Head of Department
Information Technology
Phone +49 208 8598-1278
thorsten.wack@umsicht.fraunhofer.de

Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT
Osterfelder Strasse 3
46047 Oberhausen, Germany

www.umsicht.fraunhofer.de/en

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Global competition, cost pressure and application variety of products: a conflict area, which results in the need for the industry to improve continuously products and production or to redesign them. However, the increasing pressure to succeed is shortening the periods for upcoming new developments and redesign, the scope for action is narrowing. Especially, biotechnological production processes for high-priced products, and also special products in small, changing batches are effected by that. In this situation, it is necessary to have adaptive concepts and strategies at one's disposal.

Here, modularization offers a possible solution, that is to say subdivision of production processes into standardized subsystems in order to make available flexible, adaptive und scalable plants.

Keywords

- Modularization
- Adaptivity
- Flexibility
- Scalability
- Dynamic simulation

Industrial Sectors

- Chemistry
- Food
- Feed

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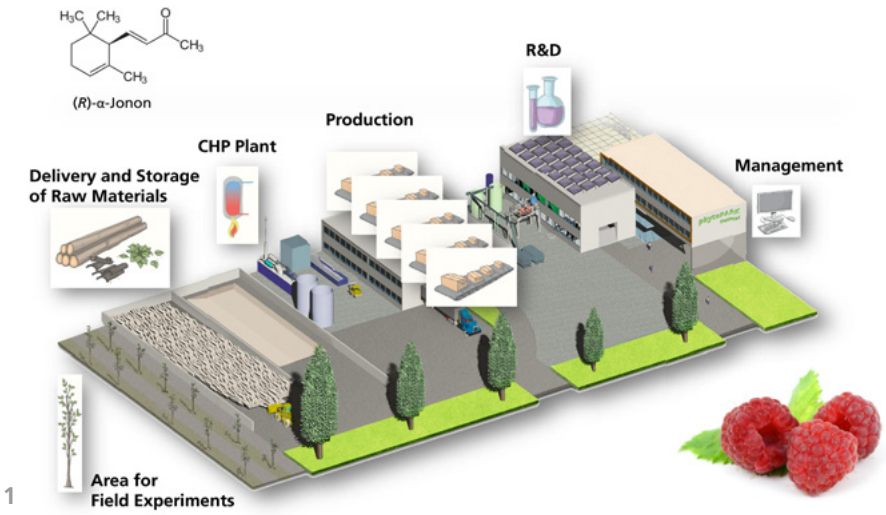

1 *Modulare production of raspberry flavor in the PhytoPark.*

Example of a process

The project partner Phytowelt is an international acting SME with services in the field of green biotechnology.
The company's target is to connect the synthesis performance of plants with industrial biotechnology in order to develop plant systems for the synthesis of highly complex molecules for the industrial biotechnology.
The medium and long term aim is the development of own production plants for various product lines in a biorefinery (PhytoPark).

Against this background, first of all, the production of raspberry flavor is to be implemented and established.
For that, Phytowelt has developed a fermentative process which, firstly, enables the biotechnical production of an end product in enantiopure form.

Our service

- Implementation of processes in a modular designed demonstrator
- Development of basis modules including all interfaces and the required backbone structures
- Digitalization of the process
- Preparation of models on the basis of present process data
- Application of methods and tools for the dynamic simulation, balancing and system coupling
- Analysis, modeling, simulation, and optimization in a dynamic overall system

Your benefit

- Standardized modules in transportable size
- Combination of modules according to requirements and needs
- Backbone structure with standardized interfaces
- Quick adaptability of production with changing raw material basis, or with fluctuations in raw material or energy supply
- Fast reaction to market modifications
- Flexibility in production of special products and the production in smaller batch sizes
- Simple scalability of processes
- Realization of decentralized solutions
- Minimized time for development and construction with product innovations or with changing products
- Faster market launch (time to market) by means of shorter developing periods

Further information
www.dynaflex.de

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