

The Science of Biomimicry

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Biomimicry: An emerging discipline that studies Nature’s best ideas and imitates these designs and processes to solve human (and organization) problems. Biomimicry accesses a deep knowledge of biological adaptations to help business leaders, designers, engineers, architects, etc. to solve challenges sustainably. Biomimicry is an **innovation method** that seeks sustainable solutions by emulating Nature’s time-tested patterns and strategies, e.g., a solar cell inspired by a leaf. The goal is to create products, processes, and policies --new ways of living-- that are well-adapted to a quality life on earth over time.

“Biomimicry Innovation Method” can help organizations create strategies, products and processes that:

- ▲ **Perform well:** Nature has been vetting strategies for 3.8 billion years: if a design strategy is not effective, its carrier dies. Biomimicry helps us **study successful strategies of survivors, so we can thrive in the marketplace**, just as these strategies have thrived in their habitat.
- ▲ **Are sustainable:** Biomimicry follows Life’s Principles which instruct us to build from the bottom up, self-assemble, optimize rather than maximize, use free energy, cross-pollinate, embrace diversity, adapt and evolve, use life-friendly materials and processes, engage in symbiotic relationships, and enhance the bio-sphere. **By following Nature’s principles, we can create products and processes (and strategies) that are well adapted to enduring success.**
- ▲ **Save Energy:** Energy in the natural world is even more expensive than in the human world. Plants must trap and convert energy from sunlight, and predators must hunt and catch energy sources. As a result of the scarcity of energy, Nature tends to organize extremely energy efficient designs and systems, optimizing energy use at every turn. Emulating these efficiency strategies can dramatically reduce “energy” use –in all its forms. **Greater efficiency –in all its forms-- translates to cost savings and greater profitability.**
- ▲ **Redefine/Eliminate Waste:** By mimicking how Nature transitions materials and nutrients within a habitat, organizations can design various units and systems to optimally use resources and eliminate unnecessary redundancies. **Organizing habitat flows to more closely align with Nature will drive profitability through cost savings as well as creation of new profit centers** focused on selling your “waste” to companies who desire it.
- ▲ **Cut Material Costs:** Nature builds to shape, because shape is cheap and material is expensive. By **studying the shapes of Nature’s strategies and how they are built**, Biomimicry can help minimize materials costs while optimizing effectiveness of products, patterns and forms **to achieve desired functions.**
- ▲ **Enhance Existing/Define New Products** Biomimicry helps to see stale product categories in a **radically different light**. This new way of seeing creates **opportunities for innovation**. Biomimicry can help create **disruptive technologies that transform**, or build entirely new, industries.
- ▲ **Drive Revenue/Build Brand:** Biomimicry can help create whole new growth areas, reignite stale product categories and **attract consumers who care about innovation and sustainability**. Creating biomimetic strategies, products and processes will help organizations become known as both **innovative and proactive.**