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Alantra Pharma Fast 50 2021 Winner's interview

FAST 50 PHARMA TECHNOLOGY WINNER 2021

Tom Cowap, Director, Alantra and Andrew Hopkins, CEO, Exscientia



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Tom: Andrew, firstly, good to see you and big congratulations on winning the Alantra 2021 Pharma Fast 50 with a huge growth rate of 98%, which not only means you win this year, but are the fastest-growing business in all five years we've been running the award.

Andrew: Oh, wow.

Tom: The UK, home to a thriving pharma sector, and that's driven by privately-owned entrepreneurial pharma businesses which we try and shine the light on every year with the Pharma Fast 50. This year technology and AI has been a real standout theme of that with three of the top five being tech businesses.

I think you made an amazing statement in our interview that you expect all drugs to be developed using AI by the end of this decade. Historically, people have thought of drug development as being split into pharma and biotech on one side, and CRO and CDMO supporting on the other side, but you've coined Exscientia as being a new category called pharmatech. Could you just talk us through Exscientia, your technology and how you sit in that value chain?

Andrew: Oh, excellent. Tom, thank you very much and it's absolutely fantastic to win the award and apologies we're not meeting in person to receive this. It's incredible to hear that we're also the fastest-growing company in the five years you've been running it and I hope in future years we can continue to accelerate that growth.

So yes, we call ourselves a pharmatech. Other people have been calling us pharmatech, and it reflects many things. It reflects the fact that we make an oversize investment into our technology platform in the belief and now the evidence that it is going to give us oversize benefits going forward; I think our growth rate is an example of that.

For example, if we take away the corporate strategic operations core of a company in terms of HR, finance and admin, our company is effectively almost 50/50 between our technologists and then our drug discoverers.

That is very unusual to have such a balance between technology and drug hunting in any sort of biotech pharma company. We are making very considerable investments into trying to solve drug design as a formal scientific problem. In our hypothesis we can create a revolutionary way forward in how we can create medicines. I think we are already starting to show that.

One of the key things for us is that we are the first company in the whole space who have automated AI drug discovery. We were formed in 2012 on the back of work we originally published in Nature, spun out from my lab when I was a professor at the University of Dundee.

What we've now shown is that by this year we've brought up to our third drug designed entirely by our AI platform into the clinic in human clinical trials. We've shown we've got real sustainable and robust evidence about the performance of those projects. We have another four drug candidates now in various stages of IMD preclinical enablement.

We see each of those drug candidates going from initial design to identifying the drug candidate was 12 months or less. Compare that to three and a half to four and a half years that you normally spend in discovery in pharma.

And the reason we see this acceleration is, by letting the algorithms do the design and help us with better decision-making, we can bring all the data to bear so ultimately we are making fewer compounds, doing fewer experiments, much less waste and attrition, and that's what's driving the productivity increase.

Tom: And that plays well into a current theme which is through the pandemic there's been more attention than ever on what it takes to deliver a drug effectively and quickly. COVID vaccines have been developed in almost record time, setting you guys apart in what you're doing. Has that focus, curiosity and speed in the wider market impacted Exscientia and drawn any focus to the business?

Andrew: I think it has. It's challenged all our assumptions. Exscientia was formed on the basis of challenging the assumptions of what's possible in small molecule drug discovery. What we see now, particularly with the MNRA platforms and some of the antibody platforms, is that they've also been challenging assumptions about what's possible. But for me there's also another lesson of how we're going to develop Exscientia going forward.

One of the advantages of these biological platforms was their ability to combine manufacturing and production alongside design, giving them a real advantage. Chemistry has the challenge that every molecule we make is bespoke, every synthesis is different; that's very different to making an MRNA molecule or an antibody platform.

As we look forward, Exscientia is looking into investment into how we build up things like automated synthesis, how we truly go from not just automating design but ultimately automating experiments. That's a big theme you will see coming through in Exscientia over the next few years.

That's really come from the lessons we've seen from these other biological platforms: how do we bring small molecule chemistry into the 21st century, not just with AI-driven drug design, but also with more automation.

Tom: And that end-to-end value chain, being able to deliver that support over the life of taking a molecule from concept to medicine, that's also a huge benefit to the patient industry but that also makes the sector very attractive to investors, private equity, and venture capital. That, and the defensive nature of the sector.

You've raised \$650 million to date from investors like BlackRock, SoftBank, GT Healthcare. When did you decide the time was right to seek investment to support that growth and did you approach investors initially or particularly in the early days, did you find they were approaching you?

Andrew: I think Exscientia has been built in a very different way to most biotech or even some tech companies. We bootstrapped the company for the first five years, the reason being that we really focused first on validating and proving the technology of the platform, showing it can be delivered. The best way to do that was to work with our partners, particularly pharma companies.

What drove us for the first few years was to really validate the market and the technology, and to build that out. Once we'd done that and started to see drugs move forward into clinic, we started to think about how we build upon that proven, validated platform. The company was five-years-old before we took our first investment with one of our partners, Evotec.

What's interesting is all the way up to 2020, our first two investment rounds were always strategic partners, people who we are working with on drug discovery projects such as Bristol Myers Squibb, Evotec, even GT Healthcare – we also have a joint venture with them.

It was only last year that we really started to broaden our investment base and that was because we believed we had a proven platform and we wanted to scale this platform.

We've been incredibly fortunate to curate an investor base – starting with Novo, one of the leading life science investors in the world, then BlackRock and more recently an incredible constellation of investors from SoftBank, Mubadala, Casdin, Farallon, Laurion, Marshall Wace. I don't want to forget any names because we've got an incredible bunch of supporters now.

I think we've been very lucky to curate our shareholder base to have long-term partners who represent fantastic life science investors but also fantastic tech investors. That also goes back to the pharma tech concept you mentioned originally – first we wanted to de-risk the company before finding the right investors who believe in the long-term vision.

Tom: And to bring those investors on board, did that impact the way you run the business or the way you grew from then? It sounds like a knowledgeable investor base there as well as supportive capital. How did that change the business's journey after they came on?

Andrew: It's a really interesting question how the business has developed. It's developed as we proved ourselves, as we developed it and then each round of finance allowed us to expand the business model. One of the interesting things about being a pharma tech is that it's a much more scalable business model than a traditional biotech would be. And that means we're running three business models in parallel.

We have a pharma partnership business such as the recent deal we signed with Bristol Myers Squibb, very significant expansion of work we're already doing with them – so it's a great signal to the market about doubling down.

Then we have an extremely interesting business model on joint ventures where we are able to expand and develop that and move forward. That's with people like Raleigh bio, EQRx, amongst others, and Blue Oak. It allows us to hold a 50/50 partnership and equity, and scale that pipeline. And of course develop our own pipeline as well.

Each of the different rounds has allowed us to expand the model. The very first investment round of Series A with Evotec allowed us to think about how we would start to move from a service-based model to a more risk-sharing type model. Series B then allowed us to start to invest in building our own biology capabilities.

One of the interesting things about running an AI company is you are dependent on the quality of the data. In fact, a third of our company are bench biologists in these beautiful labs we have here in Oxford and the reason being we want to control the quality of the data that we then generate that feeds into the algorithms.

The Series C has allowed us to scale up, invest in our own pipeline, building value that way. The more recent Series D gives us a huge platform for the future to build an end-to-end capability from target to patient. And you might have seen recently the acquisition we've done of an incredible AI, patient-centric, functional oncology company in Vienna called Allcyte, which really fits into our strategy.

So each of these has allowed us to keep expanding that strategy and develop upon it. In fact, the vision we have for Exscientia is the same as we had when we started eight years ago and each of the rounds has allowed us to secure that position, de-risk the company and take us into the next phase of development.

Tom: That is an amazing journey to have gone from bootstrapping for five years, which is really impressive by the way – I can imagine that was a challenging time to get through but also very exciting – to now scaling to Series D where you're at the point you can start making your own acquisitions, that's a real step change.

If you were talking to entrepreneurs and CEOs at that earlier stage who are considering taking their first investments or still at that bootstrapping phase, are there any things you wish you'd known back then or key learnings you'd want to impart to people?

Andrew: That's a great question. In many ways the journey we've been on was a journey that was both driven by the need and desire to validate a platform so the company hopefully will be worth a lot more in the future by having a truly validated platform on real-world projects. But also due to the environment we are in, first based in Scotland and now based in the UK which is still a different environment compared to being based on the west coast of the US or in Boston.

So geography does play quite a big role — where one is based and fitting one's strategy to do that. I think the key lessons we've learned is to prove and validate your technology. The early years of bootstrapping the company, they've gone into the DNA of the company now and what we've learned in that is understanding the customer, understanding about the real application and relevance of your technology to solve real-world problems, understanding that deal-making is vital to proving your worth in the marketplace.

Even as we become a much larger company, these are still important things that drive how we think about creating value. So I think that's been a really important function which sometimes some biotechs and some tech companies are still quite far removed from the real-world validation of what they're trying to build. I'd recommend to any sort of entrepreneur to really think about how are you going to prove real-world validation of your technology as early as possible.

I think the other really important thing is about finding the right backers. We've been incredibly lucky from our first investment from Evotec to a more recent round led by SoftBank is that we've had backers who've believed in the company for the long-term, who've always seen the potential for Exscientia to go big, always seen the potential for the revolution we could bring to this industry. You want to make sure the people who are backing you believe in your vision and are there for the long-term and if you have true partners who can help you along the way it's not just about the money, it's about building a community of partners who can help you build that company.

Tom: Playing on from that, now you have that amazing suite of partners and undertaking your first acquisition, what most excites you about the future for Exscientia and the role Exscientia will play in the pharma world going forward?

Andrew: What I'm really excited about is we're now at that tipping point where that vision we had when we started the company – that there's a better way to design drugs – is now becoming a reality, we've now got the proof points, we now believe we can scale it up.

We've mentioned before we believe this will become the default option for developing drugs, we believe that will be proved hopefully by the end of the decade. And that allows us to think about changing the world and if we can do that we can think about how we can bring medicines to patients far quicker and really shift the curve of how we think about the whole economics and timescales of bringing small molecule drugs to patients.

What's incredible about some of the groundbreaking AI technology Exscientia has and its wider capabilities is it's allowed us to think about how it can be applied from target discovery by bringing in patient information all the way to patient selection and, even with the new worker mold site, how that AI technology can help select which drugs could be prescribed to a particular patient.

It's allowing us to re-engineer that entire process. Right now we think of pharma R&D as a linear sequential process from having an idea, designing a drug, running a clinical trial and getting approval. This more patient-centric world allows us to think about how we bring that patient information not only to help the patient at that point of actual diagnosis and prescription, but that data, that information, that actual tissue material feeds back into target discovery, feeds back into how we run an optimisation so we can test drugs in the closest possible model, which is actual patient material, and think about how we can improve the clinical trials with better patient selection.

We're seeing that we can really build a learning loop where we can move away from this sort of linear sequential approach to R&D to more of learning loop. That for me I think is where we're going to take the industry by bringing these technologies together into a much more patient-first AI approach.

Tom: Andrew, I think you've built a fantastic company.

Andrew: Thank you.

Tom: That is a really incredible journey. And as you say, sets out potentially life-changing impacts on patients and outcomes, as well as the industry as a whole. Congratulations again on winning the Alantra Pharma Fast 50 and I really look forward to seeing what the future holds for you and what the business does going forwards. Let's see if you can do the double in 2022 for the Pharma Fast 50 and hopefully next year we'll be doing this in person.

Andrew: I hope to receive it again, Tom. It's been an incredible honour to win this. It sounds strange, but it still feels like day one of a start-up. There's that excitement within the company; the growth that's taken place and people can see the achievements the company is making. It still feels like we're at basecamp and we've got an exciting journey ahead of us still to develop. So Tom, absolute pleasure to speak to you and thank you very much again for this award.

Tom: Thank you, Andrew.

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