

Science, Innovation and Technology Committee

Oral evidence: Work of the Advanced Research and Invention Agency, HC 1292

Wednesday 3 September 2025

Ordered by the House of Commons to be published on 3 September 2025.

[Watch the meeting](#)

Members present: Dame Chi Onwurah (Chair); Emily Darlington; Dr Allison Gardner; Tom Gordon; Kit Malthouse; Steve Race; Dr Lauren Sullivan; Adam Thompson.

Questions 1 - 73

Witnesses

[I](#): Matt Clifford CBE, Chair, ARIA; and Ilan Gur, CEO, ARIA.

Examination of witnesses

Witnesses: Matt Clifford and Ilan Gur.

Q1 Chair: Welcome to this session of the Science, Innovation and Technology Select Committee. This is our first opportunity as a Committee to hear from the Advanced Research and Invention Agency about its work in the first few years since it was founded. I welcome our witnesses, Ilan Gur and Matt Clifford. I will ask you to introduce yourselves when you respond to my first question.

Ilan, you are ARIA's first and founding CEO, also now the outgoing CEO. Last year you stated that you wanted the CEO job because of your belief in the power of science and technology to drive progress and serve society, a belief that echoes with this Committee, and indeed with this Government. After two years, what are your biggest achievements in fulfilling that belief, and what might have been done differently?

Ilan Gur: First of all, thank you so much for having us here. By way of introduction, I am a scientist turned entrepreneur. I spent about 20 years working on translational innovation, largely in the climate and industrial space. Basically, I am focused on how we get the cutting-edge science and research that is happening in incredible labs around the world translated into products and capabilities that can serve society. To some extent, the chance shape ARIA with you all has been one of the greatest privileges of my life and career.

It has been an interesting time. My and Matt's appointments were a little over three years ago. I remember a combination of excitement and scepticism, frankly, when ARIA was created and when I took the job. I think the scepticism, both from folks that I met here in the UK and from former colleagues from DARPA, was on a few fronts. One was, "Okay, it's great that a Government wants to set up an organisation inspired by DARPA, but is it really going to work out in the way they intend? Is it really going to be independent, flexible and nimble?" There was a question about talent and whether the organisation would be able to attract the right type of ambitious researchers and scientists to be part of the organisation and part of the model, as the programme directors and the people at the centre. Then there was the question whether the UK had sufficient critical mass, not just in research but in research of the right mindset to do transformational, high-risk calibre work.

Reflecting now, ARIA was a bit of a far-fetched idea, but it feels like we have created a foundation with some really strong proof points on all of those fronts. That is thanks very much to the intentional design of ARIA by all of you and your colleagues as policymakers, as well as the incredible partnership we have had with DSIT and the Government. It has taken root as an agency that can be very bold and speculative in what it tries to fund. It changes the conversation, being contrarian at times, and acting with independence and flexibility but a real dedication to



HOUSE OF COMMONS

accountability to the taxpayer. The culture and the team we have built is one of my great sources of pride.

Secondly, we have been able to attract incredible talent of the right type. Our first call for programme directors was way oversubscribed. The folks who came in as our first programme directors have now shaped a set of opportunities—this is probably the most important part for ARIA—looking at the strengths of the UK. Sometimes we think there is a proxy for scale in terms of economic values. Where are those trillion-pound opportunities that may not be appreciated or exploited well enough today in the system? It is everything from new ways to think about curing neurological disorders to next-generation agriculture. The organisation has now become one that is talked about globally as a great model and an example. In the spaces we are in, I think that the UK and ARIA are now at the centre of frontier conversations around what is possible.

Last, in terms of mobilising the critical mass in the ecosystem, we are here to amplify incredible work. Across our programmes we are starting to see everything from new communities forming to new technical capabilities and then to catalytic new companies and new talent moving to the UK and becoming a centre of massive talent. All of those are the early signs that we were hoping to see.

Thank you for the question. I look forward to talking about all the details.

Q2 Chair: Thank you very much, Ilan. I agree with you that the talent that you have been able to attract, and the breadth and range of some of the programmes that have been announced, is very impressive. We will come to expanding on that in more detail during the Committee's questions. To stay with you for a moment, what has prompted you to leave now?

Ilan Gur: As I think you know, part of the design of ARIA is that a fair amount of the stuff is term limited and is intended to turn over—that is, the technical programme directors and the CEO. The intention is that the agency should always feel in some ways like a start-up. It should always be forced to test the assumptions that were made a few years ago in terms of what is happening now, and recast based on the frontier of what is happening in both the world and technology.

I came into the agency feeling that it was a privilege to be able to shape a chapter of ARIA. There was certainly a big responsibility to shape the first chapter, when we thought about what foundations to build: a team, an organisation, a set of operating principles and the interaction with Government. That has all felt great. There was building the operational model, recruiting the first set of programme directors and launching a first set of programmes. We have now committed roughly £450 million to those ambitious and bold research programmes. With the recruitment of the second group of programme directors, we have had to iterate a little bit on what we learned in the first group. It now feels as if we are moving into a different chapter. Certainly, with activation partners we have done a lot to figure out how the translation of those technologies will happen.



With the first chapter closing, it feels that this is the very best time to position the agency for an incredible new leader for a second chapter, especially with a strong foundation and build-up, as well as runway in terms of visibility for funding with the spending review.

What we are seeing through the search for the new CEO—Matt can speak more on this—is that that will prove right. We will be spoilt for choice in some ways, I hope.

Q3 Chair: Thank you. Your point about the resemblance between ARIA and start-ups is very well made and contrasts with some of the research and innovation infrastructure that we already have in the country. One of the challenges for start-ups is succession planning. You talked about the independence of ARIA. That theme in terms of ARIA's ability to get on and do things has been much emphasised during the design of ARIA.

Matt Clifford, can you tell me where we are in the search for Ian's successor? What succession planning do you have to ensure that the strength of talent continues as ARIA reinvents itself every two or three years?

Matt Clifford: Absolutely; I am excited to do that. First, thank you again for having us. I am Matt Clifford, the chair of ARIA. My background is as an entrepreneur and a start-up investor. I have spent the last 14 years building and scaling technology companies here in the UK and around the world. I have also had the opportunity to serve both this Government and the previous one as an adviser on AI.

It would be untrue to say that when I realised that Ian was leaving it was a cause of celebration. Ian has been an extraordinary leader for ARIA. The science and tech community, and the country, should be really grateful to Ian for what he has done. He and the team have laid the foundations for something extraordinary.

We formally launched the search for Ian's successor in July and closed applications in August. Of course, as you would expect, and as you said, succession planning is not something you leave to chance. We did a huge amount of pre-engagement with people. Honestly, a relatively small number of people are qualified to take on a role like this. I have done a lot of recruiting over the last 14 years. I would say, without exaggeration, that this is the strongest field of candidates I have ever had for a role—almost to the point where I am starting to think, "Good riddance." I'm joking, of course.

We had 330 applicants for the role. We are still quite a way from the end of the process. Obviously, there is a big decision for the organisation as to where we go. We expect to be making an appointment toward the end of the year. There is lots of engagement to do with our different stakeholder communities. The calibre of people the agency is attracting is globally significant. We are talking about people who have led US ARPA-like agencies at the highest level, some extraordinarily successful



entrepreneurs in science, and some of the leading academics in the UK and the world, all interested in this role. To synthesise the reasons, because a big part of the process is understanding why they want to do it, what is encouraging is that people see in ARIA no longer a blank slate, because the foundations are there, but a platform on which some of the most exciting science and technology in the world can be built, in the sense that we have a globally unique opportunity.

Q4 Chair: Thank you. Looking specifically at what ARIA is and the similarities and differences between ARIA and the US's DARPA, which has a budget of \$4 billion per year whereas ARIA's is £1 billion over five years, can you briefly summarise what you see as the differences and similarities, and why?

Ilan Gur: I can take that, having been involved in setting up a DARPA-inspired entity in the US, ARPA-E, as well as working closely with DARPA. What you have allowed us to do in the mandate is take inspiration from the most powerful parts of that model, also recognising that it is not a copy and paste job. There have been a couple of things that have allowed ARIA to present differently and have a different probability moving forward, with a high probability of being able to deliver the transformational outcomes that you set us up for.

One is that there is a lot of intention from Parliament. ARIA was not given a very narrow mission mandate. Our mission broadly is to unlock science and technology breakthroughs that can benefit everyone. That is how we view it. It is a global ambition, but obviously a dedication to benefiting the future of the UK. That broad mandate, combined with the positioning of ARIA in the UK, has been an incredible asset for us and allowed us to attract talent. What is the point of ARIA? It is finding opportunities that are highly consequential to the future. We are alive to that importance. There is not enough activity going on. There is someone very talented out there saying, "This is never going to happen in the existing system, so I need to step in or we need to find a way to make it happen."

One example is in our new set of programme directors. One of the programme directors, who just moved with his family from Stanford, is Nathan Wolfe, a virologist turned more generally translational biologist. In applying, he basically said, "I believe there is an opportunity to create a technology platform in industry as big and as important as genetic engineering, focused instead on engineering the energetics of life as opposed to the formation of life." That is a very bold and profound vision. He said, "I can't think of an agency that would allow me to shape that vision other than ARIA." Frankly, many of the talents that we are attracting are saying, for various reasons, that the UK seems like the best place in the world to position for this, because of the rich amount of science here, geopolitically and otherwise. That broad mission has been very valuable.

Frankly, the other valuable differentiation is that we are starting this fresh right now. We are doing our best to tailor ARIA. We do not have



legacy operating platforms, principles and strategies. DARPA was built in a world where the best research in the world happened within big companies. Today we can build ARIA towards thinking about how we evolve with AI, and have that be a part of the platform. How do we think about entrepreneurship at the heart of the impact model? We are still in the early days of seeing how that is going to be a really important differentiator.

Q5 Chair: I know you need to be diplomatic in response to this question, but is it true to say that the current US Administration's approach to science and scientific research is creating opportunities for ARIA and for science in this country?

Ilan Gur: My diplomatic answer would be that, before the Administration change in the US, we were seeing that the mandate and the positioning of ARIA—once we announced it and it looked real to people—was feeling very attractive to global talent. We continue to see that.

Q6 Dr Gardner: I want to look at your risk appetite, your ethics and how you measure failure and success. You suffered some backlash on some of the geoengineering project, which eventually had to be brought down.¹ You have a neurotechnology one that has raised some questions as well. Of course, we need to worry about unintended consequences and risks of dual use.

I am interested in how you determine the ethics. You have the ESRC panel. What is the authority of that panel? Does it have the authority to stop projects? How do you control it when it is out in partner organisations? How do you reassure the public and the scientific community about the transparency of these projects? What is the authority of the ESRC?

Ilan Gur: It is a great question, and it is one we have spent a lot of time discussing both at the organisational level and the board level. We also have a set of advisers on ethical responsible deployment of technologies that we consult on these issues.

First of all, it is worth recognising that, given the mandate, we are meant to be doing things that are bold and maybe under-researched. Sometimes that is because there is a bimodal reaction to whether something is a good idea or a bad idea, will it work or will it not, and certainly the ethical considerations of any new frontier technology are important.

The way for us to address ethics and social responsibility starts at the foundation of having made a decision that, even though we have exemptions from FOI and otherwise at ARIA, that is not a mandate to

¹ Clarification requested by witness: The "geoengineering project" is a reference to some projects funded through ARIA's Exploring Climate Cooling programme - none of the projects on this programme have been closed down and the programme continues to be active.



operate in secret. The best way that we can surface the implications of technologies we are working on is to build in public. Whenever a programme director is shaping a programme, as soon as there is a thesis for what we might do, we publish that and solicit feedback. It is very easy through an online form. We solicit feedback both on the technical and non-technical aspects. That is one thing.

We require internally that the programme director in that discovery, when preparing for an internal approval request for the budget and the authority to launch the programme, engages with the social and ethical responsibility questions related to that programme. Obviously, in every field and programme there are differences, both in the degree to which there might be unintended consequences or ethical implications in the research itself, and in the degree to which the public are engaged in and concerned with those issues.

What we have said as part of the review process is that we look at the specifics of the case. You brought up our programme on climate cooling. That was one where, from the very beginning, it was clear that not only are there big ethical issues associated with the work, but it is a space with a tonne of misinformation and disinformation. Just as an example, Mark, the programme director, ended up through engagement iterating quite a bit on what that programme would look like, integrating a very significant governance element to the programme in terms of the requirements to anyone who applied: "Here's what's in bounds and here's what's out of bounds." The governance and ethical questions related to climate cooling are still being formulated globally, so there is a recognition that we cannot assume there are answers to these things.

Another thing that Mark, and we, did—this came through as part of that early feedback—was to create an oversight committee for that programme. We built in the involvement of a number of arm's length international experts. Based on their advice and their willingness to participate, they will have a lot of access.

Q7 Dr Gardner: Do they have the authority to say, "Stop"?

Ilan Gur: They don't. That is very important. What we do not want to do is have ARIA be a place where the decisions are ultimately made by committee. You then reduce the ability to increase the variants that you are looking for in the research that is being funded.

For instance, in the case of the oversight committee for Mark's programme, where we landed was that they had access to all the information about the projects; they could make requests, and we would provide them with that information. They reviewed all the proposals that we were recommending to fund and provided recommendations to me as the approver. What we said was that that committee has the ability at any time, without need for permission, publicly to communicate any concerns they have about what is happening in the programme. I think that puts in a pretty good trust set.



We then have a board committee. Again, the goal is not to cede decision making to that committee. That would be a hard responsibility; the committee would need to be conservative and go to the lowest common denominator. Instead, we make sure that they are informed about the processes and the approach we have taken for each of the programmes.

Q8 Dr Gardner: I hear your arguments. There is a thing within the AI ethics community that there should be a “go, no-go” decision-making point. You have explained why you don’t have that. That is understandable. I will move on, although we could talk about this for hours, I know. Again, it is about stops, really, and failures. Kit mentioned, quite rightly, that he felt that failure should be renamed discoveries, because there is real value in that. You cannot necessarily commercialise failures, but sometimes you can.

At what point do you, or the project director who has control of the decision, determine that a project is going to be a failure? You said you don’t mind if they fail, and I completely support that attitude. At what point would you determine, “This is no longer going to carry on and it is a failure”? How do you learn from that failure going forward, because usually there is some gold in there?

Ilan Gur: I will give a quick answer to this. We had our new CTO join recently, Ant Rowstron. He was formerly the deputy at Microsoft Research, Cambridge. He said something interesting to me when he joined, which was, “Wow, I’m really blown away by the level of talent here”—he probably did not use the words “blown away”; sorry, that’s an Americanism—“but what more impresses me is the culture of really talented individuals who are willing to confront, who are constantly looking for the better adaptation of their ideas as opposed to being married to their ideas.” That is built into the discovery process when programme directors are shaping programmes. We have seen a number of pretty big pivots and changes there.

In terms of managing the research, this is one of the unique elements. Each programme director has chosen very deeply and intently and has spent hundreds of hours choosing the portfolio of projects that they are funding relative to the thesis. Every quarter they go to those teams and evaluate: “Do we think this project is still on track to contribute to the success and value of this programme? Do we think they are performing at the level of intensity that we expect?” If not, they have a hard conversation with that team. We are just in the early stages of this, but one of the things we have celebrated is that Suraj—our first programme director to launch a programme—said within six months, “These two projects that I have funded actually aren’t what we thought they were once we see it deeply.” We have now moved to shut down those projects, in collaboration and conversation with them.

We have a RAG—red, amber and green—status of projects system. Interestingly, what we are celebrating early on is, “Where are you turning



things up red?", because that means we are learning and we can adapt. Failure is very much learning for us.

Q9 Dr Gardner: With regard to success, a few scientists here have done some research, and we all know, especially if you are doing something risky and radical, which has never been done before and is brand-new, that it can take a long time to get it going. If you have a three-year funding cycle, it could be that you are only just beginning to get the flaming apparatus to work after three years, let alone get any results.

I am a bit concerned that your plan is to have these multi-decade projects that will expand whole new fields of research and science, but you have three-year funding pots. There is nothing worse than just getting going and the funding is cut short. You spend more time hunting round for new funding than doing the research. How are you helping success on difficult projects that might take time, and how are you funding them?

Ilan Gur: That is a great observation. It is one of the tensions in the agency. We have said that the programmes that we want, by default—maybe there are exceptions—will have three to five-year terms. The idea is that the programme director has looked across the ecosystem and developed and formulated a thesis. We have said that, because we are working at the frontier, three to five years later it is probably likely that elements of that thesis will have become stale because the world has changed in different ways. The idea, back to learning, is, "Let's sprint"—to use the metaphor—"with a set of research teams to try to accomplish a goal in that time window." That is not because we think we are going to solve the entire problem, but we think it will allow us, based on the information right now, to take a very meaningful breakthrough step. Then we will be able to evaluate.

For the programmes and the areas that we believe will provide the transformational impact that we are looking for, it likely will not be a single programme that solves it. It will be a programme and then, based on the learnings from that, there might be a follow-on programme. There might even be a third that moves it forward. The three to five years initial term is the first big step.

Dr Gardner: I understand that.

Ilan Gur: I'm sorry; I may not have answered the question.

Matt Clifford: There is an opposite problem that we are actively seeking to avoid, which is that you get dependency on a single funder. One thing we have always been extremely clear on is that ARIA should play a catalytic role, not a sole role in the funding of these programmes. The process that Ilan described about how the programmes are developed is a very deep engagement by the programme director in the broader ecosystem, both of people doing the work and of funders, so a big part of the culture of ARIA is to build the programmes into ecosystems, to situate them in a network of interest.



The other way I think about that challenge and how we resolve the tension—as Ilan says, it is a tension—is that it is a really good discipline to say that if, at the end of three or five years, no one else wants to pick it up and we have not embedded it into an ecosystem enough that it is still dependent on ARIA, then that is a failure.

- Q10 **Dr Gardner:** That is where I have a concern. I will stop now, Chair. My apologies. This is not reassuring me that this is any different from any other of the research environments that we have all suffered from, with short-term projects and so on. It is just a thought I have and I wanted to make a comment on that.

Matt Clifford: Very briefly, this is a lesson I have learned the hard way as a venture capitalist. When you fund something, you are very naturally the next funder of it too. That is sometimes good, but usually if you are still the next funder of it three to five years later, something is actually wrong.

- Q11 **Adam Thompson:** Good morning both. Thank you for joining us. Ilan, you have spoken extensively about the first cohort of programme directors, and, I think fairly, with some pride. From your perspective what are the most significant achievements that that first cohort have made?

Ilan Gur: For me, it always goes back to the fundamental mission. Are we able to surface profound new opportunities for the future of the country? I would say that not only have we seen signs that we are able to surface them and get the UK and our work into the epicentre of the global conversation around them, but we are starting to see catalytic signs of things happening in those spaces in the UK that never would have happened otherwise. They could be very valuable.

It is still early. Among some of the examples—apologies if folks have heard some of these before—Jacques, our programme director, is a quantum physicist who turned his attention to neuroscience and basically had a hypothesis that recognised that if it is true that we can modulate and intervene in the full range of neurological conditions, not through small molecule pharma but through neurotechnology circuit engineering, the expected value of that, both in terms of impact and financially, is somewhere between 30% and 40% of global pharma. It is a huge opportunity. The UK has all the pieces of expertise that you need. His view was that cutting-edge science suggests that the next generation of neurotech may look different from what Neuralink and others have done so far, so his programme on precision neurotech was the first ever to think about a precision metric of how you can access circuits.

Because the programme was able to look at it differently and say, “Not only is this a new challenge in terms of precision neurotech but we are open to anyone who can move this idea forward, whether it’s a brand-new idea or a system,” some very new things came out of that. One that I like to talk about is that there is a non-profit start-up, based in the UK,



that is one of the world's leading groups looking at ultrasound for the modulation of neural circuits. It is very nice because it is non-invasive relative to existing approaches. Through our call and teaming list, they found a neurosurgeon they had never met before in an NHS trust who was looking at the hardest cases of depression, which are untreatable through any pharma approaches. We are now funding that collaboration at the NHS to be the world's first clinical trial.

We can talk about a similar story—I wish we had time—for programmable plants. In the intersection with agriculture, we are now at the leading edge of synthetic biology. Even the term programmable plants is being cited around the world and we have synthetic biologists who never thought they would work on plants here in the UK, and now they are working as part of that programme.

In robotics, we see new start-ups come out, even in our climate tipping points programme, which I will mention for a second. The goal of the climate tipping points programme is very audacious. Could we imagine combining modelling and sensing to get verifiable forecasting for tipping points? It is one of the biggest unsolved questions in climate change. A lot of people looked at that programme and said, "Okay, great, but this just feels like a gift to the world. Where's the UK benefit in this?" It turns out that the programme is not only funding cutting-edge modelling efforts of other Earth systems, which can be valuable in the capacity of insurance and finance, but is also coupling them to sensing and deployment technologies.

A cool example there is that a two-person start-up, I think in Southampton, looking at autonomous ocean-based vessels has now participated in that programme. They told us that very much because of their participation they both connected to an ecosystem and learned, and have now gotten some investment funding on the back of it. That is a really exciting thing that says that the challenges are catalysing valuable early signs of communities and technical capabilities, and then of course the capital that is going to need to flow in.

Q12 Adam Thompson: Fantastic. It is great to hear of all those wonderful successes. I am keen though to hear the other side of the coin. We have talked a little bit about how failure is so important in science and discovery. What would you say are some of the failures of that first cohort and how have you used those failures in lessons learnt?

Ilan Gur: Interestingly, for me there is only one failure, which is that we see something that is suboptimal or could be improved or is not working, and we don't take action. In the first cohort, one of the things I am very proud of is that we are able to be very adaptive. I mentioned the discovery process, but there are also things operationally. In the first set of IP terms that we socialised with the ecosystem—university leaders and others—what we actually ended up with was very different because we got that feedback.



There are a few things that I think we have learnt in the first cohort that we have not yet addressed or solved, but rather than challenges I would see them as opportunities. One is about the role of AI at ARIA. The organisation started at a point where of course we needed to be AI aware, but we could not natively build AI into how we worked two and a half or three years ago. We see enormous opportunity for ARIA to be a leader in shaping how AI relates not just to science and research but to how you direct research in that way.

I will share an example. The other day, Nicole, one of our new programme directors, mentioned that, based on some of the tools in experimentation we have done, in preparation for a workshop with scientists, she held a workshop with 20 or 30 virtual agent scientists. She literally held a workshop with a number of AI agents that were being proxies for experts in different fields, essentially so that she could beat up the idea and be stronger when she went into the community. There is everything from that to how AI tools may contribute to modelling and research.

I will mention one other thing where we were very hesitant early on. There is the idea that ARIA should not be a political organisation. No one at ARIA is an elected official. We do not represent the taxpayer. We really tried to be responsible about that arm's length role. We are here to create new options in technology. Policymakers like you will decide what happens. One of the things I did was to push us to be a little bit too distant from thinking about not just the ethical considerations—that we were in tune with—but the interface with, say, policy and regulation. One learning in our neurotech programme is that we went from not really engaging with the regulators at all to that being a very important piece, because we realised we have insights into the cutting-edge of this field that can inform how the regulators are able to think responsibly about the next stages. That's a good learning.

Matt Clifford: It's still very early. We expect there to be real failure. We expect programmes where we say, "In the scheme of things, they turned out not to be." I suspect that next time I am here with you and Ian's successor, one of the things we will be talking about in a lot more detail, because it will have happened more, is active portfolio management. Clearly, as a steward of taxpayer money, it is very important, just like in venture capital, that as much as possible that money goes into the things that work. We are not yet at the stage where that is the kind of decision we have to make, but we will be. I hope we get to talk about that next time.

Q13 Adam Thompson: That is really important. Thank you both for that nice summary. Looking forward to the next cohort—the second set of programme directors—I think you said previously, Ian, that you were keen for the backgrounds of the people you were recruiting to be a little less academic and a little more industrial. Do you think that has happened? If it has happened through the recruitment process, was it a



strategic decision or did it happen organically?

Ilan Gur: One of the things that we realise is a great asset in the design of ARIA is that, when you go fresh, you can do new things. We made the decision to do a wide open recruitment programme of directors and to bring them into a cohort as a batch. It's a three to five-year term and it will rotate, so roughly every other year we'll probably need to recruit a new batch of programme directors. What that allows is for us to use that as a cadence for iterating based on our learning in the agency. When we went to recruit the second cohort we did a lot of reflection on what we had learned from the first cohort and what might need to look different or what we wanted to look different. One of the reflections was that the first cohort was brilliant: 75% of them had primarily academic backgrounds. We said, "Well, if we're looking at the composition of the whole group, and the diversity of the group, we would probably now want to add in a cohort with majority industrial backgrounds of some sort." Entrepreneurship felt right. That was a very intentional decision and we targeted our recruitment explicitly. We said that we were looking for that, but we also tried to target recruitment in communities and circles where that was the case.

I think that has been very successful. The new cohort has exceptional technical credibility and backgrounds, but a number of people have either done start-ups, or worked in industry. The group as a whole is really benefiting from that.

Matt Clifford: It may be worth emphasising—partly to Dr Gardner's question as well—that ARIA is very small in the scheme of things. Even within the public funding of R&D, ARIA is a very small chunk of it. That allows us to be very opinionated in ways that we could not be if we were 90% of public R&D. Slightly to Dr Gardner's question about the time horizon, the scope of things that are ARIA-ready is actually a relatively narrow slice of all the things that the UK should want to fund. The sweet spot of entrepreneurs—scientific entrepreneurs or entrepreneurial scientists, however you want to look at it—who have an idea that can be pursued in that window of time, which is short, leads towards this kind of character. We are not trying to do basic research. I think it is a really special group that is coming together.

Ilan Gur: The entrepreneurs coming in are a little more attuned to where the value is going to be up front, but if you are too biased in that direction, towards thinking about the commercial outcome, you lose the speculative nature and do not have a chance to do something transformative. Yet you can be too biased in the opposite direction. We need to mix the modes. The fact that we have such a diverse group of programme directors, with different experiences, but who have a lot of trust and alignment of mission, is one of the powerful things about what we have built so far.

Q14 **Adam Thompson:** A final question: can you share any detail about the scientific direction of the second cohort?



Ilan Gur: I will try to do a quick run-through. This is a good test. I mentioned Nathan earlier, who is really interested in what we are calling bioenergetic engineering, and we have launched an opportunity space and a programme thesis. The thesis is about the mitochondria, which not only contribute energy as the powerhouse of the cell but contribute to everything from neurological disorders to chronic disease. Can we think about ways to manipulate the genome of the mitochondria to have a tool to understand those disorders and solve them?

Similar to how Jacques is looking at neurotechnology as a technology insertion point to treat a wide range of diseases, Brian, one of our programme directors, has recognised that the innate immune system is also an under-explored part of our physiological system and that potentially there could be precision interventions on innate immunity that would not only allow us to have protection against pandemics and broad viruses, but would help with chronic diseases and those sorts of things. Claire, who came into ARIA from AstraZeneca, is looking in new ways—it is still early in development—at how new sensing and perception technologies, combined with AI, can be used to drastically improve medical diagnostics.

Then we have, in materials and industrial tech, a programme that we call manufacturing abundance, which tries basically to question the assumption that to make materials and devices sustainable at scale you have to compromise on functionality. We believe that with synthetic biology and other approaches we can potentially make the most complicated materials at scale, through abundant molecules, which is very challenging. I am a materials scientist and am going to be the biggest sceptic about anything in that space, and Ivan has really wowed me with what is happening there.

We have one programme looking at advanced aviation and sensing, and one looking at engineering natural ecosystems in terms of planetary health. We get trillions of pounds for free, globally, from natural ecosystems pollinating our agricultural crops. How we protect and exploit that is a really interesting question.

Then, on comms and IT, the question of what AI is doing and what we need to create resilience in society in the context of AI is hugely important. A lot of people are thinking about it. We are looking at two areas. One is around trust: could AI be used to develop next generation trust protocols such as cryptographic protocols, both for the increase, because, if we all have 1,000 AI agents working on our behalf, all those interactions will need to be trust-based, so how do we do that; and because we are seeing convergence between digital and physical, even in something like neurotechnology devices? How do we build trust innately into those devices?

Adam Thompson: Thank you both.

Q15 **Chair:** It is fascinating to hear you talk about the range of ARIA's work.



HOUSE OF COMMONS

It highlights to me that the sweet spot you describe could have huge implications for society and the economy. I just want to test that, briefly, with two follow-up questions to Adam's discussion. You have talked about the markets that there might be for precision neurotechnologies. Do you fire off an email to the Secretary of State for Industry and say, "This should be part of your industrial strategy," or do you expect Jonny Reynolds to pick it up by reading your reports?

Ilan Gur: That is a great question. Let me make sure I understand: is it about what we do to catalyse the potential and think about how the ecosystems—

Chair: How does it become part of Government business and industrial policy—if it should?

Matt Clifford: One thing that I think has been a big success of the first three years is getting the right relationship with Government. I think Parliament was very clear in the ARIA Act that ARIA's independence should be very strong, but we have done a good job of making sure that we nevertheless have a very deep and close relationship.

Q16 **Chair:** We will come on to that, but I think my question is specifically: do you communicate directly with them?

Matt Clifford: Yes. Through the DSIT sponsorship team there is total clarity and transparency.

Q17 **Chair:** But not directly to industry—to the business team.

Matt Clifford: To industry, yes.

Q18 **Chair:** The business team.

Matt Clifford: To Government teams outside DSIT we tend to use DSIT as our channel.

Q19 **Chair:** Right, okay. That's great. On the climate tipping programme, there has been a lot of discussion about the collapse of the gulf stream, which is of particular interest to me as it would leave Newcastle with the climate of Newfoundland. There is a lot of work on that particular question. Do you communicate, integrate or work with existing scientists on that, or are you looking further forward?

Ilan Gur: Yes, 100%. In every one of our programmes, going back to Matt's earlier point, from the beginning we believe that if it is successful it should not only change the conversation globally about what is possible or valuable, but catalyse the next stage of effort towards impact. Oftentimes that is engagement from industry to think about investing in the next stages, or improving the value, but not necessarily. In the case of the tipping points programme, Sarah and Gemma have said from the beginning that it does not help just to do an academic exercise to think about the probabilities of tipping points. The question is whether it will actually add value to society. From the beginning they have engaged



HOUSE OF COMMONS

internationally, trying to understand how groups like the IPCC think about the—

Q20 **Chair:** Specifically, are you looking at the collapse of the gulf stream?

Ilan Gur: That programme is focused on the Arctic tipping points, so potential AMOC collapse is certainly part of that.

Q21 **Dr Sullivan:** You described very well your new directors. Looking at your corporate plan I could not avoid seeing how many of your programme directors were experts in another field, and had transferred in. How do you assess the suitability of new programme directors who have a great idea with potential in another field? Could you expand on how you do your selection of programmes and programme directors?

Ilan Gur: I think this is a unique attribute of ARIA, which we are proud of. At the core, when we select programme directors, the goal is to find people who we think can succeed at going through a discovery process to see new opportunities, and engage the research community in going after them. We certainly look at technical depth and credibility, but that is one of a few things. The others are things like whether they have an adaptive mindset and creative independence of thought. Both in selecting the people, and in the environment at the agency, we are encouraging people. When the new group of programme directors came in, we said to them, "You likely have strong ideas about a programme you want to run. Before you engage with those ideas, you have to come with at least one other idea based on discovery." That has allowed us to have programme directors leveraging their technical depth, and applying it to areas where they can ask new questions and come in with a beginner's mindset.

To go back to areas of pride, Jenny Read, a professor from Newcastle who came in, is a vision scientist who has computer science expertise. She said, "I want to look at robotics. I think there is something to do in vision science." At the back end of her process she said, "I think we need to focus on hardware. I've found that the questions I am asking people are simple, but they engage with them differently: I think there is something new we can do here." Hopefully that will continue.

Q22 **Dr Sullivan:** Yes, that sounds really quite exciting. To build on what Allison was saying about the start-up mentality, which is exciting, fresh and nimble, as you described it, and the long-term projects and the element of looking to the future, what is the balance? How do you choose? The tipping point thing is incredibly important for our long-term future. I hope that after you leave us the next person will also see that it is an incredibly important thing. How, as an organisation, are you staying nimble, but keeping an eye on the future?

Ilan Gur: I am curious about Matt's views. My short answer is that the portfolio is so important. You have set us up with a mandate where we are meant to go after things where it is not obvious that it is going to change the world. Honestly, you will not be able to engineer to that solution. There will be work, discovery and serendipity. One of our



advisers is Özlem Türeci of BioNTech and we use the example of mRNA technologies, where DARPA funded that, but it was not until a few years in that they got the first evidence that it could be useful for immunology. That changed the talent, but it wasn't valuable until the pandemic, about a decade in.

We need a really broad portfolio. That is the idea with the new programme directors; we now have launched 10 of these opportunity spaces. The risk is that you have too much breadth. When we looked analytically at the scale of the system in ARIA, we said "We probably need at least a dozen of these—maybe as many as 20 in the first decade," and then we learn. To Matt's point, we have to be rigorous. Hopefully, the next person in this seat will report to you that one of the muscles built in the agency is about saying, across the portfolio, "Based on what we learned in this area, we've decided we're not going to continue funding in this area but are going to put twice as much into this other one."

Matt Clifford: It is a great question, because it goes to the heart of what we are trying to do. I am excited that the test we have set ourselves at the organisational level is that we should not do a programme unless we think that if it succeeded, and it was the only thing that succeeded, it would still justify the agency's existence—that, even if everything else failed, it would work.

In a way, that is actually how start-ups work. In my other life, you are constantly addressing the tension you describe. You have to solve the challenge ahead of you, but you have to think 10 or 20 years out. Parliament has given us an extraordinary opportunity to build a venture-like portfolio of science, where if one of these things achieves its maximum ambition, it will change the country and the world.

Q23 **Dr Sullivan:** That is incredibly exciting and leads nicely to my next question, about misinformation and scientific directed misinformation. Your projects and what you are doing are exciting and the less political interference in what you need to do the better, but we live in a political world, and a political space, sadly—well, it is great in some respects. How does ARIA look at combating some of the misinformation that could potentially end in a threat to the science itself?

Ilan Gur: Yes, I think that is right. We live in a political world. You have given us a mandate where we are at arm's length enough from the politics that we should be able, based on our fundamental assessments of our mandate and what we see in the field, to make decisions about where we should focus our funding; but there is a burden of responsibility, in terms of trust. It works only if, when you look at how we are doing it, there is sufficient trust.

In our climate cooling programme we saw it as a space that was ridden with enormous volumes of misinformation. The question is what we do about it. I mentioned some of the things we built in, in terms of ethical



and social responsibility. We started to see responses to that programme and real concerns from citizens—you cannot dismiss them; but we see a lot of responses where we say “Actually, it’s not clear they’ve read what we’re doing or engaged with the content here; what can we do?” The response is not “Let’s make this more secret.” It has actually been the opposite. We need to lean more heavily into transparency.

The learning for us has been that it will take more resources and attention, but in the case of the climate cooling programme our website has a FAQ with all the questions we have had. We have published all the way down to the proposals and contracts that we have done. That means that if someone really wants to engage we can point them to what we are doing and say, “By the way, there’s nothing in this programme that’s releasing toxic chemicals into the environment. I understand why you might be worried about that, but just look, it’s not there.” I think that is the best we can do.

Matt Clifford: This is a good example of what a well-functioning relationship between the agency, Government and policymakers should be. In some ways, although it was honestly quite unpleasant for a lot of ARIA staff, I think they dealt with it very well. In some ways I am glad that we had that challenge at this stage, because of the relationship with DSIT in particular—I thank the Secretary of State for his extremely robust defence of ARIA’s independence—and the need for scientific freedom. Progress requires that people explore things that would not come out of a committee and DSIT worked really well with the agency to reinforce that message. That was a crucial test for the mandate, which I think we collectively passed.

Q24 **Steve Race:** Although I note that a couple of things we have talked about this morning—plant biology, synthetics and tipping points—are programmes funded through Exeter University, which is fantastic, but when you look at the allocation of funding from ARIA, over 50% still goes to London and the south-east. The south-west has 4.7% and other regions are just over 4% as well. What is your defence of why over half of that funding goes to London and the south-east?

Ilan Gur: For me at least, everything comes back to the mandate, and what we are doing. Our goal is, first of all, the mission that we have stated, which is to unlock science and technology breakthroughs for everyone. We think of that as being for everyone in the UK, where clearly diversity of our engagement and funding is critical to that mission. Stats aside, if you look at where we have funded, almost every region of the UK is now engaged in ARIA’s work and projects.

What is unique about ARIA is I think what drives diversity for us when we think about excellence, when we have a proposal. Oftentimes a funding agency will get a proposal and will say, “Is this an excellent proposal? Is it an excellent institution or an excellent person?” There can be a lot of biases in that—the credibility of the individual who is applying, in terms of credentials; or the institution they come from, in terms of the stereotypes



HOUSE OF COMMONS

of that institution. We have a programme director for every programme who has spent a lot of time developing a thesis and a theory of change. They put out a proposal, saying, "I want proposals that we think, in a co-ordinated way, can advance this"—neurotechnology, or programmable plants. Excellence for a proposal is specifically related to how it fits into that theory of change, and that thesis.

I have seen in the agency, and am very proud of, cases where as part of that review and selection process—we have external peer reviewers—an external reviewer in a panel will say, "How could you not fund X? Look at their track record and background, and credibility. They are the best in the field." Our programme director will say, "The idea from this post-doc is much closer to what we are looking for, so no matter what that person has done in the past, this is the thing I want to fund."

Likewise, I think that happens institutionally. If you look at our projects geographically, I still remember Angie presenting the selections for our seed awards for programmable plants. I said to her, "Wow, many of these are entrepreneurial. Is it possible that not one of these is in the south-east of England?" She said, "Yeah, that's how it shook out." Rather than thinking that there is some trade-off between the diversity and the excellence in funding, I think for us they are the same. It is early. One thing that is clear is that initially institutions and folk that felt they should apply to ARIA, because it was a bold, ambitious thing, probably did bias more towards south-eastern institutions. I think we are seeing that spread.

My last point on this is that we have a commitment. One of the learnings from the first cohort was that in the discovery process—the top of the funnel, when a programme director is shaping a programme—we need to put extra effort into engaging outside the south-east. Not surprisingly, we did it, but are doing it even more now. Right now, we have two programme directors, Ivan and Brian, who have scheduled what I would call road trips across the UK—training trips. They are going to eight or nine regions of the country and engaging with researchers. We will see the implications of that in terms of who we fund moving forward.

Q25 Steve Race: Would you like to see a greater balancing of your funding across the entire country?

Ilan Gur: The thing that we talk about internally is that you should not be afraid that you are going to fund something and it doesn't work, but you should be very afraid that you are going to put out a thesis and miss the person who could have contributed to that. I hope to see the best people who can contribute to these things engage and apply, and that we fund the ones who can move the mission forward.

Chair: Thank you. Allison has a quick question.

Q26 Dr Gardner: As a quick addition to Steve's question, I notice that West Midlands has only 0.8% of your funding. It stands out quite starkly



among the other regions. Why is that? I am a West Midlands MP. What do I need to do to shake that up a bit?

Ilan Gur: It is a good question. I would say that is something we should look into, rather than respond quickly. We are very open. Any time an institution, a region or a group that is regionally based reaches out to us to say, "How do we engage better with ARIA?" we take them very seriously. I would say, let the institutions there know that maybe that is something they should do. I think communications is a gap. As Matt mentioned, we are a small agency, and we now have a lot going on, so how do we make sure that any one group realises that they should be engaging and that there are opportunities?

Q27 **Chair:** That is a very good message to come out of this session: for institutions to engage with ARIA. Who should they engage with? What email address?

Ilan Gur: Yes, that's great. When I meet people I give out my email address. It is my first name dot last name. That's fine. I am happy to have it.

Chair: Great.

Q28 **Kit Malthouse:** Just before I move on to my question, I want to ask a follow-up from Lauren's and Adam's. You talked positively about your programme directors and staff body, but in my experience people with theses are quite often difficult to handle, particularly if they have an entrepreneurial streak. What does turnover look like? Was everybody a success? Did you have to say, "Look, we just can't handle you"? As I said, you talked in glowing terms, but you must have HR difficulties.

Ilan Gur: Had you asked me at the beginning, when we recruited the first cohort, whether there would be attrition—they are all very special in many different ways, and sometimes in frustrating ways—I would have thought there would be at least one that just did not work out for some reason. We have been lucky that that was not the case.

Matt Clifford: I remember saying to you that my biggest worry was that eight was not enough, because maybe we would get four programmes out of eight programme directors. I was completely wrong. We have one for one so far.

Ilan Gur: Yes. One of the hard parts of an agency like this is that the talent is exceptional and we have created, for lack of a better word, an intense, high-pressure environment for them. They have three, maybe five, years to get something done. They have uncertainty around what is next.

Q29 **Kit Malthouse:** There must be a lot of shouting in the office.

Ilan Gur: Not so much shouting. We are British enough that there is not so much shouting; but it means that they wake up every morning saying, "How do I get the next part of this done?" One way that presents as a



HOUSE OF COMMONS

constant challenge for ARIA is that the rest of the organisation, the operational staff and others, say, "Hey, I understand your job is to create the most incredible snowflake of a programme and you want to pull out all the stops, but we have to build a factory here that can put out Government funding in an accountable way." So I think it is back to culture and the fact that we have a team, as a whole, that is willing to acknowledge the different incentives and say, "This is part of it, and part of the dynamics."

Matt Clifford: It is probably worth emphasising—it may be obvious to the Committee but probably not to all stakeholders—that this role of programme director is really unusual. They are not a researcher; they are not doing research, but nor are they a funder in the sense that their counterparts in UKRI would be funders. They are doing this strange role that is a hybrid CEO, VC and PI role, and we put an enormous amount of thought into how you serve those people. How do you create an environment where they can succeed? A lot of the finer points of the org design come down to how you help these very unusual talents to thrive.

Something that may not be obvious from the outside, which is worth emphasising, is the remarkable degree of camaraderie across those people. Because there is this slight hair-on-fire situation, "I've got three years to get somewhere," you might imagine that that would result in a lot of shouting and tension, but actually I think they really want to support and amplify each other, and that has been a powerful thing.

Q30 **Kit Malthouse:** As you rotate out, what protections are in place to stop them joining organisations that they funded?

Ilan Gur: We have a comprehensive conflict of interest policy that starts when they come into the agency. They cannot fund anything where they could be seen as in any way having a financial interest or as competing with the projects they fund. The trust of the programme director, with the projects we are funding, is essential. In terms of the back end, we have not had programme directors leaving. We are in the process now of developing the policies. For example, as soon as you are thinking about your transition and you begin a conversation with an organisation about potentially joining them, you immediately have to notify us and recuse yourself, and have that conflict surfaced. Those sorts of policies will be in place.

Q31 **Kit Malthouse:** But there is currently no restriction. If one of them says, "I'm leaving, because I'm joining this organisation to which I gave 10 million quid"—

Ilan Gur: There is a policy in development. We do not expect the first programme directors to leave for another 18 months, at the earliest.

Q32 **Kit Malthouse:** No, but people may decide to leave earlier.

Ilan Gur: Yes, they may.



Q33 **Kit Malthouse:** When do you think that policy will be complete?

Ilan Gur: I think our plan is to have it for the next board meeting, which is—

Q34 **Kit Malthouse:** Four weeks?

Ilan Gur: Yes. I don't know whether it will be approved there.

Q35 **Kit Malthouse:** I ask the question because I am reaching towards the governance and accountability agenda. You have talked in glowing terms about your interaction with the Department and politicians, and the free hand, but in my experience there is a strong possibility that the civil servants you deal with are wincing at the notion that you are effectively a big write-off for them. In the worst case you are just a big write-off. What does that kind of daily interaction look like, not at a political level but an operational level with the Department? How often do you meet? What level of person do you meet? Do you have a named person in the Department? What information do they ask for from you? How does your money flow? Do you get one big bung of 800 million quid or do you have to call it off when you need it? Is there an approval mechanism? What does that kind of machine look like?

Ilan Gur: I'll give a quick version. Matt may have more to add. Just to remind everyone of the governance by your intent in the mandate, we see overall organisational governance as the responsibility of the board of directors. The programmatic technical decisions happen within the organisation, but the board of directors thinks about the processes, fiscal management and all the normal things. Then obviously our funding is through Government and DSIT, so the accountability there is on the fiscal side of things, and then making sure that the board is doing its job in the overall accountability.

I echo Matt's point that there are a lot of ways that ARIA could have unfolded where the interface with Government was a real challenge and a real risk point. The team at DSIT, in particular the civil servants, came into it understanding that this is something different, and we have established a really great relationship there. We have a few touch points with DSIT, just to be specific. I and our COO and CFO, Antonia Jenkinson, who is brilliant, meet occasionally, any time from once a month to once every two months, with Alex Jones, who is deputy at DSIT. We also have direct connectivity on the fiscal side with the head of finance. Antonia, the CFO, is in regular touch with them. We have a sponsorship team, and our chief of staff is also in regular touch with the sponsorship team, thinking—to the point earlier—about how all the things that we are learning at ARIA should flow back into different parts of Government, and the things that are happening that DSIT has questions about or is concerned with. We have managed to make that, again through trust, both effective and efficient.

Q36 **Kit Malthouse:** When you say that there is a sponsorship team—



HOUSE OF COMMONS

Ilan Gur: Sorry, yes, it's language that I've learnt—

Kit Malthouse: It is a level in your organisation that is talking to a level in the Department on a real-time basis about what you are up to and what you are spending money on.

Ilan Gur: That is right. We don't have many levels at ARIA, but within DSIT there is a group.

Matt Clifford: A very similar arrangement to that you would have with any arm's length body.

Q37 **Kit Malthouse:** I understand. In terms of the money, do you have to call it off when you need it? Is there an approval mechanism for that? Do you have to say, "Right, we need 80 million quid this month because we're investing in x, y, z," and it all has to go to the Treasury, and the Treasury says, "We don't like this. We do like that"? How does it work?

Ilan Gur: The mechanisms are similar to other arm's length bodies in the sense that, as part of the spending review process and otherwise, we submit projections of our spend. The big differences are that ARIA has a single business case that has been approved, so we are not going back and asking permission from DSIT or the Treasury for each of the programmatic decisions that we make. It would be almost impossible because those are shifting adaptively. The other difference is that because of the adaptability of what we are doing and the fact that even though we have planned to put out, let's say, six or seven programmes over the next six months, we are having approval meetings, and I expect that we won't approve at least one of those because it won't be good enough on that timeframe; so that may move the funding timeline. The flexibility of funding is a difference for us.

Q38 **Kit Malthouse:** No, I understand that. The question I asked was more about basic cash flow. In my experience, the way arm's length bodies work is they call off their funding. Yes, you are approved this year for 800 million quid, but you call it off in lumps as and when you need it.

Matt Clifford: Exactly.

Q39 **Kit Malthouse:** It is at that point of call-off that very often the mid-level intervention takes place and the granular supervision happens. When the Met Police need their funding, they have to call it off from the Home Office, and some kind of supervision takes place there. Is it similar for you?

Matt Clifford: No. That is where the single business case kicks in. We don't just take the money. It is not sitting in an ARIA bank account. It is called off, exactly as you are describing, as needed, but there is not a separate approvals or scrutiny process at that point.

Q40 **Kit Malthouse:** Right. So you don't have to make a case.

Matt Clifford: No, the case is made once.



HOUSE OF COMMONS

Q41 **Kit Malthouse:** You just say, "Send us 100 million quid, no questions asked."

Matt Clifford: Obviously, we explain what it is for, but, yes, there is not an approval process for that.

Q42 **Kit Malthouse:** That is why I am asking. You explain what it is for. You say, "We want to spend it on these five investments."

Ilan Gur: Yes. Keep in mind that everything that is in development at ARIA is transparent. We have already said it publicly.

Q43 **Kit Malthouse:** I understand that. I am sorry to push the point on detail, but it is important. When you say, "We want to spend it on these five investments," what level of detail are you providing to the Department on each of those five investments?

Ilan Gur: No. On the cadence of every month or quarter or whenever we need to call funding, there is not a programmatic conversation happening.

Matt Clifford: It is finance-to-finance conversation.

Ilan Gur: Yes, that is a finance-to-finance conversation.

Kit Malthouse: Yes.

Ilan Gur: That is the intent because if there wasn't—

Q44 **Kit Malthouse:** You think it is a finance-to-finance conversation, but actually it is a finance-to-finance-to-Treasury conversation. The question is how often you get a call from finance saying, "Treasury has asked these follow-up questions about why you need 100 million quid this month." I am trying to explore the level of freedom that you are given. They may not have exercised it so far. There may come a point at which the Treasury says, "Do you know what? We are having difficulty with this."

Matt Clifford: It's a great question. You are exactly right that the devil is always in the detail. One of the things that has been a success of the agency so far is that the civil service has not only respected the letter of the ARIA Act and the delegation agreement and framework agreement, but also the spirit of it. We have not had that. We had extensive negotiations with the Treasury on the way in to establish those norms, and we have had a very productive relationship with the Treasury on that.

Ilan Gur: I don't know how other arm's length bodies work. I just echo that. We also had intensive scrutiny from the Treasury around our budgets as part of the spending review process strategically, but we do not have those issues.

Q45 **Kit Malthouse:** It was advertised last year in the run-up to the spending



HOUSE OF COMMONS

review and the Budget that there was a widespread in-year attempt at savings programmes across all Departments. The Treasury was looking for any money it could grab. Did you get a call from finance at DSIT saying, "We need you to find some economies"?

Matt Clifford: No.

Ilan Gur: Not that I am aware of, no.

Q46 **Kit Malthouse:** The bung is a bung is a bung; it comes without questions.

Matt Clifford: We've not had any problems in this regard at all.

Kit Malthouse: Very good. Thank you.

Q47 **Emily Darlington:** Because you are leaving, Ilan, and because, Matt, you have such breadth of experience, I want to get your wider reflections on a few issues that we have been talking about in the Committee—wider than ARIA. It is just following up on some of the questions that we have had from colleagues. What are the learnings from the initial period of ARIA, particularly around risk, that will potentially help to shape the future of the catapults and Innovate UK in terms of how you approach it and some of the risk aversion that we have seen in some of the other innovation funding programmes?

Matt Clifford: It is hard for me to comment on their risk appetite, but I can talk about ARIA, obviously. One thing that you will be aware of, but others may not, is that the risk appetite for ARIA is one of the things referenced in the statute, and that is extremely helpful for us. It is helpful both for shaping the internal culture and for all our external interactions, including with the National Audit Office, which obviously is a key part of our governance. My reflection would be that, for an agency that seeks to dispense public funds and does not have that to fall back on by statute, I can imagine it is much more challenging. That would be the first thing.

Obviously, we have a very standard way across Government of measuring value for money, and that is absolutely right. ARIA obviously also has to provide value for money, but the statute makes it very clear that there is a deliberate intent from Parliament that that is done in a high-risk, high-reward way, and that has been crucial to our ability to do what we have done. That would be my first learning.

Building on Kit's question, culturally you have to embed that in the system. There is what the law says, and then there is the spirit with which it is enforced. Partly because it had such cross-parliamentary support at the time of the passage of the Act, there has been a very strong sense that ARIA should be different, and that it is a bold experiment that we collectively want to try to make work. That is the other learning in general for the agency: without that, it would be very challenging.



The third thing is the bit that Ilan already talked about, which is independent governance by a board. The board does not get involved at the programme or project level. If it did, I imagine ARIA would be a lot less successful. The whole point is the ability to take bold risks not by committee. What the board does is debate in detail and scrutinise and challenge what the overall risk appetite of the organisation is, and that is obviously a very multi-dimensional thing.

Our risk appetite on the financial side is zero. We have absolutely no desire to take risks in certain spaces. Where we think about the risks that we want to take is the stuff that we talked about earlier like, "This programme might fail completely, and we are happy with that." Having a board that can have a serious conversation about risk—we are very lucky to have a board where the backgrounds of the people who serve really equip them to do that—allows us to get to the point where the executive and the non-executive directors have a shared understanding of where we want to land without reference to an outside group, and that, again, is unusual in a global context and certainly in a UK context.

Q48 **Emily Darlington:** For somebody who was involved in setting up the Technology Strategy Board, the setting up of ARIA almost feels like a failure because that is what we tried to do with the Technology Strategy Board, which is now Innovate UK. From my perspective, we tried to build that risk in. We looked at the DARPA models. Catapults were based on Fraunhofer. As much as ARIA is a fantastic thing and I am quite excited about it, it is almost like we have had to do it because the risk appetite has not stayed high as it transformed into Innovate UK and other sorts of things. How do we prevent that happening to ARIA over the years?

Matt Clifford: As you may know, I used to sit on the board of Innovate UK, and I have a huge amount of respect for that organisation. A little bit like the spirit of iteration that we have been talking about with programmes, ARIA is set up very differently from Innovate UK. In Innovate UK there is a board, but it is not the governance board. That is not where governance sits in Innovate UK. It doesn't have a separate risk mandate. Innovate UK is doing a fantastic job, but if you wanted it to be more like ARIA you would need some statutory or other provisions to give it that set of mechanisms.

Ilan Gur: Perhaps I might mention one thing on the back of that that could be insightful. To the point of ARIA being structured differently, one of the big assets that we have that allows us to take risks is the scale and size of the organisation, and the programme director model. What do I mean by that?

We have 16 programme directors. Anything that we are funding in the agency came out of an enormous amount of thought from them in a thesis and a review process. In any major funding decision that we made, they were intentional and ran a review process, and I approved it. If you get the 17 of us around a table and you ask us any question about anything happening in the agency, someone will know exactly why we did



it, what the status of it is, and I will be able to defend why we made that decision. That allows us to do a lot of things and keep tabs on a lot of things, otherwise someone would ask a question, you would not know, and you would lose trust. That is a hard thing to replicate. It has been great to have such a good relationship with UKRI to think about how ARIA fits in.

ARIA is a bit of a different beast; it obviously has to complement and activate. ARIA does not succeed if you do not have a UKRI and Innovate UK that are wonderfully strong in the base. In the best case, these things interact and work with each other because they are organisationally different in productive ways that increase the effectiveness of the whole. That is the vision, but it has also started to feel like the reality of it.

Emily Darlington: Fantastic. Those are really interesting reflections and things that we should consider as we look at the innovation landscape.

Q49 **Chair:** Emily, sorry to interrupt, but this is a good point at which to ask a question about ARIA's advisers. You have talked about governance and you have talked about the relationship with outside organisations. You have a set of advisers that includes the CEO of Google DeepMind, the CEO of the Royal Academy of Engineering and an expert on mRNA. They are not on your governance and accountability org chart. Can you say what their role is? Are they responsible for helping to keep you at the cutting-edge?

Ilan Gur: I have a very simple answer. When we started the agency, we wanted to make sure to signal across the UK that the intent of this agency is to touch everyone across disciplines, and to have an ambition around global change with science innovation. We recruited that set of advisers to be a signal for talent around the level of ambition, and not just talent but talent in different communities. You have electrical engineers and climate scientists. You have certainly UK-represented and global networks, and that has been very effective. The advisers do not have any governance role. We don't even share confidential information from the organisation with them. They are basically signals to talent and communities, and they provide helpful, sound-boarding advice from their experience, which has been great.

Chair: Thank you. Back to Emily.

Q50 **Emily Darlington:** I want to take you back to something that you alluded to around AI. These are broader questions than just the role of ARIA and AI. Matt, you were involved in the AI opportunities paper and our plans in Government. How do we create the USP for the UK in the AI field? I will start with that and then I will come to something a little more specific.

Matt Clifford: I will try to be brief because I can talk about this for way too long.

Q51 **Emily Darlington:** I am interested in what our USP is. I don't want to



rehash the whole thing.

Matt Clifford: I will not rehash the AI opportunities action plan, of which I am proud. The opportunity for the UK, which is actually very similar to the ARIA story—there are parallels—is the extraordinary concentration of AI talent that we have here thanks to our universities and thanks to the fact that Google DeepMind, which you just mentioned, was founded here. You have an incredible spillover and clustering effect in the UK.

We have two big opportunities that are unusual. One, as Ilan mentioned, is that the technology is now at the stage where its ability is to make a real difference in industries and sectors outside its own lane. Because the UK has real strengths outside AI in some of the areas that are most likely to be affected by AI now, we have the opportunity to be the global capital of those intersections. I am talking about AI meets life sciences and AI meets science more generally. I hope ARIA can play a role in that. There is AI and finance. These are areas where we can and should win. You are already starting to see that, but there is more to do.

The other opportunity is this. I am a little bit biased, but Government adoption is going to be key to shaping this technology. There are fantastic AI researchers around the world doing great work in AI for healthcare, but unless that is embedded in a health system it is not going to have impacts on people's lives. That is not something you can solve in a lab. It is something you can only solve by direct engagement with people on the frontline. There are opportunities for the UK partly because this Government and the last Government have seen that AI has an unusually important role in this country's future, which is to be the most muscular and the most forward adopter of AI in public service, and in doing so shape not just the technology but the experience of the technology for people up and down the country.

Q52 **Emily Darlington:** As you know, being the MP for Milton Keynes, I am a big fan of edge AI and the opportunities in the UK for absolutely accelerating that adoption and transforming the services that we have such strength in. One of the areas that I want to talk to you about that can stop AI is assurance and transparency, particularly in large language models. We saw quite recently that Grok had some interesting experiences, not least when people asked it who was the best leader to deal with the recent Texas floods. Its response to deal with such vile, anti-white hate was, "Adolf Hitler, no question." The response of xAI worried me even more, because it said, "xAI is training only truth seeking. Thanks to the millions of users on X, we are able to quickly identify and update the model." We know the toxic world that is on X. If it is X users training the model, we have no transparency around that and we have no assurances around that.

Could one of the UK's USPs, in a world that is dominated by the US and China, be that we have the safest AI, we have the standards around AI and we have the transparency? I appreciate that this is a much wider question, but is that a role that the UK plays? Rather than trying to chase



HOUSE OF COMMONS

being the creators of the best large language models, we could be the creators of the safety and assurance model that should be required across AI.

Matt Clifford: I will leave it to DSIT to comment on the regulatory piece.

Q53 **Emily Darlington:** I am asking for your personal opinion.

Matt Clifford: We have in this country in the AI Security Institute the most remarkable concentration of AI research talent in any western Government in the world. The fact that there are now 80-plus machine learning researchers working across the road in DSIT on exactly the challenges that you are describing is remarkable and unusual globally, and that gives us the chance to be at the forefront of that conversation. It goes back to what Ilan said about ARIA broadly. By having technical excellence, you provide options to policymakers. Successive Governments have chosen to invest in that with great success. It gives the UK at least the opportunity to lead that conversation around the world.

Q54 **Emily Darlington:** Ilan, what are your outgoing reflections? You have looked at lot at this sector. You are not from Britain, so you see it from a global perspective. Where do you see those opportunities for the UK creating that USP, on a personal level—your personal views?

Ilan Gur: I go back to Matt's initial point. One of the powerful things about the UK R&D and technology system is the concentration. Within a relatively small geographic area, you have an incredible concentration of talent and frontier capability across different disciplines. I did my PhD at Berkeley. One of the great things about Berkeley is that you walk from one hall over to the other and you move from the world-leading experts in Chaucer to the world-leading experts in machine learning, and incredible things happen at those intersections. This is London-based, but one anecdote is that although I had heard of the Crick Institute before I moved here, I had never seen the building. As you know, our initial makeshift office for ARIA was in the British Library. I looked out the window and I said, "What's that building?" Someone said, "Oh, that's the Crick." I said, "Wow, it's 10 times bigger than I imagined based on my understanding of the research happening there." I didn't know. Then I learnt that it was a two-minute walk from the Crick to DeepMind. I thought to myself that if you needed a manifestation of the concentration and intersection of the frontiers leading the world, that one in particular, AI and biomedicine, is an enormous opportunity. I don't think there is anything new there.

Q55 **Emily Darlington:** I appreciate that you wouldn't have known that. Taking it through Government as Project Bliss was one of the things that I have a lot of scars on my back from but was worth the effort.

I have a final question. I know we all have to run off to PMQs to get seats. We have seen in the last couple of days that Anthropic settled in a copyright case. Matt, you and I have talked about AI and copyright



HOUSE OF COMMONS

before and trying to get us into a good situation that supports both our creatives and the burgeoning AI sector. What do you think the impact of Anthropic settling in that copyright case is going to be on the debate that we have not yet settled in the UK about where we get that balance?

Matt Clifford: I first confess that one of the privileges of leaving No. 10 is I no longer feel compelled to read the judgments of every case that comes out of California, but I am aware of what you are talking about. One of the key topics and one of the key questions in the debate, which has rightly been intense in this country, has been the UK's role in the world. In my view, it is important that there is realism about that. We cannot really act alone on this, and we need to put our own decision about where to land on the question within a global context.

There are other cases to come in the US. It will be important to see how they play out in order to understand where the UK fits in that global landscape. There is the Anthropic one. There are multiple others with OpenAI and Meta. My sense is that by the end of the year there will be a lot more clarity on what the US overall position is, and that hopefully will allow policymakers to make an informed decision about what the UK should do.

Q56 **Emily Darlington:** I hope we move a bit faster than that because it is not great at the moment. What is interesting to me is the change of attitude of a major AI company to copyright. Do you think that we are seeing a change in the industry's attitude potentially to the copyright question?

Matt Clifford: Again, it is hard to say. The challenging thing in the US context is that because there isn't legislative clarity there are a lot of cases ongoing with a lot of nuances. It will be very hard to see until some of those cases get resolved exactly where the industry lands. Certainly, in the engagement that I have done with those companies, they are really open-minded to the right solution that works for everyone. Clearly, the hard thing about any of these topics, as you know extremely well, is that the technology moves a lot faster than the legislative process.

Emily Darlington: A hundred per cent.

Q57 **Kit Malthouse:** You inherently cannot have an industry that is copyrighting its own programming but not respecting the intellectual property of others. There is an internal conflict that is not sustainable.

Chair: To follow up on Kit's point—

Emily Darlington: Ilan looked like he wanted to come in.

Ilan Gur: I don't have anything unique to add. I am just enjoying the conversation.

Q58 **Emily Darlington:** We respect your professional and personal views on this. It is clearly a very live debate. What you will have looked at is not



HOUSE OF COMMONS

the short-term successes of these industries but the long-term successes and where we are going in the future. That is part of what you have been doing. What do you think is the right place?

Ilan Gur: It is funny. To be honest, what was going on in my mind as I was listening to the conversation was what I am now conditioned to do, which is to think about whether there are opportunities where there might be a technology intervention that could help, and whether we should be brainstorming something internal to ARIA to say, "If only you could quantitatively track how these things are training." It is an important challenge to solve, but I do not have anything to add.

Emily Darlington: It is linked to the transparency and assurance piece. As a colleague has asked, can our USP be the safest AI?

Q59 **Chair:** Ilan, to your question, there clearly is a technology intervention, and technology can help in the solution to some of these challenges. I have found it disappointing that technology companies have not come forward with some of the solutions. Matt, you were the Prime Minister's adviser on AI during the time that the AI copyright consultation was put out. You clearly have been advising the Government and the Prime Minister on this. Specifically on the copyright issue, you seem to be saying that we should be waiting for US legislative clarity. Can we not lead in this area, and must we not set out what we think the clear principles are?

Matt Clifford: To clarify, I came into that role after the consultation went out, so I had no part in the drafting of the Government's position on that. This is a case where we have to decide what role we can play in the world, but we have to be realistic. A thing that is often lost in the debate at the moment is that the large tech companies like Anthropic are not training in the UK. There is no training of large language models in the UK because of our existing rules on copyright. We could tighten those rules, but at the moment there is no training in the UK.

Q60 **Chair:** When you say there is no training in the UK, do you mean that they are not taking any content produced by UK content producers?

Matt Clifford: I mean that there are no companies building large language models.

Q61 **Chair:** They are not building large language models, but they are training on UK-generated data.

Matt Clifford: Parliament can do what it wants, but to tighten the rules further would require an extraterritorial claim on training that happens outside the UK. That is a choice you could make. That is often lost in the debate.

Q62 **Chair:** That would be your message to UK content producers: the UK does not have the power to influence the situation.



Matt Clifford: I don't have a message to UK content producers. Your question is: could we set out our stall? The current position is that there is no training in the UK because of our position on copyright.

Q63 **Chair:** With regard to some of the points that Emily raised as well, there is often considered to be a trade-off between innovation and regulation. We have talked about some of the issues with regard to AI security. You are looking at future technologies with huge potential. Is AI an example of how that trade-off between innovation and regulation should be considered, in your view, Matt Clifford?

Matt Clifford: It is certainly not a binary tension. In many ways, regulation can create markets, and that is an important point. One of the reasons why the UK has had enormous success in fintech is regulation that created and shaped new markets. Things like open banking were an important regulation without which we would not have the neobanks that have become the core of the UK start-up ecosystem. I am not an expert in other fields, but my guess is that that is a pretty consistent story. Clearly, regulation that is poorly designed can crush innovation. I am certainly not suggesting that you go out and try to regulate everything in the hope of creating new markets. To me, the question is always: where is regulation pro-openness?

Chair: Thank you. I was not suggesting it. My last role before coming to Parliament was with Ofcom. I think I said that there often is considered to be a tension. I agree with you entirely. It is an opportunity, not necessarily a tension.

Emily Darlington: Not to confuse regulations and standards either. Standards can become absolutely a drive for innovation and market advantage.

Chair: Standards are a necessity for innovation and for effective competition. That is another issue when it comes to AI and the opportunities for the UK. We have not heard from Tom.

Q64 **Tom Gordon:** Thank you, Chair. Ilan, are you able to outline any concerns that you have that ARIA in the UK might be losing top researchers to the US or Europe because of immigration rules in the UK. How are you specifically trying to attract talent? What changes would you like to see to the immigration system to maintain the recruitment and training of global talent?

Ilan Gur: The answer to how we attract global talent is a great one. In creating ARIA, what you all did in the mandate, and ultimately the foundation of the agency, is create a magnet for global talent. We are attracting people into ARIA's team. That has been very effective, but, as many of you know, we have said that for ARIA to satisfy the mandate we need to have global ambitions and we need to be at the frontier globally. We have not restricted funding from ARIA to only UK teams; people can apply internationally. We basically say that if you are going to apply



internationally you have to convince us. We have to be convinced that it can benefit the UK either by increasing the success of the programme or because you have an intent to do research in the UK.

We have now had seven organisations that have set up subsidiaries in the UK. I mentioned neurotech. Motif is a neurotech company. It is a leading company in the US that in order to participate in our programme wanted to work very closely with MintNeuro, which is a company here that does circuitry. They basically said, "In order to succeed, we see an opportunity to set up a subsidiary in the UK." That is happening. Two of the world's leading seed venture investors have moved and set up shop here as part of our activation partnership programme.

To your point, we have seen and heard that the cost of visas and the friction of the process can be a challenge for the research community. In attracting talent to ARIA, we have not had that challenge. The real implication has been that we have just had to work harder to handhold the people who are coming into our agency, but we are able to sponsor them under the global talent visa. That has been a very effective scheme. The one area that is probably an opportunity is talent that wants to move over to do something entrepreneurial. We have scientists and entrepreneurs who want to come over to our programmes. That is where we have seen some challenges because it is a lot harder to get through the process if you are not going to be sponsored by ARIA or an academic institution. It is harder for them to do the move, but those are the people you want to move because they want to come and build value here. If there is something to focus on, it is how you allow more of the world's top science entrepreneurs to come here, because many of them want to.

Tom Gordon: Thank you.

Chair: We don't have a hard stop, as I understand it. I have a few follow-up questions, but I know that there are others in the room who need to leave for PMQs. If Members need to leave, that is fine. Allison, did you have a point?

Q65 **Dr Gardner:** It is just a quick question following on from Emily's. The Government are meant to produce a report on the AI assurance plan. Could that be our USP? The field of AI assurance is very patchy, with a lot of people wanting to give their own assurance, but it is not really controlled and there is no statutory guidance. Is that not an opportunity for the UK to be a leader in what could be a multibillion-pound industry of AI assurance?

Matt Clifford: I certainly think it is part of it. The next big thing that needs to happen for AI to have a positive economic impact in the real world is for companies large and small to adopt it. You are certainly right that companies will only adopt AI that they feel is safe, trustworthy, transparent and all the things that Emily mentioned. Absolutely, there is a role in being a country that is at the forefront of that alongside all the other things that were mentioned. One of the things that is very powerful



is ecosystem building. We have referred to that in a lot of different ways across the answers that we have given to lots of different questions. The UK's strength lies in being a place where talent is attracted. My hope would be that one of the positive spillovers of having something like the AI Security Institute in DSIT is that it attracts a lot of complementary talent to complementary parts of it. I certainly think that it is an area where the UK can play and win, and hopefully that has benefits beyond the immediate piece.

Ilan Gur: I may be able to add a perspective from ARIA. We have a unique programme at ARIA that is thinking about assurance and verification of AI—in this case, specifically thinking about the idea that one of the biggest potential value creators will be the intersection of AI with cyber-physical systems. If you look at everything from manufacturing to controlling the grid to robotics, you now have an AI that is going to be implemented in the physical world, and that creates a different set of challenges and risks. Davidad, our programme director, recognised that there is a dearth of overlap between the mathematics community—specifically the formal mathematics community, which thinks about verification-type ideas theoretically—and AI researchers. He basically said that there may be an opportunity to think about this problem differently and have mathematics allow you to have at least probabilistic, if not deterministic, guarantees on how an AI will perform in different systems.

The reason I bring that up is that one of the challenges, and one of the things that we had to think through, was, even if it works, how would it be adopted? It will not be adopted if it is seen as something that squashes the value that could come out of AI. It needs to be value additive. Early in that programme, Davidad, to his credit, said, "I'm going to try to find the people within the industry who have applications where this capability would add value, because it would allow them to adopt AI," and then interesting things come out of it. One of the things that that has catalysed is a project now, a collaboration between the University of Birmingham and AstraZeneca, that is specifically looking at those new methodologies to enable AI to control manufacturing of therapeutics in cases where, because of the lack of understanding of what those controls would do and the implications for the drugs, it is not something that they can automate right now, and it would be very valuable to allow us to create those things. There is probably a broader implication around where the verification allows expansion of value creation.

Dr Gardner: I like that answer because that is the value of ARIA; you can take a new perspective on a difficult problem and turn it on its head. That is a really good answer. Thank you.

Q66 **Chair:** Thank you. I have just a couple of follow-up questions. I appreciate your spending time with us this morning. Successive Governments have said that the freedom of information obligation would hinder ARIA's agility. You have mentioned a number of times that ARIA is



a small organisation. It is the case that DARPA in the US is subject to freedom of information. What is your view on that issue?

Matt Clifford: An important point here is that there is a big difference in being exempt from freedom of information and wanting to have a culture of opacity or secrecy. We are, as you say, by statute exempt from freedom of information, but, as Ilan has emphasised a number of times this morning, we have taken one of the most radically transparent approaches to what in the start-up world we would call “building in public” of any organisation of this type. Everything is published online on the website. It is important for ARIA that it minimises the administrative burdens on it, given its size, to the extent that is possible, given, rightly, the scrutiny that it should be subject to. To me, a world in which ARIA was subject to FOI but way less transparent than it is today would be a less good equilibrium than the one we are in.

Q67 **Chair:** Okay. Thanks very much for that. On public communication and accountability, I was very encouraged by your responses to questions from Lauren and by how you responded to misinformation about some of the research areas. You are looking at exciting, innovative, amazing new areas of potential technology and research impact on society, and part of your mission is to have an impact on society. Do you think you have a role to be more proactive in communicating about this potential rather than responding to misinformation?

Ilan Gur: A big limitation is bandwidth with a small team. We do not want ARIA to have as the biggest part of the team a comms function. With that limit in mind, we have tried to be very proactive. It is so essential. The communications part of ARIA is so essential, because our biggest fear in these programmes is that the researcher who could change the world or be part of the solution doesn’t hear about the opportunity. There is a bidirectional benefit from having an understanding of what we see at the frontiers of these technologies diffused to the public and for us to understand the response. We are interested in better, effective, efficient ways for us to get an understanding of the public response, and concerns and engagements around the programmes that we are doing. If there are suggestions, we would welcome them.

Q68 **Chair:** Great, thank you very much. I am sure that we will have suggestions in time. I have a specific question on spending. You possibly have seen that *Research Professional News* noted that in two years ARIA had spent just £16.5 million on research and will have almost £600 million of its budget remaining. Is that the spending profile that you would have expected given the long-term nature of your funding, or should we be concerned that you are spending too little, if that is the right way to put it?

Ilan Gur: Thank you for asking. I don’t think you should be concerned. The reality is that we established the agency in January 2023. There was clear intent from both Parliament and Government on both the nature and the scale of the agency we should set up. We tried quickly and



aggressively to stand up an organisation that first and foremost could have a culture and a set of processes operationally that could balance risk-taking and accountability, and then could be built for that scale.

The organisation was set up in January. We had a core team and programme directors in place in August, which was pretty fast. All the programme directors had never done a job like that. The first set of programmes and opportunity spaces were all launched in that first year from August, which basically set out roughly £400 million of commitments, which are now being spent in programmes that are three to five years long, so obviously it is being spent incrementally. The short answer is this is exactly as expected in terms of the timeline and scale.

Matt Clifford: Can I make one point that is policy relevant on this but may be slightly left field? Ian and I, perhaps because of our backgrounds, are very impatient about the pace that we would like to see, and the agency has moved incredibly fast. When we have reflected on what slowed us down the most—part of the reason I am making this point is that it was also one of my reflections on the UK AI ecosystem and what holds it back—it is notice periods and gardening leave.

If you compare the UK and the US, one of the ways it is most different is the dynamism of the high end of the labour market. One of the things that I reflect on about what it would take for the UK to have bigger AI companies is that it should be easier to leave existing big AI companies and start new ones. Probably the single biggest gap in the whole process of getting money out the door in ARIA is that, quite rightly, by statute we could not be incorporated until we had a CFO in place. We wanted to find a brilliant CFO, and we found her quite quickly, but, understandably, she had a very long notice period. I am not an expert at all on the broader employment question, but this is one of the single biggest issues for the R&D ecosystem in the UK.

Q69 **Chair:** That is very interesting. Thank you very much for that. I have found this session incredibly useful, and it has been inspiring to hear ARIA set out its stall. It has been particularly useful to hear both from the CEO and the chair. Lord Vallance, when he was the outgoing chief scientific adviser, said, "Leave ARIA alone. By all means, if you want to pull the chair here, they could answer questions, but leave the CEO alone. Let him get on with it, let him be ambitious, and let him fail on some things."

I have three questions. Have you found it useful to be here? Do you think it is useful for the CEO to come here in future? On a more serious note, how can we best support you by effectively scrutinising the organisation ARIA in the future?

Ilan Gur: I guess that is a question for me. First of all, it is worth taking a moment. A lot of credit goes to Matt, as the founding chair, for ARIA taking root and foundationally being what I am proud of as a success. It is hard for me to imagine someone who could have been better



positioned to support me, the team and the board in creating an agency with that boldness and accountability as well as being able to help and assist in thinking about the organisational dynamics, the entrepreneurial science and the interface with Government, so thank you, Matt. It is funny to hear. You can pull him in. It is one of the roles that he has played, and I am very appreciative of it.

First of all, it is critical that we both respect the original governance that you set out for ARIA in terms of the role of the board and so on, and it is critical for us to feel accountable to policymakers, Parliament and the taxpayer, ultimately. I have really enjoyed the session. I said earlier that the line of questioning that you had suggested might come out felt so much more thoughtful and intentional than I might have expected from a political interaction, based on my background.

Tom Gordon: You were doing so well till you said that.

Chair: We will take the compliment.

Ilan Gur: I appreciate it. I think Lord Vallance's comment was well intentioned. One of the things that was a big fear for everyone early on, if you want to set up ARIA to be different, is to make sure you do not, from policy or Government, condition it the same way you do other agencies, because ultimately you may give it pressure to not be different.

Honestly, as much as I have enjoyed this, I think that coming and appearing and sharing information and having this sort of dialogue is important. Frankly, if you do it too frequently, it will probably just be boring, because you have set us up with a mandate for big breakthrough innovations. I mentioned that every other year we are going to recruit programme directors. That is the cadence of iteration in terms of our learning on adapting the agency. Those research programmes will take time.

We have not talked much about the theory of change, but to get the transformations we think very seriously about what we need to see in the early stages. We cannot predict or engineer outcomes. What do we need to see to know that we are on track? We think about capabilities. We think about communities of practice and changes there, and talent flowing into valuable new technology areas, and then we think about capital flows. Right now, we see early signs of those things. Seven or so new start-ups have emerged from our work. We have investment going into them. The big changes in those metrics are going to come less frequently than every month or quarter.

Matt Clifford: Certainly, we will be very excited to come with the next CEO, maybe next year, and we will let you know how we are getting on.

Q70 **Chair:** Great. Thank you all very much. It has been a real pleasure to hear from you. I think I speak for the entire Committee in thanking you for sharing your thoughts, your ambition, your inspiration and your



HOUSE OF COMMONS

determination to effect real change for our constituents through the long-term work of ARIA. Thank you very much.

Matt Clifford: Thank you.

Ilan Gur: Thank you for the privilege and opportunity.

Chair: Thank you.