

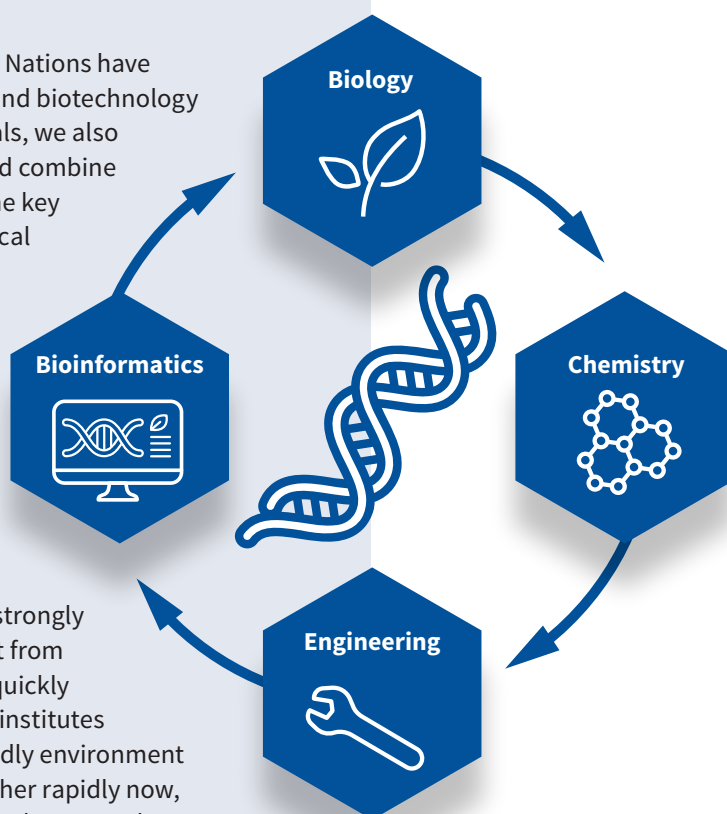
Political briefing

Game Changer Biotechnology

Everybody talks about biotechnology. This is not surprising in view of the current successes in the development of vaccines. However, the high-flying trend of modern biotechnological processes should not fizzle out but rather gain momentum. This is because biotechnology can do more: The large number of processes and applications make biotechnology the game changer of our time – on a small scale with enzymes for detergents or personal care products and on a large scale when securing yields in agriculture or unfolding its effect in curing rare diseases.

The Sustainable Development Goals (SDGs) of the United Nations have been in place since 2015. The chemical-pharmaceutical and biotechnology industry shares and supports them. To achieve these goals, we also draw on the latest scientific findings in biotechnology and combine them with ecological targets and economic efficiency. The key to sustainable progress lies in the combination of biological knowledge and technological solutions: making the best possible use of the natural properties of biogenic raw materials in terms of their recyclability, re-usability, and adaptability – and thus bringing about further economic growth in tune with nature, environmental and climate protection. For this reason, biotechnology is already firmly established as a key technology in many parts of the world.

Particularly at the industry location Germany, the opportunities offered by biotechnology should be more strongly recognised and the latest applications should be brought from laboratories into production and onto the market more quickly than has been the case to date. To achieve this, research institutes and companies need an innovation and technology-friendly environment and reliable planning. If both of these factors come together rapidly now, Germany can become a lead market and lead provider for the game changer biotechnology and, consequently, better hold its own against strong competitors in the global economy.



Werner Baumann

Vice-President of Verband der Chemischen Industrie e. V.

Unleashing the potential of a key technology

Bioeconomy is oriented towards natural material cycles. It combines technology, ecology, and economic efficiency in an optimal way, relying on the sustainable use of biological resources. These can be plants, microorganisms and enzymes – or residual materials such as straw or old and waste timber. They serve as the basis for medicines, food, energy and industrial products.

The value network of the industrial bioeconomy is of strategic importance for a sustainable growth strategy and thus for the success of one of the major future projects of our time: the Green Deal of the European Union with its ambitious goals for environmental, nature and climate protection. But far too often, bioeconomy remains in competition with value chains that have grown over decades in the fossil-based economy, whose products are currently still more competitive.

In order to use the opportunities of biotechnology to solve the challenges of our time, its specific innovation cycles must be better supported politically:

- ◆ **Strengthen the industry location**
The transformation to a sustainable economy through new biotechnological methods must be promoted with plannable and long-term framework conditions. However, investments and innovations are slowed down by increasingly complicated procedures. Instead, planning and approval procedures for biotechnological production plants must be accelerated.
- ◆ **Support research and development**
Any obstacles to innovation in value networks should be avoided and eliminated, and research should be promoted with an open mind to a wide range of different technologies. Fast approvals are needed for biotechnology R&D so that results can quickly reach the market and contribute to the UN Sustainable Development Goals.
- ◆ **Integrate projects in a global setting**
The value networks and supply chains of biotechnology must be thought through and shaped internationally: Bioeconomy needs renewable raw materials at competitive world market prices. Existing trade barriers should be eliminated.

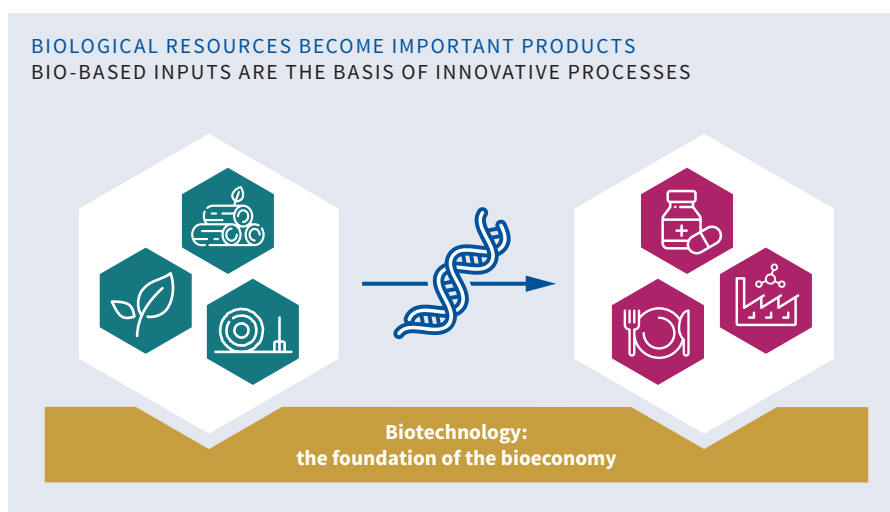
Sustainable use of biological resources

The life science industry resorts to genetic and biological resources from all over the world to produce medicines, biofuels, chemicals, and many other products. Therefore, German companies support the effective protection and sustainable use of such resources, many of which have not yet been tapped. The Nagoya Protocol provides binding international law standards for this since 2014.

However, there are shortcomings in implementation: The regulations are complex, in part completely unclear and make it difficult for start-ups and small and medium-sized enterprises in particular to access and use genetic resources.

- ◆ **Better implementation of the Nagoya Protocol**
The regulations of the Nagoya Protocol must be implemented in straightforward, clear, and transparent way. It must not be used to impair access to and research on genetic and biological resources, as is still happening.

- ◆ **Optimise value creation**
The effects of the current Nagoya Protocol regulation on value creation should be reviewed in an impact assessment. This would help to provide a factual basis for an implementation strategy that simplifies and optimises value creation from genetic and biological resources for all stakeholders.



Exploiting the opportunities of gene editing

Gene editing is one of the most important innovations in molecular biology in over 20 years. In plant breeding, for example, the techniques can bring about the same changes as conventional methods. This is why the products do not pose any different risk to humans, animals or the environment. Nonetheless, the European Court of Justice ruled that gene editing would create genetically modified organisms (GMOs). Unfortunately, this decision is based on the state of science of the 1980s. Recent scientific findings were not taken into account.

The shortcomings of the supreme court's decision were also criticised by the EU Commission in its study in the spring of 2021: the current legal provisions were not appropriate and had to be adapted to scientific and technological progress. Germany and Europe would inevitably fall behind countries like China and the USA in all areas of biotechnology, both scientifically and economically. This can be prevented by suitable countermeasures.

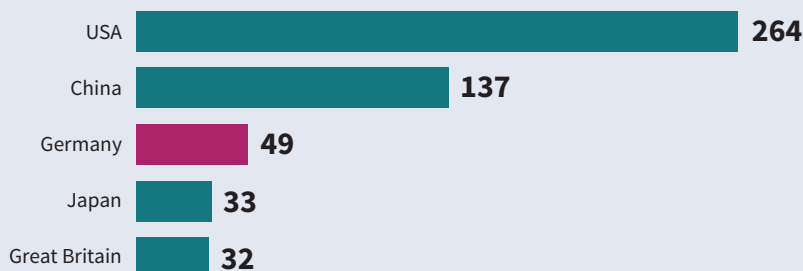
Leveraging the potential for more sustainability



Whether for biodiversity or the UN Sustainable Development Goals, some plant products from modern breeding already have the potential to contribute to a more resilient and sustainable agricultural and food system.

GERMANY IS STILL IN THE TOP LEAGUE

NUMBER OF RESEARCH PROJECTS WITH NOVEL GENOMIC TECHNIQUES



Source: EU Commission: Data modelling platform of agro-economics research

◆ Differentiated assessment

European genetic engineering law must be adapted to the latest technological and scientific developments and findings. Future legislation should be based on a scientifically sound risk assessment of products and not on their production methods.

◆ Address the opportunities

The precautionary principle is the proper approach for dealing with risks and rightly a guiding principle of the European Treaties. However, addressing opportunities must also be incorporated in the assessment of new methods.

Progress needs patents

Biotechnology is an important building block for supplying the growing world population with innovative medicines and sufficient supply of food and for mitigating the negative impacts of climate change on agricultural yields. Speaking in metaphors, biopatents act like humus: They foster the exchange of knowledge and innovation.



Even the first research steps require considerable investments. Without secure patents, the necessary funds would not be forthcoming: Investors only provide millions for R&D if they receive patent rights that can be pledged as collateral. This source of funding is indispensable, especially for medium-sized enterprises. They are disproportionately often found among businesses which develop innovative therapies for the most serious diseases.

Furthermore, many companies aim to develop ideas and resell them – secured by patents. Patent law is undoubtedly one of the major prerequisites for enabling progress. This is particularly true for new biotechnology methods.

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