



# Capital Markets Day 2021

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Presentation by

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(Please check against delivery)

**[Leaps by Bayer: Breaking Through Impossible]**

Jürgen Eckhardt

*Head of Leaps by Bayer*

Welcome to Capital Markets Day 2021! My name is Jürgen Eckhardt and I am the Head of Leaps by Bayer, the impact investment unit of Bayer.

I am excited to share a little more about the vision of Leaps by Bayer and some of our recent achievements with you today, also I do not want to miss making you aware of the virtual Leaps exhibition that you will be able to access at any time from the main lobby of the virtual CMD experience.

Leaps was created in 2015 to break through the impossible in life sciences investment — in scale, risk and collaboration. We began with a mission that is fundamentally different from what other corporate venture funds are pursuing. We have invested more than 1bn USD into a portfolio comprising over 35 companies. Some are new companies we co-founded; others are early stage investments in existing companies. All are developing technologies that could be both profitable as well as sustainable, helping to solve some of the biggest challenges facing humanity today.

What really makes us unique is that we focus our investments on truly paradigm-shifting advances.

Minority equity investment is our tool to drive this mission. Our significant and sustained investments in outstandingly ambitious innovation may well revolutionize our industry and ourselves.

We should always be clear about our areas of expertise. We have the ambition to create leaps based on our solid foundation of about 150 years in the life sciences.

The Leaps team is tasked with finding those technologies that could change today's businesses, including our Bayer businesses, potentially shaping or transforming the industry and changing the world to the better.

Because we strongly believe that as a leader, we have the responsibility to embrace change, to question existing paradigms, otherwise we will be the ones being disrupted. And the time is now, you are probably aware of the potential of the bio revolution. Even now, in a time where the world has pushed the pause button because of a global pandemic, we see how the 'forth revolution' is poised to dramatically impact health, agriculture, and many other industries. And we are thrilled to be part of this transformation.

Bayer and Leaps by Bayer are strong believers into the idea that man-made problems can only be tackled by man-made innovation.

What does that really mean?

At Leaps by Bayer we have attempted to translate this idea into ten ambitious goals. We call them the 10 Leaps for humanity. They represent the articulation of what we are trying to achieve with Leaps by Bayer. At the same time, the 10 Leaps encompass what we believe are some of the biggest goals that humanity is after today. Curing genetic disease, preventing and curing cancer or finding ways to cure autoimmune disease are amongst them in the health space. So, if you want to condense this thought down to a single statement for health, it means moving from treatment to cure or from treatment to prevention. In the past centuries the whole industry of pharmaceuticals –

also including Bayer - has tried to address diseases with symptomatic treatments to find ways to prolong a patient's life, but often without curing the underlying disease.

Today, we can do more.

At Leaps by Bayer, we strongly believe that with the technologies that are existing today, especially in the cell and gene therapy field, we have the ability and the chance to change that and really develop cures or preventative medicines that stop the disease from developing even earlier.

And along those lines, Leaps is placing investments in regenerative medicine, in cancer or to find ways to alleviate the global organ shortage.

In agriculture we follow a similarly ambitious goal. During the past century this industry was faced with an extremely challenging task: to end hunger and feed an ever-growing world population. In the 21<sup>st</sup> century, things have changed, and we are at the cusp of a biotech revolution. Technology may enable us to better nourish the still-growing world population, but at the same time, to do this in a much more sustainable fashion.

With our portfolio companies, we aim to create food and agriculture solutions that can provide better, more nutritious foods and find ways to produce those with dramatically less impact on the planet.

The Leaps by Bayer portfolio encompasses around 35 companies. To date, we have invested about one billion US Dollars. The portfolio is fairly balanced between companies in agriculture and those in the health space.

I want to briefly steer your attention to a few of these companies:

BlueRock is a great example because it illustrates the role Leaps is aspiring to have for Bayer: Leaps co-created BlueRock in 2016 around the promise of the induced pluripotent stem cell. Three years later, Bayer Pharma fully acquired BlueRock which was really the starting point for Bayer's own cell and gene therapy strategy.

Similarly, the digital health company care/of, was fully acquired by our Consumer Health division in 2020, after a first investment by Leaps in 2019.

These are two examples of how Leaps investments help support evolving divisional innovation strategies. Leaps can be an important driver of the division's early breakthrough innovation portfolio, and can position Bayer to better access next-generation technologies.

Another aspect that makes Bayer and especially Leaps a unique player in the life sciences is that we uncover opportunities where technology applications could span across our core fields of business. A great example of this is Arvinas, a company harnessing the protein degradation system of the cell to selectively remove target proteins. Since both Arvinas and Leaps strongly believe that the technology may be able to deliver benefits not only for patients but also for plants, we teamed up to create Oerth Bio. Oerth is a joint venture that aims to develop a completely new category of crop protection tools in agriculture.

Ukko is another example where technological innovation on the agriculture side may have a direct impact on patient health. Ukko is developing solutions that could free people from conditions such as gluten sensitivity or other food allergies.

Much more detailed insights about these and other Leaps portfolio companies can be found in the CMD virtual Leaps by Bayer exhibition.

A question I get asked often is how Leaps is differentiated from what we do internally within Bayer with our innovation efforts in research and development. The answer is quite easy. Leaps invests into areas that are early, new and/ or risky enough that a full M&A or license transaction would not make sense for the time being. We invest in areas where internal know-how is limited and where we are better off to let teams operate at arm's length. However, this does not mean that closer collaboration or even M&As are not possible at a later stage.

Basically, the Leaps investments are in the high risk - high reward bucket of our internal innovation portfolio. We operate in alignment with the divisional strategies and activities with the clear ambition to provide positive impulses for our internal ways of innovating. In order to deliver on this task, we have a very short reporting line into the board of management, and we operate under our own investment budget.

Therefore, the role that Leaps has within Bayer is very complementary to activities in the divisions and in R&D.

Just to give you a flavor of our work – or the work of our portfolio companies – I like to briefly showcase two of them to you, eGenesis and Joyn Bio.

eGenesis is a fascinating company that tries to address the global shortage of donor organs. It was actually a spin-off founded out of George Church's lab at Harvard, the "god-father" of modern genetics.

In the US alone, more than 180,000 people are in need of a donor organ. Globally, that number is closer to two million and growing daily. To alleviate this problem, eGenesis is working on ways to grow non-human organs for human use. One of the key issues with the utilization of non-human organs is rejection by the body's immune system. In the case of pig organs, another, additional issue arises, such as the Porcine Endogenous Retrovirus or PERV, which can be transmitted to humans.

eGenesis is using gene editing technology/ CRISPR in order to overcome these problems and is hopeful that they will be the first, certainly we believe they are the most promising, who will enable a sustainable organ supply for humans through non-human donor organs.

eGenesis is trying to make this a reality in kidneys as a first step, but later also for islet cells, liver, heart and even lung transplants. Being able to achieve this, to us, would be a major leap forward in medicine.

Another company I would like to invite you to experience is Joyn Bio from our agriculture portfolio.

I get really excited when I have the chance to talk about Joyn. Joyn Bio was created from scratch by Leaps in collaboration with Ginkgo Bioworks, one of the leading global players in synthetic biology. Joyn's state-of-the-art labs are in the Boston harbor area, in a beautiful old building right next to the ones of Ginkgo.

The technology Joyn Bio is primarily exploring is called nitrogen fixation. The concept is at once very simple and extremely impressive. As you may know, nitrogen is one of the most important nutrients essential for every plant to grow. Most plant species take nitrogen from the soil through

their roots. And since there is often not enough nitrogen in the soil it needs to be added through nitrogen fertilizer.

But nature gave us some great exceptions. Naturally there are a few plants that are able to circumvent this paradigm. Peanut plants for example, through soil microorganisms, are able to absorb nitrogen from the air and not just from the soil. These plants can grow with much less nitrogen provided through the soil which means less nitrogen fertilizer use. And why is that important? Because nitrogen fertilizer and the production of nitrogen fertilizer through the Haber-Bosch synthesis process, which was invented in the past century, is one of the big sources for carbon emission that you can find on the planet. It is estimated to contribute somewhere between 3-5% of all global greenhouse gases.

So in the nutshell, Joyn Bio's technology would enable microbes to expand that paradigm from the peanut plant into commercially more relevant crops like rice, wheat or corn. It may have the potential to dramatically reduce the amount of greenhouse gas that originates from large scale agriculture. What a leap forward for humanity would that be!

Those were the two examples I wanted to share with you today. There is much more, our portfolio includes many, many exciting companies and if you want to learn more, I would love to invite you to join our virtual Leaps by Bayer exhibition that you can find, when you click on the link in the Capital Markets Day lobby. You will be able to learn about a number of other portfolio companies and hear from some of their CEOs about their vision, approach and why their technology represent a potential leap for humanity.

In summary:

- Leaps is the impact investment unit of Bayer
- We invest into technologies with the potential to change existing industry paradigms and even Bayer businesses
- The Leaps by Bayer activities are guided by solving 10 leaps for humanity
- We aim to establish business models that balance profitability with sustainability
- Leaps by Bayer has invested more than one billion US dollars of minority equity into over 35 portfolio companies

With its strategy to create sustainable breakthrough innovation, the Leaps by Bayer mission aligns with Bayer's focus on „Health for all, hunger for none“ and the clear ambition to develop the Bayer businesses towards an integration of business strategy and sustainability.

Thank you very much for your kind attention.

### **Cautionary Statements Regarding Forward-Looking Information**

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The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.