Leo von Gerlach	Hello everybody and welcome to another edition of The Influencers, our podcast conversation on digital transformation, business and law. I'm Leo von Gerlach and with me today is Marisa Krummrich, Investment Manager at b2venture. b2venture is a European venture capital firm that invests predominantly in early-stage technology startups across sectors, with a strong focus on AI, fintech and biotech. b2venture leverages an impressive network of angel investors and provides -- well, aside from the obvious -- capital hands on support for young companies. Marisa has recently created some excitement in the European investment community with her publication of a tech biomarket map on AI, drug discovery, and development, and that is something I really want to talk about. So, Marissa, it's great to have you.
Marisa Krummrich	Thank you for a very kind introduction, Leo, happy to be here.
Leo von Gerlach	Take us back to the beginning. What first drew you to the intersection of technology and healthcare, and how did that journey lead you to becoming an early-stage investor at b2venture?
Marisa Krummrich	Great question. My journey started rather early, in retrospect, I think. I grew up with scientific parents. So I was as a kid building Fischertechnik toys, programming robots, and I had that huge passion for tech. And [its] application to health to me has always been one of the most fascinating because it impacts quality of life, obviously very centrally, and so I went on to study medical computer science, joined McKinsey for a few years and led some large-scale digital transformations in the health sector. And I saw firsthand the global scale and impact that tech can have in these areas, but also how long it can take for adoption in larger corporates, and so I wanted to work more hands-on at the actual edge of innovation. And to me, it's always been super fascinating to work with founders, so VC was a sort of natural next step in that direction. b2venture, as we've also mentioned in [the] introduction I think, is one of the leaders in VC in Europe in general, a lot of experience in diligent investments, which is based really on tech and not hype and yeah, with support of an amazing network of angel investors and so I had the opportunity to join the

	team, build out that angle of tech and in combination with health and life sciences and build out this thesis. That's what brought me here and my belief is really that tech and health, that convergence is one of the key opportunities that we are going to see in our lifetime, so, I'm super excited every day basically to get to work on this.
Leo von Gerlach	You mentioned McKinsey, so what were some of the key lessons from working with these Fortune 500 companies in health, and how do you apply this now as approaching newer companies as an investor?
Marisa Krummrich	Yes. So, one of my key lessons in the corporate is that there's a gap between innovation and actual implementation. A lot of the time, big corporates and the leading teams are really excited about new technologies and the opportunities it offers, but it actually takes some time for that to come to reality, because there's a lot of different factors from legacy systems to risk aversions with key stakeholders, and in the end it's always the human factor of people implementing systems. And so one of the key learnings that we're also looking for now in founders is that execution and having a great product, great user experience really matters. What we're looking for in founders is that they can navigate these digital assets together with their customers, that they are persistent and adaptable and really just bring that great customer experience to the people they work with.
Leo von Gerlach	So, I mentioned in the beginning that you stirred quite some excitement with your tech biomarket map. What brought you in the first place to put it together, and to look closer into this market of drug development, and how to enhance it with new technologies including AI?
Marisa Krummrich	Working with b2venture as an investor, I was speaking out of curiosity, out of interest, with a lot of amazing founders in the field. So, building solutions for drug discovery, for molecule discovery, all the way to clinical trials, and honestly bringing drugs to market and speaking with those founders, I've always found it easiest to structure my thoughts by mapping them out on paper. And so to evaluate what would be a good investment, where do we actually see the biggest opportunities, I started mapping out for myself where AI is truly shifting biotech and drug development, and so that's how the tech biomap was evolving. As I was mapping down my thoughts, the assembly line of drug discovery was sort of the natural structure for the market map because that's how drug development in the end functions. It's a sort of assembly line between drug discovery, then the development of the drug, and the infrastructure at the bottom, and we have seen that what it takes to win is to really build a scalable platform. In our opinion, not necessarily the one of AI models that we are looking for, but really an integrated approach built on something novel.

Leo von Gerlach	That's interesting. Let's dig a little bit deeper. So, you described tech bio as a kind of assembly line for drug discovery and development. Can you break down this concept for us and why it is a useful lens to look at the process?
Marisa Krummrich	I think the assembly line is a bit of a natural framework following the logic of drug discovery. So, drug discovery typically follows a rather sequential process, where you have the actual discovery in the beginning. So, you have the targets that you want to address. You have discovery of the molecules and then pharma or biotech companies develop that drug and take it through clinical trials all the way to approval and bringing it to market. So, this is the natural flow of things and of course, there's a lot of loops in there as pharma companies figure out which constellations actually work best. And what AI is doing, and has been doing for a longer time actually, is making these stages more interconnected. That is the sort of horizontal line or the horizontal axis on my market map and because I come from a tech background, and because I was discussing a lot with our partner Andreas Goeldi about the general AI spec and how GenAI and that sort of language models are shifting the stack, we discovered that the tech biomarket, we saw a lot of these patterns reflected. We saw that it really actually mirrors the AI software back in many ways, and we found it very helpful to map the startups and tech bio to our mental framework along those layers. And so that's how the vertical axis came to life.
Leo von Gerlach	So many of the processes you describe are just taking a lot of time, and that's something very typical in biotech -- generally, it's something typical for drug development. How does this correlate with the speed of the models and the way you can actually just combine very very different timelines on the one side and the expectation of a venture capital firm on the other side that of course wants to see a profitable exit scenario within predictable timeline?
Marisa Krummrich	It's one of the most fascinating aspects to me in this industry. So, to put this into perspective a little bit maybe; when we're talking about long timelines, it can take 10 to 12 years to bring a single drug to market. So, all the way from drafting that molecule on paper or on the computer to actually having that drug in the hands of patients and helping people, which is obviously a really long time. And if you look at the typical lifetime of a VC fund, that as well is normally 10 to 12 years. So, with a typical biotech setup and how those companies traditionally work, is that you have specific assets that these companies are developing and then bringing these assets or the medicaments, that are the drugs, that are coming out of them to market. And it's a kind of binary risk in the sense that either this asset ends up working out and

	there's obviously a lot of stages where it can fail because you've got a molecule, it can fail in the laboratory, it can fail during trials, and either it works or it doesn't. It's more a zero to one compared to a typical platform or software where you can sort of scale up your users, you can scale up your revenue over time.

These funds usually were quite separated. You had biotech funds, who took on these asset risks and who were really on the scientific side betting on companies having better assets or having made novel scientific discoveries, whereas typical software investors, and that's including b2venture, are normally looking at technology and platforms and how they are superior to these companies.

Maybe a useful way to think about the two approaches that tech bio companies can take and the two models that are bringing this closer to a typical tech investor VC framework, is in terms of acceleration versus success chances. So, what I mean by that, is that a typical effect of tech is to speed up efficiency, to speed up processes and coming back to those 12-year timelines, of course, there's a huge impact by speeding up the efficiency of a drug discovery process. So maybe helping scientists get to that fitting molecule faster, maybe helping the laboratories be more efficient and then bringing the clinical trials to FDA approval faster.

The second option is to increase the success chances of course. So, if you're building a tech platform as a tech bio company, you can have a better model, you can have proprietary technology that enables more of your molecules to be successful in those clinical trials. And so you might be able to reach some of those clinical milestones faster or increase pharma companies' chances of success when partnering with them.

So, what we look for as tech investors are platforms that achieve some of these milestones and it helps the founders have a very clear narrative of where they see their company going and we're really looking for novel technology, proprietary value capture or novel data sets that really help build up that narrative of where this company is bringing new value or a fundamentally new way of discovering therapies to the industry. |
| Leo von Gerlach | Let's stay with a few components of what you just said and in particular about models, AI models and investments. Last year we have seen the release of AlphaFold, BioGPT, ESMFold and then of course we have now seen these huge investment infrastructure investment projects like Stargate with the 500 billion investment promise in the US. How do you see this having an impact on the discovery and development processes that you have described and how do they |

	perhaps exert a turbo compression to everything that you are investing in?
Marisa Krummrich	Yeah. I think Stargate is a super interesting example. So, one of their stated goals was to develop cancer cures and of course we have limited knowledge so far, especially because it's a very new program of what this will actually mean. But I think it's interesting to see how drug discovery and tech is shifting even more into the central awareness or the broader awareness of an AI application area. Also, I think going really to show that AI and drug discovery is really no longer theoretical; it's unfolding and having an effect on where we are headed.

Also interesting is that at Davos recently, the Isomorphic Labs founder, Demis Hassabis, has said that artificial intelligence designed drugs will be in clinical trials by the end of this year. And of course, you mentioned AlphaFold and the inventors, or the founders of DeepMind have been honored with the Nobel Prize as of last year.

So, I think what all of this goes to show is that we're having or we're seeing a capital shift on a massive scale. So, there's a lot of large-scale initiatives, such as Stargate, highlighting that similar to the general AI, GenAI and LLM stack, we have massive data compute power and cloud infrastructure shifts, which are essentially differentiators and essential needs in the industry. So, AI and biotech, which historically is an industry where 60-70% of the novel drugs are actually discovered by small or medium enterprises, these industries are also shifting to needs for massive investments, massive capital in data and compute power. And traditionally, the companies who have access to huge data sets, to compute resources to train their models, that's big pharma companies. And so, it's going to be interesting to see how these big pharma companies actually adopt all of these new capabilities. Of course, all of the big pharma companies are looking at AI models already and implementing initiatives to leverage them in their drug discovery but, at the same time, reshaping for those smaller biotech companies what is possible because they also, of course have access to a lot of open-source models. They are building up their own tool stacks and so I think AI isn't just accelerating biotech in this sense, but it's really reshaping what is possible with those breakthroughs that are showing what AI can do. And it's not just about accelerating drug discovery workflows; I mentioned before increased efficiency. I think it's also helping generate entirely new hypotheses.

This is what we're seeing a lot in our work with founders, you know, models giving scientists completely new ideas of molecules to use, disease mechanisms that can be addressed. So, really, we are seeing a lot of amazing founders work on covering white spaces that previously were just sort of a blank space on the mind of scientists. |

	At the same time what this means is that the bar for startups is rising immensely of course, because you're seeing these huge investments, you're seeing huge companies working on these topics and major pharma and tech companies integrating AI really, really deep into their operations. So, startups really have to know what differentiates them beyond just using AI and beyond saying that they are using AI agents. They really need a unique angle and that can be proprietary data that they've discovered through their own experiments, it can be a novel way of thinking about AI architecture, and one really interesting aspect, for example, that we are seeing people focus on more and more now are clinical trials, one of the big cost drivers and then the actual integration with wet labs to get those data feedbacks in, so not just focusing on the discovery of new drugs on paper, like models such as AlphaFold are doing, but also figuring out what actually works and integrating those data leaps more tightly. That said, I mean, there's a lot of unknowns remaining for sure. There's a lot of exciting developments, but in the end, we still don't really know how quickly AI first biotech can translate into real world drugs, but I'm really looking forward to what is to come if these investments are anything to go by, with a lot of exciting things to come in the year.
Leo von Gerlach	Great. There was a lot in there what you just said and I really take it home that drug development times will be shortened by all the new technologies that we are seeing and that's, I think, very welcomed also from the consumer and the patient's perspective, not only from the investor's perspective. And you also touched on the investor lens that I think you need to have a very gripping business idea to fill a certain niche with your pitch. What else would you look at as a VC investor in having a promising startup business in front of you that you would bet on?
Marisa Krummrich	Great question, and we're seeing a lot of factors go into great founding teams. So, because of the complexities of this industry, we are really looking at how the market fit in these cases. So, do the founding team have a really deep understanding both of the science and then of the commercialization challenge, and the best founding teams bridge both of these worlds. So, bring great scientific knowledge and then also know how to position it with customers to help them navigate this change, to help them navigate all these uncertainties that are coming up with AI. And then maybe going back to something I said earlier, one really important thing as with all founders is the execution mindset, especially with the complexities that tech bio brings. It's not just about having a breakthrough, it's also about building a company, attracting top talent and staying on course, having that resilience to navigate

	these tough times and shift and really bring something on the ground to keep the company going despite the sometimes longer R&D cycles.
Leo von Gerlach	OK, I totally understand that. So, it's about the quality and the mindset of those who run the startup; that makes a lot of sense. Just briefly to come to the end, we have a specific situation in Europe where we traditionally have bigger problems in finding the funds for promising new businesses. How do you see Europe comparing to the US and what could be done about it if there are some additional challenges over here?
Marisa Krummrich	Personally, I'm really bullish on Europe. I think we have a lot of advantages here over the US. It's true that there's a funding disparity unfortunately, still today. So maybe again to put this into perspective, European biotech investment in 2023 was just 7% of global biotech investment. And the US has 35% of global biotech investment. So that funding gap is definitely still there. It is being closed, but what we have here and what I'm really excited to see is that our scientific leadership in Europe is honestly unmatched. You hear this all across the world at conferences. There's more PhDs in life sciences in Europe than in the US.

We've got some really, really world class research hubs here, so MaxPlan for example, or public private collaborations. So, we've got the UK Biobank, we've got Genomics England and all of that data, which I've mentioned before, is key in drug discovery and key in making sure that great models, great machine learning models can actually be applied. That's a huge advantage to have all of this data and talent access here and then I think, something that's often been knocked on here and we've actually talked about this in November is regulation in Europe, which can be seen as a hold up, but at the same time in a highly regulated, highly critical industry like pharma, I think that's also a huge opportunity to approach this from a sensible angle from the beginning to make sure that we are using AI responsibly and the best founders that we've seen are resilient and can navigate these challenges and push through even when there's some restrictions through regulation, like the UAI Act. |
| Leo von Gerlach | I love your hopeful outlook, Marisa, and I really just congratulate you and b2venture to do your bit in supporting upcoming businesses to really bring good science to good business and we love to see more of that coming and we love to see how all the technology you describe will interact fruitfully with your investments and your startup firms. So, the very best of luck for all those endeavors.

With that, I conclude our session for now. Thank you everybody for joining. Thank you in particular, Marisa, for this terrific, insightful |

	interview. I hope to see you soon again at the next edition of The Influences which will be coming up soon. Take care. Goodbye.