

# TAPPING INTO NATURE REPORT

## 100 BIO-INSPIRED TECHNOLOGIES PRESENTED BY TERRAPIN

Published in 2015 by [Terrapin Bright Green](#), the interesting Report [Tapping into nature. The future of energy, innovation and business](#) showcases more than 100 innovative bio-inspired technologies, ranging from early concepts to profitable commercial products.

By tapping into billions of years of research and development, innovative companies are abstracting strategies from the natural world and developing truly transformative technologies. Organisms have flourished on Earth for nearly 4 billion years, continuously adapting to our planet's diverse environments and diffuse energy flows. The Report explores how pioneering companies are leveraging these adaptations and demonstrates the vast and largely untapped market potential of bio-inspired innovation.

The Report explores nine cross-sector topics and selects natural strategies related to each. The biological strategies represent only a fraction of the designs found in nature. Each section then presents bio-inspired products that have been developed by companies using these strategies.

*Bio-inspired innovation*, a term used throughout the Report, encompasses two distinct categories. One of them, *bioutilization*, is the use of organisms or biological materials to fulfill a human need. The other, *biomimicry*, is the abstraction and translation of biological principles into human-made technology; it is also a method of assessing whether a design concept is likely to “create conditions conducive to life.” Either approach can be implemented in a way that benefits society and the environment.

The Report underlines that innovation and technological breakthroughs are not only keys to economic growth but also are necessary for human prosperity. The millions of materials and systems found in nature are a treasure trove of innovation, and companies can benefit by using these designs to reduce the time and costs associated with technology and product development.

Organisms are able to procure materials and assemble themselves essentially constructing “technologies”, using only the resources that are locally available. Nature provides a rich yet largely unexplored library of technologies that process and manage information, materials, and energy. Abstracting ideas from this catalogue opens the way to technological breakthroughs and profitable innovation that are often unattainable using conventional approaches to product design and development.



Bio-inspired innovation offers an opportunity for companies to create products and processes inspired by proven designs: the attributes of organisms that perpetuate in nature because they solve particular challenges. Companies that leverage bio-inspired innovation can increase revenues, reduce costs, and meet global needs. They can also increase their environmental, social, and corporate governance rating and attracting investments. Bio-inspiration offers a bridge between the seemingly incompatible interests of business and the environment. It is a compelling “win-win” approach: bio-inspired innovation enables businesses to realize profit while also achieving sustainability goals.

The Terrapin Bright Green corporation is based in New York City and Washington DC, and works with private companies, public institutions, government agencies, nonprofit organizations and design firms on a variety of project types. Terrapin collaborates with an extensive network of ecologists, engineers, energy experts, neuroscientists, financiers, and other experts who have ambitious goals to create a more sustainable world.

### To know more

[Tapping into Nature Report](#)

[Infographic Market Readiness of Bioinspired Technologies](#)

[Terrapin innovation services](#)

