

Blue Biotechnology - A Vision for 21st Century

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Through the use of advanced tools such as various omics technology, biotechnology is expected to have a dramatic effect on the world economy over the current century. Innovations emerging in the food and pharmaceutical sectors offer only a hint of the enormous potential of biotechnology to provide diverse new products, including disease-resistant plants, "natural" pesticides, environmental remediation technologies, biodegradable plastics, novel therapeutic agents, and chemicals and enzymes that will reduce the cost and improve the efficiency of industrial processes.

With its various fields of research, biotechnology presents itself as a colourful science to the public. Besides red biotechnology for medicine, green for genetic engineering, and white for industrial feedstock production, blue biotechnology for marine biology research is increasingly drawing attention.

First active compounds and techniques derived from the sea have been applied for human welfare during the last decade. This Blue Biotechnology comprises extraordinary value adding potential, because of the high diversity of chemical compounds and organisms in the sea. Recent market developments foster the perspective of the Blue Biotechnology being one of the driving forces of the economy of 21st century and revealing its outstanding role for the human well-being. In order to tap its full potential, a strategy for generating synergistic effects by developing new products and techniques must be formulated. Yet to this day no concerted and focused initiative to realise this vision has materialised in Europe. Current events and needs suggest that now is the time for such action.