

Leaps by Bayer

Press Kit



leaps 

Leaps by Bayer is the impact investment arm of Bayer AG. We invest in teams pursuing fundamental breakthroughs in life science, targeting 10 huge challenges facing humanity.

Some call them impossible.
We call them “Leaps”.

Leaps at a Glance

Total amount invested
in Leaps Portfolio Companies
2015 - 2024

2+
Billion
USD

Companies IPO'd
2024

Metagenomi
Boundless Bio

Total companies
invested in

65+

New investments and
follow-on investments 2024

30+

New portfolio companies
announced in 2024

5

2024/2025 Media Highlights

Wired

May 31, 2024

Gene-Edited Salad Greens Are Coming to US Stores This Fall

READ

The New York Times

March 25, 2024

Surgeons Transplant Pig Kidney Into a Patient, a Medical Milestone

READ

c&en

June 7, 2024

At BIO International Convention, whispers of an M&A return

READ

ars TECHNICA

Feb 1, 2024

The right bacteria turn farms into carbon sinks

READ

Frankfurter Allgemeine

Jan 21, 2025

Research defeats business and politics

READ

THE SPOON

Dec 12, 2024

One Bio Raises \$27M to Advance Short-Chain Fiber Ingredients for GLP-1 Friendly Foods

READ

FIERCE Biotech

Feb 7, 2025

eGenesis announces 2nd pig kidney procedure success, as xenotransplantation field moves forward

READ

Newsweek

Feb 24, 2025

Unexpected Ways AI Is Changing Health Care-Beyond Notes and Diagnosis

READ

Leadership

Juergen Eckhardt is EVP and Head of Leaps by Bayer, the impact investment arm, and Head of Business Development, Licensing & Open Innovation (BDLOI) for the Pharmaceuticals division.

He is a medical doctor and venture investor in healthcare, biotech, and agriculture with more than 20 years of experience.

He is a strong believer that scientific breakthroughs can help us overcome some of humanity's biggest challenges, including to cure and prevent chronic disease and to feed an ever-growing world population in a sustainable way – in short: science for a better life.

In 2016, he joined Bayer to help start Leaps, focused on investments in breakthrough technologies in health and agriculture. He has been Head of Leaps since 2019. In September 2023, he also became Head of Pharma Business Development, Licensing & Open Innovation and a Member of the Executive Committee of Bayer Pharmaceuticals.

He holds an MD from the University of Basel, Switzerland, and an MBA from INSEAD in Fontainebleau, France.



Juergen Eckhardt
Head of Leaps by Bayer

Contact



Kira Peikoff

Kira Peikoff is a former journalist who covered emerging biotechnologies for publications including The New York Times, Newsweek, and Popular Mechanics.

She now leads communications for Leaps by Bayer.

E-Mail: Kira.peikoff@bayer.com

Mobile: +1 (973) 791-3348

www.leaps.bayer.com

The 10 Leaps

Why it matters: There are over 10,000 known genetic disorders caused by mutations in a single gene, in multiple genes or by chromosomal abnormality. Some are life-threatening, while others cause severe health problems that significantly reduce quality of life. Most are currently not curable. We seek out platform-based solutions that could intervene at the gene level, with the aim to prevent metabolic diseases, degenerative conditions like Alzheimer's disease, and blindness.

What if a baby born with cystic fibrosis or sickle cell anemia could be treated with cell and gene therapy in the first months of life, preventing these diseases from ever taking hold? What if medicines could address the root of the problem, preventing conditions with strong genetic predispositions?

**Companies in our portfolio
addressing this Leap**



In vivo cell engineering to tackle oncology, fibrosis, genetic disease, and autoimmunity



Crispr / Cas9-based DNA-Editing for human health

Now a public company



Gene circuits that can be deployed into cell or gene therapy modalities

Now a public company



Crispr / Cas9-based DNA-Editing for human health

acquired by
CRISPR Therapeutics



First step towards broad access to gene editing IP for in-house therapeutic development, particularly for oncology

Now a public company



Novel targeted LNP based non-viral delivery platform

Provide

sustainable organ and
tissue replacement

HEALTH

Why it matters: Some of the most important tissue in the human body—like heart muscles and nerve cells—cannot regenerate the way skin or bone can. Neither can irreversibly damaged or dysfunctional organs. Heart diseases are the leading cause of death worldwide, and there are an estimated 1.5 to 2 million people waiting for a donor organ globally, due to supply shortages. Several of the approaches that excite us include induced pluripotent stem cells (iPSCs) as a platform with the potential to address a range of indications and xenotransplantation to create a sustainable supply of organs.

What if a patient's heart muscles could be fully restored after a heart attack, empowering their return to a full and healthy life? What if getting a new kidney was as simple as a hip or knee replacement, leaving patients untethered from dialysis? Advances in cell and gene therapies are bringing this future closer to reality.

**Companies in our portfolio
addressing this Leap**



Creating and manufacturing iPSCs in the areas of neurology, cardiology, ophthalmology and immunology. Now a wholly-owned, independently operated subsidiary of Bayer as a cornerstone of its Cell & Gene Therapy Platform



Combining AI/ML with precision laser editing and imaging to produce the 1st automated platform for iPSC manufacturing at scale



Committed to bringing innovative cardiometabolic therapies to underserved patients worldwide



eGenesis strives to create a world with no shortage of human transplantable organs



Revolutionizing treatment and prevention of cancer with iPSCs for drug discovery, vaccine and cell therapies



Decoding biology by integrating biology, chemistry, data science and engineering to industrialize in silico discovery

Now a public company



Gene circuits that can be deployed into cell or gene therapy modalities

Now a public company

Reduce

environmental impact
of agriculture

AGRICULTURE

Why it matters: The global population is projected to reach nearly 10 billion people by 2050. Modern agriculture is essential to feed this growing population, but efforts driving scale can also accelerate climate change, deforestation, and pollution. Globally, agriculture is the second largest producer of greenhouse gases and the largest consumer of water. We invest in companies that are driving a shift from ‘more to better’ in agriculture, meaning better use of land and resources, more regenerative practices, and win-win solutions for the diverse needs of people and our planet.

What if we could fill our grocery carts with carbon-neutral produce, grown with dramatically reduced farming inputs? What if we could teach corn to extract nitrogen from the air like a soybean plant, enabling us to enjoy tortilla chips made without chemical runoff or excessive emissions? What if new technologies made it profitable for farmers to sequester enough carbon to remediate the effects of climate change?

**Companies in our portfolio
addressing this Leap**

AGBIOME

Deep sequencing of >75,000 microbial genomes to identify ag traits and biologicals that protect crops



Artificial intelligence / machine learning approach to drug and crop protection discovery



A rotational cash crop which combines grain production with the environmental benefits of a cover crop, providing a source of high-protein livestock feed and renewable biofuel. Now majority owned by Bayer.



Enhance protein content of plants (e.g. soybean)



Building the leading sustainability database for soil health and modeling platform using novel in-field soil sampling to digitally fingerprint soil

andes

Enabling ag biologicals by loading microbes into seeds and “carbon farming” inorganic carbon sequestration platform



Data platform that provides a full-field soil map to inform tillage and carbon farming

03 /

Reduce

environmental impact
of agriculture

AGRICULTURE

Companies in our portfolio addressing this Leap



Purpose-built large drone deployment for precision crop protection application



Engineering plant-colonizing facultative methyltroph microbes to improve crops and/or deliver other technology



Drone application of crop protection, pollen, and cover crops



Nitrogen fixation and R&D assets now integrated into Ginkgo Bioworks in a strategic partnership, with assets allocated (50 / 50) between Bayer and Ginkgo



Targeted protein degradation for crop protection and plant health



Reduce a crop's needs for synthetic fertilizer, and access to rapid non-GM/gene-edited breeding



Cpf1/Cas9 genome editing and base editing platform to improve plants



A plant biotechnology company building the world's first crop epigenetic platform

Why it matters: Cancer is the second leading cause of death globally, responsible for over 9 million deaths worldwide per year. In developed nations, nearly 1 in 2 adults risk developing cancer. Current diagnostic methods are insufficient to reliably detect many cancers early enough for successful therapy, let alone prevention in the first place.

What if every woman had access to a breast cancer vaccine, preventing millions of mastectomies and deaths? What if cell and gene therapies could cure the most resistant forms of cancer, like brain tumors? Today's most effective treatments are customized based on the patient's own cells, making them costly and time-consuming, and they are limited to certain cancer types only. In the future, the development of scalable, off-the-shelf solutions could democratize next-generation cancer immunotherapies and save millions of lives.

**Companies in our portfolio
addressing this Leap**



TCR therapies for solid cancer to overcome the immunosuppressive tumor microenvironment



In vivo cell engineering to tackle oncology, fibrosis, genetic disease, and autoimmunity



Dual targeting cytokine based cancer therapies offer an enhanced therapeutic index while exhibiting low toxicity



Creating a new class of drugs based on targeted protein degradation. Now a public company.



Genetically engineered immune effector cell therapies, derived from iPSCs to target hematologic and solid cancers



Biomolecular condensates offer totally new pathways in biology



Addressing oncogene amplification in cancer by targeting extrachromosomal DNA ("ecDNA")

Now a public company

Now a public company

04 / Prevent and cure cancer

HEALTH

Companies in our portfolio addressing this Leap



Using NSAAs (Non-Standard Amino Acids) protein to unleash the full potential of therapeutic proteins



First step towards broad access to gene editing IP for in-house therapeutic development, particularly for oncology



Decoding biology by integrating biology, chemistry, data science and engineering to industrialize in silico discovery



Developing targeted therapeutics for patients with challenging, complex cancers by unlocking human immunology



Novel first in class immune checkpoint inhibitors unlock unaddressed patient population for targeted cancer therapies



Gene circuits that can be deployed into cell or gene therapy modalities



Using G-NK cells with multi-fold increase in antitumor activity and longer persistence



Using bats biology to unlock new targets to improve human health



Revolutionizing treatment and prevention of cancer with iPSCs for drug discovery, vaccine and cell therapies



Discover novel checkpoint inhibitors for immune oncology applications to overcome toxicity and low penetration



Advancing novel TAC technology for T Cell therapies that are safe and efficacious in solid tumors

Now a public company

Now a public company

Now a public company

***Why it matters:* Mental health disorders and neurological diseases affect more than 1 billion people. Therapies for neurodegenerative diseases like Parkinson’s disease and dementia have seen little progress in decades, with no disease-modifying therapies available today. We invest in companies building new technology toolboxes with the aspiration of reversing degenerative and developmental neurological diseases and regaining mental health.**

What if cell and gene therapies could be used to develop medicines that reverse the loss of brain cells in devastating diseases like Alzheimer’s disease, ALS, or Parkinson’s? Researchers are also beginning to untangle the human microbiome, establishing linkages between gut health, the immune system, and the brain. What if we could cure depression or anxiety by restoring microbiome health?

**Companies in our portfolio
addressing this Leap**



Commensal strains of gut bacteria to treat CNS (drug-resistant Epilepsy, ALS) and auto-immune (severe asthma) diseases



Creating and manufacturing iPSCs in the areas of neurology, cardiology, ophthalmology and immunology. Now a wholly-owned, independently operated subsidiary of Bayer as a cornerstone of its Cell & Gene Therapy Platform



Biomolecular condensates offer totally new pathways in biology

Decoding biology by integrating biology, chemistry, data science and engineering to industrialize in silico discovery

Now a public company



Gene circuits that can be deployed into cell or gene therapy modalities

Now a public company



Behavioral therapy approaches to provide on-demand mental health-care with a fully automated, digital therapist

Reverse

autoimmune diseases and
chronic inflammation

HEALTH

Why it matters: Autoimmune diseases are among the top 10 causes of death in women of all age groups. Around 5-8% of the population is affected by 80-100 different autoimmune diseases, like type 1 diabetes and lupus. When the immune system attacks the very tissue it is meant to protect, chronic diseases result. Current treatments are largely limited to suppressing the entire immune system, which lowers the body's ability to fight off infections and other diseases, like cancer.

What if we could permanently reverse type 1 diabetes, enabling patients to cease daily insulin injections? What if we could develop precise tools that enable targeted regulation of the immune system? Researchers are exploring how iPSC and CRISPR/Cas9 can retrain T-cells to work in concert with other immune cells, delivering curative therapies. Novel metrics of inflammatory health could lead to personalized health interventions to improve healthspan.

**Companies in our portfolio
addressing this Leap**



Next generation solutions for skin diseases in daily management and therapeutic applications

Now a public company



Biomolecular condensates offer totally new pathways in biology



Rebalancing immune function for chronic inflammatory and autoimmune diseases



Commensal strains of gut bacteria to treat CNS (drug-resistant Epilepsy, ALS) and auto-immune (severe asthma) diseases



Tackling systemic chronic inflammation, the root cause of age-related diseases



Using bats biology to unlock new targets to improve human health



In vivo cell engineering to tackle oncology, fibrosis, genetic disease, and autoimmunity



Using NSAAs (Non-Standard Amino Acids) protein to unleash the full potential of therapeutic proteins



Gene circuits that can be deployed into cell or gene therapy modalities



Dual targeting cytokine based cancer therapies offer an enhanced therapeutic index while exhibiting low toxicity



First step towards broad access to gene editing IP for in-house therapeutic development, particularly for oncology



Designing and developing TYK-2 targeting drugs for inflammatory diseases such as psoriasis, psoriatic arthritis, and lupus



CD8 T-cell immune modulators for the treatment of autoimmune diseases

07 /

Provide

next-generation
healthy crops

AGRICULTURE

Why it matters: The Green Revolution lifted millions out of starvation, yet new approaches are needed to provide comprehensive nutrition at a global scale. Climate change, threats to biodiversity, and consumer preferences are driving a seismic demand shift. Agriculture today faces a monumental challenge—to dramatically increase the quality, diversity, and nutrition of the food we grow, while reducing the use of land, water, and other inputs. We invest in companies developing next-generation breeding tools that could produce crops that are more nutritious and flavorful, stay fresh longer, and increase access to fresh produce.

What if transformational new technologies could improve plants and growing systems to holistically nourish a global population? Improving the nutritional profile of staple foods like rice and soy could address malnutrition, which impacts millions in low-income countries. What if a cucumber could be packed with the nutritional density of kale, making it more appealing for kids to ‘eat their greens’?

Companies in our portfolio addressing this Leap



High protein, high production varieties of Chickpea and subsequent high protein products



Design proteins that do not trigger an immune response for e.g. celiac disease and to treat peanut allergy



Cpf1/Cas9 genome editing and base editing platform to improve plants



Working to end inflammatory disease and decimate food waste



Reduce a crop's needs for synthetic fertilizer, and access to rapid non-GM/gene-edited breeding

Develop

sustainable protein
supply

AGRICULTURE

***Why it matters:* According to the FAO (Food and Agriculture Organization of the United Nations), there are more than 19 billion chickens, 1.4 billion cattle and 1 billion pigs and sheep that require 80% of the world's available agricultural land. 36% of the world's crop calories are used for animal feed, and livestock contribute 14.5% of total greenhouse gas emissions—more than fuel consumption in transportation. From plant-based innovations to next-gen biotech, we seek out solutions that can deliver high-quality proteins for billions, while using a fraction of the resources required today.**

What if supermarkets everywhere offered a range of lab-grown meats, from pork to filet mignon to bluefin tuna? What if chickpeas and other plant proteins could be bred to be more nutritionally dense than conventional varieties? Alternative sources of protein could spare millions of hectares of natural ecosystems. Artificially produced meat could be healthier than conventional meat because it would remain free of pathogens and antibiotics.

**Companies in our portfolio
addressing this Leap**



Enhance protein content
of plants (e.g. soybean)



Design proteins that do
not trigger an immune
response for e.g. celiac
disease and to treat
peanut allergy



Cultivated pork,
cracking the cost of
goods challenge



High protein, high
production varieties
of Chickpea and
subsequent high
protein products

***Why it matters:* A pandemic, climate volatility, and an increasingly long and complex food supply chain have shown the importance of a globally resilient food system. Soil erosion, drought, freezing temperatures and extreme weather are increasingly severe and unpredictable. There is a growing need for digital technologies that can help growers worldwide manage their farm as well as for better systems to reduce the financial and environmental costs of food spoilage.**

What if AI, synthetic biology, and regenerative agriculture practices could be leveraged together to restore soil health, securing short and long-term crop yields? What if data-driven systems could provide predictive insights and optimization to everyone, not just the largest farms in the wealthiest nations? What if digital business models could better link farmers to markets, increasing consumer access, building trust, improving crop traceability and pricing transparency, and reducing food loss?

**Companies in our portfolio
addressing this Leap**



Small holder farmer
digital business model
based in Africa



Data platform that
provides a full-field soil
map to inform tillage
and carbon farming



Leading Brazilian online
platform that connects
growers to commodity
buyers

Why it matters: From wearable devices to artificial intelligence to protein modeling, AI and machine learning technology is sparking a revolution in medicine, transforming everything from diagnosis to treatment to drug discovery. We invest in companies at the intersection of biology and technology that are laying the groundwork for predictive, preventative, and curative medicine. We are excited by companies whose competitive advantage comes from a unique way of blending computational tools, wet lab science, and hardware engineering toward making impactful medicines or consumer-facing interventions.

What if technology ushers in a new era of predictive medicine, enabling us to repair a young man's heart before he even experiences chest pain? What if AI could help predict which new therapies have the greatest statistical likelihood to cure a child suffering from leukemia? AI and machine learning could help target previously undruggable targets in drug discovery and speed up the development of novel medicines at scale. Imagine a massive amount of metagenomic data that could be analyzed to unlock 4 billion years of microbial evolution and identify new types of gene editing systems to treat incurable genetic diseases.

**Companies in our portfolio
addressing this Leap**



AI-driven symptom assessment app to revolutionize consumer care path across healthcare journey



Combining AI/ML with precision laser editing and imaging to produce the 1st automated platform for iPSC manufacturing at scale



Transforming healthcare and research globally with 'hospital at home' and decentralized clinical trials



Delivering personalized nutrition offering that fits the needs of each consumer

now majority owned
by Bayer



Tackling systemic chronic inflammation, the root cause of age-related diseases



Decoding biology by integrating biology, chemistry, data science and engineering to industrialize in silico discovery

Now a public
company



Cryo-EM-based drug design in cancer, neurology, cardiology, and potential in Ag

**Breaking through
impossible.**

Together.

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