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EXECUTIVE SUMMARY

# xTech Futures: BioTech

Bringing new life to people, products, and the planet



# EXECUTIVE SUMMARY

From humanity's earliest days, the grace and efficiency of the natural world has inspired our advancement, but modern biotechnology takes our relationship with nature a step further. Today, we are not just being inspired by biology, we are engineering with biology itself. The **xTech Futures: BioTech** report marks this transformation.

It would be easy to think of advancements in biotech as only relevant to PhDs in lab coats. But the truth is that if your company employs people (who seek to be healthier), delivers products (that need to be more efficient and effective), or is geographically located on planet Earth (which requires more sustainable industry), biotech is relevant for you and your business.

To help you understand your organization's potential role in the emerging biotech economy, we structured this report into three chapters, as described here and shown on [page four](#) in our **BioTech frontiers** framework.



## PEOPLE

A path to longer, better lives for everyone could forever elevate the status quo for health and humanity.



## PRODUCTS

Materials that were once shaped by the industrial revolution may now be transformed by the bio-industrial revolution.



## PLANET

Biotech is blooming in the environment, reactively restoring and proactively preventing ecological damage.

Additionally, we have interspersed callouts throughout the report. Some of these introduce technologies, such as robotics, neurotech, and traditional IT, that intersect with biotechnology, while others illuminate the ethical considerations at stake in biological innovation.

These frontiers are not just about the potential of what can be achieved, but also the urgency of the challenges we face—from climate change to global health crises, from food insecurity to resource scarcity. Organizations who can bolster their existing expertise with biotech can capture the immense business opportunity to work with nature, not against it.

## PEOPLE

### *Elevating and extending human health*

Today, we regard strep throat, a disease that killed around one-fifth of those infected prior to antibiotics, a minor inconvenience. In the future, we may look at cancer the same way. Biotechnology is becoming our most potent ally in the fight against monumental health challenges.

The *People* chapter of this report details the most significant benefits of the biotech revolution: Improvements to human health that could add trillions to the global economy. Scientific breakthroughs and investments are enabling a deeper understanding of human health, a new set of tools to discover and deliver treatments, and a revolutionary ability for people to map and edit their own DNA. Ultimately, today's breakthroughs could extend our tomorrows, empowering us to live longer and better.

## PRODUCTS

### *Starting and scaling a product revolution*

The products of the bio-industrial revolution can be both engineered by humans and entirely natural in composition. As we reproduce biological materials on our own terms, the future promises enormous gains in efficiency, effectiveness, and sustainability.

In this chapter, we look into the heart of new business applications such as alternative plastics, bio-based fabrics, and self-healing building materials that could be as profitable as they are effective. Such bioengineered marvels are not simply substitutes for existing materials—they're better by nearly every measure of production. However, to unlock this new industrial revolution, organizations need to innovate new systems that achieve scale.

## PLANET

### *Bringing Earth back to basics*

For many of us, the Earth's plastic-choked oceans and nutrient-depleted soils are a source of despair. Thankfully, biotechnology provides hope for reactive restoration and proactive prevention of ecological damage.

Bioremediation, the use of organic materials to heal the environment, is improving our air, biodiversity, soil, and water. For example, genetically enhanced plants can be more efficient in capturing air pollution, and plastic-eating bacteria can heal our aquatic ecosystems. Looking forward, we can also preserve the planet by remodeling the ways we fuel ourselves and our machines. Microbes that reduce our reliance on fertilizer, or batteries that break down organic matter, can help us live on Earth with a lighter touch.

## CONCLUSION

### *The biotechnology revolution is here*

We can manipulate DNA at the touch of a button, supercharge nature itself, and rewind the clock on ecological harm. This is a powerful tool that demands prudent handling. "Move fast and break things," the darling mantra of the tech industry, finds little resonance here. In the laboratory-laden business of biotech, the anthem might instead be, "Proceed with care and preserve balance."

Imagine, then, a future where profitability coexists with, and even promotes, planetary well-being, and products contribute to the restoration of Earth's natural balance. A future that enables us to live better, richer lives, while also tending to the world

that sustains us. A future defined by a delicate dance of progress and preservation.

There has never been a better time to leverage the power of biology to help our species, our businesses, and our planet. What will your role be?



# BioTech frontiers

## People

Elevating and extending human health



**Measure**  
Putting health  
in our hands



**Mend**  
Transforming  
treatment



**Make**  
Accelerating  
therapeutic discovery



**Extend**  
Living longer  
and better



## Products

Starting and scaling a product revolution



**Design**  
From 0-1: Bioinspired  
engineering



**Distribute**  
From 1-n: Biolaboratories  
to biofoundries

## Planet

Bringing Earth back to basics



**Revive**  
Reversing environmental  
damage



**Thrive**  
Living with a lighter  
touch



# CONTACT US

Our insights can help you take advantage of emerging tech trends.

If you're looking for fresh ideas to address your business challenges, let's talk.



Scan here to download the full BioTech report.

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To learn more, visit Deloitte's [NextGen Therapies](#) website.



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