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BioFusion 4.0

Integration of Biological Principles in Industry 4.0



Project Partners:



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Federal Ministry
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PTKA
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Karlsruhe Institute of Technology

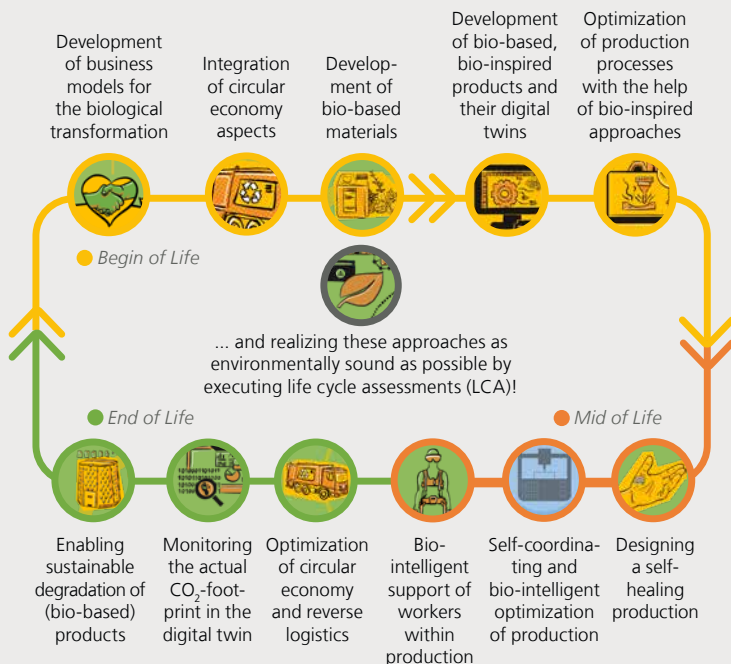
Biological Transformation in Industry

Biological transformation is the transfer of principles of natural systems to technical materials, structures and processes. Its goal is to achieve sustainable value creation. Essential concepts of biological transformation are

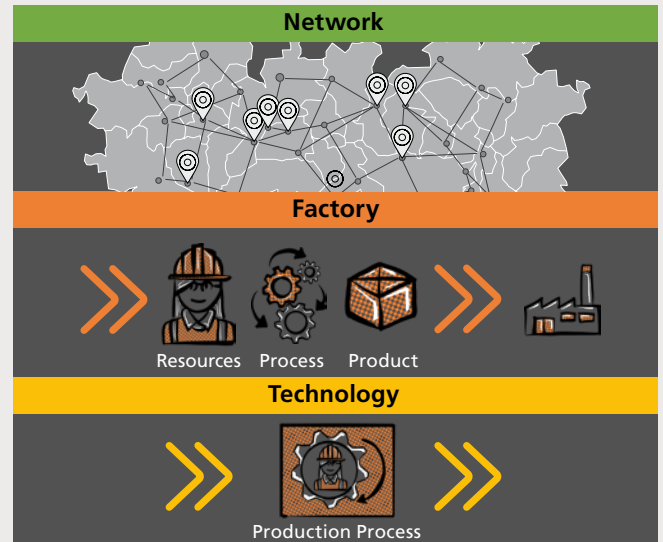
- Inspiration: learning by observing nature for the adaptation of technology
- Integration: symbiosis of technical systems based on biological models
- Interaction: interweaving of nature and technology

The resulting new value creation must be understood systemically. The BioFusion 4.0 researchers are exploring the interdependencies between the principles of biological transformation and their interactions with production, services and work.

Developed Solutions in the Product Life Cycle



BioFusion 4.0 Project Overview



	13 Partner	7 Solutions	5 Areas of Application
Application		Business models for biological transformation	Battery control modules for e-vehicles
Technology		Intelligent reverse logistics of valuable materials	Vehicle components
Research		Engineering of biologically transformed products	Reverse logistics and recycling of products and materials
		Bionic integration for networked production systems	Electric drives for industrial applications
		Environmentally intelligent services for production	Robotics automation solutions
		Bio-intelligent worker assistance systems	
		Additive manufacturing with biogenic polymers	