

# Bavaria sets the course for sustainable industrial production

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*Successful white biotech companies are much desired by chemical companies. For about USD 1 billion, DSM is taking over Martek, the biggest producer of additives based on algae which is also collaborating with BP on research of biofuels. In January 2011, DuPont bought the Danish company Danisco for more than USD 6 billion. Ellen Kullmann, chief of DuPont, explains the strategic reasons for this purchase as follows: "Biotechnology and additives have the potential to shape the industry, for example by substituting raw oil based processes by renewable materials." Industry experts expect the "biologization of chemistry" to cause a technological leap for the chemical industry as it happened 30 years ago in the pharmaceutical industry.*

In Bavaria, the specific promotion of white biotechnology has started to pay off: Süd Chemie AG is currently building the biggest facility for the biotechnological production of climate-friendly bioethanol of the second generation ("cellulose ethanol"). This method of production only uses vegetable waste like straw. As the starch-containing plant parts like the maize grains will not be used, this fuel is not a competitor for the food and feed production. The Bavarian state government and the federal government are both supporting the facility worth EUR 28 million with EUR 5 million each.

In the city of Burghausen, Wacker Chemie runs a facility for the production of acetate using the Aceo<sup>®</sup>-method. The Technical University of Munich is setting up a "Research Center for White Biotechnology". In autumn 2010, the master course "Industrial Biotechnology" started. In the new technological facility, processes can be transferred from a



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laboratory scale to a semi-industrial scale – again, the Free State is investing millions of Euros in innovation.

The start-up company AMSilk, situated in Martinsried and focused on the biotechnological production of spider silk has been recognized by EuropaBio as one of the five most innovative medium-sized biotech companies in Europe. Only a couple of weeks later, it was selected as one of 365 landmarks in the competition "Germany – Land of Ideas".

For turning the vision of a foundation center for the white biotechnology into reality like it happened with the IZB in Martinsried and Freising for the red biotech industry, Germany lacks innovative start-up companies and support from the capital market. Compared to red biotech, investments in white biotech are limited, the technological and entrepreneurial risk is reduced and the development time is shorter. That should lead to faster returns of investment. Time is ripe for investing in the billions-market white biotechnology.

## MARTIN ZEIL, BAVARIAN MINISTER FOR ECONOMIC AFFAIRS, INFRASTRUCTURE, TRANSPORT AND TECHNOLOGY:

"Currently, the industry is facing a decisive raw material shift. It is switching from being based on mineral oil to renewable raw materials. The implementation of white biotechnology in the chemical production is an important contribution to environmental protection because it helps to save fossil raw materials, energy and water and to reduce toxic waste. White biotech is seen as one of the major biotech topics of the future. Politics and the economy all pull together.

In this respect, Bavaria is well positioned to take a technological lead position. Supported by the "Bio-Industrie 2021" award of the Federal Ministry of Education and Research (BMBF) worth EUR 5 million for R&D projects, additional EUR 5 million from the Bavarian Ministry of Economic Affairs and supported by the Coordination Center BioM WB GmbH, we were able to mobilize around EUR 110 million for white biotech projects."