FuturEnzyme

Technologies of the FUTURe for low-cost ENZYMEs for environment-friendly products

FuturEnzyme will provide benefits on several levels:

Consumers

Products processed according to ecological principles and with better properties.

Planet

Change mitigation, pollution prevention, protection and recovery of biodiversity and ecosystems and circular economy.

Companies

New markets and gain better visibility.

FUTURENZYME A, PROJECT MEETINGCUSTOMERS' DEMANDS

Visions for the consumer products of 2030

There is a worldwide concern for the protection of the environment that clearly implies daily used goods such as detergents, textiles and cosmetics. The average current consumption in a European household with 4 members in a year is:

- 16-20 kg of detergent
- 30 kg of textiles
- 1 kg of cosmetics

By 2030 this consumption will grow at an annual rate of 4.8-6.3%.

FuturEnzyme project

FuturEnzyme's ambition is to develop "intelligent" enzymes that meet the characteristics of efficiency and stability required by industry. This will be achieved through a massive bio-prospecting of enzymes from microorganisms, including those from remote and inaccessible places, and their massive analysis with the helpof supercomputers. On the other hand, a number of techniques will be applied to improve, both technically and economically, the performance and productivity of the best enzymes. We strongly believe that with these enzymes, that themselves are eco-ingredients, we will guarantee not only high ecological standards (reduction of water pollutionand consumption, chemical usage, waste production and energy consumption) but also high performance of three consumer products (cosmetics, textiles and detergents) already in the market.

Detergent

- by decreasing the amount of chemicals that are released into the environment after the washing cycle.
- by increasing the percentage of low washing temperature (20-40˚C) to decrease the energy consumption of a standard washing cycle.

Cosmetic

- by generating hyaluronic acid fragments with a desired size, essential for its penetration into the skin and a more effective anti-aging activity.
- by converting the production process running at low temperatures, exceeding the technical and environmental limits of the existing technologies like thermal degradation.

Textile

- by ensuring a more environmentally friendly process from yarn to garments.
- by developing smart textiles that have additional benefits for consumers.